OCS Study
MMS 2002-022

Social and Economic Impacts of Outer Continental Shelf Activities on Individuals and Families

Volume I: Final Report

U.S. Department of the Interior
Minerals Management Service
Gulf of Mexico OCS Region

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Social and Economic Impacts of Outer Continental Shelf Activity on Individuals and Families

Volume I: Final Report

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PREFACE

In 1998, the Minerals Management Service (MMS), a bureau of the U.S. Department of the Interior, sponsored a two-year study entitled, "Social and Economic Impacts of OCS Activities on Individuals and Families" (contract number 1435-01-98-CT-30897). The purpose of this study was to explore the ways in which Outer Continental Shelf (OCS) activities affect the people of Morgan City and New Iberia, Louisiana. The study examined the nature of OCS-related work and its impacts on the lifestyles of individuals and families, and its results are reported in two volumes. Volume 1, this volume, describes the range of social and economic impacts and is intended to address the agency's information requirements in preparing social impact assessments. Volume 2, "Case Studies," was initially prepared in 2000 as a "first cut" through a large body of research material. These case studies served as an interim report to the agency and to the study participants in Morgan City and New Iberia – those who live with oil and gas.

The State of Louisiana has the oldest offshore oil and gas leasing program in the world, and the tremendous economic value of the oil and gas resources that lay in the submerged lands under waters adjacent to the Louisiana coastline led to a decades-long battle between the federal and coastal state governments over the control of those lands. That battle took the form of presidential proclamations, Supreme Court decisions, and federal law. The Outer Continental Shelf Lands Act of 1953 authorized the Secretary of the Interior to lease federal submerged lands for mineral extraction activities. The first federal offshore lease sale, held in 1954, covered 419,000 acres of submerged lands off the Louisiana coast and started a pattern of activity that, by 1991, had netted the U.S. government more than $25 trillion in lease payments, royalties, and bonuses. By 1980, two more Supreme Court cases involving Louisiana had finally been resolved, entitling Louisiana to the submerged lands extending three nautical miles seaward of the coastline. Everything beyond three miles belonged to the federal government. In 1983, the MMS was created to manage and regulate oil and gas exploration and development there. This development has indelibly shaped Louisiana's social landscape.

This study was conducted within two parishes of Acadiana, a 22-parish area in southern Louisiana named for the immigrants from Acadia in Nova Scotia who settled there in the mid-1700's. The traditional lifestyle of southern Louisiana can be characterized as one of hard work, tempered by the dictum, "laissez les bons temps rouler" (let the good times roll). During the economic hard times following the Civil War, the celebrated "Cajun" lifestyle was born. Though southern Louisiana residents trace their origins to numerous groups besides the Acadians, Cajun often becomes a gloss for local white residents. In contemporary Louisiana, many other ethnic groups, including Vietnamese, Laotians, African Americans, Cubans, Mexicans, and Houma and Chitimacha Indians, are represented in both the oil and gas industry and in the communities of the region.

Prior to the industrialization that followed World War II, many Gulf Coast communities relied on maritime activities, supplemented by trapping and agriculture. Local trade and barter were the foundation of the regional economy. The communities tended to have stable residential populations with maritime workers who would be absent for extended periods of time. Families

augmented their incomes with trapping, farming, lumberjacking, and ranching. Some individuals devoted themselves to agriculture full time, but the lack of arable land along coastal marshes restricted large-scale agriculture. Further inland, agriculture predominated, and much land was devoted to sugarcane. Both fishermen and farmers generally rejected formal schooling and the influence of outsiders, relying on the transmission of knowledge from parent to child and mentor to apprentice. With the discovery of oil and development of the offshore industry, major changes occurred in the occupations and livelihood strategies of southern Louisiana residents. Though some local leaders tried to restrict the influence of the oil and gas industry on their communities, it proved impossible for either individuals or groups to insulate themselves from the changes taking place.

Morgan City and New Iberia have experienced the cycles characteristic of the oil and gas industry (see fig. P.1). With the Arab oil embargo of 1973, long lines formed at filling stations across the country, and, with subsequent calls for energy independence, the Gulf Coast boomed. When New Iberia's drainage ditch was dredged into a navigable channel in the early 1970's, the Port of Iberia rapidly became a host for the industry's diverse activities. Fabrication yards were geared up to shape, fit, and weld the platforms, chains, and anchors needed for working offshore. Tank companies built storage tanks; fuel and drilling mud companies used them. Pipe coaters prepared pipe for retrieving the products from offshore. Oilfield service companies came to the port and the town. Up the road on Highway 90, Lafayette grew almost overnight into a major administrative center for the offshore industry. Trucking companies were organized to transport the material; helicopter outfits transported men to the rigs and platforms out in the Gulf.

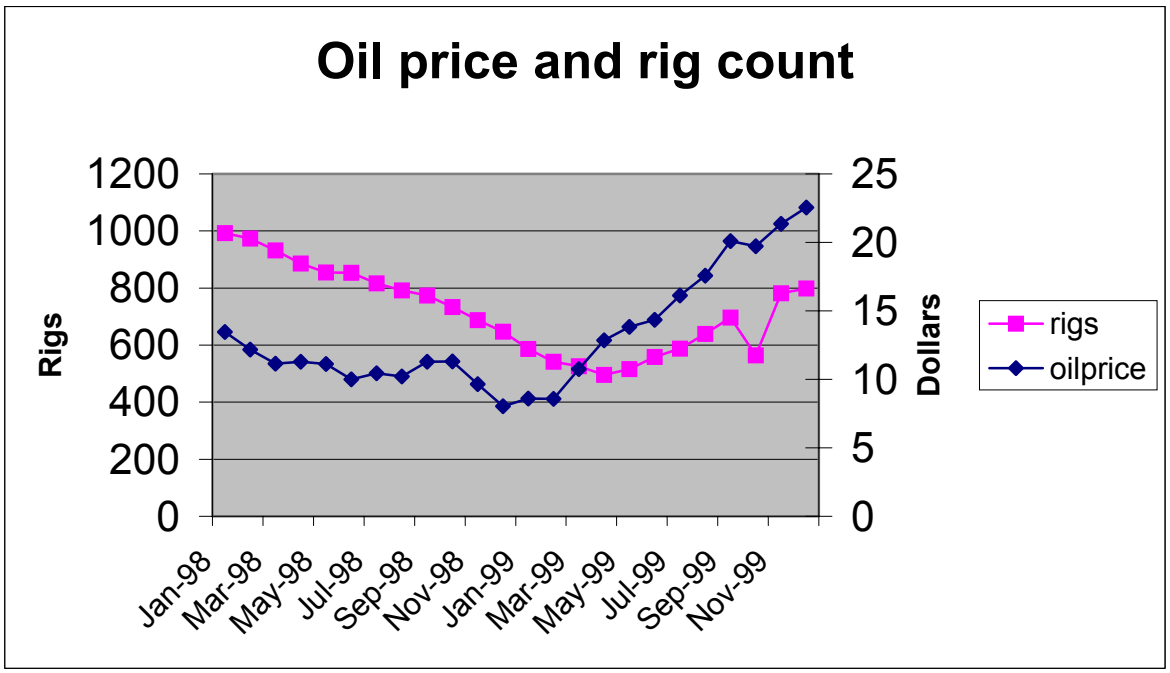

Figure P.1. Oil price and national rig count, 1998 and 1999

Morgan City, from which the first successful offshore well was drilled in 1946, is more historically embedded in the offshore industry than New Iberia. When prices and activity rose in

the 1970's, it captured a healthy share of the decade's booming activity. Connected to the Gulf via the Atchafalaya River, Morgan City and Berwick across the river were well suited to meet the industry's service, supply, and building needs. Bulkheaded land along the natural Bayou Beouf and the artificial Intracoastal Waterway were prime real estate. Many of the major oil companies ran their offshore operations from those locations. Shipyards built and maintained the supply vessels, crew boats, and anchor handlers that berthed along the river and up the bayou at Amelia. Fabrication yards built jackets; ubiquitous pipe yards stored and shipped miles of drilling pipe. And thousands of roustabouts and roughnecks came through town on the way to and from the rigs. Some of them even came to call Morgan City home.

Oil prices soared through the 1970's and into the early 1980's, in no small part due to OPEC's ability to regulate its vast supply of crude and manipulate world prices. In the United States, consumers began to react to the high prices. Alternative fuels were sought and vehicles were made more fuel-efficient. In short, demand for petroleum and its derivatives dropped. By 1982, the boom along the Gulf was over. For oil producers and their suppliers, it became an out-and-out bust in 1986 when Saudi Arabia raised output and allowed the world price to react accordingly. That price fell from the $40 a barrel it had been in the early 1980's to $10 a barrel. For much of the next decade, more industry activity took place in corporate boardrooms and bankruptcy courts than off the continental shelf. The Gulf of Mexico came to be labeled the Dead Sea, a "mature" oil province whose remaining reserve could not be extracted at the prevailing prices. Through much of the 1990's, except for the brief spike in oil prices stemming from the Persian Gulf War, crude prices remained low. But technological developments in the industry began to alter the image of the Dead Sea. Finding, drilling, and producing oil and gas from huge "elephant" fields in the deep waters off the shelf and in the submarine canyons closer to shore became economically and technologically feasible, at least for the major energy companies. Every segment of the industry benefited to some degree from this new deepwater activity, and many smaller independent producers took renewed interest in shallower properties acquired from the majors as these companies turned their attention to deeper locations. Drilling rigs were in demand, and day-rates soared accordingly. Charter rates for all kinds of support vessels rose as well. There was, then, by mid-decade and shortly thereafter, a new boom along the Gulf, although many residents and company people preferred to use the term "upturn" – from previous experience, a boom usually implied a future bust.

A "downturn" came quickly, nonetheless. Asia's booming economy fell in 1997, and, with it, that subcontinent's rapidly growing demand for oil went flat. By 1998, world inventories outstripped world consumption and, predictably, prices plummeted. It was at this juncture that our team dispatched researchers to study the social and economic impacts of OCS activities on individuals and families in Morgan City and New Iberia. During our fieldwork, and as we continued to monitor events in the oilpatch, supply, demand, and price acted in curious ways. To correct the oversupply, OPEC began cutting production in March of 1998, and continued to do so. The price did respond appropriately; indeed it skyrocketed to over $30 a barrel by the end of 1999. But, the Gulf of Mexico did not kick back into life. Oil producers are producing oil and gas, but the exploration and drilling budgets upon which much of the rest of the industry and its workers depend remain generally flat. Some analysts attribute this to caution – a fear of investing in new exploration and development when a resurgence in OPEC production could lower prices. Others see more energy and money going into corporate mergers and megamergers than into

holes in the shelf. For their part, workers and families either wait for the belated "upturn" or look elsewhere for work, sometimes in new towns and states. Their communities try to anticipate how the businesses and residents will act and then respond accordingly.

This study was conducted by a team of researchers from the University of Arizona's Bureau of Applied Research in Anthropology in partnership with 14 teacher-researchers from Morgan City and New Iberia. The teacher-researchers, Teresa Bagwell, Charlene Broussard, Jennifer Brown, Leslie Chambers, Sonya Cloutier, Norma Cormier, Barbara Davis, Leesa Falterman, Andrea Guerin, Jamie Guidry, Margaret Kleinpeter, Susan Lissard, Wendy Ochoa, and Laura Robison, are local schoolteachers who were recruited and trained, conducted household discussions in the homes of their students and other residents, attended study group meetings, and helped analyze their data and present findings of the study. Along with the teachers, numerous individuals helped with the project. Of these, several deserve special attention. Jerry Cunningham assisted researchers in the field and arranged and led discussions with workers, Cheryl Etienne provided transcription services, and Pam Daigle organized members of the Berwick Junior High School computer club to help create a web page for the project (www.aisp.net/oilweb).

Two university researchers, Jennifer Schrag-James and Rylan Higgins, lived in the study communities for 10 months during 1998-99. They attended meetings, read the local papers, and visited homes, offices, and work sites. They talked with workers, employers, and families involved in the offshore oil and gas industry and with civic leaders who were knowledgeable about how their communities were impacted by this large and complex industry. Eight additional researchers, Diane Austin, Marcia Brenden, Karen Coelho, Andrew Gardner, Tom McGuire, Helena Rincon, Shannon Sparks, and Leah Stauber, spent from two weeks to several months each in southern Louisiana talking with families and gathering information about the communities and how they function. Due to the changes that were occurring in the region and the industry at the time of the study, researchers maintained contacts and returned to visit the communities on several occasions through June 2000. Discussions often were taped and always were summarized in written notes. Information was shared throughout the team. One or two team members took responsibility for each section of this report, and they are the lead authors. Others helped write particular sections and are named as well. Still, in a collaborative project it is impossible to separate the contributions of the participants. Consequently, this report represents the work of more than twenty researchers and hundreds of community members.

We also relied on a dedicated team of students from the University of Arizona and on consultants who helped gather and review documents and manage the data we collected. Several of these individuals also helped write this report, and they are named as authors. Others include Kaylene Day, Jennifer Ebner, Nicole Kukowski, and Nadia Olson. Fernando Londono was essential in creating and maintaining the project database. Karen Morrison reviewed literature on families. Sherri Gerlak organized and managed the electronic bibliography, maintained the office and files, and was crucial in getting the reports put together. Finally, any effort of this magnitude requires countless hours of administrative assistance, and for this we thank Maria Rodriguez, Armando Vargas, and Nancy Young of the Bureau of Applied Research in Anthropology.

The information in this report is based upon observations and discussions with workers and their families. Our promise of confidentiality precludes naming individuals, so statements taken from

discussions are identified only by a code number (e.g., [I-431]). Information drawn from informal discussions and observations was recorded in researchers' field notebooks and is identified as such in the report (e.g., (DA fieldnotes, 4/3/99) indicates that the information came from Diane Austin's fieldnotes of April 3, 1999).

The team owes tremendous thanks to residents and leaders of New Iberia and Morgan City, who welcomed and participated in this project and ensured its success. The people who invited us into their homes and lives were truly extraordinary - their patience and kindness provided us with an intimate look at what it is to be an oilfield family. We also have benefited from the guidance of MMS project managers and personnel. These reports could not have been completed without the dedication and commitment of all those involved. To all of you we extend our thanks and appreciation. We have removed participants' references to specific companies and used pseudonyms where necessary to preserve anonymity. We also have changed the names and identities of the workers and families who participated in this study. It is to them that this document is dedicated.

EXECUTIVE SUMMARY

Louisiana's coastal communities have been involved in the exploitation of oil and gas on the Outer Continental Shelf (OCS) for more than 50 years. The last few years are some of the most volatile in this long history. In September, 1998, researchers from the Bureau of Applied Research in Anthropology, University of Arizona, commenced fieldwork for the study, "Social and Economic Impacts of OCS Activities on Individuals and Families," under MMS Contract 1435-01-98-CT-30897. The research focused on two communities in southern Louisiana that have been heavily involved in oil and gas exploration, production, and support services on the OCS – New Iberia in Iberia Parish and Morgan City in St. Mary Parish. The results of this research are reported in two companion volumes. This volume surveys the impact of OCS activities on workers in diverse sectors of the industry, on individuals and families, and on communities. Volume 2, "Case Studies," looks at the communities of New Iberia and Morgan City, the multigenerational attitudes towards work in the oil and gas industry, and recent changes in two transportation sectors, trucking and offshore supply vessels.

New Iberia and Morgan City were selected for study for a number of reasons. Both are involved in diverse activities associated with the exploration, development, and production of oil and gas from the OCS. They are populated by petroleum workers and petroleum families. New Iberia is a sugarcane town that acquired an oil sector. Morgan City is a shrimping and commercial port on the Atchafalaya River that was strategically poised to become a prominent fabricating, service, and supply center for the oil and gas industry. Also, the communities, with populations of 30,000 and 12,000 respectively, are amenable in size for ethnographic study which, in its broadest sense, endeavors to understand the social, political, economic, and cultural dynamics of communities.

A principal finding of this study is that the workforce, workplaces, and impacts of the oil and gas industry are highly diverse. This volume examines work in six sectors – drilling, production, fabrication, diving, offshore vessels, and trucking – because these cover a range of different work schedules, patterns of training and mobility, safety and risk factors, and responses to industry dynamics. It focuses on the segment of the workforce still in southern Louisiana, mostly laborers and lower and mid-level managers. It also summarizes areas of social and economic impacts that accrue to individuals and families in the industry. It concludes with impacts on communities by examining demographic and social change, housing, healthcare, education and training, emergency social services, and strategies for economic diversification.

Methods

To carry out this research, the University of Arizona team partnered with 14 teacher-researchers recruited from St. Mary and Iberia parish school boards. These local schoolteachers were trained to guide discussions in the homes of their students and other residents. They attended study group meetings, analyzed their data, and presented findings of the study. These teacher-researchers also facilitated local contacts for the university team. Two university researchers resided in the communities for 10 months during 1998-1999, attending civic meetings, reading local newspapers and archives, and visiting homes, offices, and worksites. Information was gathered from workers, employers, and families involved in the offshore oil and gas industry, and from civic leaders with knowledge of the impact of the industry on their communities. Eight

additional researchers spent from two weeks to several months each in southern Louisiana talking with families and gathering information on community and industry organization. Preliminary study findings were shared with participants in a series of 21 focus group meetings held in the communities between March 8 and 19, 2000. Due to the changes occurring in the industry and the region at the time of the study, researchers maintained communication with local contacts and returned to the communities through June, 2001. Discussions were often tape-recorded and always summarized in written notes.

Families and Communities

As this volume demonstrates, OCS activity is the source of a wide array of workplaces and patterns and establishes the parameters within which many different lifestyles develop. Workers and their families have indicated that the nature and extent of OCS-related impacts vary according to industry sector and position within the sector and the company. Factors that influence impacts include: (1) stability and vulnerability of employment in the sector; (2) wages and opportunities for advancement; (3) patterns of work scheduling; and (4) safety. Within and among sectors, company responses to industry fluctuations, restructuring, and other changes in the oil and gas industry differ considerably, and these responses contribute to the impacts felt by workers and families.

Irregular schedules, unpredictable patterns of work and employment, and risky work environments have direct and indirect effects on the families and communities of the people who work in the offshore oil and gas industry. Five areas of social and economic impacts that accrue to workers and are passed along to their families and communities are addressed in this report: (1) economic rewards received in exchange for work; (2) work schedules that dictate how time is allocated and spent both at and away from work; (3) physical and psychological impacts on worker health; (4) intangible impacts of work on factors such as self-perception and status in the community; and (5) industry cycles and fluctuations that exacerbate all impacts.

The way these impacts are felt depends on the individual and social expectations of those involved. The multigenerational nature of OCS-related work in the Gulf has meant that many workers experienced the offshore lifestyle as children. Of particular importance to present OCS workers are the increased social expectations of fathers to be active, involved family members. Good jobs that offer predictable schedules, pay, and benefits make it possible for workers and their family members to organize their lives to meet responsibilities at home and at work. Increased opportunities for regular communication can assist their efforts. Bad jobs, those that are marked by uncertainty and instability and come with low wages and no benefits, place enormous challenges on families; even heroic efforts by families, communities, and companies are inadequate under such circumstances. Though many families adapted to the concentrated 7-and-7 and 14-and-14 work schedules that are commonplace in the industry, moves toward longer rotations and increased use of on-call workers have created new challenges for families. Reorganization and restructuring has increased the proportion of bad to good jobs within the study communities, and the impacts are noticeable throughout the industry and communities. Worker dissatisfaction and frustration is evident in conversations with workers and family members and increased tolerance and even support for worker organizing, and contribute to worker shortages.

Many of the changes that have occurred in southern Louisiana and affected workers and families involved in OCS-related activities are common to industries throughout the United States and the communities that are dependent on those industries: demand for workers has changed; companies participate in new markets; and large gaps separate families supported by good jobs and those who are not. This study acknowledges the general trends where appropriate, but it focuses on describing the specific ways that OCS-related activities and the people of southern Louisiana interact.

The offshore oil and gas industry has been present in southern Louisiana for more than 50 years, and its history shapes local understanding of and perceived impacts of the industry's impacts on workers and families. Therefore, though this study was designed to describe current impacts, efforts have been made to incorporate relevant historical information to provide the context within which events and activities are perceived. In particular, from the 1940's to the 1980's, southern Louisiana families and communities supplied the offshore oil and gas industry with a unique workforce characterized by: (1) loyalty to employers; (2) strong work ethic; (3) skill and entrepreneurial spirit; (4) poverty; (5) low levels of literacy; (6) large families and strong social networks; (7) access to an informal economy and markets relying on abundant natural resources; (8) willingness to take personal and financial risks and bend the rules as needed; and (9) few alternatives from which to choose. These features do not describe the current generation of workers. Some, such as the reliance on informal economic activities, have become impossible because of changes in the environment, regulatory structures, and local knowledge. Increased automation and safety programs have mitigated the physical dangers of offshore work, but stress-related health impacts remain high.

The relationship between the offshore oil and gas industry and southern Louisiana has been one of ongoing adaptation of one to the other. Just as the early industry learned to operate over open water, the long-time residents of southern Louisiana and those who relocated there for jobs integrated the industry into their livelihood strategies. Even as residents became reliant on the wages earned in the offshore oil and gas industry, informal economic activities buffered the fluctuating economy. Over time, though, expectations about necessary compensation for labor also shifted. Whereas food and clothing could at one time be obtained directly and wages supplemented the household acquisition of goods and services, in the 21st Century few families in southern Louisiana or elsewhere in the country rely on such practices. In addition, wages are generally considered insufficient for meeting household needs, and workers and families try to supplement them with health and retirement benefits provided through employers.

The oil and gas industry does not exist in a vacuum; social policies and institutions mitigate or exacerbate industry impacts. Shifts in social expectations about the relative responsibilities of the private and public sectors affect everyone. Reduction of services through the public sector may affect the types of jobs workers seek and hold. For example, as public sector support for healthcare and retirement programs has waned, many current workers must assume responsibility for assuring that they and their families will be protected now and in the future and therefore pay greater attention to retirement and health packages than did their predecessors.

For many workers, the economic rewards associated with OCS-related work are no longer perceived to be worth the tradeoffs that accompany them. The most pervasive change has been loss of loyalty and commitment to company, occupation, and industry. The recent downturn and industry responses were sudden, straining the strategies that companies, families, and communities had developed for coping with them. During the mid-1990's when industry activity began to pick up and companies began to feel the impacts of worker shortages, many promised new and existing employees that they would protect their workers in future up and down cycles. By 2000, most had returned to familiar patterns of layoffs, demotions, and cuts in hours and pay. People who followed the profits of the oil companies during the period were exasperated by the disparities between company profits and worker rewards, and many workers left the industry claiming they would never return.

Community impacts of the industry are affected also by specific industry patterns and societal expectations of the public and private sectors. These include both ongoing needs and episodic concerns. Examples of ongoing, though continually changing, needs are for specialized training and for services to workers and families without health insurance. Episodic concerns accompany upturns, such as when large influxes of workers arrive and can find nowhere to live, and downturns, such as when large numbers of laid-off workers require social services. Local efforts to manage and mitigate both types of impacts are many; they involve health, educational, and social service institutions in the public and private sectors. Though minor successes in filling gaps have been achieved, the prevailing attitude of service providers is one of ongoing failure to meet the needs that accrue from the dominant presence of the industry in their community. New Iberia, the more economically diverse of the two study communities, has had greater success buffering the community from impacts and making them less visible, but close examination revealed that the two communities experience very similar patterns and problems.

The Significance of Sector

The six sectors examined in this volume – production, drilling, fabrication, diving and underwater construction, offshore vessels, and trucking - comprise diverse work patterns and environments. They were selected for study because during the 1990's the conditions for workers, which lead to impacts on families, ranged across a continuum. At one end, production offers workers the most stable, relatively low-risk occupation. Most of the workers are employed directly by energy companies. Few people have entered this sector since the 1980's because many of those who were hired in the 1970's and 1980's have remained with their companies since then. Though recently the oil companies have begun relying on contracting companies to supply their workforce, this sector remains more stable than the others examined in this study. Drilling, at the other end of the spectrum, is highly volatile, is relatively easy to enter, and has served as a steppingstone for many offshore workers. Offshore drilling has been the purview of contract companies since the earliest drilling rigs were placed over open water. The path of advancement for drillers was once fairly smooth in these drilling companies, and times of high activity pushed many people quickly up the occupational ladder as new rigs needed workers at all levels. Current trends indicate that drillers' work lives have been made less secure by overall reductions in the labor force due to technological change and by contingent work, on-call schedules, and short-term contracts between employers and employees. Under these conditions, opportunities for advancement are constrained.

Between these two extremes are numerous other OCS-related jobs and occupations. These are affected by the fluctuations in drilling activity but are somewhat buffered because of long-term contracts and service to platforms and other industry sectors. Workers in some sectors, such as trucking and fabrication, require mostly skills learned on-the-job. To move beyond entry-level positions as hotshot drivers and tackers, though, requires special certifications and licenses. Federal regulations govern all workplaces, and some sectors face special requirements. Divers and boat captains become proficient through experience, but there are no longer any entry-level positions that can be obtained without at least some training and certification. Entering divers, known as tenders, generally must pay for their training with the expectation that within a few years they will attain both the status and pay of divers. Recent regulatory changes require entry-level deckhands to obtain a basic safety certificate before beginning work as a mariner. Advancement requires licenses and certification, often paid for by the mariner but subsidized by the company.

Across the industry, managers, engineers, and company executives are increasingly drawn from a pool of university-educated professionals who may have little in common with the workers who assemble and operate the rigs, platforms, trucks, and vessels. The physical relocation of many corporate headquarters outside of southern Louisiana has exacerbated this distinction. Even the old-timers who remain in such positions are forced to be much more accountable to stockholders and the demands for competition in the financial markets. They have thus responded by downsizing, consolidating operations, merging, and otherwise creating a more streamlined and hard-nosed industry.

Wages for many jobs are the same as they were in the 1970's, with little if any adjustment for cost-of-living increases. The pay differentials between jobs in the oil and gas industry and elsewhere, which once attracted workers to the OCS and kept them there, have narrowed or disappeared altogether. Individuals are still making substantial incomes in the offshore oil and gas industry, but those people are top-level executives, shareholders, and specialists in a few areas such as diving and welding. Many others are finding that their paychecks are equal or less than those of people working in other industries. The opportunities for advancement from entry-level positions have diminished in most sectors.

Worker shortages persist at all levels. Higher levels of educational attainment and new job opportunities that allow computer technicians, engineers, and others to live in southern Louisiana but commute elsewhere have reduced the pool of educated people willing to work in the oil and gas industry. The flow of long-distance commuters, which once involved only people from outside southern Louisiana who came into the area to work, now goes in both directions. Diminished financial benefits encourage many to take jobs in other industries that offer more stable, less risky jobs with schedules more compatible with other facets of life. Entry-level positions in all sectors typically entail physical, dangerous, and/or tedious work. Turnover at this level is high; so is demand for workers. Higher educational requirements for some entry-level positions preclude those without much formal education from getting started.

Work schedules vary both among and within sectors. Production workers' schedules are the most predictable, with 7-and-7 the normal pattern. Drillers and mariners also work concentrated

schedules, though a 14-and-14 or 14-and-7 schedule is more common and these workers may stay out 28 days or more per rotation. Divers, like many specialists working in the OCS, work on call and may stay on a job for a few hours or several months. Onshore fabrication is characterized by both shift work and overtime, so many workers are home less than their offshore counterparts. Truckers work as owner-operators under the unique system of ownership created in the southern Louisiana oilpatch. Their work schedules are determined by dispatchers who send them out according to company policies, demand, and personal caprice.

Within most sectors, employees report that they work longer than eight and 12-hour days, regardless of regulations and company policies. Many workers and families rely on overtime wages for their base family budgets. Current conditions of worker shortages, unexpected layoffs, and stagnant wages have pressed many to work as long and hard as possible. Recently, the transportation workers, both mariners and truckers, have called attention to the length of their workdays and sought enforcement of existing regulations. Special attention has been called to fatigue-related accidents.

Safety in the offshore oil and gas industry is a persistent concern of workers, managers, regulators, and investors. Dramatic improvements in safety have been achieved, but most platforms, rigs, vessels, trucks, and fabrication yards are still dangerous places to work. Heavy machinery, pressurized pipes and containers, toxic chemicals, a demanding work environment, and changing weather conditions all come together at the workplace. Mechanization and the introduction of computer technology have reduced the physical risks to many workers but have increased job-related fears and anxiety, especially among older workers with low levels of literacy. Regular exposure to these conditions, combined with uncertainty and instability in the industry, make stress a regular part of the lives of most workers.

There is ambivalence among southern Louisiana workers in all sectors with regard to the oil and gas industry. Older workers, especially, speak fondly of the industry and what it gave to them and their families. They speak proudly of their contribution to the development of the industry and their ability to meet the challenges it offered. Young people, too, laud the achievements of the early workers and their role in industry development. Yet, when asked if they would encourage their children and grandchildren to go into the industry, few workers of any age respond positively. They bemoan recent changes that have diminished the bonds once felt between workers and their companies, their sectors, and their industry. Financial insecurity, danger, lack of entrepreneurial opportunities, loss of company loyalty, and a desire for their children to achieve more than they did form the basis for their judgments. Central to the concerns of both younger and older workers are the impacts of their work on their families and communities.

It is impossible to predict what lies ahead. The problems identified in this report serve as the challenges for the next generation of workers, families, communities, and companies.

1.0. Oil and Gas in South Louisiana

1.1. Introduction

South Louisiana's communities have been involved in the exploitation of oil and gas for close to 100 years, first around the salt domes which intrude into coastal swamps and marshes, then out onto the Outer Continental Shelf. Historically, the industry has been cyclical and the last few years have been volatile. The research reported here is an endeavor to understand the impacts of the oil and gas industry on the lives of individuals and families in two southern Louisiana communities, New Iberia and Morgan City. These two communities were selected for study because they have been heavily involved in the offshore oil and gas industry for decades and are home to workers and businesses engaged in numerous sectors of this immense and complex industry. Many of the individuals in these communities grew up in oil families, so they have memories of the past and expectations of the future. Thus, while our charge is to examine contemporary impacts, we will draw on these experiences and expectations. We will also attempt to discriminate those impacts endogenous to the industry from those which define work and family in the late 20th Century. Finally, we address the complex division of labor within the industry – a preliminary effort to decompose it into a handful of its many sectors.

Primary field research for this project was conducted in the two communities between September, 1998, and June, 1999, but we have continued a research presence in south Louisiana. Prior to this research, we assisted in a baseline "Assessment of the Historical, Social, and Economic Impacts of OCS Development on Gulf Coast Communities" for MMS. Our historical lens was designed to cover the 50-year history of offshore activity and its onshore implications, encompassing the protracted expansion of the 1970's following the OPEC oil embargo of 1973, the subsequent and painful downturn of the 1980's, and the confusion and excitement of the 1990's. One of our research regions, south Louisiana, located us in the historic heartland of offshore development and in the forefront of the resurgent activity of the 1990's. As we toured this landscape in 1997, the experts we talked with suggested we focus on Lafourche Parish. We did, and thus we confronted the tidal bore of activity running up the bayou from Port Fourchon.

Port Fourchon is an improbable place. Its channel through Belle Pass to the open water of the Gulf is charted at 24 feet. This gives Fourchon something of a competitive advantage over the numerous other facilities that have arisen on natural and artificial cuts from the Intracoastal Waterway to the Gulf. There are true deepwater ports along the oil-impacted coast, ports with controlling depths of 35 feet such as Mobile, Pascagoula, the New Orleans-to-Baton Rouge reach of the Mississippi River, Lake Charles, Houston/Galveston. These may garner more and more of the fabrication, supply and support activities for new deepwater drilling, but in the mid 1990's, Port Fourchon had dredged and bulkheaded an intricate array of channels, laid out heliports and constructed modern supply terminals. It had aggressively captured much of this deepwater activity. The Port protrudes further into the Gulf than any other port, a money-saving logistical advantage when support and supply vessels may charter for $10,000 a day. For many companies, this outweighed the logistical nightmare of transporting offshore equipment to the port along narrow Highway 1 down Bayou Lafourche.

The communities along Bayou Lafourche, largely Cajun in composition, primarily maritime in orientation, and heavily impacted by previous industry cycles, were experiencing the effects of the resurgence of OCS interest in the mid 1990's. This is where we went in the fall of 1997 to attempt to understand the historical, social, and economic effects of upstream oil and gas. Our fieldwork in November and December centered in Galliano, but ranged the length of the bayou from Thibodaux, Raceland, Lockport, Cut Off, Golden Meadow, Leeville to Port Fourchon. This field session afforded us a partial window on a brief moment in a complex cyclical industry and a complex global economy.

On July 2, 1997, Thailand devalued its currency and investors across Asia panicked. In *Meltdown*, business reporters Mark Clifford and Pete Engardio recount the aftermath:

> Thailand, Indonesia, Korea, Hong Kong, and Malaysia plunged into severe contraction. The shock of Asia's collapse rocked global stock markets, pummeled Western exporters of everything from aircraft to semiconductor machinery, sent commodity prices plummeting, and ignited a financial crisis that rocked economies from Russia to Brazil (2000, p.5).

Demand for oil dropped, and so did its price. The winter of 1997-1998 was also, for a second year in a row, unusually warm, and this had implications for the supply, demand, and price of natural gas. The massive spending commitments to deepwater exploration and production might have buoyed that arena through a downturn. Communities catering to more modest endeavors might be more vulnerable to the global economy. The collective experiences of individuals and families in such communities might look rather different from those of communities not so situated. We had to be careful about where we chose to study our individuals and families. What we could not control for, of course, was the speed of change in the industry. During the course of our research, the communities of south Louisiana and their inhabitants experienced some very compressed industry cycles, and in this report we attempt to put these experiences into historical perspective.

For many, the price collapse of the 1980's is the watershed event in that historical experience. The Yom Kipper War of 1973 set the stage. Egypt, Syria and their Arab allies cut crude oil production and embargoed supplies to Israel's supporters. The U.S. oil industry geared up production, but the lag in getting new supplies to and through refineries precipitated the "energy crisis" of fuel rationing, gas station lines, and sharp price rises. In a price environment favorable to produces, companies stepped up production in the North Sea, the North Slope of Alaska, and on Gulf's Outer Continental Shelf. In 1979, the Iranian Revolution cut that country's production from 6 to 2 million barrels a day, and domestic prices spiked. The following year, Iraq invaded Iran and a panic over supply disruptions sent oil prices up, from $13 a barrel to over $30. Industry experts project prices in the range of $60 to $90/bbl, and drilling activity along the Gulf of Mexico peaked in 1981. But exploration and drilling started to subside sharply as consumers reacted to price signals with conservation measures. High levels of domestic production continued, however, in response to cuts in Saudi Arabia's production – cuts designed to shore up the price of oil. In that face of lost revenues, Saudi Arabia abandoned this strategy in 1985. By 1986, the world was awash with crude oil, and prices dropped to $10/bbl. This was a disastrous and unexpected drop for producers along the Gulf Coast. Hundreds of leases were returned to the

U.S. government, drilling was further curtailed, and employment was cut in drilling and service sectors. Integrated companies with refinery operations weathered the storm, as feedstock prices fell, but numerous other production and services companies went into bankruptcy (Le Blanc, 1997; see Yergin 1991).

The experience of the 1980's has changed the way the industry operates. Unable to control the price of its product, it has focused on cutting the cost of finding and producing it. One arena for cutting costs is in technological development. Industry experts estimate that such developments have reduced the costs of finding and producing a barrel of oil from the $12-16 range of the 1970's and 1980's to a range of $4 to $8 currently (Wallace et al., 2001, p. 80). Another arena for cost-cutting is in personnel; this is the legacy of the 1980's which is the most salient to workers and their families along the Gulf of Mexico.

1.2. The Communities and the Region

Morgan City is the birthplace of the offshore oil and gas industry. Magnolia Petroleum Company drilled a dry hole 5 miles out in the Gulf south of Morgan City in 1946. The next year, Kerr-McGee brought in a successful well, 12 miles out, in 18 feet of water. *Oil*, a trade journal, remarked on the event:

> When the Kerr-McGee well was brought in November 14, 1947, it was recognized as one of the significant events of history, taking rank with Col. Drake's pioneer well in Pennsylvania and Cap'n Lucas' Spindletop gusher…The Kerr-McGee well definitely extends the kingdom of oil into a new province that is of incalculable extent and may help assuage the all-devouring demand for gasoline and fuel oils (quoted in Ezell, 1979, p. 169).

Morgan City's shrimpers quickly put their boats to work servicing this new industry. In contrast, New Iberia did not become a prominent offshore oil town until the 1970's, when a drainage ditch was dredged to 12 feet and renamed, expectantly, the Commercial Canal. In the aftermath of the Arab oil embargo of 1973, oil companies located facilities at the Port of Iberia, and the adjacent town was transformed.

These two communities were selected for a number of reasons. Both are involved in diverse activities associated with the exploitation of oil and gas on the Outer Continental Shelf. Thus they are populated by petroleum workers and petroleum families. Iberia and St. Mary parishes, within which the two communities are situated, are among the group of coastal Louisiana parishes classified by Ruth Seydlitz and her colleagues as "highly involved" in oil and gas activities (Seydlitz et al., 1995). Moreover, these two communities are amenable in size to ethnographic study. In its broadest sense, ethnography endeavors to understand the social, political, economic, and cultural dynamics of communities. New Iberia is larger, with a population of over 30,000; Morgan City numbers some 12,000 inhabitants. We anticipated that this size differential might yield some points for comparison in elements which, again broadly defined, affect "quality of life." And we expected that the differing histories of these communities would allow for comparisons, one a town which ties its central identity to

sugarcane, the other a shrimping and commercial port on the Atchafalaya that launched the initial efforts to explore and drill the shelf.

St. Mary and Iberia parishes anchor a 22-parish region of southern Louisiana comprising "Acadiana." Cajuns are not the only residents of Acadiana. Peninsular Spaniards were settled on the banks of the Teche; this settlement would become New Iberia. Walter Brashear from Kentucky and Charles Morgan from Connecticut established an entrepot on the Atchafalaya, which would be named Morgan City. These settlers and entrepreneurs were preceded by Native Americans, the Attakapa and Chitimacha. Houma Indians migrated into the area in the 1800's. French settlers began arriving in Louisiana in the early 18th Century and imported slaves from Africa. The Louisiana-born descendants of these settlers and slaves still inhabit Acadiana. German colonists settled along the Mississippi River near New Orleans – the German Coast – and some of them moved west to the bayous. With the acquisition of Louisiana by the United States, Anglos, primarily of Scotch-Irish and English descent, arrived from coastal Atlantic states and brought additional slaves. In the 20th Century, the development of oil and gas, onshore and offshore, brought managers and laborers from other oil-producing states. Vietnamese began moving into the area in the 1970's; Laotians and Cambodians arrived in the late 1970's and 1980's. The workforce of south Louisiana has been augmented by Mexican-Americans, Mexican nationals, and South Asians as well, attracted to opportunities in oil and gas.

Nevertheless, the Louisiana Department of Culture, Recreation, and Tourism designates this area as Acadiana. French peasants from the provinces of Poitou and Vendée settled in what would become Nova Scotia in 1632. The colony came to be called *l'Acadie*, from a local Mi'kmaq word for "land of plenty," conflated, perhaps, with the Greek land of milk and honey, Arcadia. The Acadians (or Cadiens) were expelled from British-controlled Nova Scotia in 1755; some found refuge in Halifax or the woods of New Brunswick, some in English colonies on the eastern seaboard, others on the Caribbean island of Saint Domingue. Several waves of Acadians arrived in French-speaking Louisiana between 1765 and 1785, settling along the bayous Lafourche and Teche and in St. James and St. John the Baptist parishes on the Mississippi River above New Orleans. Primarily peasant in origin, these immigrants remained largely distinct from French Creole plantation society, but they did interact and intermarry with other residents of southern Louisiana:

> This blending process continued and eventually produced the group called Cajuns (as close as Anglo-Americans could come to pronouncing Cadiens). This is why one finds people who call themselves Cajuns yet who have last names like Hoffpauir and Schexnayder, Ortego and Romero, Johnson and Reed, and McGee and Melançon. Cajun last names include even French Creole names such as de la Houssaye and du Boisblanc, Fontenot and Vidrine, along with those of Acadian stock, such as Arceneaux and Ardoin, Broussard and Babineaux, Comeaux (Ancelet et al., 1991, p. xv).

Historians date the founding of New Iberia to 1779 when a small group of emigrants from coastal Spain were recruited to establish an outpost in the Attakapas District of southwestern Louisiana. The settlers were indifferent farmers, asked by the Spanish colonial government to grow crops unsuited to the climate and soils of the region. Sugar cane grew well in these

conditions, and by the 1840's, it had become the dominant crop and New Iberia developed into an agricultural service center. The Civil War interrupted this growth, however:

> The Union campaigns in bayou country destroyed the plantation economy. Soldiers ripped apart fences and buildings to use for firewood, took livestock and supplies, and vandalized houses. The slaves, upon whom the economy depended, fled. The Louisiana bayous became a refuge for southern draft dodgers, destitute blacks, and a generally demoralized population (Reuss, 1998, p. 54).

During the course of the war, levees along the Teche and the Atchafalaya were neglected or systematically destroyed, and floods in 1865-1867 ruined agricultural lands:

> No longer able to farm, some Acadians turned to fishing and lumbering in the swamplands to survive. Meanwhile, sugar cane growers, with no capital and with machinery destroyed through neglect and war, went bankrupt. In place of privately owned plantations, large sugar corporations developed which utilized new technologies and scientific approaches. Small sugar houses on the plantations could not compete with the large factory mills (Reuss, 1998, p. 55).

After the Civil War, New Iberia's agricultural economy would diversify. Edmund McIlhenny began commercial production of tabasco peppers on nearby Avery Island in 1868. The island, a salt dome, was also be exploited for that resource. Rice became a major crop in the region by the 1880's, and a mill was established in 1912 to process the locally-cultivated staple (Conrad, 1986; Schweid, 1989).

Morgan City also has agricultural roots. Dr. Walter Brashear came from Kentucky in 1809 to establish three large plantations and a sugar mill near the confluence of the Atchafalaya River and Bayou Boeuf. One of these, on Tiger Island, would develop into the townsite of Brashear City, incorporated in 1860. By then, however, the region's commercial and industrial future had been charted. The Vanderbilts of New York financed a railroad from Algiers, across the Mississippi River from New Orleans, to Brashear City in 1857. Charles Morgan of Connecticut acquired the rail line in a bankruptcy sale, purchased steamboats and moved his shipping business to Brashear City in 1872. Morgan's train brought immigrants into the area, and his boats carried freight up and down inland waterways and along the coast from New Orleans to Houston. In 1876, two years before his death in New York, Brashear City was renamed in his honor (Baughman, 1968; Songe, 1992).

Residents of the region continue to conceptualize Morgan City and its neighboring communities as a commercial-industrial complex, New Iberia and its environs as agricultural. To the east of Morgan City is the unincorporated community of Amelia (with a 1990 population of 2,400, predominantly Vietnamese). Berwick, across the river from Morgan City, has a population of around 4,400. Patterson (4,700 residents) at the confluence of Bayou Teche and the Atchafalaya, and the unincorporated residential area of Bayou Vista (6,000) are the additional communities that, together, comprise "East St. Mary Parish." Calumet Cut, a man-made overflow outlet from the Atchafalaya system to the Gulf, marks the border – to the west is cane country. Franklin, the St. Mary Parish seat with a population of 9,000, and Baldwin (2,380 residents), are indeed

historic plantation towns, as is Jeanerette (6,200 inhabitants in the 1990's) in neighboring Iberia Parish. New Iberia celebrated its inaugural Sugar Cane Festival in 1941. Half a century earlier, a young mining engineer began exploring the salt domes of the parish for oil.

Opelousas
Port Barre
Krotz Springs
Fordoche
Baker
Port Allen
BATON ROUGE
Maringouin
Rosedale
Grosse Tete
Brusly
Addis
Plaquemine
Indian Village
Bayou Goula
St. Gabriel
Carville
Geismar
White Castle
Bayou Sorrel
Lone Star
Donaldsonville
Pigeon
Belle Rose
Paincourtville
Napoleonville
Supreme
Labadieville
Carencro
Breaux Bridge
Henderson
Butte La Rose
Cecilia
Arnaudville
Grand Coteau
Leonville
Lewisburg
Church Point
Sunset
Branch
Cankton
Mire
Rayne
Duson
Scott
Lafayette
Parks
Catahoula
Broussard
Milton
Youngsville
Maurice
Cade
Martinville
Loreauville
New Iberia
Olivier
Jeanerette
Port of New Iberia
Avery Island
Abbeville
Perry
Delcambre
Erath
Meaux
Kaplan
Esther
Henry
Intracoastal City
Weeks
Weeks Bay
Louisa
Adeline
Charenton
Baldwin
Franklin
Garden City
Centerville
Bayou Vista
Morgan City
Patterson
Berwick
Amelia
Gibson
Vermilion Bay
West Cote Blanche Bay
East Cote Blanche Bay
Atchafalaya Bay
Four League Bay
Lake Fausse Pointe
Lake Verret
Grassy Lake
Lake Palourde
Duck Lake
Flat Lake
Grand Lake
Wax Lake
Ship Shoal
Timbalier Bay
Terrebonne Bay
Lake Bigeux
Lake Chicot
Lake Darbonne
Lake Pelto
Lake Long
Lake Boudreaux
Lake Decade
Lake Mechant
Lake Barre
Lake Felicity
Lake Palourde
Lake Verret
Bayou Teche
Bayou Lafourche
Bayou Black
Bayou Boeuf
Bayou Chene
Bayou Penchant
Bayou Sale
Bayou Shaffer
Bayou Vista
Bayou Goula
Bayou Sorrel
Bayou Pigeon
Bayou Courtableau
Bayou Des Ecores
Bayou Des Allemands
Bayou Des Glaises
Bayou Des Lacs
Bayou Des Cannes
Bayou Des Cannes
Bayou Des Cannes

Anthony Lucas, who would discover the huge Spindletop Field near Beaumont in 1901, came to Iberia Parish in 1893 to supervise the salt mines on Avery Island. He found not a stratified layer but a massive salt dome, and oil. He probed similar formations in the region – at Jefferson Island, then at Anse le Butte, north of Lafayette. At Anse le Butte, he ran out of money, abandoned the hole, and moved on to Beaumont (Franks and Lambert, 1982, p. 5). W. Scott Heywood would soon match Lucas's Spindletop discovery with his own at Jennings, Louisiana, 80 miles east of Beaumont. Heywood then reworked the Anse le Butte site:

> Heywood sank a well on the north side of the swamp near a place where natural gas bubbled to the surface. Although he struck gas at the 1,700-foot level, the extreme fineness of the sand clogged the hole. Heywood then moved his rig to the south side of the swamp but found no sign of oil there. He then moved the drilling equipment back to the original site, baled the first well, and plugged it back to the 1,170-foot level. Oil gushed 25 feet high as he brought in a hundred-barrel-per-day producer (Franks and Lambert, 1982, p. 178).

Anse le Butte was a modest field by the standards of Spindletop and Jennings, as was the field discovered near New Iberia in 1917. Solange Sorrel, tending his rice about five miles from New Iberia, observed gas bubbles surfacing in the flooded field. Sorrel and two partners incorporated the Little Bayou Oil Company and began to test out the Little Bayou Field. Historian Glenn Conrad culled local newspapers for the stories:

> By early March the editor commented that "oil fever runs so high in New Iberia that conversations other than upon the oil subject are uninteresting." Apparently speculation also continued to run high, for the local editor reported categorically that the Little Bayou Field "is going to prove one of the largest and best in the world" (Conrad, 1986, p. 335).

Little Bayou, as it turned out, contained little oil, although the field would continue to be worked to the present. Advances in seismography and innovations in technology, however, opened coastal Louisiana's salt domes and marshes to exploitation. By the early 1930's, oil production from this vast area, from Plaquemines Parish along the Mississippi River to Calcasieu in the west, had surpassed the more accessible fields of north Louisiana. This expansion was fostered in part by federal intervention into the "hot oil" scandal occurring in the huge East Texas field, where producers were violating the "allowables," the pumping levels established by the Texas Railroad Commission in an effort to stabilize prices (Bradley, 1996, pp. 638-647). In November, 1933, U.S. Secretary of the Interior Harold Ickes established quotas for fields throughout the oil-producing region. Southern Louisiana's proration allotment was set at 44,582 barrels daily, twice that of northern Louisiana's allotment (Franks and Lambert, 1982, pp. 183-184). Iberia and St. Mary parishes hosted a respectable share of this activity (fig. 1.2); in the former, 1,275 oil and gas development wells were drilled up to 1977, and 2,459 in the later (Davis and Place, 1983, p. 17).

Governor Huey Long wanted to distribute free textbooks to the schoolchildren of Louisiana, and he wanted oil and gas companies operating in the state to pay for them. In 1928, he prevailed upon the legislature to stiffen the severance tax on petroleum products extracted from the state. Politicians from the largely Protestant and oil-producing parishes of northern Louisiana

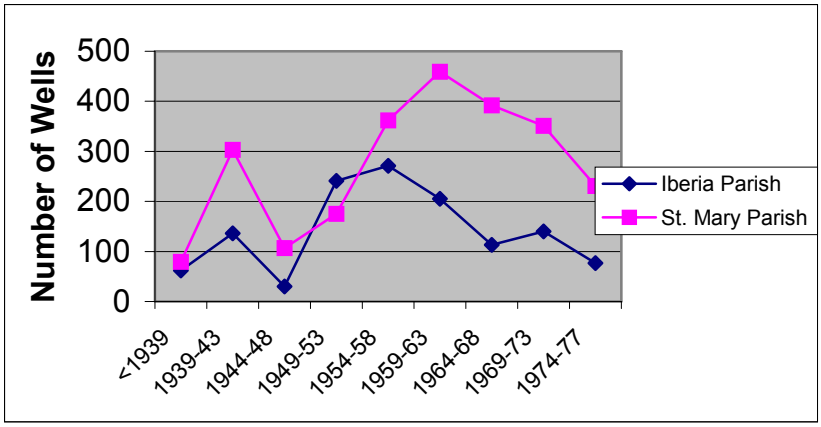

Figure 1.2. Development Wells, Iberia and St. Mary Parishes
Source: Davis and Place (1983)

challenged both the textbook distribution plan and the severance tax, the first because it would give free books to private Catholic schools, the second because it would tax their high-gravity oil at a steeper rate than southern Louisiana's lower-gravity oil. Governor Long survived an impeachment attempt over the tax and both challenges in the U.S. Supreme Court (which, on the first matter, had accepted Long's argument that we was giving the textbooks to the *children*, not the schools). The tax has subsequently become Louisiana' dominant source of revenue (Williams, 1969; Beard, 1969).

The severance tax goes directly to the state's general revenue fund, and Louisiana collects a larger percentage of its total revenues from this source than any other state, including oil-rich Texas. By the 1960's and early 1970's, these revenues were approaching $1 billion a year, in 1999 dollars, far surpassing Gov. Long's textbook fund. As an LSU economist observed, this reliance on the severance tax

> makes it easier for a relatively low-income state to provide a level of public services that is roughly average by U.S. standards. A related advantage is the below-average reliance on sales, license, and income taxes that is made possible by the abundance of severance tax collections (Beard, 1969, p. 212).

These funds are administered by a centralized state government and are dedicated largely to public welfare, highway, and health and hospital needs throughout the state. The availability of these revenues has at once made the parishes dependent on state largess and induced them to keep local taxes low. Nonetheless, parish and local governments remain responsible for such functions as police and fire protection, sanitation and sewerage, parks and recreation, and a large part of direct educational expenditures (Beard, 1969, p. 189). Oil production on Louisiana soil would peak in the early 1970's, then decline some 40 percent by the end of the decade; economists and politicians across the state fretted that the bonanza was over (McMahon, 1981, p. 1).

Production around New Iberia through the decades was nonetheless steady enough to attract some outside interest and investment. For example, the American Iron and Machine Works moved from Kilgore, Texas to New Iberia in 1937. Local resident Red Fox acquired the

operation in 1944 and built it into a major fabrication yard for offshore operations (Conrad, 1986, p. 299). Following the hiatus of World War II, drilling increased rapidly, and Lafayette, 20 miles up the road from New Iberia, captured much of this growth. With the establishment of the Heymann Oil Center there in 1953, Lafayette would become a major regional managerial and service hub. The Oil Center, a low-density cluster of exploration companies, production firms, service companies, shops and restaurants, propelled the growth of the city (Abington, Bullamore, and Johnson, 1993, pp.165-166).

However, in the early 1960's it appeared that New Iberia's future would rest not on the oil and gas industry but on the military: the Naval Auxiliary Air Station. The base and airstrip were built amid sugar land north of town for $30 million, spurred the local economy through an estimated annual payroll of $3 million, then closed down after four years of operation. Twenty other installations across the country were simultaneously shut down by Secretary of Defense Robert McNamara to free up funds for the Vietnam War (Piler, 1964, p. 1). The barely-used facilities, including an extended runway, were turned over to the town. An amalgam of local government offices, schools, manufacturers, and office buildings – the Acadiana Regional Airport – would eventually occupy the former base. In its 1979 special edition on "LaGulf," the *Daily Iberian* sketched the past and expectant future of the Airport:

> Once a small municipal airport with limited growth potential, the New Iberia airport was swallowed whole by the U.S. Navy and then spit out again with major improvements…As the parish changes from an agricultural to an industrial community and becomes increasingly oil-industry oriented, the potential of Acadiana Regional Airport becomes increasingly apparent (Moran, 1979, p.12).

Despite the investment in the airport, New Iberia's industrial future was built on the Port of Iberia. "Port" is something of a misnomer. Sited on a ditch formerly used to drain excess water from New Iberia into Bayou Carline near Weeks Island, the Port of Iberia is some five miles inland from the Intracoastal Waterway. From there it is another 24 miles across Vermillion Bay's shallow channel to the Gulf of Mexico. The Port Commission, established in 1948, finally undertook a widening and deepening of the drainage ditch in the 1960's, but the struggle to dredge a more respectable route through Vermilion Bay has continued. The controlling water depth for the port is thus only 12 feet. Many locals call the Port of Iberia an industrial park, not a port.

Nonetheless, the Port grew rapidly in the oil-boom years of the 1970's. McDermott, with its main shipyard in Morgan City, established a subsidiary yard after weighing the disadvantages of the shallow channel against the benefits of a larger labor pool in Iberia Parish (Tillman, 1979, p. 3-C). Red Fox Industries expanded their oilfield fabrication facilities; the local Shea family began a pipe-coating operation. A variety of other tenants took up leases on the port's land or bought sugarcane lands adjacent to the port. One oil man, whose fabrication company was a Port of Iberia fixture through the 1990's, discussed the boom:

> Dailey Berard, vice president and general manager of Houston Systems, Inc. said his company more than doubled its capacity in 1977. He estimated that the present payroll estimate of $25 million for the entire port represents a 30 percent increase over the

> previous year. The same holds true for the estimated $25 million investment in materials, equipment and supplies, he said.
>
> Berard said the critical housing shortage in New Iberia is hindering port expansion, as at least 500 more people could be employed at the port if they could find a place to live once they moved here.
>
> There are presently more than 2,500 persons employed at the Port of Iberia again a 30 percent increase over the preceding year, Berard said (Wakefield, 1978, p. 44).

By 1999, the estimated employment at the port reached 4,100 (Robert Gramling, personal communication). The controlling channel depth remained 12 feet, more or less. Dailey Berard, while keeping his main fabrication operation at the Port, opted to purchase a new yard on Lake Charles, with a 32-foot channel to the Gulf, to position his company for the construction demands of deepwater development.

New Iberia hides its oil and gas activity at the Port of Iberia, several miles outside of town. Morgan City, until quite recently, could not. The primary road from New Orleans, through Houma to Lafayette, passed along miles of Morgan City's frontage on the Intracoastal Waterway. Acres of fabrication yards, boat terminals and shipbuilding operations, service and supply shops, stacked drilling rigs, bars and plate lunch venders, all were visible to drivers along the narrow roadway. With the construction of four-lane US 90, bypassing the city's industrial zone before it crosses the Atchafalaya into Berwick, the visual dominance of oil and gas has diminished. But the supply boat and rig traffic on the river is a sufficient reminder of Morgan City's industrial past and present.

Locals tout Morgan City's strategic location and its connectedness. The river was bridged in 1882, and Charles Morgan's railroad tied southern Louisiana into the continent-wide Southern Pacific system. A road bridge was completed over the river in 1934 (Songe, 1992, p. 3); the Intracoastal Waterway took shape in the 1920's as the federal government acquired a network of private toll canals (Becnel, 1989, p.185). And the 29-mile reach of the lower river, requiring constant effort to maintain its 20-foot depth, connects Berwick Bay to the Gulf.

In the 1940s, a third of St. Mary Parish's employment was still in agriculture, but Morgan City, with its water connections to the Gulf and its access to quickly-depleting cypress forests in the Atchafalaya basin, had a substantial fishing, seafood processing, and forestry economy (Manuel, 1977, pp. 37-38). When Kerr-McGee drilled the first producing well on the Outer Continental Shelf in 1947, Morgan City was poised strategically to become a prominent fabricating, service and supply center for the new industry (Ezell, 1979).

Civic and business leaders from Morgan City and Berwick were quick to recognize the area's potential role in the offshore industry, and succeeded in getting legislative authorization for the Morgan City Harbor and Terminal District in 1952. The authorization gave the District taxing power over 140 square miles of land and the right to acquire and dispose of waterfront acreage along Bayou Boeuf, the Intracoastal, and the river (Kurtz and Ferrell, 1977, p. 150-151). McDermott was one of the first tenants of the District, establishing in 1955 a fabrication yard

along Bayou Boeuf that would eventually cover 1,000 acres. That year, McDermott built and installed a production platform in 100 feet of water (Gramling, 1996, p. 60).

McDermott's and Morgan City's business was predicated on settlement of the Tidelands cases of the late 1940's and early 1950's. Several Supreme Court rulings defined submerged lands as federal property: lands "lying seaward of the ordinary low-water mark on the coast." The U.S. Congress responded with the Submerged Lands Act of 1953, returning a coastal strip to the states, three miles wide for most states, 10.4 miles wide (three marine leagues) for Texas and Florida. The federal government would control the balance of the Outer Continental Shelf, to be outwardly bounded at 200 miles by the declaration of an Exclusive Economic Zone in 1976. While Texas and Louisiana continued to object to this division of property through the 1950's, ownership was sufficiently resolved to allow development of the OCS to proceed (Shalowitz, 1962).

Passage of the Outer Continental Shelf Lands Act in 1953 initiated the leasing program for offshore oil and gas. In the following year, 90 tracts were leased offshore Louisiana, 58 of which proved productive. Development costs were high, but by 1965, 735 blocks were under lease. Donald Davis and John Place sketch the results of the leasing program through the 1970's:

> …in the 1960's the petroleum industry had accelerated its development in the Gulf of Mexico. By 1979, the rights to 2,075 oil and gas tracts in the waters off Louisiana had been obtained through competitive bidding. Although most blocks are located in less than 180 m of water, eight firms have invested more than $400 million to explore 32 blocks beyond this contour. Exploratory drilling has extended into water more than 300 m deep (Davis and Place, 1983, p. 35, citations omitted).

The ascendancy of the oil and gas industry in Morgan City had been ratified in 1959 when the town's annual Shrimp Festival, the oldest chartered festival in the state, became the Shrimp and Petroleum Festival. The Festival's president commented to reporters for the New Orleans *Times-Picayune*:

> Adding the petroleum industry to the Festival's official name is actually long overdue. For the past decade or more, men and women of the oil, gas and boat industries have worked shoulder to shoulder with shrimp and fishing industries and other townspeople in staging the Festival (in Thibodaux, 1986, p. 24).

After 1960, employment in oil and gas extraction and related activities – water transportation, fabrication, shipbuilding and repair – grew. Morgan City's offshore infrastructure – fabrication yards, shipyards, support bases, terminals – was put into place. The town's fishermen, who played an early role in transporting personnel and supplies out into the Gulf, accounted for only two percent of employment by 1970 (Gramling, 1977, p. 134). Involved from the start with offshore activity, Morgan City was positioned for the "boom" caused by the OPEC oil embargo of 1973-1974 in retaliation for the United States' support of Israeli combat against Arab countries. Crude oil prices jacked up, oil companies ratcheted up their drilling programs, and welders and fitters built platforms and supply vessels. After the embargo, oil prices remained relatively constant through the 1970's; they spiked up to $40 a barrel in 1979 and 1980 when

Iraq took over the U.S. Embassy, commenced a protracted war against Iran, and disrupted the flow of oil from the Middle East. Oil companies and their support industries along the Gulf of Mexico responded frenetically. Builders of rigs and boats rapidly expanded their inventories to keep up with industry demands. As one observer of the supply vessel sector recalls,

> Over-capacity was unheard of. Utilization rates would have been over 100% if that were possible. Shipyards could not turn out new vessels fast enough. In Bayou La Batre, Alabama, they were turning out supply and utility boats at the rate of one every other week. It was almost as if hulls were being built by the mile and just cut off at the appropriate length (Marcon, 1999, p. 2).

Wall Street Journal reporters, sent to the "dismal bayou town" of Morgan City in 1980, reported to their readership:

> It's a town where towering steel structures strangle to horizon, and heaps of scrap iron clutter the landscape. It's inhabited by Cajun roughnecks and free-wheeling, strong-willed bosses. And it's a place where multimillion-dollar deals are sometimes sealed with the help of silverware, mink coats and other under-the-table gratuities (Getschow and Thurow, 1980, p. 1).

By 1982, however, producers were producing a glut of oil and consumers were conserving. The boom was over, and the downturn would follow shortly. Saudi Arabia, the world's largest producer, had restrained production in the early 1980's in an attempt to keep prices and revenues high. In 1985, the kingdom reversed its strategy after losing its share of the market: it pumped and exported enough crude oil to bring world prices down to the $9 range in 1986.

Robert Gramling has tabulated the employment figures across three decades for St. Mary Parish (1996, p.110). In 1959, 755 persons were employed directly in oil and gas extraction, and another 922 in transportation, fabrication, and shipbuilding. The respective figures for 1969 were 3,219 and 2,527; this work force swelled to 3,552 and 8,436, respectively, in 1979. By 1984, the extraction employment declined to 1,373, but the linked labor force remained around 8,000. With the drop in crude oil prices at the end of 1985, unemployment in some coastal Louisiana parishes rose to 20 percent. Gramling's workforce figures for St. Mary Parish in 1989 show the consequence of the downturn: 981 remaining in extraction and 4,146 in linked sectors, half the 1984 totals. Similarly, oil-related jobs in the states of Texas, Oklahoma, and Louisiana dropped from 537,300 in 1982 to 244,400 a decade later (Hodel and Deitz, 1993, p. 28). Workers and families who lived through the downturn now live in its shadow.

Parish taxes, like employment, are sensitive to oil and gas activity. The one percent gross sales tax, collected in St. Mary Parish since 1966 (the parish has subsequently added several additional taxes), faithfully tracks booms and busts, upturns and downturns (fig. 1.3). Revenues rose steadily in the 1970's to a peak in 1981. They then declined, with an aberrant rise in 1988 that may reflect local fabrication activity for *Bullwinkle*, Shell's early venture into deepwater exploration and production. The massive platform, 1,615 feet tall, was assembled in Aransas, Texas, with components from fabrication yards across the Gulf. The deepwater push in 1996 and 1997 is also reflected in parish sales tax revenues, as is the downturn that followed.

The supply, demand, and price of oil and gas were not the only drivers of activity in Morgan City and elsewhere along the Gulf coast during this cycle, however. And it was no means a smooth cycle. In 1979, when prices were favorable for producers, one major Morgan City offshore construction firm faced a series of crises. First, a slowdown in activity in the North Sea forced the company, at significant cost, to relocate much of its construction equipment from that region to Southeast Asia. Other operators brought equipment and rigs back to the active Gulf of Mexico, resulting in an oversupply and forcing firms to cut prices, sometimes below costs, to keep their equipment in operation. A spokesman for one Houma company, which laid off 40 percent of its office and administrative staff in 1979, acknowledged that "there's just too much equipment in the Gulf right now. There's a lot of work in the Gulf, but not for construction"

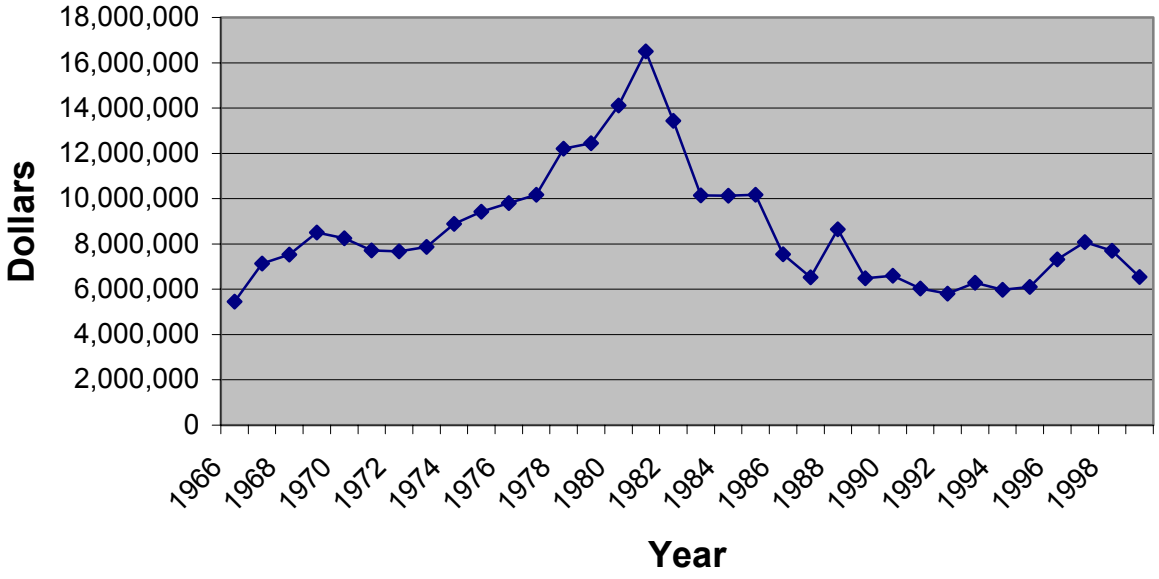

Figure1.3. St. Mary Parish One Percent Gross Sales Tax
[Constant 1999 dollars, deflated by Consumer Price Index; source: Sales and Use Tax Department, Parish of St. Mary]

(Gravois, 1979, p. 20). The Morgan City operation faced additional difficulties. It had been convicted and fined in 1978 for decades of collusive price fixing and bid rigging. It faced some 70 civil suits resulting from the criminal antitrust charges. Four top executives were removed. And the company's efforts to diversify into the construction of nuclear power plants soured when Three Mile Island, built by its subsidiary, failed. Finally, the company was experiencing the global flow of capital:

> [It] also has its hands full with the invasion of foreign competitors, which are strongly resented hereabouts. The resentment stems from that fact that some foreign companies such as Japan's Nippon Steel and France's Enterprise GTM pour les Travaux Petroloers Maritimes, or ETPM, receive financial assistance from their governments, and that helps them undercut the American competition (Getschow and Thurow, 1980, p. 14; cf. Hall, 1981).

1.2.1. A Perspective on the Region

Acadiana and the submerged lands offshore form a large extractive region, dependent on nonrenewable petroleum resources. At various moments in the region's history, local commentators and outside observers alike have invoked an image of boom. This is most consistently applied to the 1970's, in the wake of the Yom Kipper War and the subsequent oil embargo of OPEC's Arab member states. But the image has been invoked earlier as well. In 1966, a writer for the *Journal of Commerce* reported that Houma, in Terrebonne Parish east of Morgan City, was undergoing "one of the biggest offshore oil booms in the nation's history":

> Almost overnight, Houma has become the Cinderella City of Louisiana's south coast. A population explosion has taxed every facility in the area. Oilmen and their families are moving in so rapidly Houma cannot accommodate them. As a result they are forced to find homes in tents and trailers, while the city fathers map emergency plans to look after the influx coming from almost every state in the nation (Manthrop, 1966, p. 3-AA).

The counterpoint to the boom is the bust, and this as well has been applied to the Gulf of Mexico. At the crest of the boom, local reporters were issuing stories of an imminent decline due to the exhaustion of reserves (Graham, 1982). Then, with the price collapse through 1985 and 1986, academic commentators ratified this image by periodizing two decades in south Louisiana as "Preboom Poverty" [1970-1973], "Boom Time" [1974-1981], and "The Bust" [1982-1986] (Brabant and Gramling, 1997). The analysis fails to capture Houma's pre-1970 boom. Nor does it anticipate the upturn in the 1990's, presaged in 1979 when Shell placed its Cognac platform in 1,025 feet of water in Mississippi Canyon (Pratt et al., 1997).

John Rankin alludes to a more complex history than that captured by journalists and academics. As director of the New Orleans office of the Bureau of Land Management, Rankin was responsible for overseeing the lease sale of 1977 and the development of much of the federal lease sale procedures that followed. Observers were speculating that most of the major offshore fields had already been tapped, but oil companies were poised to bid larger sums than ever before. Wryly, Rankin commented that he had "buried the Gulf of Mexico 10 times and it comes back to life each time" new tracts are auctioned off (Judice 1977, p. 3-16).

By early Texas standards, the cycle of the 1970's and 1980's in south Louisiana was a protracted one. The Permian Basin oil towns studied by historians Roger and Diana Olien boomed and busted in a matter of months through the early decades of the 20th century. This they attribute to the phenomenon of "flush production," unique to oil and the regime under which it was then extracted:

> As a flowing mineral, moving through porous rock and sand formations under the pressure of water or gas, oil moves to wellheads, the points of least pressure, sometimes rising over derricks and rigs in great black columns – the familiar gushers of films and novels. According to the common law of capture, established as a precedent in law during the nineteenth century, the rising oil belongs to the man who produces it, even if his well draws from a mineral formation that lies under adjoining and undrilled areas belonging to other landowners and leaseholders. Oil operators were often hell-bent to drill and produce

> oil on proven territory as soon as possible – before wells on adjoining and neighboring tracts drained oil from the deposit underlying their leases. To take the other man's oil was the object, and the practice was strictly legal (Olien and Olien, 1982, p. 4).

Beginning in the 1930's, however, regulatory efforts would be mobilized to ameliorate the raid on these common petroleum pools: prorationing, wellhead and subsequently acreage allowables, well-spacing, and, finally, unitization, where production rights were delegated to a single operator who then shared revenues with all claimants to the field (cf. Prindle, 1981; Libecap, 1989; Bradley, 1996). Petroleum science and technology developed as well; multiple pay-zones were discovered, and secondary recovery techniques were refined. In calling for a revision of the "dark boom-to-bust view of oil booms," Olien and Olien (1982, p. 10) observe:

> Great gains in scientific understanding of oil, in geology and geophysics, however, led to new and greater discoveries of oil and gas. Similar advances in recovery techniques, the domain of petroleum engineers, sustained production and employment in production and service operations. These developments, beyond the vision of an observer of the late twenties, meant that Permian Basin prosperity did not vanish with the Model T Ford.

The various towns of the Permian Basin manifested differing trajectories, however. Wink's boom was short-lived. Its fields developed water intrusion problems two years after discovery, coinciding with the development of the huge East Texas field and the onset of the Depression. McCamey, on a railroad line, developed as a service center for a number of fields, and received a boost when Humble established a refinery, regional office, and company camp there in 1927. It lost its locational advantage when exploration moved to the northern part of the Basin through the 1930's, and it lost its refinery when Humble moved the plant and office to Midland. But the town persisted as a retailing center. Snyder, a farm market center and county seat before oil was discovered in the 1920's, retained these functions, "quieter but still very much alive after the boom passed" (Olien and Olien, 1982, p. 167). Odessa, in the middle of the Basin, emerged as a leading oilfield service and supply center, and an aggressive civic leadership attracted a petrochemical complex and other industry in the 1950's and 1960's to assure the city's continued growth. Midland, on the main rail line through the Basin, developed as the region's financial hub and management center, attractive to medical and legal professionals as well as petroleum executives.

The Oliens thus frame their revisionist conclusion to the study of boom towns in the Permian Basin:

> … for despite hectic and occasionally rugged conditions of life, to the boomers, drifters, workers, and their families, oil booms offered economic opportunity that outweighed the attendant hardships of boom life. It was the chance to get ahead, rather than the "social chaos" so shocking to nonparticipant commentators on oil booms, that meant the most to those who took part in petroleum development. Difficulties were temporary: economic advancement, whether for communities or individuals, was real (Olien and Olien, 1982, p. 18).

The economic history of Acadiana has not received the close attention that the Oliens devote to the Permian Basin in Texas, but some of the contours are similar. There were spikes of activity; local commentators almost invariably labeled these as booms. A regional oil center, similar to Midland and Odessa, developed in Lafayette, only to experience the shocks of the 1980's. There was durable production of oil and gas from the Louisiana's water bottoms, salt domes, and prairies, enhanced by developments in exploration and production technology, then diminishing as the province "matured" through the 1970's. As onshore oil and gas declined, offshore developments grew. In a price environment in the late 1980's and early 1990's when activity on the shelf looked unattractive, investments were being made in deepwater exploration and production. Even in periods of expansion, some sectors of the industry, some specific companies, experienced difficulties.

Some of the contours of the region's economic history are endogenous to the region: oil and gas are found and fixed in the geology of southern Louisiana and the Outer Continental Shelf. Some are endogenous to the oil and gas industry: global petroleum geopolitics and economics, regulatory regimes, corporate strategies. Some events and processes are largely exogenous to the region and the industry but have local effects. The Asian meltdown, begun as a banking crisis in Thailand in 1997, had quick repercussions for the workers and families we studied in Morgan City and New Iberia in 1998 and 1999, just as the Three Mile Island accident had for workers in these communities in 1979. And some of the impacts of OCS activities on individuals, families, and communities cannot be divorced from the larger economy of the late 20th century.

1.3. The Global Economy of the Late 20th Century

Major changes have occurred in the nature of industrial work in the late 20th Century. We briefly review three facets of this larger picture: (1) the mobility of capital and the concomitant deindustrialization of America – in short, "globalization;" (2) structural changes in corporate organization, and (3) emergent forms of work organization. As sociologist Vicki Smith suggests, these are linked: "Simultaneous, mutually conditioning changes in global economic conditions and in organizational and employment innovations are dramatically reconfiguring a spectrum of work settings in the postindustrial United States" (1997, p. 315). The oil and gas industry articulates with these trends in complex ways. It survives as a domestic industry in a postindustrial country. It bucked, for a time, what students of organizations label the "finance conception" of corporate governance. And it pioneered many of the "nonstandard employment relations" now being scrutinized by social scientists.

The oil and gas industry, expansive and out of cycle in the 1970's, has now fallen into line. Companies pay close attention to financial markets; the "stockholders are our stakeholders," as investor relations personnel say. In their survey of the recent dynamics of the oil and gas industry, Barbara Wallace and her colleagues have identified several cost-cutting strategies utilized by companies to improve their balance sheets. These include downsizing, either by eliminating employees or using contract and contingent labor to buffet cycles. "Rightsizing" has been common as well: companies are divesting themselves of noncore properties. And some are "reengineering" work processes to achieve more with less. While such strategies may be essential to a company's survival on Wall Street and its continued operation in communities along the Gulf Coast, Wallace et al. (2001, p. 142) note that all three processes can result in

layoffs. Unions and associations of workers – "countervailing" institutions (Levy, 1998, p. 189) which in the past had fought for higher wages and job security – are making an appearance along the Gulf Coast. They are meeting resistance from both companies and workers. And that workforce is increasingly "global," as skilled and unskilled labor is brought in to fill peak demands and sent home in downturns.

1.3.1. Globalization

Economists Barry Bluestone and Bennett Harrison popularized the "deindustrialization of America" through the 1970's:

> …capital – in the forms of financial resources and of real plant and equipment – has been diverted from productive investment in our basic national industries into unproductive speculation, mergers and acquisitions, and foreign investment. Left behind are shuttered factories, displaced workers, and a newly emerging group of ghost towns (1982, p. 6).

Job losses were markedly high in industries facing strong international competition – textiles, apparel, automobiles, steel – so many commentators turned their attention to processes of "globalization." Janet Kodras (1997) has arrayed the factors that began to place limits on the continued development of postwar prosperity in the 1970's. She argues that the United States lost "its hegemonic position in the global economy" as foreign corporations in industrialized countries such as West Germany and Japan, after recovering from wartime destruction, cut into U.S. domination of international markets and became increasingly competitive in domestic markets. Additionally, a few previously nonindustrialized countries began to emerge as competitors in global manufacturing and a larger number of countries increasingly asserted control over their own resources, heretofore cheaply exploited for U.S. production. As a result, per annum economic growth in the United States dropped from 4 percent in the 1960's to 2 percent in the 1970's. In response to foreign competition, Kudras goes on to argue, American corporations could have focused on technological innovation and improved quality of manufactured products. Rather, they chose to restructure by slashing capital investments, closing facilities, transferring jobs overseas, moving assets from manufacturing to services and speculative ventures, demanding concessions from labor, and substituting contingent labor for full-time workers. The combined effects of these trends "substituted capital for labor, seriously reducing employment" (Kudras, 1997, p. 73; cf. also Levy, 1998).

Anthropologist Katherine Newman echoes these arguments. In *Falling From Grace*, she contends that declining wage rates, rising unemployment, and the inflation of the decade set the stage for massive "downward mobility" in the 1980's:

> …the promise of success appears to be out of reach for many. And I do not speak here of the urban poor, who have always been on the dark side of the American dream. The farmers in the Midwest, the oil workers in Texas, and a host of unpublicized members of the middle class are also losing their grip on prosperity. Downward mobility is touching the lives of many people who never expected to find they had anything in common with the poor. The 1980s are calling into question that article of faith so deeply embedded in

> our national consciousness: that our material lives just keep getting better every year (Newman, 1999 [1988], p. xi).

For a time, however, the escalating oil prices, supply disruptions, and shortages through the 1970's and early 1980's gave the Gulf Coast a respite from trends sweeping across the country. But a cogent argument has been made that the high energy prices that kept the region alive slowed economic growth in the country in the 1970's and fueled the recessions of the 1980's. Economist James Hamilton developed the correlation for a data set from 1948 to 1972: "All but one of the U.S. recessions since World War II have been preceded, typically with a lag of three fourths of a year, by a dramatic increase in the price of crude petroleum" (1983, p. 228). He then examined the cycles into the early 1980's. Price increases induced by the Yom Kipper War, the Arab oil embargo, and reports of heating oil shortages in early 1973, were followed by the onset of a recession the following winter. Gasoline shortages and price increases attendant upon the Iranian Revolution in 1979 preceded the recession beginning in the first quarter of 1980. Price increases tied to U.S. decontrol and the Iran-Iraq War preceded the 16-month recession of July, 1981 through November of 1982 (Hamilton, 1983, p. 229; cf. also Yergin, 1991).[1]

If global supply disruptions and rising prices slow growth elsewhere in the economy, they stimulate upstream activity. Thus, while economist Frank Levy (1998) marks 1973 as the start of an economy-wide "sudden productivity slowdown" following decades of post-WWII economic expansion, the Gulf of Mexico was thriving. But then, in the 1980's, consumers began to speak, with the purchase of fuel-efficient vehicles, a market which the domestic automobile industry was unprepared to supply. Demand for refined petroleum products slackened. Foreign and domestic producers lost revenues. And OPEC countries, in an effort to stimulate demand and regain income, increased supply and cut prices. Domestic crude oil dropped from $32 a barrel in November, 1985, to $10 within a few months (Yergin, 1991, p. 750). At that price, the incentive to explore and develop the Outer Continental Shelf diminished, and the global macroeconomy ruptured the local economies of communities and the household economies of residents along the Gulf Coast.

Through the turmoils of supply and demand, however, the industry did not deindustrialize. Over decades, the infrastructure to exploit, service and refine oil and gas had been constructed, and oil and gas remained to be exploited. During the 1980's, this infrastructure would be trimmed of much of its overcapacity, but new incentives would be put in place to compel the industry to remain on domestic terrain. Historically, oil capital has been mobile; multinational corporations have been quick to seize geologic and economic opportunities throughout the world. Many of these opportunities present production costs that are a fraction of those on the domestic OCS, and producers continue to avail themselves of global reserves. But with policies such as area-wide leasing in the 1980's and deepwater royalty relief in the 1990's, the province that John Rankin

[1] Knut Anton Mork (1989) extended and validated Hamilton's correlation through the 1980's, and found an asymmetry: price *decreases* do not necessarily precede GNP growth. Hamilton's relationship appears to roughly hold for the 1990's as well. Iraq's invasion of Kuwait and supply disruptions in 1990 coincided with a U.S. recession beginning in July; the recession beginning in March, 2001, follows a price spike in the third quarter of 2000 (cf. *Arizona Daily Star*, 2001).

had buried and unburied several times during his tenure as the federal government's leasing agent would continue to attract investment.

1.3.2. Corporate Restructuring

Some argue that the persistence of the oil industry in the high-cost Gulf, while serving national strategic interests, was financially unwarranted. Consequently, the CEOs and the financial officers who continued to pump money onto the shelf had to be "disciplined" by their shareholders (cf. Jensen, 1988). This process began in the 1980's in the oil industry, but the "finance conception of corporate control" was already well entrenched in American industry. By the 1960's, all of the financial forms of corporate reorganization had been invented: mergers, divestitures, debt accumulation, leveraged buyouts, stock repurchases. Corporate America was governed by financial economics:

> the assets, debts, and free cash flow relative to the numbers of shares of stock and the current stock market evaluation of each share together sum up all that is important to know about any given firm…Operating divisions are bought and sold based on their short-term financial performance. Workers are fired to improve next quarter's profits, and those who are left are supposed to carry the burden by increasing their productivity (Fligstein and Freeland, 1995, pp. 33-34; cf. Fligstein and Bratley, 1992; Prechel, 1994; Davis and Stout, 1992; Glasberg and Schwartz, 1983).

Many of the events affecting Morgan City, New Iberia and much of the Gulf Coast have taken place in corporate boardrooms and the offices of Wall Street brokers. Industry restructuring through mergers, acquisitions, and divestitures has had a dominating influence on local communities and economies, and on local lives. Despite their best efforts, communities have limited ability to control their futures in the midst of regional, national and global forces.

When prices or production decline, corporations reshuffle the organizational deck. This happened during the 1980's; it occurred again through the downturn of the late 1990's. In a pair of carefully-argued papers (Baxter 1997, 1999), industrial sociologist Vern Baxter of the University of New Orleans examines the causes and consequences of industry restructuring in the 1980's. Baxter argues that the "finance conception" of control in the industry – one in which institutional investors displace oil-wise managers in corporate decisionmaking and control – began, haltingly, with the Reagan revolution of 1980. Reagan first removed domestic oil price controls, and his Justice Department relaxed anti-trust law enforcement. Corporate raiders such as Carl Ichan and T. Boone Pickens purchased oil reserves by means of corporate takeovers, at prices lower than the costs of drilling for new oil. Between 1979 and 1987, seven of the 20 largest U.S. oil companies merged, and most of the rest reorganized financially (Baxter, 1997, pp. 251-252; cf. also Jensen, 1988; Petzinger, 1987).

Baxter is careful to point out that, based on his analysis of 40 key companies, product market fundamentals in the 1980's – reduced demand and low prices – were more significant in reduced investment in the exploration and development of offshore leases than were takeovers (1999, p. 283; cf. Whitt, 1981). Nevertheless, the corporate landscape along the Gulf was transformed:

> A shrunken and restructured petroleum industry has slowly bounced back from the depression of the late 1980's. Large and small non-integrated independent oil companies have expanded their role offshore, while the majors and integrated independent companies have either maintained a steady rate of activity or further reduced investment. Restructuring patterns suggest the effects of declining petroleum reserves and a curtailed flow of differential oil rents to the Gulf of Mexico region. Average Gulf of Mexico oil discoveries in the 1980's contained only one-tenth the reserves of oil finds before 1960. Larger discoveries are generally confined to deeper water where incremental costs are extremely high, and exploration and production are dominated by a few major companies. Favorable federal policies like area leasing, reduced minimum bids for offshore leases (1987), and royalty relief for deepwater drilling (1995) continue to subsidize investment (Baxter, 1997, p. 253)

The merger frenzy hit again in 1998. British Petroleum combined with Amoco, and, in the reorganization process, much of its North Sea activity slowed. Texaco and Shell merged their gasoline retail operations. France's Total acquired Belgium's Petrofina. Then, on December 1, 1998, Exxon and Mobil merged, uniting the offspring of John D. Rockefeller's Standard Oil of New Jersey with the descendent of his Standard Oil of New York. It created the largest corporation in the world. During this process of restructuring, oil service companies began to merge in an effort to house, under one corporate logo, the myriad services required by the big oil producers. With a lag, too, the contract drilling companies began to consolidate. But activity was slow to resume in the Gulf.

An oil company can physically enhance its reserves, its preeminent assets, by exploration and development drilling. It can drill on the periphery of known fields, explore for new fields, or put down exploratory wells to find new reservoirs in old fields. Or it can acquire another company's reserves. This last strategy was one of the driving forces of the mergers of recent years. The drop in demand and price in 1998 had several implications for oil producers. Their revenues and cash flows were down, the book value of their reserves decreased, and credit ratings dropped. Majors with extensive downstream businesses – refining and distribution – benefited from large and cheap inventories, augmented by the exploration and drilling flurry of 1997. But their upstream units were still paying the elevated costs of that activity, in the form of premium rental rates for rigs and boats through 1998. In the United States, the costs of finding a barrel of oil or its equivalent of natural gas was $12.26; the cost of acquiring a barrel from a proven reserve – a paper transaction – was $3.86. With a barrel of crude oil selling in the $11 neighborhood in 1998, it made obvious economic sense to acquire companies and their assets, not explore and drill. British Petroleum started the process in 1998 with the acquisition of Amoco, and in doing so was able to cut costs by cutting staff – 14,500 jobs. Exxon and Mobil followed, and announced plans to cut 10,000 positions. The process cascaded through the fraternity of oil producers, and continued throughout 1999. With each corporate realignment, redundant personnel and facilities would be terminated (cf. McGuire and Gardner, 2000).

As the majors merged, they also took time out to evaluate their portfolios of reserves, and shed their smaller holdings. Independent oil companies, which early in the decade had been praised as aggressive and lean explorers, now became aggressive acquirers. As one financial officer of an independent put it, there were "some pretty darn good buying opportunities." Across the board,

big and small oil producers (these are relative terms) slashed their exploration and drilling budgets. OPEC producers, under constant pressure through 1998 to reduce output, began to do so in 1999. Predictably, supplies tightened and prices rose. Surprisingly, exploration and drilling budgets remained steady. *Business Week* commended the "fiscal discipline" of one major, intent on "winning back shareholders who've fled in droves," largely into the "new economy," an economy based on the production and application of knowledge, not physical goods (cf. Rauch, 2001). An independent consultant underscored the hold that financial markets now have on the industry: "Oil companies have to look for the business model that will capture the most investor attention – and it's not drilling more dry holes" (Forest, 2000, p. 40). When prices exceeded $30 a barrel into the year 2000, company profits soared. ExxonMobil's net income would rise from $1.86 billion for the second quarter of 1999 to $4.15 billion during the comparable period in 2000. Likewise, the 34 independent oil and gas producing companies surveyed by the Energy Information Administration (2000) reported earnings increases over these same quarters of 656 percent.

By mid 2000, a general consensus had emerged among those outside the inner circle of the mega-majors, majors, and major independent exploration and production companies as to why these companies remained "conservative" in their exploration and development spending. Six possibilities were identified: a belief by the companies that the high product prices were not sustainable (typically portrayed as a fear that OPEC producers could and would "turn their spigots on" and immediately make the world awash once again with surplus oil); a possible change in focus within the companies to "return on capital" rather than absolute growth in reserves and production; a temporary reduction in activities caused by the distractions of corporate reorganizations; a shortage of reasonably-priced public capital for exploring and drilling; a lack of prospective areas to be explored; and a lack of available people to do the exploring (Greenberg, 2000, p.13). These factors consorted to make things rough along the Gulf of Mexico. In due course, the business press began to issue troubling prognoses. Quoting industry analysts, a Reuters correspondent warned of hard times ahead: "Despite red hot crude oil prices, oil production growth in non-OPEC countries is expected to slow roughly 55 percent next year as a drought in exploration and production investment catches up with the industry… It has now become very difficult for producers to fight the ferocious decline rates in major fields, let alone increase production" (Valdmanis, 2000).

In one form or another, pessimistic forecasts have been issued throughout the history of the oil and gas industry. But the volatility of the late 1990's confounded many residents of south Louisiana. The mid-decade excitement over deepwater exploration and development was followed by the financial crisis in Asia and elsewhere, reducing demand and the incentive to explore and drill. Supplies then dwindled and prices went up, but the oil companies, at least in the perception of many, failed to gear up their activities. The workforce was encountering what it means to be "flexible" in the late 20th Century.

1.3.3. Work Organization

Employment in many segments of the oil and gas industry is "non-standard." Offshore work, on drilling rigs, production platforms, and supply vessels, is commonly performed in extended shifts of a week to several weeks in duration, with equivalent time off. This pattern, which the industry

shares with only a few other occupations such as the military, long-distance fishing, and mining in remote and hostile locations, has received substantial attention in the social science literature. Indeed, the extended absences of working husbands from their homes and families has been labeled as a "syndrome" (cf. Forsyth and Gauthier, 1991). However, in a cross-national survey of this literature, Mark Shrimpton and Keith Story warn that extended work scheduling should not be seen as inherently negative:

> …like all other work systems, it offers advantages and disadvantages for workers, those with responsibility for health and safety, training and other employment-related concerns, and for employees' families and the communities and regions in which they live (Shrimpton and Story, 2001, p. iv).

The industry is comprised of more than those who work offshore. Many of those involved in the industry work regular shifts in fabrication yards and onshore service and supply bases. Others are contingent and contract workers, whose employment ebbs and flows with spending activity elsewhere in the industry. Still others are "on-call," a preeminently flexible routine which few of our study participants relished. And some employees – captains, truckers, pilots – have their daily schedules shaped by the regulations of their parent sectors, the merchant marine, transport, aviation. Some of these patterns are of long standing in the industry. From the first days of offshore exploration and production, oil companies contracted much of their drilling work to independent firms, which in turn had to adjust their workforces to meet the demand for their services. Other patterns are of more recent vintage, compelled by changes in the industry as well as larger forces shaping the nature of work in the late 20th Century.

In a review of the literature on "new forms of work organization" in postindustrial America, Vicki Smith highlights "functional" and "numerical" flexibility. The former includes

> …organizational mechanisms and work flow innovations that "build in" employee involvement: new technologies, inventory methods, job enlargement schemes, self-managed teams, and quality circles. This set of innovations is premised on securing the deeper engagement of core workers, on continually training them, and on exploiting their accumulated knowledge and experience (Smith, 1997, p. 316).

Numerical flexibility is less benign. It involves the expansion and contraction of the work force to accommodate production and service cycle fluctuations. Smith estimated that a quarter to a third of the American labor force is now comprised of temporary, seasonal, part-time, and subcontracted – "contingent" – workers (Smith, 1997; cf. also Abbott, 1993; Kalleberg, 2000; Segal and Sullivan, 1997). Barry Bluestone and Stephen Rose, in a similar vein, define a "feast and famine" work cycle driven by increasing job insecurity and a slowdown in wage growth over the last two decades:

> [Workers] work as much as they can when work is available to compensate for short workweeks, temporary layoffs, or permanent job loss that may follow. What's more, while American families as a whole are putting in more time, that work isn't producing significant increases in living standards. For the typical two-breadwinner household, having both parents work longer hours may not mean an extra trip to Disney World or

> nicer clothes for school; more likely, it means keeping up car payments or just covering the costs of food and housing (Bluestone and Rose, 1997, p. 2).

Smith places both forms of flexibility in a global context. The first is propelled by the struggle to reassert U.S. competitiveness in a world economy; the second is associated with the "downsizing" of American firms, as companies reduce their permanent staffs, hire temporaries only when needed, and subcontract tasks that were once performed within the company (Smith, 1997). Both are accompanied by the weakening of the postwar "historical accord" between capital and labor. In an era of prosperity,

> …major corporations that once fought unions eventually accepted them as *legitimate* partners in production, since unions reduce uncertainty and volatility in labor relations, clarify management rights, and encourage workers to police themselves (Canak and Miller, 1990, p. 258, italics in original).

With declining profitability and global competition in the 1970's, the accord began to unravel; it was further diminished when President Reagan decertified the Professional Air Traffic Controllers' union in 1981 and began appointing anti-union individuals to the National Labor Relations Board (Rubin, 1996, p. 45; cf. also Cornfield, 1991).

In their examination of right-to-work legislation and "gumbo politics," however, William Canak and Berkeley Miller argue that the accord was never very salient in Louisiana. When the AFL-CIO formed the Louisiana Oil Field Workers in the late 1960's and attempted to organize workers, employers responded by forming the Louisiana Oilfield Contractors Association and setting up a state chapter of the Associated Builders and Contractors, a national association devoted to controlling unions in the construction industry. Prior to the founding of the Louisiana Association of Business and Industry (LABI) in 1975, however, the state's businesses were fragmented, and the Catholic Church's Social Action Committee had some success in organizing several agricultural and refining sectors and overturning right-to-work legislation in the 1950's. But the Church's efforts to unionize black agricultural workers created fears in many lay Catholics, and the prevalent sentiment for "states' rights" and a concomitant antagonism towards "outside agitators" embodied by organizers from national unions worked against the organized labor movement in Louisiana (Canak and Miller, 1990; cf. Cobb, 1982; Cook and Watson, 1985; and Marshall, 1985, for discussions of the history and prospects of unionizing efforts in the South).

Then, with LABI organized into an effective lobbying group, demands by state employees for increased taxes to raise their salaries, and a violent confrontation between rival unions at the Jupiter Chemical Company's plant at Lake Charles in 1976, state-wide sentiment solidified around new right-to-work legislation in 1976. Governor Edwin Edwards, a long-time supporter of organized labor, changed his mind through the troubled economic conditions of the 1970's:

> People are tired of pressure from labor unions; they are tired of hearing public employees unionize and threaten to strike. Unemployment is high, and you can be sure that labor will get the blame; they are simply not accepted (quoted in Canak and Miller, 1990, p. 267).

Nonetheless, organized labor made renewed attempts to organize segments of the oil and gas industry in the late 1990's. Employees of several helicopter companies and one fabrication yard voted for union representation (Biers, 2000, p. 6). Efforts were being made to revive a union representing oilfield divers. Truckers organized associations in an effort to ameliorate changes in the structure of that industry following deregulation in 1995 (see Section 3.6, below). The most visible efforts came in the offshore supply vessel sector, where a coalition of five maritime unions approached seamen and, not unexpectedly, met opposition from employers, local chambers of commerce, and some mariners themselves (Concerned Citizens for the Community, 2001; McCormick, 2001; Walker, 2001). While these organizing efforts are ongoing, observers reported that the prospects for union success are dim. In part, this can be attributed to the cyclic nature of the industry. In good times, jobs are plentiful and the availability of overtime work makes them rewarding; the perceived benefits of unions diminish. During slowdowns, the number of workers is reduced to the extent that union organizers have difficultly finding their potential clientele. Moreover, there is the perception among both workers and employers that unions would enforce strict job descriptions, hindering the ability of the industry to meet the day-to-day exigencies of operating vessels, rigs, and platforms. It should be noted as well that even in industries with a long history of organized labor, unions have shed their "adversarial" position in the face of economic restructuring and the threat of global competition. As an auto worker at a General Motors plant acknowledged:

> The union's in the position where GM basically can tell them what to do. Because they [GM] can eliminate a plant whenever they want. You know, they have control. It's their court and it's their ball. So you play by their rules, or you don't play (quoted in Milkman, 1997, p. 91).

New forms of work organization have implications for issues of central importance in our study, notions of loyalty and the changing expectations of parenthood. The wave of downsizings, layoffs, and cost-cutting measures of the 1980's came at a time when, in anthropologist Katherine Newman's words, the economy was "wayward." Even those propelled downward recognized that the companies they worked for were in trouble and had to take corrective action; those who fell from grace could comprehend the process. Corporate activity in the 1990's was different, she contends:

> … record profits, a skyrocketing stock market, low inflation, and historic lows in unemployment. On all of these measures, the U.S. economy became the envy of the world… The news did not impress former AT&T managers or the refugees from IBM who found it hard to recover their footing. Why, they wanted to know, were their lives turned inside out when the companies they worked for enjoyed unheard of profits? And why was it that every announcement of downsizing was greeted with another increase in the value of their firm's stock? (Newman, 1999, p. 244).

There has been an erosion of "loyalty" in the American workplace (cf. Sennett, 1998), and participants in our study had much to say about it. They also remarked on changing family patterns, and the effect they have on the desirability of the extended absences characteristic of offshore work schedules. We analyze this as an evolution in the role of fathers from

"breadwinner" to "caregiver." DiFazio, in his study of Brooklyn longshoremen displaced by containerization (though retaining the Guaranteed Annual Income won for them by their union), observes the rise of "family activists" (DiFazio, 1985). Newman, in an updated afterword to the study she reported on in 1988, puts this into her framework of underemployed men and working wives:

> Men still wrap their identities around their work lives for the most part. Yet they have now acquired other sources of satisfaction, other "jobs" to perform. When they find themselves out of work and the burdens of bread winning fall on their wives, they no longer find themselves the object of pity if it is they who drop their kids off at school or volunteer to help out in the classroom. Among the men interviewed in the preceding chapters, "irregular" gender behavior was a source of great shame and stigma. It is less so now (Newman, 1999, p. 247).

Those that work in the oil and gas industry along the Gulf of Mexico, and their families, have experienced these larger forces of late the 20th Century industrial economy. Some of the global forces are mediated, however. The Merchant Marine Act of 1920 – the "Jones Act" – keeps the "coastwise trade" between supply bases and offshore structures in the hands of American-built, -flagged, and -manned vessels. And, more significantly, while the companies headquartered along the Gulf make strategic investments around the world, they continue to work the OCS, for the hydrocarbon resources are fixed in place. With technological developments in exploration and drilling, fields thought to be played out can come back in. In contrast, the Fruit-of-the-Loom plant in Jeanerette was being packed up on the proverbial flatcar when our field team arrived in nearby New Iberia. Much of the south was advertised, decades ago, to industries seeking abundant labor at low wages (cf. Cobb, 1982). Such comparative advantage that the region once had evaporates in a global economy. Fruit-of-the-Loom moved to Mexico.

1.4. A Note on Methods

Our strategies for attempting to understand the lives of individuals and families in Morgan City and New Iberia centered on residential ethnography, concentrated site visits, the training and employment of local research collaborators, and continued monitoring of community developments (see Chapter 4 for further details on methods and collaborative research). We also pursued leads that took us outside these communities – to corporate offices in Houston and New Orleans, to libraries and archives in cities and universities throughout the region, to some of our earlier research sites in Lafourche and Terrebonne Parishes. Residential ethnography, however, was the core of the research.

Two university researchers resided in Morgan City and New Iberia from September, 1998 to June, 1999, doing ethnography. They talked with workers, employers, and families involved in the offshore oil and gas industry, with civic leaders knowledgeable about how their communities were impacted by this large and complex industry, and with local historians. They clipped and xeroxed newspapers, surveyed businesses, resurveyed them as economic conditions changed, and revisited their early contacts as the downturn unfolded, driven by the economic meltdown in Asia and the reorganization and retrenchment of the oil companies at home. In addition, eight other researchers spent from two weeks to several months in the communities through the course

of the field segment of the project and the following year. These were our concentrated site visits, when researchers talked with additional families and workers, civic leaders, social service providers, educators, and company officials. They presented preliminary findings to community members in a series of focus groups in March, 2000, and recorded the participants' reactions and responses. Discussions were often tape-recorded and always summarized in written notes.

Whenever possible, we endeavored to triangulate, to work towards valid statements about people, places, and events by seeking accounts from a variety of persons with different points of view, different positions in social and economic hierarchies, and different life histories. Triangulation is as fundamental to social science as experimentation is to natural science and is an ongoing process.

The project was an exercise in collaborative research. Teachers from Iberia and St. Mary Parishes became "teacher-researchers." They were trained in ethnographic methods, conducted discussions with families of their students, and participated in data analysis and focus-group meetings to disseminate preliminary results of the study to larger community audiences. By invitation, as well, this group made panel presentations at the MMS' annual Information Transfer Meeting and at a convention of the National Ocean Industry Association, a group of industry leaders. As permanent residents of our research locations, these teachers provide a key link in the efforts of the Tucson-based research team to continue to monitor local affairs.

The information in this report is based upon discussions with, and observations of, workers and their families. Our promise of confidentiality precludes naming individuals, so statements taken from discussions are identified only by an individual's code number (e.g., [I-431]). Additional information drawn from informal discussions and observations was recorded in researchers' field notebooks and is identified as such in the report (e.g., (DA fieldnotes, 4/3/99) indicates that the information came from Diane Austin's fieldnotes of April 3, 1999).

1.5. Overview of the Report

There are two companion volumes of this report. Volume 2, "Case Studies," was a first cut, an attempt to organize and analyze a substantial body of material collected during one of the more volatile periods in recent industry history. Prepared in the summer of 2000, it served as an interim report, reviewed by agency staff study participants. We wanted to know if we were beginning to sound right, and our community audience was quick to respond. Volume 2 now incorporates much of that feedback. In four chapters, the "Case Studies" approach the analysis on three levels: the community, individuals and families, and industry sectors. Volume 1, "Final Report," builds on this structure; its intent is to augment the agency's information base for assessing social impacts of the oil and gas industry.

In Chapter 2 of Volume 1, we analyze and summarize the impacts of the industry on individuals, families, and the two communities we researched. For workers and their families, we examine five areas of social and economic impacts, all of which have been studied by others: economic rewards, industry cycles, work scheduling, work as a source of satisfaction, and health and safety. For communities, we likewise visit issues that have been approached elsewhere, issues of housing, the provision of social services, education, strategies for economic diversification.

While many of the findings of prior research remain valid, the industry has changed markedly – "restructured" in our covering term – and south Louisiana in the late 20th and early 21st centuries is changing as well. This report attempts to understand what anthropologist Sally Falk Moore (1987) calls "change-in-the-making."

Chapter 3, "Producing Oil and Gas on the Outer Continental Shelf," is an attempt to discern occupational differences and similarities in six industry sectors that play a role in the development of an OCS oilfield: drilling, production, fabrication, diving and underwater construction, trucking, and offshore vessels (see fig. 1.4). We selected these sectors primarily for their large presence in the communities we studied – few helicopter pilots, for example, live in Morgan City or New Iberia – but also because they cover a range of different work schedules, of patterns of training and mobility, of safety and risk, and of differing responses to industry cycles. Production platforms, once in place, can continue to produce through short-term price fluctuations. Drillers, however, cannot drill unless the owners of leases, the major and independent oil companies, initiate exploration and development programs. Dive companies can find a niche in platform decommissioning, which is sensitive to the age of structures, not the supply and demand for oil and gas. Fabricators, depending on their size and location, may be awarded large and lengthy contracts for deepwater projects; other yards may suffer as smaller development programs are put on hold. This section attempts to capture some of these dynamics, as they affect the workforce.

Finally, Chapter 4 reviews our study methodology and project organization, centering on team ethnography and collaboration with community-based researchers. We also address, very briefly, one of the project's failures, and a continuing lacunae in MMS-sponsored research. We had proposed, through "roving ethnography," to capture segments of the workforce that are not resident in the communities we studied. These include the upwardly mobile, whose work at the local level won them promotions to corporate offices elsewhere (to be sure, we did talk to corporate officers, but more with the intent to solicit the views of headquarters on the dynamics playing out on the local level). These also include the "commute workers" (cf. Shrimpton and Storey, 2001) dispersed across the county, who arrive at staging areas for their shifts offshore, then immediately disperse when they land onshore. And it includes a countless number of former oilfield workers who have cycled out of the industry as this industry endured its cycles. There are impacts on these individuals and their families that we could not find a cost-effective way to capture.

The first case study in Volume 2, Jennifer Schrag-James' "Offshore Employment as Lifestyle and Culture: Work and Family in New Iberia," is based on her ethnographic work in that community from September, 1998 through June, 1999. The case study exemplifies an approach taken throughout the project – to research those issues of most concern to local residents. In New Iberia, women were concerned about the extended absences of their husbands, but were surprised to learn that the social science literature has come to label this phenomena as a "syndrome." As one of Schrag-James' acquaintances observed of intermittent husbands, "I think it's saved marriages. You have time to forget the silly stuff and appreciate each other." The researcher concluded, after numerous discussions with other wives of offshore workers, that there is wide variability in the effects of work schedules on family life. Nevertheless, through multigenerational exposure to the routines of the industry, families have developed coping

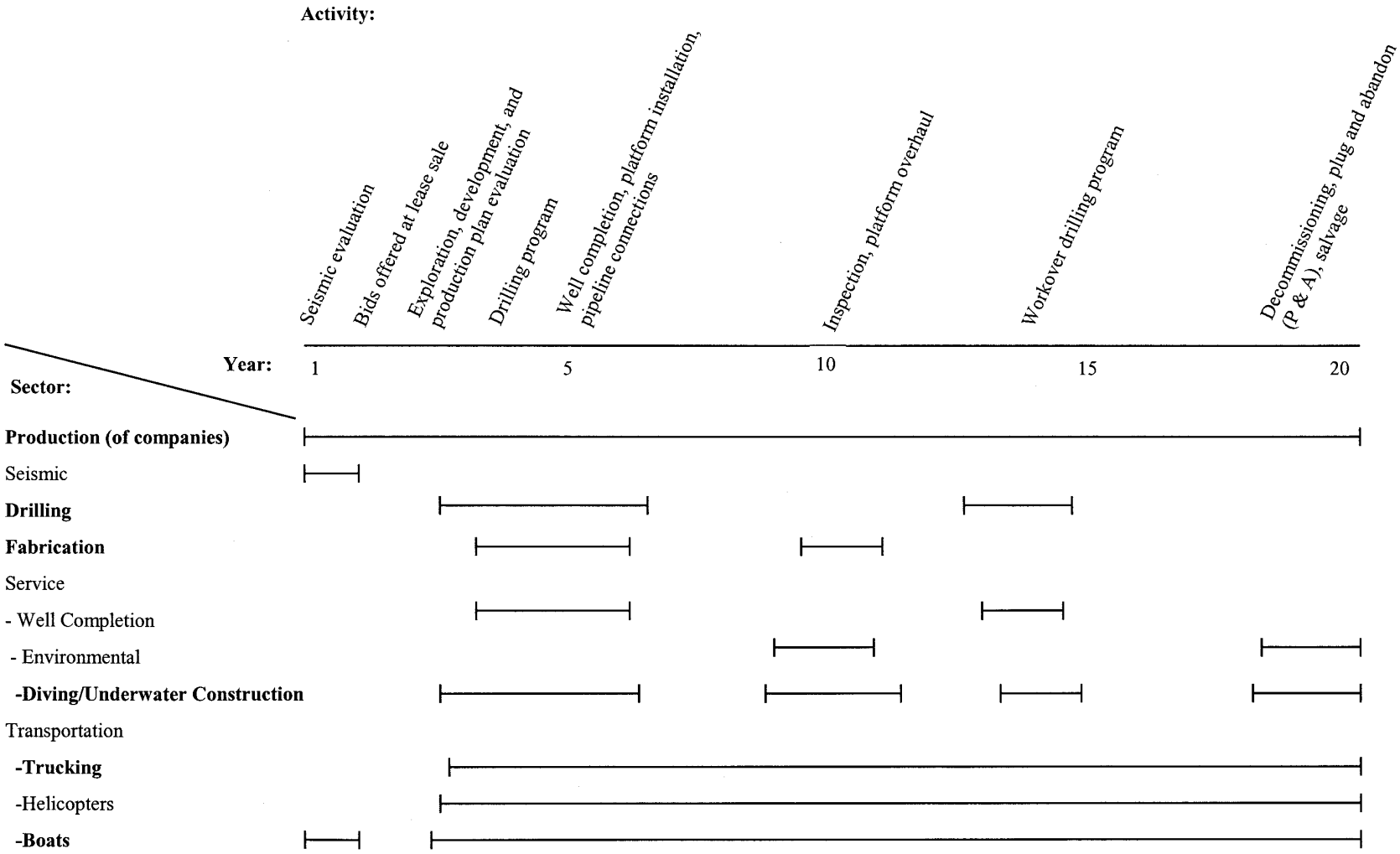

Figure 1.4. Selected Activities in the Life Cycle of an OCS Oilfield
Note: Bold text indicates the focus of this report

strategies – in particular, widespread social networks – to mitigate the effects of spousal absence and the economic tribulations of lay-offs and job losses.

In the second case study, "Morgan City Chronicles: Living through a Downturn," resident ethnographer Rylan Higgins traces the fate of workers, families, and businesses from the "slowdown" of 1998 to the disappointingly weak upturn a year later. Data for the month-by-month chronicle come from repeat discussions with a set of workers (one of whom showed up at his office in a fabrication yard where he had worked for 27 years and was told he had been terminated and had until noon to clear out his office), from conversations with business and civic leaders, forever worrying about how to diversify Morgan City's oil-dependent economy, from discussions with a crowd of unemployed men lined up at a local company's job fair, and from daily readings of the *Daily Review*, where Higgins had volunteered his spare time as occasional photographer and infrequent reporter. There were subsequent revisits to Morgan City in January and March of 2000. The man laid off by the fab yard had managed to secure a new job with another yard outside of town. But even with oil prices spurting up, most observers complained that things had not "returned to normal" in Morgan City.

In both Morgan City and New Iberia, the research team was hearing a consistent theme from parents: they did not want their children to work in the oil and gas industry. On the return visit to Morgan City, we asked adolescents for their views. This focus-group material provides the basis for the third case study, "Parents and Children: Changing Roles, Changing Expectations," by Leah Stauber, Jennnifer Schrag-James, and Shannon Sparks. Parents currently in the workforce, many of whom are themselves offspring of oil workers, are urging their children to go to college. For adolescents, thus, "trying college" is now the functional equivalent of going offshore – what their parents and grandparents were expected to do in oil towns such as Morgan City. Despite the volatility of the industry, and the arduousness of the work, not all of these adolescents reject a future career in oil and gas out-of-hand. Some see offshore work as a way to make money for college, as some of their parents did; others see college training, particularly in computer technology, as a way to position themselves for white-collar jobs in the industry. Nonetheless, the majority of the teenagers participating in the Morgan City focus groups express preferences for careers outside of oil and gas, and outside of Morgan City. This does not bode well for an industry increasingly experiencing labor bottlenecks.

Some clues to this problem are provided by Andrew Gardner and Diane Austin in the fourth case study, "Captains of the Road and Sea: Providing Transportation for the Gulf of Mexico Oilpatch." Truckers and mariners are critical human components of the oil and gas industry, although they have not received much attention in the literature. They move the parts and the people needed to make the industry function. Like the helicopter sector, not studied here, labor issues are rising to the fore. For helicopters, the problem is a shortage of trained and experienced pilots; Vietnam-era pilots are now retiring. For the offshore vessel sector, a revamped licensing and certification program, imposed under the International Convention on Standards of Training, Certification, and Watchkeeping, is increasing the costs of entry into the maritime workforce and threatens to replace water-trained skippers with those who can navigate through classrooms and training centers. For truckers who, like mariners, are largely south Louisiana Cajuns, the predominant issue is the recent formation of "alliances" between the large trucking companies and major oilfield service and supply companies. In exchange for an assured volume of business,

the trucking companies reduce the rates charged for hauls. The independent owner/operators who drive for the trucking companies are feeling the effects of these cost-cutting arrangements. The occupation of trucking is becoming unattractive to many. Each for different reasons, the three transportation sectors are now in the throes of unionizing efforts.

In one way or another, though, all sectors have felt the effects of what is here glossed as "restructuring." Restructuring is at once peculiar to the oil and gas industry, and pervasive in the national and global economy in the late 20th Century. Mergers, acquisitions, and divestitures by major and independent oil companies caused many of these companies to hold down their budgets for exploration and development in the late 1990's. This reduced the work available to contract drillers, fabricators, divers, and those transporting materials and personnel across the Gulf Coast and the OCS. The companies that service and supply the producers had to cut costs in turn. As a result, many of the participants in this study found themselves on-call and on a contract rather than on a payroll; others were quite abruptly terminated; some found their workweek shortened to 40 hours, with no opportunity to use time and a half to compensate for low hourly wages. And, as in past industry cycles, people left south Louisiana. The causes and consequences of restructuring are complex. Coupled with the cyclical uncertainties of the oil and gas industry, it directly impacted individuals, families, and communities.

2.0. Living with Oil and Gas on the Outer Continental Shelf: Impacts on Individuals, Families and Communities

The impacts of Outer Continental Shelf (OCS) development pervade the communities of southern Louisiana. As described in Chapter 1, regionally the OCS story is one of persistent presence amid changing corporate configurations and shifting geographic centers of activity. At the local level this manifests as in and out migration of people and businesses. Still, southern Louisiana is a place where people become rooted; many families trace their roots back six generations or more. In this context, residents have responded to the changing industrial landscape by moving into and out of the oil and gas industry as activity ebbs and flows and by commuting throughout the region to where the jobs are. As the industry has expanded across the globe, companies have opened up offices in and recruited workers from places far beyond Louisiana. Nevertheless, this study focuses on the residents and communities of southern Louisiana, the workers in the offshore oil and gas industry, their families, and the places where they live. This community focus makes it possible to examine some of the myriad ways that specific places – their geographies, histories, and politics – matter in whether and how activities and events that become defined as impacts of the oil and gas industry are perceived. The purpose of this chapter is to classify the impacts to workers and families and to examine how they are passed back and forth between individuals and families and the communities in which they live.

Studies of the impacts of OCS developments are not new. The MMS is charged with the orderly development of offshore energy and mineral resources, with safeguarding the environment affected by this development, and with the effective collection of revenues generated from mineral leases offshore and on Federal and Indian lands throughout the country (see Luton and Cluck, 2000). Its responsibilities include assessing the impacts of offshore activities on natural, historical, and human resources and providing information for sound decisionmaking and management, as required by the Outer Continental Shelf Lands Act (OCSLAA), as amended in 1978). States along the Gulf Coast also have sponsored studies to investigate and document the effects of the offshore oil and gas industry on their people, economies, and infrastructure. Outside the United States, in other areas with high levels of offshore activity, governments and researchers have conducted similar studies. Industry-sponsored studies have paid particular attention to economic benefits. The research has been conducted by geographers, sociologists, anthropologists, economists, and political scientists.[2] Much of the work in the Gulf of Mexico was conducted in the 1970's and 1980's, and it slowed considerably when many considered the OCS to be exhausted. Within the MMS, however, the social science research program grew considerably during the 1990's (see Luton and Cluck, 2000).

Past research in the Gulf of Mexico has tended to: (1) demonstrate a mixed effect of OCS activity on jobs and revenues in local, state, and national economies (Gramling and Brabant,

[2] Research on the impacts of OCS activities has focused on revenue generation at national and state levels (Centaur Associates, 1986, Applied Technology Research Corporation, 1994), individual and family incomes (Gramling and Brabant, 1984; Centaur Associates, 1986), social and psychological reactions to unique aspects of offshore employment (Gramling, 1987, 1989; Forsyth and Gauthier, 1991), and community demographics, occupational structure, and infrastructure (Gramling and Joubert, 1977; Gramling and Brabant, 1984; Gramling and Brabant, 1986; Gramling and Freudenburg, 1990; Laska, 1993). Researchers generally have relied upon data derived from the census, despite acknowledged problems with those data (see Laska, 1993 for exceptions). Large surveys have been difficult to conduct across a diffuse and geographically dispersed industry (see Centaur, 1986 for an exception).

1984; Centaur Associates, Inc., 1986; Tolbert, 1995) and (2) present contrasting pictures of the impacts of offshore oil and gas employment on workers, their families, and their communities (see Gramling and Joubert, 1997; Gramling, 1980 for positive assessments and Gramling and Forsyth, 1987; Gramling, 1989; Laska et al., 1993 for a more negative picture). An MMS-sponsored study of the impact of OCS activity on social institutions (Laska et al., 1993) addressed some of the questions taken up here, such as changes in the character of poverty during industry cycles and how these changes affect social service institutions. However, that study, conducted by sociologists, focused largely on the effects of the 1980's downturn and the consequent social disruption. Carried out seven years later, the present study assumes an anthropological perspective and provides an important look at the impacts of both the upswing in activity that was anticipated in that report and the subsequent downturn that was not. In addition, this study allows some insight into the impact of the industry restructuring that began in the mid-1980's and continued through the decade of the 1990's. Finally, this study, based on extended contact with two communities and workers and families living within them, provides an opportunity to elaborate on earlier findings and explore the diversity and complexity of the industry and its impacts and how those spread to communities in physical proximity to the Gulf.

OCS activity impacts individuals and families in many ways, depending at least in part on the worker's position within the industry. Figure 2.1 depicts some of the complexity of the offshore oil and gas industry and its many occupations that define what are referred to in this study as "offshore workers." The figure, like this study, includes the workplaces such as rigs and platforms that are located out over the OCS, and it also includes workplaces such as fabrication yards and trucks where work is highly specialized for supporting and maintaining OCS activity. It leaves out pipeline and downstream companies, corporate offices located outside New Iberia or Morgan City, and onshore positions for secretaries, bookkeepers, and other "pink collar" workers.

The responses of offshore workers and their families to their work affect both the communities in which they live and the offshore oil and gas industry, leading to adjustments that further impact the individuals and families. This chapter summarizes key issues facing offshore oil workers and their families. Then it looks at OCS activity from the perspective of the communities that are home to its businesses and workers, considering to some extent the individuals, groups, and institutions not directly associated with the oil and gas industry (see Table 2.1). This study was conducted in Morgan City and New Iberia, Louisiana; the examples given are those relevant to those two communities. The issues are likely to be common to many communities across the Gulf of Mexico, although the mix may vary. This study was designed to examine current impacts of OCS activity, but as is documented throughout this and the following chapter, these impacts are perceived and interpreted by workers, families, and community members within the context of decades of industry activity. Experiences of the turbulent 1970's and 1980's are significant features of both personal and community histories, and many people interpreted the rapid rise and fall of industry activity in light of those histories. Each section of this chapter includes some historical context but focuses on impacts since the restructuring of the industry in the 1980's and early 1990's (see Chapter 1). The chapter ends with a summary and suggestions for further work.

The recent restructuring is only the latest in a string of changes that have occurred over the past half century and mirrors changes taking place across the United States and elsewhere in the

world. Still, many of the impacts researchers identified both to individuals and families and to communities stem from this restructuring.

2.1. Workers and Families

Scholars who study impacts of specific industry activity stress the need to consider the subjective meanings that local actors ascribe to their experiences, their evaluation of the changes introduced by the industry, and their goals and interests (Neil et al., 1992). Attention to these dimensions helps to explain the responses of workers and their families, as well as of the larger community, to conditions within the offshore oil and gas industry. In southern Louisiana, for example, the 1980's downturn was experienced as a significant event. Some families remained in Morgan City and New Iberia while many left, some returned while many stayed away in the 1990's, and oil employment is still perceived in highly ambivalent terms within the local community. All of these suggest that structural factors within the community, including class, race, histories of residence, and the strength of social networks, along with individual resources and skills, may affect the way that families are impacted by the industry.

The offshore oil and gas industry has been a dominant force in the southern Louisiana economy since the 1950's and 1960's, and many residents are second and third generation workers and spouses. Their expectations derive from years of direct experience with the industry, its cycles, and its demands. Nevertheless, young workers and their partners face different working conditions, pressures, and social conditions than did their parents (see Stauber et al., Volume 2 of this report). Also, despite the region's long history with OCS activity, many people continue to enter the industry as the first in their family or social circle – either because changes in other livelihoods such as farming or fishing have forced them to seek new sources of economic support or because they recently have moved to the area.

Consequently, responses to the industry are not uniform. This section focuses on the work-family interface. It begins with a review of significant issues identified by researchers in other studies of work and family. Then, it examines five areas of social and economic impacts that accrue to workers and are passed along to their families and communities: (1) economic rewards received in exchange for work; (2) work schedules that dictate how time is allocated and spent both at and away from work; (3) physical and psychological impacts on worker health; (4) work as a source of satisfaction; and (5) industry cycles and fluctuations that exacerbate all impacts. Though these are interrelated, they are discussed separately to highlight particular findings. For each issue, this section provides a historical context and discusses changes over time. It describes the impacts generated, how individuals and families enhance the positive and mitigate the negative impacts, where and how communities respond to individual and family needs, and where and how companies do the same. It explores how expectations, experiences, social networks, and choice influence the way that OCS-related impacts are experienced. The section concludes with a discussion of the implications of current individual and family response to OCS-related impacts for the future of communities and individuals in southern Louisiana.

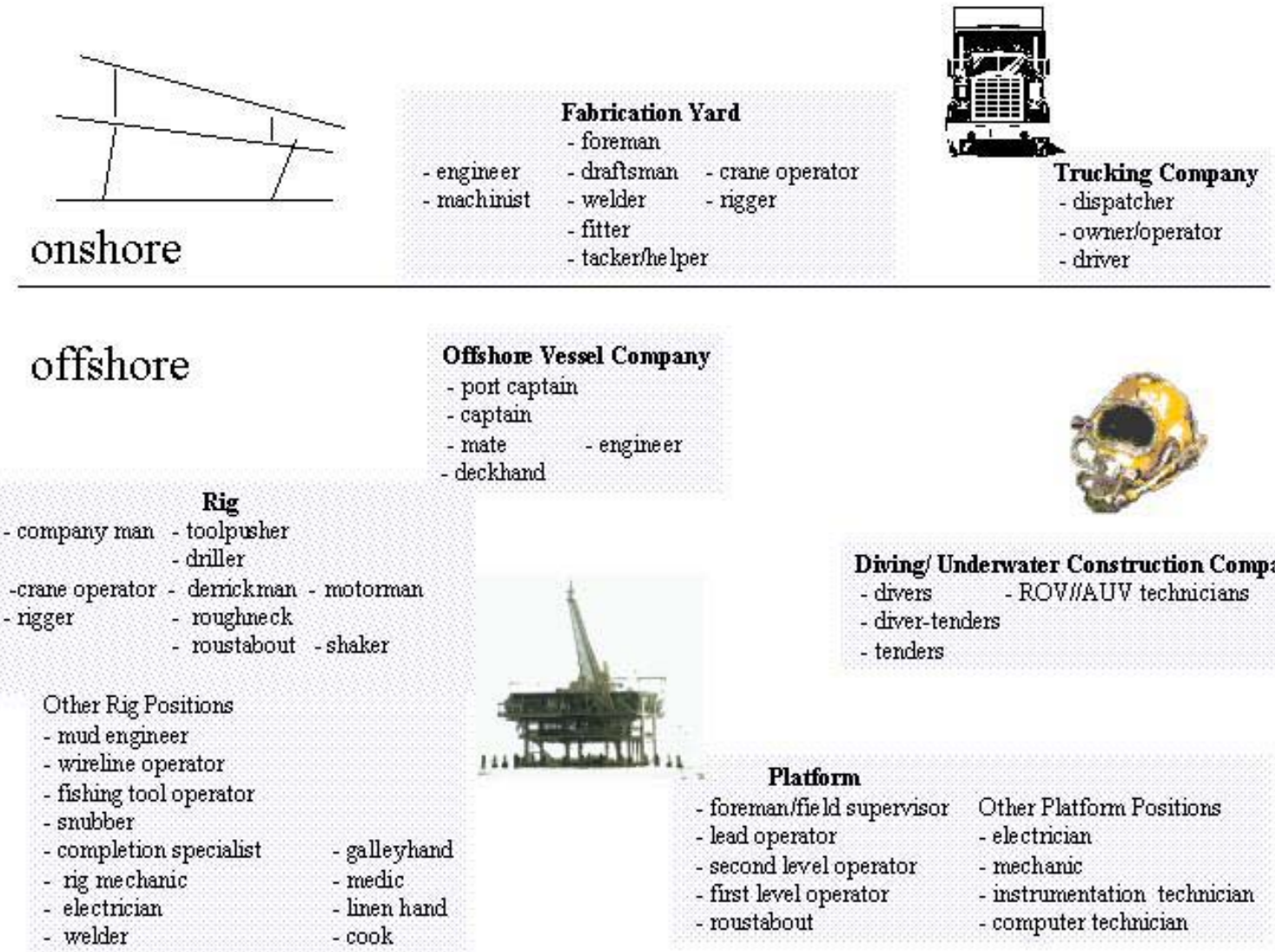

Figure 2.1. Selected sector workplaces and OCS-related jobs

Table 2.1. Chapter Summary

Workers and Families		**Communities**	
Section	*Key Findings*	*Section*	*Key Findings*
Background	· impacts derive from worker, family, and community interactions operating in larger social context · offshore work unique in combining concentrated or irregular work schedules, wide fluctuations, and (for many) potential danger	Background	· impacts to local institutions are far-reaching · institutions help shape how problems are defined and framed · community identity was shaped by knowledge, skills, and social relationships that existed prior to the discovery of oil · oil employment is perceived in ambivalent terms · community institutions exhibit reduced overall tolerance for uncertainties and hardships inherent in the industry
Economic Rewards	· money still the primary draw · factors other than wages (e.g., retirement, insurance, schedule, predictability) increasingly important · mismatch between expectations and circumstances · tied to educational attainment	Demographic and Social Change	· the oil industry has affected the size, makeup and character of southern Louisiana communities · early influxes of white-collar workers balanced negative effects of transients · economic diversity and flexibility have been reduced
Work Schedules	· work beyond 40 hours and other than 8-to-5 workday most common, usually combined with concentrated and on-call schedules · managing time and transitions most important	Housing	· patterns of ownership and control of land affect shortages · industry uncertainties inhibit private investment · investment in upper-income housing fails to address shortages · company housing and labor camps facilitate industry use of short-term labor
Worker Health and Safety	· decrease in acute injuries; chronic injuries not tracked · difficult to separate work and lifestyle impacts · increased stress at worksites where co-workers are unfamiliar with one another · "depression" as gloss for problems manifest especially during downturns when people lack resources to get help	Healthcare	· institutional crises derive from changes in public and private funding and the changing composition of the local labor force · institutions are challenged to match capacity to need · negative perceptions of publicly-funded facilities exacerbate problems
Work as Satisfying Activity	· interplay between what happens at work and away from work affects employee attitudes, dedication, interaction, and loyalty · institutionalized policies and rule-oriented workplaces have replaced earlier structures · companies rely less on social networks to find workers; affects trust and cooperation at the workplace and the maintenance of these networks	Education, Training, and Workforce Preparation	· community and industry goals for educational institutions converge and diverge over time · school budgets are tightly linked to industry activity · technical colleges face special problems exacerbated by lack of recognition and support · large populations of unskilled and nonliterate people present special challenges for which the industry offers little help
Industry Cycles and Fluctuations	· vary across time and among sectors in intensity, duration, and timing · 1998-1999 interpreted by locals within framework of 1970's and 1980's	Emergency Social Services	· despite community perceptions to the contrary, offshore workers and their families are frequent recipients of emergency services · transient workers are particularly burdensome

2.1.1. Background

Work-family relationships have long been a concern for researchers, but widespread interest in the topic escalated in the 1980's with the great influx of women into the paid labor force, the simultaneous documentation of the importance of fathers to children's development and socialization, and the changing character of the workplace. By the mid-1990's, more than two-thirds of American women were employed outside the home (Berry and Rao, 1997), fathers' proportional involvement with and accessibility to their children was significantly higher than in earlier decades (Pleck, 1997), and many workers were juggling work and care for children and/or adults (e.g., Fredriksen and Scharlach, 1999). The overwhelming majority of workers in OCS-related activities in the Gulf of Mexico are men, so this summary and the findings presented in this section will pay special attention to issues of male workers and their families.

Early studies of the impacts of fathers' work tended to separate impacts on the spouse (Isay, 1968; Morrice and Taylor, 1978a, 1978b; Boss et al., 1979; Glissonet al., 1980; Dixon et al., 1984) from those on children (e.g., Tillfr, 1958). Many factors influence both the level of paternal involvement in family life and its consequences; as the time fathers spent with their children increased, researchers began to examine the benefits and costs of these shifts. By the 1990's, more researchers were attempting to treat the family as a unit (Forsyth and Gramling, 1990; Forsyth and Gauthier, 1991, Mauthner et al., 2000). Most recently, models of "responsible fathering" have been developed to take into account the sensitivity of fathers to contextual factors and expectations within their families, workplaces, and communities (Doherty et al., 1998).

Accompanying research on fathers and families have been studies of workplaces and family policies. Research has demonstrated reduced strain between work and family roles in organizations supportive of employees with family responsibilities (Warren and Johnson, 1995). Yet, studies have shown a large gap between the expectations placed on fathers and employers' support for these fathers, and have found significant differences according to worker position and rank. A study of 30 New Orleans, Louisiana firms, for example, found major distinctions in practices regarding paid maternity and paternity leave, paid personal days for attending to family matters, and flexible hours; if present, these were typically restricted to upper-level employees (Raabe and Gessner, 1988). In addition, in that study, many personnel directors described organizational resistance to granting unpaid parental leaves to men. Researchers in the UK found similar patterns marked by contradictions and tensions as oil and gas companies and employees attempt to respond to changing societal expectations about work and family (McKee et al., 2000). They found that, where family-friendly policies existed, they were targeted at onshore or core staff. Special groups such as contractors, highly mobile workers, and those in on-call positions, all of whom are difficult to address, were easily excluded.

Generally, studies of the impact of fathers' work have ignored the type of work and focused on the time spent at and away from home (Amato and Rivera, 1999). The nature of fathers' work has been explicitly considered when it sets up unusual, but characteristic, patterns of interaction between men and their families. For example, studies have examined servicemen (Isay, 1968; Crumley and Blumenthal, 1973; Hillenbrand, 1976; Decker, 1978; and Rosen et al., 1993), merchant marines (Gramling and Forsyth, 1987), and miners (Cotterell, 1986, Shrimpton and

Storey, 1987). In these studies, father absence was found to negatively affect children's development and behavior and also the extent of wives' social networks and their access to both formal and informal sources of support.

Studies of the impact of offshore oil and gas employment have derived from this tradition (Morrice and Taylor, 1978a, 1978b; Clark et al., 1985; Morrice et al., 1985; Taylor et al., 1985; and Gramling and Forsyth, 1987). Though several important and early studies were conducted in the Gulf of Mexico (e.g., Gramling and Forsyth, 1987; Forsyth and Gauthier, 1991), much of the work has been done in the North Sea and Canada. Many of these studies characterize offshore work as difficult (Morrice and Taylor, 1978a, 1978b; Storey et al., 1986, 1989; Lewis et al., 1988; Solheim, 1988; Mauthner et al., 2000), and researchers have examined how family patterns affect whether positive aspects of the work outweigh the negative ones (see also Gramling, 1987, 1989; Forsyth and Gauthier, 1991).

Significant societal and industry changes have occurred since many of these studies of offshore oil and gas work were conducted. From the start, the Gulf of Mexico presented researchers with unique circumstances – a tradition of fishing and maritime occupations, persistent extended family networks, and low levels of educational attainment and commitment to formal schooling. By the mid-1970's, though, researchers observed that the stable, tightly knit southern Louisiana communities had begun to fray and that education levels were approaching those elsewhere in Louisiana and the United States (Gramling and Joubert, 1977). Extensive in-migration and a half-century of industrial activity combined with social and technological changes hastened by increased interaction between locals and outsiders and by devices such as televisions and radios.

By the 1990's, the unique characteristics of Gulf Coast workers had come to include multigenerational involvement in OCS-related work, long-term experience with the fluctuations in the oil and gas industry, and the participation of both male and female workers with families. Many particularly notable features, such as the changed profile of a typical worker, new expectations of workers, and corporate restructuring, were not unique to those who work offshore. However, impacts derive from the confluence of worker, family, and community characteristics and the particular configuration of offshore work which combines concentrated work scheduling, wide fluctuations, and, for many, potential danger. The following sections attempt to summarize the key impacts attributable to the offshore oil and gas industry, acknowledging where they are similar to or compounded by other societal trends. The multigenerational nature of OCS-related work in the Gulf has meant that many workers have experienced the offshore lifestyle as children. Thus, in each of the sections that follow, each issue is first placed in historical context.

2.1.2. Economic Rewards

Most people are drawn into and remain in the oil and gas industry because of the economic rewards it offers. Nevertheless, as this section illustrates, the nature and extent of those rewards and what it takes to achieve them have changed significantly over time. At the same time, the expectations of young workers about what they should receive in exchange for their labor and how long they should have to wait to achieve their goals are dramatically different from those of their parents.

When the oil and gas industry first came to southern Louisiana, it was a major factor in the incorporation of many families into a wage-based economy. Over an extended period of time, workers and families migrated from livelihoods based on informal economic activities and markets that relied on abundant natural resources to those dependent on wages (see Comeaux, 1972, for a description of Atchafalaya swamp life and those who persisted in it). By the 1990's, health, unemployment, and retirement benefits had joined wages as key factors in workers' decisions about accepting or staying with particular jobs. Indeed, as the economy of southern Louisiana has come to resemble that of other parts of the United States (see Chapter 1), so, too, have the economic concerns of southern Louisiana workers and their families come to mirror those of most Americans.

Social scientists have devoted considerable attention to the decline of wages and increased income and wealth inequality that have resulted from broad restructuring of the U.S. economy in recent decades (see Levy, 1998; Wolff, 1995; Bronfenbrenner et al., 1996). Since 1973, average real wages have leveled off or declined while sources of income such as interest and dividends have increased and go disproportionately to high-income groups.

In the United States in general, economic success is tied to educational attainment. This relationship strengthened in the past two decades. For example, between 1979 and 1990, the real income of men with only four years of high school fell 21 percent while that of men with college degrees rose (U.S. Council of Economic Advisers, 1994). Thus, as the earnings of the least skilled have declined, the gap in entry-level wages paid to those with and without a college education has widened. In addition, numerous other advantages once tied to employment are no longer assured. "Good" jobs, those with benefits and amenities such as long-term and stable employment, regular hours, vacation and sick days, and health and pension plans, are distinguished from "bad" ones, those that do not:

> While controversy abounds about the degree to which bad jobs are replacing good ones and why, there is little debate that the growth of bad jobs is widespread and characterizes the contemporary U.S. economy (Nelson and Smith, 1999, p. 2).

Good work provides resources such as predictable schedules and incomes that make it possible for workers and their partners to take second jobs or otherwise provide for themselves and others in their social networks. Their positions within these broad networks then enable them to locate other jobs and economic opportunities. Good work also allows workers to develop skills and capacities that can be utilized outside the workplace. For those with bad jobs, the lack of non-wage rewards may be at least as detrimental to households and their ability to recreate the various activities and benefits that are associated with middle-class life as the low wages.

As a result of economic restructuring, the relationships between regular wage employment and other household livelihood strategies have become complex. Wage labor is still central to the success of households, but it is not always sufficient. Among rural Vermont households, for example, researchers found that the households with access to decent jobs were the same ones that also incorporated a variety of other economic strategies, such as using the income of a second worker, trading goods and services with friends, and building their own homes (Nelson

and Smith, 1999). These complex and creative economic strategies provided, for the working-class families studied, more than material rewards; they were a source of pride, comfort, and security. Of significant concern, however, was that those families without at least one good job were much less likely to develop and sustain complicated economic strategies, and their failure to do so contributed to the disparity between them and the other families. Such findings contradict the notion that wage work replaces alternate strategies and are relevant to understanding the impact of offshore oil industry employment in southern Louisiana's current economy. To further complicate the picture, changes in the patterns of interaction among and between youth and adults can enhance or hinder the development and maintenance of social capital, the systems or scenarios in which social networks or connections can facilitate or construct economic activity, within households and communities (Smith et al., 1995; Beaulieu and Mulkey, 1995).

A significant factor in whether a worker can obtain good or bad jobs is the level of education and training he or she has achieved. Due to changes in the nature of OCS-related work, especially in the past decade, the need for and acquisition of education and training have increased (see Chapter 3). The effects of the changing nature of work on attitudes and practices related to formal education are the subject of another recent MMS report (Wallace et al., 2001); this section examines education as it relates to getting and keeping jobs.

Local residents and researchers have argued that, through the 1970's, the offshore oil and gas industry contributed to high dropout rates among southern Louisiana youth by providing easy access to relatively high paying jobs for which little formal education or training was needed (Wallace et al., 2001). By examining high school dropout rates and college enrollment, others concluded that, through the 1980's, during periods of high or rapidly increasing industry activity more students finished high school though fewer continued on to postsecondary education (Seydlitz et al., 1993). Employer demand for postsecondary education increased in the 1990's, but the connection between the circumstances of the oil and gas industry and rates of educational attainment is less clear. For example, recent industry demands for a more highly trained and college-educated workforce have not translated into a flurry of young Louisianans attending colleges and training schools to obtain industry jobs. To the contrary, both current workers and young people argue that they would use advanced training and education to get out of the industry (see Stauber et al., in Volume 2 of this report). Attitudes toward education are influenced by the immediate experiences of these residents and the broader social messages they receive.

2.1.2.1. Historic Context

Even prior to WWII, southern Louisiana's economy depended on resource extraction. Along the coast, cypress trees, fur-bearing animals, Spanish moss, and shrimp all were taken from the wetlands and sold elsewhere. Many local residents subsisted on food they caught and grew, and they generated incomes by selling and trading what they did not use. A little farther north, agriculture was the principal livelihood of most residents. Places like Morgan City and New Iberia became small business and trading centers. Compared to the rest of the United States, southerners, and especially those in rural areas, were poor. Within Louisiana, bayou communities lagged far behind the plantation economies to the north. Disparities in educational attainment were also significant.

Oil and gas development began in the marshes and swamps prior to the war and then moved into full swing out in the Gulf in the 1950's and 1960's. One of its major impacts was the establishment of an industrial economy dependent on wage labor. For workers with no formal education, the early pay rates were attractive. Yet, even when they took full time jobs or received royalty payments for oil and gas produced from their lands,[3] many southern Louisiana residents continued to obtain or supplement their food by hunting and fishing. During the periodic dips and layoffs in the oil and gas industry, workers could return to their informal economic pursuits.

The oil and gas industry arrived in southern Louisiana and found a workforce for whom formal education was beyond reach. Economic conditions, hunting and trapping lifestyles that required families to move seasonally, agricultural livelihoods that pulled young people out of school and into the fields, and gaps between southern Louisiana languages and culture and those of the people who came to teach all contributed to the failure of many southern Louisiana residents to remain in school beyond the primary grades. Nevertheless, in the early offshore oil and gas industry, hard work and ingenuity were paramount, so, other than the language barrier they had to overcome, the residents' lack of formal education was not a major obstacle. On-the-job training and mentoring were major aspects of the work environment. Where educated personnel were needed, such as in engineering, people were brought into the region from outside. Especially as opportunities to construct a livelihood from fish, shrimp, and furs declined, the oil and gas industry offered another option to people willing to work hard in the midst of uncertainty and risk.

Since WWII, the Servicemen's Readjustment Act, which included the GI Bill of Rights, and a series of other educational initiatives have promoted and provided funding for higher education for many Americans. The GI Bill has been lauded as one of the most successful U.S. experiments in socioeconomic expansion and a "silent revolution," credited with transforming college campuses and creating a new suburban society in a predominantly middle class nation (Bennett, 1996). Yet, southern Louisiana lagged behind even the rest of Louisiana in educational attainment until the 1970's. Until the 1980's, many students left school prior to graduation, in part because they could earn more working offshore than in other occupations, even those requiring a college diploma.

Nevertheless, over time southern Louisianans remained in school longer. Using data from the U.S. Bureau of the Census and the Louisiana State Department of Education Annual Reports, researchers demonstrated that, on average, educational attainment in the coastal parishes was lower than that in the non-coastal parishes in both 1940 and 1950; by 1960, due to both in-migration and a greater commitment to schooling within the population, males had caught up to their inland counterparts, and by the 1970's geographic location made no difference for males or females (Brabant, 1984). Within St. Mary Parish, school tenure doubled from a median of 4.7 years in 1940 to 9.9 years in 1970. Though the parish still lagged the state median of 10.8 years

[3] This does not include the southern families that owned vast acreage and became extremely wealthy when oil and gas were extracted from their lands. Local residents draw a clear distinction between the elite who made their money from onshore oil and gas activity and those who worked offshore or established businesses to service the offshore industry.

(the national median that year was 12.1 years), its rate of increase was faster (Gramling and Joubert, 1977).

As the offshore industry expanded, it reached across the southern United States to find both skilled and unskilled workers. Before long, however, industry growth and change began to create special workforce challenges. Mentoring on the job was no longer sufficient for transmitting the skills workers needed to succeed. Technological changes created a continual need for new skills, and workers required opportunities to learn and develop them (see Section 2.2.1.4.). Institutionalized education replaced much of what once took place at the work site, and the responsibility often fell to the worker to acquire the skills needed. Southern Louisiana colleges and universities created special engineering and technical programs. Young Memorial Technical College was established in Morgan City in 1965 as a permanent vocational facility, and its curriculum was directly linked to the needs of the petroleum industry through early programs in welding and marine operations. The school has continued to respond to industry needs. In 1970, its welding program was redesigned as a modular curriculum with certification at each stage so welders could stay only long enough to get what they needed and then move out onto the yards and shop floors. Then, a commercial diving program was created. In 2000, the marine operations program became the first in a technical college to offer specialized Coast Guard-certified training to meet the requirements of the International Convention on Standards of Training, Certification, and Watchkeeping (see Section 3.5.1).

For blacks and ethnic minorities, opportunities in the oil and gas industry, like those in the educational arena, came later (see Wallace et al., 2001). According to New Iberia residents, most blacks were first placed in inland waters to replace the whites who were moving offshore:

> "Offshore was still a white man's job at the time. (There were) three (blacks) where I went to work. Like I say, I can't tell you about the whole company, but I know down here in Louisiana, in the '60's they didn't have black folks in the oilfield. (…) They had a few blacks working at the warehouse as janitors… But out in the field where all the work was, where all the active, you know, oilfield work was, they didn't have no blacks until later on. Until the late '60's. I'd say '66 or '67" [I-494].

Throughout the 1970's and into the early 1980's, southern Louisiana households became more dependent on income derived from offshore work, and many residents established lifestyles based on cash and credit. Families purchased new homes, saved for their children's college educations, and took vacations. Though the work was often dangerous and unpleasant, workers were paid well in comparison to other southerners; wages for offshore jobs were several times those paid outside the industry, and workers saw the benefits of increased activity exploration and production directly through their paychecks. This period saw the entry of many black workers into the labor force. Once they were in, blacks found that, in addition to the trade-offs faced by all offshore workers, their higher wages came with regular reminders of their unequal status and limited chances for promotions:

> "And look, this wasn't anything you weren't expecting, you knew it was going to happen. It really didn't make it *that* hard because you knew it was coming up. (…) It would worry you, well…not worry you, but you had it in your mind. It was always at the back of your

> mind. But, the job was a good paying job, so you couldn't come from there (pointing to offshore) and do the same thing here (pointing to his home in New Iberia) and make the same money. The money was good, you were making a comfortable living so you accepted a lot of stuff you wouldn't have done if you were on an equal basis with everybody else, you see?" [I-494].

> "I moved up at [oil company] at a relatively fast pace, but then I hit that glass ceiling that everybody talks about and they used the excuse that I did not have a degree. I had gone to the top of the operations, and the next level was going to be coordinator. And they disbanded the coordinators. So the only other place to go was manager. And that was never going to be attained. And it was mostly because the fact of the degree, but being a black female had a lot to do with it also" [I-407].

Even where hourly wages were not high, opportunities for regular overtime allowed workers to earn good incomes. Onshore, the men who drove the trucks and built and repaired equipment also worked long hours but were compensated by good wages or overtime pay. OCS-related work drove up wage rates in southern Louisiana and affected other industries, businesses, and government offices that had to compete for workers. Within the offshore oil and gas industry, labor shortages led companies and communities to aggressive strategies for finding workers.

The 1980's brought significant changes to the oilpatch. OCS activity slowed and then ground to a halt. Companies in some sectors were able to hold out for several years as they waited for things to pick up again. By the end of the decade, few workers remained unscathed. Workers who were not laid off were demoted and saw their hours and wages cut (see Section 2.1.3).

In the price collapse of the 1980's, population growth and new expectations made it impossible for the wetlands and gulf waters to support all the workers and families who had come to call southern Louisiana home. Many of the more recent arrivals, and even some of the long-term residents, left. Others returned to more modest lifestyles. When OCS activity picked up in the mid-1990's, companies again had to scramble for workers. During the brief upturn that lasted until 1998, some believed that history would repeat itself.

2.1.2.2. Impacts and Responses

Oil and gas activity began to turn up in the 1990's, and companies expanded their workforces. In the turbulent years at the end of the decade, they were forced to confront the combined effects of general societal ambivalence toward work and the specific effects of past industry practices. Most workers who entered or remained in the industry reported that they were there for the money, but they did not share the same willingness to "do whatever it takes" expressed by the early industry pioneers. Employers and civic leaders argued that workers' expectations for pay and working conditions often exceeded what could be provided. Workers in the labor pool were repeatedly characterized as inadequate and deemed unsuitable for available jobs because they expected to earn the salaries and benefits of top management even though they lacked knowledge and experience, refused to do physical labor, could not pass drug and alcohol screens, or were unreliable both in terms of whether and when they would show up for work and the hours they would actually work while on the job. Pressure on young people to stay in school and attend

college was significant but, as noted by this employer, a college degree guaranteed little, for either the student or employer.

> "What we need are people with good technical skills, basic skills, a good attitude, and a good work ethic. I've found a lack in the type of people I'd like to employ here. Lots of times I've found if you get the person with a high school diploma with the right attitude and work ethic you are better off than with a person with the college degree who wants money, a car, etc. and you still need a year to train them. Those with the high school diploma, they're hungry and aggressive" [I-139].

Compounding the concern about whether workers could or would do the jobs for which they were hired was anxiety about lawsuits. Some participants attributed improvements in working conditions to the threat of lawsuits, but they also discussed how lawsuits had become a means by which some workers and lawyers could make quick money. The proportion of workers who file lawsuits is small, but their impact on employers and attitudes toward employees is huge. Several owners of small companies also reported that they had or were planning to close their businesses because of the difficulties finding workers and the increasing number of lawsuits against employers.

> "I sold my business on a two-year noncompete contract. American people have gotten too fat. There's no productivity. Sometimes this cut here helps. We are refurbishing these three tugs. I couldn't get anybody to come help. Now they come, [but] they're just standing out there. Back when I came up, if you were paid for 8 hours, you gave them 8 hours of work. They work 4 hours…They want to start on top and they don't know anything. They want my job. If they had 10 to 15 years of experience and had worked their way up, then okay... You work 8 hours a day, you'll be poor, 12 hours a day, middle class, and 18 hours a day, rich. It still takes 18 hours a day to be rich. It don't come overnight. People I know, it took them 20, 30, 40 years to be rich. When everybody went home, they were at the dock figuring out what the next day's work is going to be… It's very, very, very sad. I'm very upset with the American people. They want something for nothing… I had people sue me for more than a million dollars. They got $240,000. Eight months after this guy left me, he sued. […], the state rep, was his attorney. He said I'm not suing you, I'm suing your insurance company. I lost respect for him" [I-376].

Despite these problems, many good workers entered or reentered the oil and gas industry between 1996 and 1998, frequently to earn higher wages than they were making elsewhere. Lucrative benefit packages offered by some employers also helped keep workers on the job. Workers and families who had faced severe or chronic illness, injury, or disability discovered that medical costs had gone beyond reach of even the best-paid hourly or salaried workers.

A drop in oil prices, slowdown in exploration, and corporate decisions not to drill culminated in a sharp decline in industry activity in 1998-1999. During those years, companies relied on their historic strategies of layoffs, pay cuts, foregoing raises, and reductions in workers' hours to survive. Some companies worked with local job services to devise creative strategies, such as alternating between short-term pay and unemployment insurance, to keep from losing workers altogether. Older and less skilled workers, especially, clung tightly to their jobs. Workers

responded to the loss of wages by postponing plans for purchasing homes and automobiles and selling what they already had. Families cut back on what they perceived to be unnecessary expenses such as dining out and routine medical care. Workers with second jobs and working spouses relied on the income and benefits coming from elsewhere. Those without such options turned to social service agencies and government-subsidized medical clinics for help (see Section 2.2.1.3).

The downturn of the late 1990's drove many workers out of the oil and gas industry; some were able to find local employment in industries that offered less pay but more stability. Many of those workers asserted that they would not return to offshore work because they were unwilling to contend with the uncertainty and work schedules any longer (see Sections 2.1.3 and 2.1.4). They could look around, explore other options, and learn from people who had taken them.

By this time, southern Louisiana economies had diversified to some extent,[4] and non-oil jobs requiring computer and technical skills were allowing some people to remain in their bayou communities and fly around the country to short-term worksites. Consequently, some workers, especially those with postsecondary education, found themselves with the option of taking or continuing in a job outside the oil and gas industry, and many of them opted to stay out. Moreover, both employers and workers reported that, though OCS-related work was still perceived by many workers to be attractive, in most sectors the tremendous pay differentials that prevailed in the 1970's were gone. In a strong national economy, an abundance of jobs forced all industries to compete for workers, and workers could, and did, opt for non-OCS jobs with stable schedules, less physical labor, regular employment and predictable monthly incomes, solid benefit packages, and the opportunity to be home every night and present for holidays and special occasions, even when they paid somewhat lower wages.

During this study, young men who were attempting to leave or had left offshore jobs were quick to justify their decisions to opt for lower-paying jobs. One young father chose to leave his offshore job for a job with a local phone company and continued to communicate with research team members. During a discussion several months after getting the new position, he commented several times that he was happy with his new job and had learned that money is not everything. When he worked offshore, he could not plan for buying a house or anything else because he never knew when he would lose his job. Although his new job paid less money, he said he had much less stress because he was not worried he was going to be laid off. He said he was happy he had been able to get out, especially because he recognized that there were few choices for someone with his specialized background and skills in electronics.

Employers and civic leaders also noted a significant gap between the attributes of a sizeable segment of the population without the necessary education or work experience and the needs of petroleum industry employers (see Section 2.2.1.4). Educational attainment did not guarantee success in getting or keeping a job, but it was a factor in the degree to which workers could exercise choice in their occupational decisions. Both employers and workers noted that the

[4] This conclusion is drawn from the observations of civic leaders, job service employees, company executives, and residents. Statistical measurement of increasing diversification in these communities was beyond the scope of this study.

downturn provided an opportunity to lay off the least qualified or suitable workers, particularly those without computer and technical skills.

By the 1990's, the education and training needs of the oil and gas industry mirrored those of other industries. National trends emphasizing postsecondary education as critical to workforce preparation were evident in Louisiana as well. Both college-oriented and postsecondary technical programs were being promoted within the state. In 1996, for example, the Louisiana legislature created the Louisiana Tuition Opportunity Program for Students (TOPS), a comprehensive program of state scholarships that guarantees funding for college for students who meet minimum standards. In addition, many southern Louisiana parishes embraced the federal School-to-Work program. School administrators argue that children, from the time they enter kindergarten, are primed to attend college:

> "Everybody, when their kids start to school originally, wants their kid to go to college. Almost without fail. A lot of them don't give up on that hope. Either they don't give up on it or they give up on the kid completely" [I-69].

As implied by this educator, increased educational opportunities have raised the expectations of most southern Louisiana parents regarding their children's education to match those elsewhere in the United States. Those children who do complete college or technical school are perceived to be the ones most likely to attain the good jobs, whether in the petroleum industry or elsewhere (see also Section 2.1.5).

2.1.2.3. Relationship Between Past and Present

The fluctuations of the offshore oil and gas industry were once mitigated by southern Louisiana residents' access to the food and other resources they needed to survive and their diverse occupational skills that ensured that houses could be built and boats maintained locally. The money that came with work in oil and gas was a welcome addition to lifestyles fashioned around the feast and famine cycles common to fishing and hunting, and the insecurity that accompanied agriculture. For generations families had developed strategies to mitigate the uncertainties of their livelihoods; the oil and gas industry's cyclical patterns were absorbed into the existing economy.

Though early oil and gas development occurred onshore and initiated some of the changes described above, by the 1960's offshore oil and gas came to dominate southern Louisiana economies. An influx of new residents arrived to work on the offshore rigs and platforms or in local fabrication yards and diving shops. The knowledge, behaviors, and expectations of these new arrivals and of younger generations of southern Louisianans differed from those of the people whose lives had been fashioned by the isolation and poverty of swamp life. Locally grown and harvested resources could not support the larger population, and the communities became increasingly dependent on the oil and gas industry to support residents and services. The severity of the 1980's downturn exacerbated concern over this dependence and helped initiate a new era. By the end of the century, individuals and communities were actively seeking and trying out new strategies for living with and alongside the oil and gas industry.

Wages in many sectors remained at or near those paid to workers in the 1970's and 1980's with no adjustment for inflation. In November 2001, 15 groups of drilling companies representing about 50 affiliated businesses reached a final settlement, agreeing to pay $75 million in a class action lawsuit accusing them of fixing the wages and benefits of approximately 60,000 offshore laborers over a period of thirty years (Ruiz, 2001, Associated Press, 2001). In no other sectors have workers made such claims, but during this study reports of flat wages and incomes came from across the industry – mariners, welders, truckers, divers, and service personnel.

Though benefit packages had become widely available to full-time employees in all sectors by the end of the century, employers, workers, and social service personnel nevertheless reported that many workers either did not opt for or did not have available to them any form of health insurance. These circumstances had far-reaching consequences for the housing, education, and health care decisions of workers and families (see Section 2.2).

Many lauded the existence of 401k options, though some had begun to question the wisdom of investing in the companies from which they also drew their paychecks. When the study began, those looking ahead to retirement were riding the stock market highs and watching their investments grow. When the stock markets dipped, those workers took the same hits as their counterparts in other industries.

The increased educational and skill requirements of many positions and increased opportunities for ethnic minorities outside the industry also helped make offshore jobs less attractive to some groups than they once had been. Jobs with major energy companies in the production sector were still coveted, but those companies had hired almost no new employees since the 1980's, and their late-1990's response to the need for production workers included the transfer of platform management to contract companies. Within each sector, some companies were recognized by workers and community members as industry leaders, cited for their personnel policies, benefit packages, or ability to keep jobs and workers during downturns. Though several large companies had acquired divisions from diverse sectors, workers rarely reported moving among sectors. This study could not investigate whether the increased company stability that might accompany diversification would have any measurable impact on workers.

All sectors experienced very high turnover at the entry levels. By the 1990's, most southern Louisiana youth graduated from high school, and they indicated that they intended to go on to college (Wallace et al., 2001; see Stauber et al., in Volume 2 of this report). While some of those who dropped out of school sought jobs in the oil and gas industry, often neither their skills nor their work attitudes were deemed adequate by employers. A quote from an assessment of social and cultural impacts of OCS petroleum activity in the 1970's makes it clear how much changed in 20 years:

> The obvious success of the parents of young people in the Morgan City and St. Mary Parish area has resulted in a low out-migration by young people seeking employment, as they are presented with a realistic role model of economic success. This can be achieved through vocational training at the local level in a relatively short time at a low cost (Gramling and Joubert, 1977, p. 140).

2.1.3. Work Schedules

Work scheduling is among the most researched aspects of offshore oil and gas work (see Shrimpton and Storey, 2001 for a synthesis of research). Two facets of offshore work schedules, both of which can affect worker-family relationships, are considered here: work beyond the 40 hour week, and work other than the 8-to-5 work day. Both work patterns exist outside the oil and gas industry and have captured recent attention. Many Americans are working longer hours, under more tension, and in more temporary and part-time positions than they did a generation ago (Schor ,1991; Mishel et al., 2001; Bluestone and Rose, 1997). They receive fewer holidays, sick leave, days off, or vacation days than before. Some researchers have identified overwork as a problem for all workers, regardless of the color of their collars (see Bluestone and Rose, 1997; Hochschild, 1997; Schor, 1991), while others have argued that the pattern applies to select groups such as manufacturing production workers (Employment Policy Foundation, 1998).

Corporations that keep workers in temporary and part-time positions can respond quickly to changes in labor demand and also can pay lower wages and avoid providing medical or pension benefits. Employers also use overtime to respond to short-term upturns in the industry and to save money; by working fewer people longer hours, they reduce the number of workers to whom they pay benefits. Workers work overtime or take second and even third jobs to make extra income. In the era of recent corporate downsizing, many workers find themselves with fewer co-workers and the same amount of work as before. Overwork has been characterized as a product of the American economic and cultural system (Waskow, 2001). The impacts of long workdays and work weeks are particularly obvious in southern Louisiana where many people work in the oil and gas industry and have been driven both by cultural norms that respect and expect hard work and by industry norms that expect and have come to depend on a diligent, compliant labor force (see Chapter 3). The contrast between workers who hold these norms and attempt to meet expanding expectations of their employers and those who do not has created significant tension at workplaces; one manifestation of this tension is that many managers, older workers, and civic leaders characterize new employees and jobseekers as unsuitable (see Section 2.1.2.2).

In addition to the potential problems that stem from overwork, offshore workers confront concentrated and on-call work schedules. In their analysis, Gramling and Forsyth (1987) found typical offshore concentrated work schedules to be particularly challenging. Still, families exhibit a range of adaptive strategies (see also Gauthier, 1991). Of particular interest is how the worker adjusts to long periods of non-work when the individual is still employed but does not perform the activities associated with work. In a parallel situation, longshoremen exhibited a wide range of responses to periods during which they were being paid but not actually working (DiFazio, 1985). Some men took over childcare and household responsibilities while others spent their time at local bars.

The impacts of work scheduling on families have attracted interest and concern because of the significant attention in family studies research to family functioning and the role of parental involvement in child development. Though little of that research has examined the influence of particular industries or occupations, and this study was not designed to develop or test theories of family and child development, some key findings are worth noting. In general, paternal involvement is associated with fewer behavior problems in children (Amato and Rivera, 1999).

Also, work hours and workplace flexibility have been found to be significantly related to work/family conflict (Berry and Rao, 1997). Researchers have found father-child interactions tend to be dominated by play while mother-child interactions are dominated by caregiving (Lamb et al., 1985), but men are increasingly taking on greater responsibility for caregiving and household work (see also DiFazio, 1985). Regardless of gender, workers on variable schedules show lower levels of family adaptation (Staines and Pleck, 1984). Clearly, there is reason to pay special attention to the impacts of offshore work schedules (see Chapter 3 for details of work in six industry sectors).

2.1.3.1. Historic Context

Because of the nature of southern Louisiana's economy, in the 1940's and 1950's when the oil and gas industry began to expand, few residents experienced the 8-to-5 workday that had become commonplace in other parts of the United States. Fisherman, trappers, and farmers followed the seasons and cycles of nature rather than those imposed by corporations and social norms. Shrimping or crawfish seasons and harvest times meant long days filled with hard work. Many families were large, and work and home were not completely distinct. Families could accommodate the work schedules because children learned how to fish, hunt, and trap alongside parents and other relatives or were cared for by extended family members. In farming communities, family members were close by.

Individual and family experiences and expectations determine whether and how petroleum industry work schedules affected study participants. Long-time residents first incorporated work in the industry into their existing livelihood strategies. In the 1940's and 1950's during periods of high industrial activity, they replicated familiar patterns and worked nonstop for days and weeks on end. Yet, they were ready to disappear when fishing or trapping seasons or agricultural harvests began. Through this process, these residents were able to make a fairly smooth transition from pre-industry activity to the oilfield. As the offshore industry expanded, further adjustments were made. One of the biggest changes reported by older workers in the development of the offshore oil and gas industry was that they could not bring their children and spouses onto the rigs and vessels on which they worked (see Wallace et al., 2001 for discussion of increasing segmentation of work and family life).

The industry schedules also affected those who had moved into the area to find work. Among the newcomers were people with years of experience in the onshore oil and gas industry. Other new arrivals came with little more than a strong back and willingness to work hard. Some of these people were accustomed to long days and nonstop work. Others had never known anything but an 8-to-5 workday. Within both groups were those who adapted well to their new lifestyles and those who were unable to adapt and either suffered through it or quit. This study focused on those who remained in the industry.

2.1.3.2. Impacts and Responses

As illustrated in Chapter 3, OCS-related work encompasses a variety of schedules, from the predictable 7 days on and 7 days off to the chaotic 24-hour call. In some families, a third generation of workers is facing the challenges of the offshore lifestyle. Other families are trying to adapt to these schedules for the first time. Despite the variety in schedules and family

experiences and expectations, there are many commonalities. Few people employed in OCS-related sectors in Morgan City and New Iberia work an 8-to-5 day, few get paid vacations, and many rely on overtime to earn what they have come to expect as their base wages. Consequently, many families experience similar impacts from work schedules (see also Schrag-James, Volume 2 of this report).

Critical to worker and family functioning is how all the people involved manage the time the worker is on the job compared with the time he or she is at home. Family members must synchronize their schedules if they are to see each other at all. Because of the financial uncertainties related to the industry cycles (see Section 2.1.3), workers may take second jobs and spouses may be employed outside the home. Children attend school on a schedule set by the state and local school boards. Families must arrange for child and elder care and manage appointments with doctors, accountants, and schoolteachers; and workers may or may not be able to fulfill some of those responsibilities during their time off. Families rely on their social networks to meet needs for companionship, caregiving, and routine tasks such as carpooling and shopping.

During times of high industry activity or periods following layoffs when the remaining workers must handle their jobs and those of the people who have been dismissed, workers in all sectors are likely to spend more time at work than at home. A shop worker and his wife described his schedule in March 1999 [I-442, 443]:

> Worker: I don't know, right now it's 24-hour call. I've been working 7 days a week. I'm supposed, we're supposed to work a 14-and-2 schedule, that's the way it's supposed to work. But here, you work two weeks straight without hopefully doing anything else. You get like every other weekend off every month.
> Wife: It doesn't always work out that way.
> Worker: No, 'cause last month I didn't get no time off, and this month I've only been off maybe one day.

These periods strain the often precariously balanced systems that families have developed to cope with the work schedules of their members. Whereas many oilfield families have adapted to periods of separation, and a significant number argue that they thrive on it (see Schrag-James, Volume 2 of this report), schedule changes are challenging.

Within every family, the impacts of OCS-related work schedules vary according to the life stage of its members. Families with young children and elderly or disabled members must identify and support regular caregivers. Within many southern Louisiana households, these caregivers are family members or close friends. Relatively few non-familial options for either child or elder care exist in Morgan City and New Iberia, and local residents seldom prefer these options. Indeed, workers who arrived from elsewhere to work in the oil and gas industry during the 1960's and 1970's comprise a significant portion of the residents of local nursing homes.

Families with teenagers often find that father absence creates serious problems; some workers are able to take onshore jobs during such periods while others change employers to accommodate their family needs. As children grow and leave home, many workers find that they

prefer longer rotations so they can take advantage of extended periods off work to travel and take on special projects.

Among the most talked about aspects of work scheduling were the transitions between work and home (see Schrag-James, Volume 2 of this report). Managing these transitions was reported as one of the most difficult challenges of OCS-related work. Regardless of how well families have adapted to concentrated work schedules, both men and women described problems with separations and reunions. The wife of a barge engineer working 14-and-14 explained that many people shared the same experiences:

> "A couple of days before [the men] leave to go offshore, invariably a fight will occur, or something. A forced separation. It's like a grieving. And I've talked to a lot of women, and for every one of them it's the same thing. Something stupid will come up, and it's always petty, and it'll come into an argument so it helps that break. … What it is, is it's an emotional closure. It helps to separate, you know, rather than be completely open when they leave … Now we don't do that anymore. We've learned, you know, we've learned to appreciate our time together. Between his [offshore] accident and my heart attack we don't do that" [I-306].

The return of the working spouse can be equally difficult. Whether in the early days of the macho workplace or more recent times of stringent regulation and constant pressure to perform, shifting from patterns of interaction acceptable to workmates to those complementary to family members has proven difficult. Both workers and families have adjusted to particular patterns of behavior and interaction, and these shift when the worker returns (see also Section 2.1.5).

> "My husband Al, as a matter of fact, with the kids and with me, too, he'll be barking commands before he realizes it. Because he's a supervisor offshore, he's used to telling his crew to do the work. And it's loud, you know, the machinery is loud, and half of them are losing their hearing anyway, you know. And I have to often remind him, 'Honey, I'm not a roustabout, I'm your wife' (laughs). Please and thank you are very nice.' … Like I said, they're 24-hours a day seven days a week [working offshore]. My husband, for example, will come home and give me a list of things he needs done. Whatever, get the car in or make a hair cut appointment, whatever. But it's Saturday afternoon and in the real world everyone works Monday through Friday until five, you can't just do all this. So it's a transition for him" [I-306].

Women and children who have gotten by on their own must accommodate another person. In some households, the family members at home develop rituals such as cleaning and preparing special foods to facilitate the transition. Some men welcome the opportunities to spend more time with their children and even take over all childcare responsibilities while they are home. Others fill their time with second jobs or trips to their hunting camps. For many families, how the worker spends his time when he is not working proves to be more critical to the success of the relationships than the time he is away. For all families, clear expectations and communication enhance members' functioning. In multigenerational oil families, especially, differences in the expectations of young parents from those of their own parents can create tension. Though some older couples disparaged young people who seemed unable or unwilling to cope with the

challenges of the offshore lifestyle, most acknowledged the difficulties faced by young families and the new roles being played by both men and women.

2.1.3.3. Relationship between Past and Present

Vast changes in the oil and gas industry, the southern Louisiana economy, general societal expectations, and southern Louisiana families and communities all have contributed to striking differences between past and present impacts and responses of OCS-related work on individuals and families. As noted elsewhere (see Stauber et al., Volume 2 of this report), southern Louisianans have experienced many of the same societal changes that have concerned others in the United States in recent decades. More women are working, fathers are expected to be involved in the daily lives of their children, and many families are trying to employ complex economic strategies. During the study, many oil and gas industry workers reported that their work shifts were getting longer, they were being expected to work 24-hours a day on call, and their options were being limited. Consequently, tensions between periods of work and nonwork are high, and work schedules are often the most obvious source of those tensions.

Some of these tensions are unresolvable; much OCS activity occurs far out in the Gulf of Mexico, and workers cannot be in two places at the same time. Yet, recent changes, especially in telecommunications, have provided mechanisms to ease the tensions by allowing some families to maintain regular communication to share joys and to work through at least some problems even when they are not physically together. Most workers on platforms, rigs, and vessels have at least some access to telephones, and many now can access the internet and electronic mail systems at their workplaces. A school counselor noted that fathers have requested electronic copies of their children's grade reports so they do not have to wait until the end of their rotation to monitor school progress.

2.1.4. Worker Health and Safety

Among the greatest achievements of the offshore oil and gas industry have been dramatic improvements in both environmental and worker safety. Gone are the days when offshore workers could be identified by missing fingers, nitrogen sickness, or other physical disabilities. Nevertheless, workers regularly face dangerous conditions, and they must rely on their own and their co-workers' knowledge, abilities, and problem solving skills to avoid harm. On rigs and vessels and in fabrication and service yards, men and women work around dangerous equipment and under potentially life-threatening conditions. In this study, a major complaint of workers across industry sectors was that they often did not know the people with whom they were assigned to work. Hiring practices that seek to prevent nepotism and ensure workplace diversity also break the social bonds that once provided a foundation of familiarity and trust for the workers.

The health impacts of offshore oil and gas work have received sporadic attention. High rates of injuries and the associated costs have led regulators and insurance companies to increase safety standards in all industry sectors. Yet, accidents are only one source of health impacts to workers. For more than a decade, agencies and researchers in Europe and Newfoundland have paid far greater attention to health and safety concerns, including the psychosocial impacts of stress, than have Americans (see Parkes, 1998; Parkes et al., 1997; Sunde, 1983; Cooper and Sutherland,

1987; Shrimpton and Storey, 1993; Shrimpton et al., 1995). This study did not employ formal epidemiological methods to assess incidence of diseases or attempt to cover health issues exhaustively; this section simply reports the physical and psychological impacts of OCS-related work that emerged from discussions with community residents and health providers.

2.1.4.1. Historic Context

In southern Louisiana, where home and work have overlapped for generations, it is difficult to link many health issues exclusively to one or the other. Outside of acute injuries, for which a point of origin can be identified, many health-related patterns implicate lifestyle issues that overlap the boundaries between work and home.

No good figures exist for tracking the incidence of injuries that occur in the offshore oil and gas industry.[5] In the early days of the industry, the regular facilities and emergency room at Morgan City's hospital were expanded to better serve injured workers. Gramling and Joubert (1977) linked an increase in emergency room visits due to oil-related injuries with an increase in industry activity, from 46 percent of the cases in 1964 to 62 percent in 1974. Such figures are no longer adequate as even an indicator; as rigs and platforms have moved farther offshore, the helicopters serving them have become larger and capable of flying longer distances. Many patients can be flown directly to New Orleans hospitals. There is no principal place to which injured offshore workers are taken.

Furthermore, emergency rooms capture only a fraction of those injured performing OCS-related work. Orthopedic problems and injuries are particularly common. Workers, regulators, managers, and healthcare providers assert that increased attention to safety on the platforms has had a positive effect. Yet, they all argue that the injuries that are reported do not reflect actual occurrence. Reports of injuries go up as the industry starts sliding downward. Some ascribe this to lower morale and therefore less caution among workers during these times. Others suggest that workers do not report injuries during peak activity periods because they do not want to or cannot leave the workplace. When things slow down, they are more likely to report chronic injuries.

Diets, smoking and drinking behaviors, stress, and even exposure to the by-products of the oil and gas industry are shared by workers and non-workers alike. Links among health problems and these lifestyle factors are certain but vary from individual to individual. Overall, Louisiana ranks among the highest states in the nation in incidences of cancer and heart disease (National Vital Statistics Reports, 2000). Offshore workers share these problems. Some have singled out the offshore diet, high in saturated fats, cholesterol, and salt, and the lack of physical activity involved in many offshore jobs, as important factors. A 1986 study of 700 offshore workers, for example, found that 50 percent of the respondents were overweight (as compared to 25 percent nationally), 25 percent had high blood pressure, and 16 percent of employees over 50 years old had a heart condition. The study claimed that offshore workers surveyed consumed 5,000 to 7,000 calories a day, against a national average calorie intake of less than 3,000 calories a day

[5] The MMS collects accident reports, but changes in the system of reporting make documentation of long-term changes difficult. Chronic injuries are not associated with specific events and are not tracked.

(*Daily Iberian* Staff, 1986). Whether and how that diet differs from the diet of workers in similar occupational roles has not been investigated.

Likewise, many participants pointed to a link between offshore work and drug and alcohol abuse, though these, too, are problems in the larger population. Study participants reported that drug and alcohol abuse was very high among oil workers in the 1970's and 1980's when money was readily available to that group. Workers were often paid in cash as they returned to shore, and for many it was a short trip to the nearest bar or hangout to begin spending their money. As prohibition against drugs and alcohol at the workplace increased, some argued that the differences between behaviors at work and home were exacerbated. A participant who had been working in substance abuse facilities since the early 1980's claimed:

> "In the early 80's, when there was robust growth in the industry, we saw a lot of people, at both the lower and the upper levels of the industry who had problems, mostly alcohol and cocaine, some marijuana. It was a big thing at that time because people had enough money and there was ready access to cocaine… When the oilfield is busy, the money is flowing and the pressure is on, it's very competitive and challenging work, long hours away from home. It puts them out at odd hours, they're driving through various parts of the state and the town" [I-593].

Though previous studies have used suicide and homicide rates to relate social problems to levels of oil and gas activity (Seydlitz et al., 1993), in this study, suicide was rarely mentioned by either workers or healthcare providers. Instead, mental health workers classified as "depression" the variety of mental health problems they had observed during the 1980's. According to a St. Mary health administrator, health care providers during those days were presented with what they identified as a cluster of "subjective symptoms," to which they responded by dispensing antidepressants:

> "I can tell you when there's a shutdown in the industry, because anti-depressant prescriptions triple. This week, for instance, I wrote two to three scrips for anti-depressants. In those days [when the oil industry was down] I wrote two to three *a day*. If they were moderately to severely depressed, I'd refer them on. Otherwise, if it was a minor depression, I'd keep them on the medication for six to eight months" [I-572].

A private counselor in New Iberia, who had been practicing in the area for almost 30 years, recalled that mental health problems were very widespread in the 1980's. The patients he saw at the time tended to hail from the ranks of people who could afford private mental health care: investors, bankers, and real-estate people who "often wanted to know if there was a back door because they didn't want to be seen coming in and out of my office." However, he claimed, they were not alone: "I think the whole area was not only in an economic recession but in a psychological depression" [I-562].

Local churches recognized and attempted to address both the psychological and spiritual health needs of offshore workers, but with little success. In the mid-1980's, the Louisiana Catholic Conference undertook a three-year effort to establish the Offshore Ministry Project in the Gulf of Mexico. The project coordinator and other leaders quickly discovered that their task was greater

than initially anticipated and encountered tremendous obstacles. According to the director's final report of April 1988, these included: lack of cooperation by employers; lack of awareness of the project, of whether their parishioners worked offshore, or of the special needs of offshore workers and their families by clergy; great distances over which offshore workers lived; the invisibility of offshore workers who could not participate in regular parish activities; a church structure that supported lay ministers to visit the elderly and infirm but not job sites; and regulations that prohibited visitation on offshore platforms (Reggio, 1988). Other church leaders attempted less ambitious projects, such as family counseling sessions, and were frustrated in their efforts [I-685].

2.1.4.2. Impacts and Responses

A particular challenge in describing health impacts is the wide diversity of workplaces and conditions that comprise the offshore oil and gas industry. Some of these workplaces are highly regulated while others may receive little, if any, oversight. All U.S. workers are afforded some protection under the Occupational Health and Safety Administration (OSHA), but inspections and enforcement at the thousands of worksites linked to the industry are inconsistent. The MMS regulates offshore rigs and platforms, and the U.S. Coast Guard regulates mobile units, vessels, and port facilities. At the worksites where federal regulators have regular access, such as the offshore platforms, working conditions are generally good.

Still, many offshore workers are regularly exposed to risk, from riding helicopters out to rigs and platforms, working around heavy machinery, and working with and near hazardous materials. Within a single workplace, conditions vary from those of the supervisor who interacts minimally with the sources of risk to the tank cleaner who is exposed to a veritable soup of chemicals. Though the offshore oil and gas industry has done much to reduce such exposure for the majority of its workforce, a significant segment, those in permanent bottom layer positions working in poorly monitored situations, continue to be exposed to hazardous situations. A 28-year old laborer described his experiences:

> "We cleaned an ammonia barge once. They gave us these white paper suits. I'm sure a brown paper bag would have been more protective. And these little paper masks to cover our mouth and nose. None of us had the proper training. We should have had chemical safety and confined spaces. Another time, they had us using a high-pressure water cleaner, an electric one. We had about 300 feet of extension cords just lying in the water. I asked what would happen if one of the connections came loose and we all got fried. The foreman told me not to worry about it" [I-312].

In the context of discussions about workplace safety, both health care professionals and workers argued that the high rates of turnover that were experienced by many companies, and especially the influx of new, inexperienced workers in the mid-1990's, had led to more accidents. According to one health care official in 1999,

> "I think there's been some decrease in workman's comp cases too, which could be a good thing, that they're doing a better job with safety at work. But minor injuries were really high in the last year, I can tell you this anecdotally. I think it's because they had a lot of new employees, that really increased the risk. The safety inspectors would say: we're

> grabbing employees so fast, we don't have time to train them properly before they get on the job. I think that may have reduced somewhat now that they're getting rid of the new workers" [I-93].

By the late 1990's, stringent policies and practices related to drug and alcohol screening were in place in most companies, and managers and workers described how these were enforced. Though some workers and even managers argued that drug and alcohol screens were sometimes increased to reduce the size of the workforce, and both groups acknowledged that these screens have not eliminated all substance abuse from the workplace, the general consensus was that drugs and alcohol abuse are not tolerated during work hours. Few workers would continue to work under potentially hazardous conditions alongside someone under the influence of drugs or alcohol.

Away from work, problems are widely recognized but not unique to the offshore workforce; most mental health and substance abuse professionals agreed that drug use and abuse had assumed significant proportions in the larger community in south Louisiana over the last 20-30 years. According to them, the area had acquired a statewide reputation for drug trafficking, and that activity was accompanied by increased drug use:

> "The drug problem here is *very* significant – we are so close to the ocean and there are all these bayous and waterways, and so many people coming in all the time. The agencies see only a very small percentage of the total problem" [I-537].

Many agency personnel claimed that a recent trend seemed to be the greater incidence of drug abuse among younger populations – youth in their teens and twenties. The New Iberia Alcohol and Drug Abuse Center has expanded significantly in the past ten years, from a staff of one to five, and is still overwhelmed. According to staff, though, most of their clients are referred by probation officers, corrections facilities, local sugar farms, and welfare case managers.

A major change that has occurred recently, and has been spurred to a large extent by the offshore oil and gas industry, is in monitoring and prevention. Driven largely by concerns about liability and insurance company requirements, most OCS-related facilities – onshore and offshore – advertise that they are drug-free workplaces. Company policies mandate pre-employment and random drug screens for all employees.

> "In general there's not so much drugs among the oil population any more because they're more likely to get caught. But definitely very high alcohol use. Illegal drug use would be difficult to disguise. But there are a lot of drifters, deckhands and laborers from other parts of the country who come in with problems. Drug screens have been mandatory I think only since about the last five years. There are more people being referred here in the last few years because more are getting caught, but I think there may be less illegal drug use overall in the employed population" [I-581].

In both communities, mental health and substance abuse center personnel agreed that alcoholism remained the most common problem for offshore workers, exacerbated by the accepted status of

alcohol consumption in local custom and culture and the strong resistance to acknowledging its negative stages or aspects. As a long-time substance abuse counselor in New Iberia told us:

> "In terms of people who depend totally on the oilfield as employees, they tend to drink instead of taking drugs. It is not very easy to test for alcohol. Also, they don't consider alcohol a problem. It is a legal drug and somehow it goes with the oil industry, which has a culture of hard work and hard play. Alcohol is one of the biggest drugs in this area. In the industry you'll find a lot of hard drinkers, in all of the facets that deal with oil, even in the Coast Guard" [I-581].

The recent attention to drug screenings for offshore workers has had a special and significant effect on individuals with mental illnesses and neurobiological disorders who require medication for their illnesses. Mental health professionals report that when these individuals are tested and it is revealed that they are on medication, some are denied jobs.

In general, mental health problems remain significant in the study communities and are linked to the stresses related to working under the conditions of uncertainty and fluctuation described in Section 2.1.3. An administrator at a St. Mary Parish facility in 1999 identified depression as the health issue most strongly linked with downswings in the oil industry. Although the 1999 impacts to health care providers were uneven, New Iberia hospital personnel confirmed this picture, claiming that mental health problems had shown a "tremendous increase" in the early months of that year.

> "… and I guess some of this can be directly related to stress. [We see] a lot of illnesses, or conditions that can be caused by high stress levels. This has increased not only due to the ups and downs of the oil industry, but we've seen a lot with police departments. I guess people who have had jobs and are losing them – like at the mills – yes, we've seen a marked increase. We do not offer psychiatric services but we still get them in our emergency room, and it's very difficult to place these people because most of them have had a trigger that has something to do with their employment situation, so they don't have the money to get into one of those fancy places for treatment. Plus, funding has been cut to a lot of these places, so it's more outpatient services, which, I've got to be honest, I don't think is working" [-90]

Parish Mental Health units tend to see patients with depression or anxiety only when they reach a relatively advanced stage of illness. Nevertheless, in a mental health clinic in Morgan City, staff reported a significant increase in caseloads in the early part of 1999, when the local economy was sinking.

> "Since January we have had an awful lot of referrals, of people feeling suicidal, worthless, things like that. I can't give you any statistics, its going to be anecdotal at best, but I definitely have the impression that we have been seeing a lot more people since January, a lot of them have been men, out-of-work workers with non-severe problems. … As everywhere else I find that there's an awful lot of people out there who don't get help at all, or not until it's a severe problem. I can't say that that's worse than or different from anywhere else, it's a common problem in mental health. When they get here they are

> usually so bad that someone in the community or family has had to refer them here [I-537].

Still, at a New Iberia clinic, by the summer of 1999, a representative had not yet observed a major change associated with the 1990's downturn:

> "When there's a downturn, we get an increase in calls with depression as the main problem. Most Americans, I'm convinced, live paycheck to paycheck, one paycheck away from bankruptcy. So when they get laid off, it becomes a serious situation. This was a big problem in the 80's, a lot of acute depression, people coming in feeling suicidal, saying I've lost my job, I used to have this or that, now I have nothing. People had terrific trouble in coping with the loss of a lifestyle. This was especially a problem with men, because they identified more closely with their jobs. This last year we've had some slight increase in men with depression, but nothing significant" [I-563].

2.1.4.3. Relationship between Past and Present

As described, it is difficult to pinpoint the nature and extent of changes in the physical and psychological challenges faced by offshore workers and their families. What was clearly articulated, however, is that these problems are accentuated locally by fluctuations in access to health care and the chronic economic uncertainty and stress that most families face. Many healthcare providers talked about the lack of attention to preventative care and screenings for early diagnoses in the area, with people postponing attention to health problems until they become real problems.

If panic, fear, and desperation were widespread in the big slump of the 1980's, several community spokespersons found that the problem in the 1990's was a pervasive attitude of apathy, loss of self esteem, and sense of defeat at the community level, engendered by ongoing economic uncertainty and the community's incurable dependence on the roller-coaster oil industry. A senior hospital administrator in Morgan City attributed the fatalism to a widespread attitude of "this is all we deserve! The oil companies will tell us what we deserve and we'll take what we can get and when the times are good we'll work and make money and we know the bad times are going to come because that's just the way it is." The Economic Development Director for St. Mary Parish commented that the area's biggest hurdle was "mindset:"

> People down here have been through multiple booms and busts and they feel a real lack of empowerment because decisions that directly affect their future have been made elsewhere (McManus, 1999, p.1).

2.1.5. Work as a Source of Satisfaction

The physical and psychological challenges of OCS-related work, though difficult to track, are widely recognized. These represent only a fraction of the way that what happens at work affects workers, their families, and their communities. By the late 1970's, social scientists were characterizing the various expectations Americans had for their work. More than merely a source of income, work came to be understood as a source of self-respect and meaning as well as a political environment in which people demanded respect and rights (Kanter 1978), and

researchers attempted to understand the nature of highly satisfying work (e.g., Ronco and Peattie, 1983). In these and many other studies, attention has been paid to the structure of work and workplaces. Systematic analyses of how these intangible impacts of work reverberate to the families and communities of the workers, however, are lacking. This section attempts to discuss some of these impacts and examine how recent changes that have occurred in OCS workplaces have impacted families and communities.

In general, research on workplaces addresses several issues: the nature of the work, attitudes toward work, and relationships among workers and between workers and management. The impacts of workplace diversification, especially along the lines of race/ethnicity, disability, age, and gender, have gained particular attention and led to a plethora of management training programs. In this context, anthropologists studying workplaces have drawn attention to problems that arise when the *techniques* of work develop faster than the social structure of the workplace, and even the best training, can accommodate (e.g., McCarl, 1992). Under such circumstances, and especially where policies have fostered the hiring of diverse employees who are not readily incorporated in existing social networks, newcomers are forced to learn the complex skills of their trade with little if any guidance and support. In dangerous occupations, the consequences of such failures can be enormous. On a broader level, though, the impacts on families and communities of increased work opportunities for members of underrepresented groups are poorly understood.

Another significant and well-studied trend is the deskilling of American jobs (e.g., Braverman, 1974). As described in Section 2.1.2, the skills developed and practiced at work can enhance economic and recreational activities away from the workplace. Technical skills with a welding torch or computer, and management capabilities such as leadership and organization, can be applied to home building, internet businesses, and Little League baseball teams. When jobs no longer provide such skills, the benefits that accrue to families and communities beyond the workplace are reduced.

As significant as the skills learned at the workplace are the attitudes about work itself: cooperation, tolerance, and other so-called "soft skills" (e.g., SCANS, 1991). For these, too, there is significant interaction between what happens at work and what occurs elsewhere. Employers have identified problems stemming from inappropriate work attitudes and behaviors, including a lack of discipline and dedication to work, as the primary cause of poor job performance, and they attribute these problems to nonwork experiences of their employees (Capelli, 1992; Capelli and Ianozzi, 1995). Studies of youth have noted a decline in commitment to values such as "honesty, a sense of personal responsibility, respect for others anchored in a sense of the dignity and worth of every individual, and a willingness to give a helping hand to those who have suffered misfortune through no fault of their own" (Bronfenbrenner et al., 1996, p. 260). These changes have not occurred in a vacuum; the nature of the work itself and family members' interactions with workers also affect attitudes about work (Lakes, 1994; Newman, 1993). Yet, studies of how children are affected by parents' experiences with and feelings about work are rare (see Mauthner et al., 2000, for an exception).

2.1.5.1. Historic Context

During the early development of the oil and gas industry in southern Louisiana, experienced industrialists, entrepreneurs, and workers from places like Texas and Oklahoma moved into the area and took control of land, resources, and, in some places, civic life. The early workers were lured or sent, as exemplified by the relocation of an entire community from the Smackover, Arkansas oilfields to New Iberia in the 1930's. Their arrival and the workplace practices that evolved to standardize language and behavior hastened change in many southern Louisiana communities. Mostly white, they accounted for the large in-migration that occurred each decade between 1940 and 1970 (Gramling and Joubert, 1977). From the fields and bayous, long-time residents, many of who had little formal education and often spoke little, if any, English, provided the labor force for the growing industry. They started with low-level jobs that required only a strong back and a willingness to work hard. Cajuns, Houma Indians, and blacks all faced discrimination when they tried to enter the industry, and they had to create special niches for themselves.

The Cajuns quickly discovered that their language was a liability out on the rigs and supply boats. They were told that any communication mixup could mean a costly mishap, perhaps a fatal one. Until they learned English, Cajuns could only expect to get dirty, dangerous jobs as roustabouts and roughnecks. Schoolteachers punished Cajun children for saying *merci* instead of thank you, citing a 1921 ban on French in classrooms that was little enforced elsewhere (Petzinger and Getschow, 1984). Houmas and blacks found that social divisions were transferred to the oilfield; they were unable to obtain jobs alongside whites.

Before long, though, southern Louisianans combined the knowledge, skills, and ambition they acquired through fishing, farming, and building homes with their knowledge of the oil and gas industry to develop machine shops, service companies, and transportation businesses. At home, they applied their welding and construction skills to the construction of docks, boats, and shops. As they found and created niches within the offshore oil and gas industry, some worked their way up the ladder to become company presidents and corporate leaders. Alongside a few corporate giants from elsewhere, many family enterprises emerged (see Chapter 3). Strong social networks ensured that both companies and workers could prosper. When activity increased, companies could expand and workers could advance to new positions; wives, cousins, and friends were recruited to help where they could. At the community level, the growing wealth and prosperity of southern communities contributed to increased political power in Louisiana's plantation economy (Wallace et al., 2001).

As the industry grew, the high demand for labor expanded opportunities for racial and ethnic minorities.[6] This coincided in the late 1960's and 1970's with challenges to racial segregation of schools and workplaces. For all groups, the new oil economy disrupted pre-existing social stratification. Black communities, for example, though long fragmented along class and color

[6] Despite their dominance in southern Louisiana, Cajuns are a minority within the oilpatch. In the late 1990's, James Roach of New Iberia, Acadian by descent, pressed charges of discrimination against his company. In his case, which was later settled out of court, he claimed that, despite his objections, his supervisor repeatedly called him a "coonass." The court case is significant not only because it shows a white minority bringing claim against a company, but also because this was the case that established Acadians as a legal minority in the eyes of the law.

lines that distinguished blacks, mulattos, and Creoles, were further divided as oil families began to differentiate themselves from their neighbors.

In New Iberia, where African Americans comprise nearly a third of the population, the admittance of blacks into the oilfield in the late 1960's and early 1970's had profound effects on the local black community. Prior to this, New Iberia had a small black professional class, composed of pharmacists, doctors and dentists, and a small middle class, largely involved in salt mining, the railroads, and small businesses. The rest of the population, if employed, was engaged in manual labor in the sugar and pepper fields, as unskilled laborers, or in domestic service. The new oil industry disrupted the status quo by providing good wages to manual laborers. Even college-educated blacks took entry-level positions laying pipelines because they could earn more than in their professional positions. Many workers suddenly had the means to move their families out of the "West End," or the "black" part of town, and to send their children to private primary schools and even to college. As the numbers of African American oil families began to grow, so did the numbers of skilled African American young adults who moved out of New Iberia in search of jobs opportunities in larger cities.

The creation and maintenance of an oil identity exacerbated the distinction of oil families that persists into the 21st Century (see Section 2.2). Hiring practices that relied on tight social networks helped deepen existing community divisions. At the workplace, these networks were critical to the trust and loyalty that individual workers developed toward their crews and companies and provided some security in jobs that were generally dirty and dangerous. Even at home, within these networks, these ties insured that supervisors could exercise some control over off-work behaviors. However, at the community level, as some groups advanced and others did not, rifts grew.

In the earliest periods, where each new successful well was a technical and managerial achievement, offshore work was satisfying. Though work hours were long and the work was difficult and dangerous, early workers talked with pride about what they and their co-workers accomplished. Their satisfaction at work was matched by their growing status in their communities. As work on rigs and platforms became more routine, and rules came to govern the workplace, however, offshore work took on characteristics of other types of industrial work: regularities, discipline, and drudgery. Workers no longer tolerated the discomforts of living on barges and in metal trailers.

By the 1970's, offshore accommodations had become more comfortable. Food was unlimited and, within the confines of their work schedules, workers were free to eat, watch movies, and play cards when they wanted. Some workers were allowed to bring televisions into their own rooms and isolate themselves. Offshore conditions contrasted markedly with those at home where the multiple, competing demands of family members had to be considered.

As their communities evolved through the second half of the 20th Century, the workers who benefited from inclusion in the industry were removed from their families and communities. They spent long hours at work, and especially on offshore rigs, platforms, and vessels, and many workers were unable to participate in family and community functions. Limited and irregular communication with family and home created significant impacts for both workers and their

families. Family counselors reported that the unrealistic expectations that workers had of their families and that families and communities had of these workers when they were off the job contributed to conflict in the home.

Despite the challenges, families and communities adapted to the offshore lifestyle, and many patterns of accommodation emerged. Families scheduled holidays such as birthdays and Christmas when workers came home. Religious organizations and counselors attempted to mitigate the isolation and alienation of the offshore lifestyle with bible studies and offshore services.

By the late 1970's, the social structures engendered by the oil and gas industry were in place. The 1980's threw many families and communities into chaos. Laid-off workers who had come to rely on high wages were unable to maintain their position in the new social order. Social networks that had expanded to include outsiders contracted. Some workers with the specialized skills required in the oilfield were unable to transfer those skills elsewhere. Yet, some workers and companies were able to take advantage of the chaos to reorganize and prosper.

Years of experience with oil industry cycles did not prepare southern Louisiana for the prolonged downturn of the 1980's; the resulting turmoil affected everyone and had a lasting impact on the attitudes and work expectations of southern Louisiana residents. Study participants who were children, parents, and teachers during the period talked about how their experiences affected not only the generation of workers directly affected but also the ones to come (see Schrag-James et al., in Volume 2 of this report). Phenomena such as weakening industry loyalties (see Chapter 3), affected not only the experiences of workers but also broader community perceptions, trust and allegiances (see Section 2.2). The following section picks up the story in the 1990's.

2.1.5.2. Impacts and Responses

Beginning in the 1980's and continuing into industry recovery during the 1990's, many small oil and gas service companies disappeared in mergers and acquisitions. Expansion of OCS-related activity, growth of companies, and internationalization further contributed to a shift from many small, locally-owned businesses to fewer, large corporations (see Chapter 3). As companies grew larger, new ways of doing business were instituted. The informal, familiar practices gave way to formal, institutionalized procedures for hiring, firing, and managing the workforce. These changes mirrored those taking place elsewhere as federal laws related to work hours, pay, and discrimination were enacted. Companies hired human resources personnel, many from outside, to establish and maintain workplace policies. Stemming from insurance claims and federal regulations, safety and drug testing emerged as key personnel issues. To mitigate the economic ups and downs, many companies began working overseas. International conventions led to additional regulations and efforts at standardization. Within the larger companies, such as those that provided drilling and fabrication services, changes in hiring and employee policies left foremen and toolpushers with less control over the people working under them. In all companies, informal workplace environments have given way to more structured, rule-oriented settings. The rules have been particularly successful in opening up opportunities to those, especially women and minority workers, who where once denied access to the industry and to standardizing conditions under which employees can be terminated. On the down side, employees find themselves working amid strangers and unable to rely as assuredly on their own social networks

to ensure that they will find another job if they leave to go crawfishing or are laid off during a downturn.

The impacts of the 1990's recovery and industry reorganization on workplace environments are many and varied, and such a topic requires its own study. New technologies pervade the workplace, and their effect on workers' skill development and the ability to apply those skills outside the workplace remain to be seen. At some workplaces, such as production platforms operated by only a few individuals, workers now have responsibility for the tasks once performed by a team of people, but they also have increased autonomy and the freedom to manage their workday to handle whatever arises. Their work consists largely of watching computer monitors, but they are free to communicate with their families and onshore offices whenever they have the time and inclination. In contrast, at other workplaces, such as the service yards of companies that have downsized and shifted operations, workers report increased surveillance and pressure to perform at top speed throughout the workday. Signs on bathroom doors and remarks from supervisors remind workers that their companies are looking for the people they will lay off next. Even for mariners, new communications technologies, such as Global Positioning Systems, allow managers to monitor worker locations and activities. Workplace stress can be exacerbated where work and living quarters are contiguous. During off hours, workers on rigs and vessels may be called to help with routine tasks as well as emergencies.

The change from workplaces organized around pre-existing social networks to those staffed via formal hiring practices, often carried out by newcomers to the industry and the area, has been significant. Although there has been increasing standardization of workplaces, high turnover of personnel creates inconsistency as managers interpret and enforce policies and procedures to meet their objectives.

Families feel the effects of the shuffling of personnel and positions both directly and indirectly. Supervisors are moved from one section or location to another, and they either must relocate their families or spend more time commuting. Workers who remain on the same job face new bosses, and their families are affected by the policy changes that accompany new management. A shop floor worker who had had five supervisors in less than four years, including one who lasted only three or four months, described how each change in supervisor meant changes in policies toward family leave. When asked about taking time off for the birth of a child, he responded:

> "We just switched bosses, they switched our bosses around. So I don't think, I know when I first started the boss that I had, he gave me so many days and told me just mark it down on the time sheet as eight hours sharp, instead of taking vacation time. So it all depends on your boss. Because we found out today that they don't give you time for [paternity leave]. If you want time off you have to take vacation time for that. Everything changes, every time you get a new boss something changes" [I-442].

A major change in the workplace environment has been the introduction of computers and the automation of many functions. Formal education has begun to replace on-the-job experience as the means to get ahead, and many companies now rely on schools for which students or the state

pays the costs (see Section 2.2.2.4). Workers whose educational credentials no longer match the requirements of their occupations are either shunted to nonessential positions with little or no influence or let go; they and their family members described the accompanying loss of pride and self-worth. Other workers attempt to retain their jobs by taking classes and studying for new licenses and certifications; these efforts may become family projects as spouses and children adjust schedules and devise strategies to help the worker succeed (see Gardner and Austin in Volume 2 of this report).

New telecommunications technologies have increased opportunities for communication between workplace and home for many. Problems with participation in local events remain. Though some companies and technical colleges still offer courses on schedules that accommodate shift work, many of those were discontinued during the 1980's and have not been reinstated.

By the 1990's, OCS-related companies in some sectors, especially fabrication, were hiring Vietnamese, Laotian, Mexican, and South Asian workers. Discrimination persists, but at least one black participant cautioned, "It's not only the oil industry. I think this exists everywhere, it's just I'm in the industry" [I-494]. On some yards, foremen deliberately mixed work crews along racial and ethnic lines. Some workers suggest that racism is in fact somewhat attenuated by the intensity and forced collegiality of OCS-related work. Still, some anti-union participants blamed ethnic minorities for the successful unionization effort at one of the large fabrication yards; the new group of workers had not been socialized into the historical antagonism toward union organizing. The offshore environment establishes a new social space:

> Worker: "If you have it (racism) here (pointing at a sidewalk in New Iberia) you know you're going to have it there (pointing offshore)."
> Researcher: "But doesn't that affect your work?"
> Worker: "No. We had to do one thing out there. Perform. And we did. I could tell you stories that would make your ears burn, but is it any different than other places? (shook his head) It's everywhere you go."
> Researcher: "But you're together for seven days, it's concentrated. Doesn't that make it different?"
> Worker: "Well, in some ways it's better. They have a chance to get to know you, know who you really are. We have to get along because our lives depend on one another. Now when we hit onshore he may go his way and I go mine, but offshore, it may be a little better" [I-494].

Even women, though vastly underrepresented in the workforce, now can be found in all sectors of the industry.[7] Nevertheless, the nature of the work and the schedules involved will continue to be barriers to mothers and workers with significant responsibilities beyond work. Though this study included few women workers because of their scarcity in the offshore workforce, several of those who participated described continuing concerns about harassment and discrimination at work. Those who argued that they were treated the same as their male counterparts also told of the extraordinary efforts they had made to be accepted as "one of the guys." They, too, reported that attitude was a major factor in how they were accepted and treated. Although the small

[7] It should be noted that there is a significant "pink collar" workforce in the oil and gas industry. Secretaries, receptionists, and accountants perform critical tasks in office operations. This research did not target this sector.

number of female workers in nontraditional jobs has not had a noticeable impact on community attitudes toward females in the workplace, the region's School-to-Work program includes among its career videos the story of a female crane operator in an area shipyard.

2.1.5.3. Relationship between Past and Present

Changes in the nature of offshore work and in the expectations of workers and companies have had profound effects on that satisfaction of workers. Stemming from both industry practices and new societal norms, one of the most talked about changes for individuals, families, and communities, among members of all racial and ethnic groups, that has come about in response to the oil and gas industry is the lack of loyalty and commitment to company, occupation, and industry (see Chapter 3). The effects of this change are only beginning to be acknowledged within the industry, and whether or not changes can be made to recapture earlier support for the industry remains to be seen. Imposed on this general dissatisfaction is a specific concern about the lack of a work ethic and the other "soft" skills identified across the United States. Though many company executives argued that they would be able to solve their personnel problems by hiring from outside the region, others are less optimistic. For the workers, their families, and their communities, the loss of trust and loyalty in an industry they had so fully embraced is a major source of distress.

2.1.6. Industry Cycles and Fluctuations

At the time of this study, southern Louisiana communities had experienced more than half a century of involvement in the oil and gas industry. Many workers and families had lived through the good times of the 1960's and 1970's and the downturn that followed. For many, unpredictability had become the norm, and individuals, families, and communities had adopted strategies for coping with the ups and downs. Workers combined diverse skills with an attitude that they would do whatever it took to get by during the hard times. Families relied on dense social networks and interdependence. Some people supplemented their household incomes and ensured continuity in health and retirement benefits through a second job, fishing or agriculture, or spousal employment. Others adopted fluctuating spending patterns, buying when things were good and accruing debt or selling possessions when things went down. Still, the uncertainties associated with the industry continued to affect local residents.

Communities involved in the extraction of natural resources are prone to boom/bust phenomena, and a number of writers, academic and popular, have detailed the impacts of development and decline. Some of these works sensationalize the good times, such as Clark and Halbouty's ironically-titled *The Last Boom* (1972), about the East Texas petroleum discoveries. Others are more analytical, while conveying the sense of human hardship accompanying resource declines. Sinclair and Palmer title their small study of the codfish collapse, *When the Fish are Gone: Ecological Disaster and Fishers in Northwest Newfoundland* (1997); Robbins writes of *Hard Times in Paradise* (1988), a history of the timber industry in Coos Bay, Oregon. Others are less sympathetic to the plight of extractive industries. In *Lost Landscapes and Failed Economies: The Search for a Value of Place* (1996), economist Thomas Power argues that "unsustainable" ranching, timber, and mining industries in the intermountain West should yield to economies based on environmental amenities – tourism, recreation, service.

What is largely absent in this literature is a lens on individual occupational careers.. The concept of "career line" has received some attention in industrial sociology. Interest in the study of career lines stems from the fact that "they constitute an intermediary structure, relating the behaviors and life chances of individuals to 'macro' organizational units, thereby linking two important levels of sociological analysis" (Spilerman, 1977, p. 586). For the purposes of this study, an examination of careers may reveal insights into how individuals progressed through, and adapted to, cycles and fluctuations in the oil and gas industry.

A working definition of career was provided by Slocum (1966, quoted in Spilerman, 1977, p. 555): "an orderly sequence of development extending over a period of years and involving progressively more responsible roles within an occupation." Spilerman has augmented this definition of an *orderly* career line with the concept of a *chaotic* career:

> …a collection of positions characterized by (a) the absence of a unilineal progression – individuals tend to cycle among the positions; (b) a similar average of workers in each job – there is no hierarchy because no job is a prerequisite for another on the list; (c) a large standard deviation of ages in jobs which constitute an orderly career; and (d) little difference in average earnings or status among the positions (1977, p. 578).

In can be anticipated that chaotic careers may be prevalent in industries subject to fluctuations. This appears to be true for recent cohorts of workers in the oil and gas industry, but not for those who entered the industry during its post-war development and whose retirement age coincided with the downturn of the 1980's. By and large, workers of this cohort enjoyed orderly careers.

2.1.6.1. Historic Context

Many of the pioneers of the offshore oil and gas industry live within southern Louisiana. During this study, workers were asked to help the researchers create occupational timelines from the time they first left school until the present. Those timelines reveal much about the nature of industry cycles and how workers responded to them. As described in Chapters 1 and 3, industry cycles vary in intensity, duration, and timing. Workers in some sectors such as production may feel little impact of oil price fluctuations while those in other sectors are buffeted about. The occupational timelines shown in Figures 2.2, 2.3, and 2.4 illustrate these differences for 13 individuals. Though these workers are by no means unique, their personal stories are not intended to represent others in their sector. They are shared here to help capture the historic responses to cyclical patterns in the OCS.

Occupational timelines for three drillers of the "Old Generation" (fig. 2.2) illustrate a number of themes common to those entering the oil and gas industry following WWII. Two of these men were veterans of the war; the other, too young to serve, started roughnecking in Texas at age 15. Although differing in detail, all three careers show upward mobility. In one case, this required

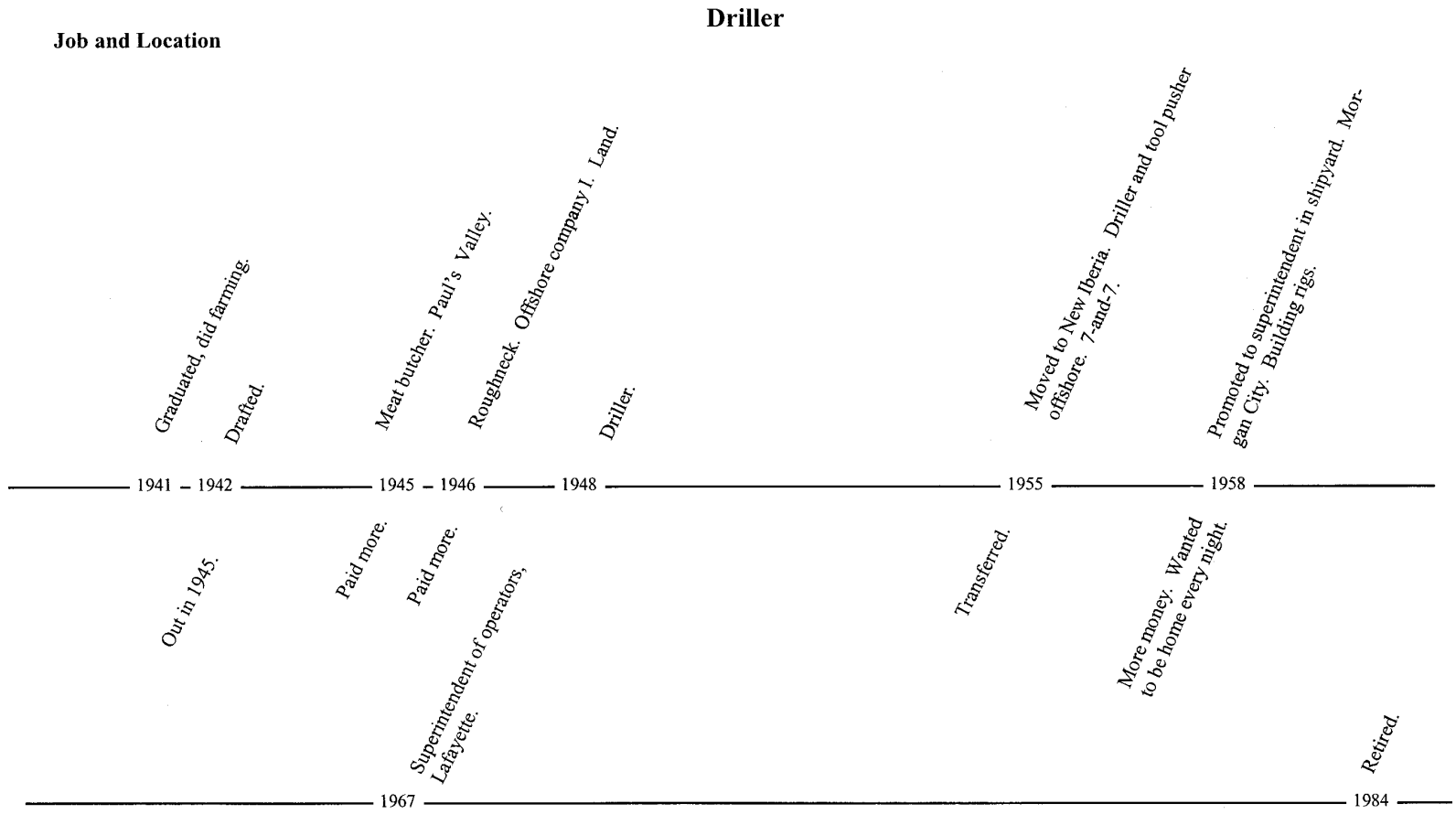

Figure 2.2.a. The Old Generation

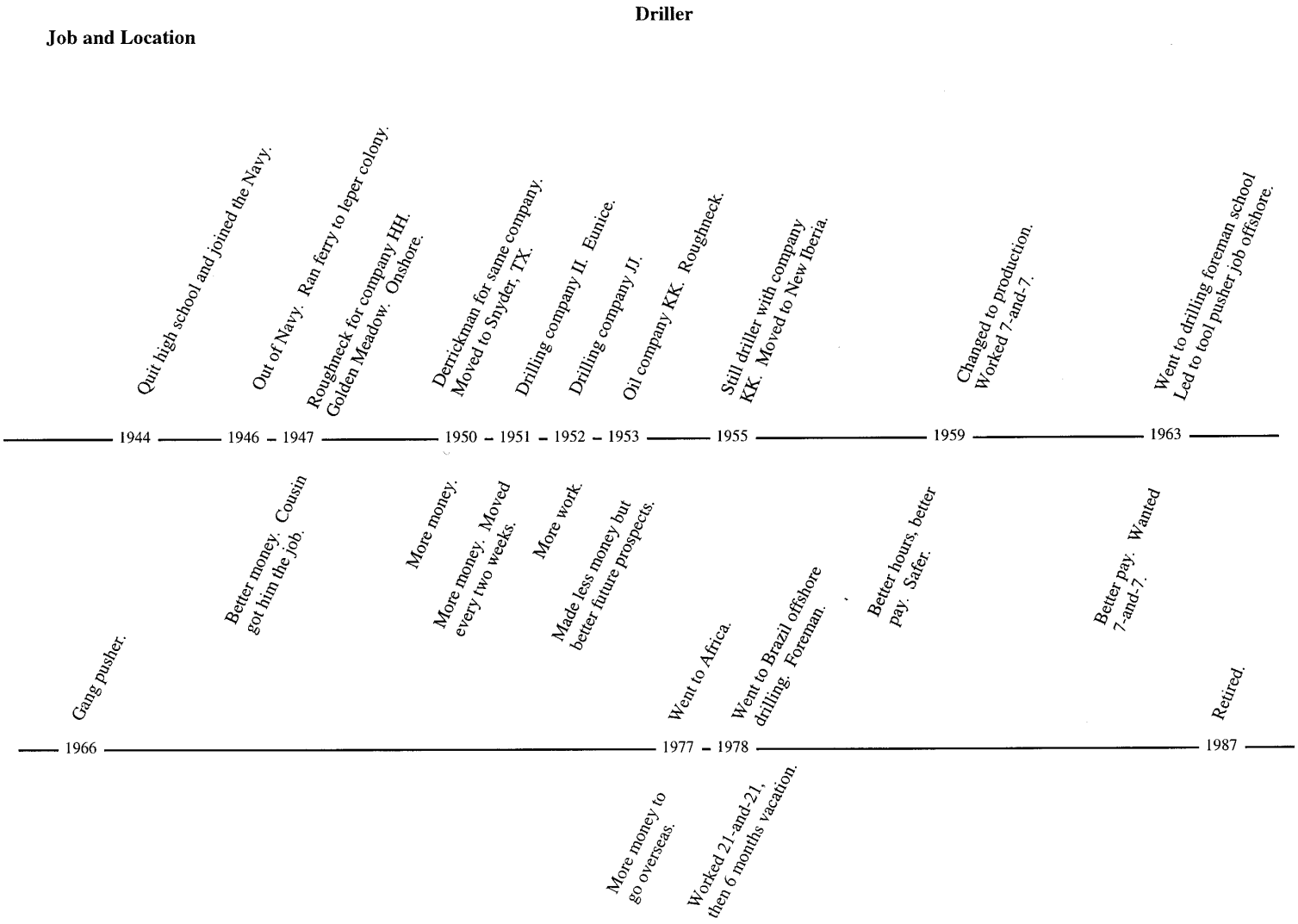

Figure 2.2.b. The Old Generation

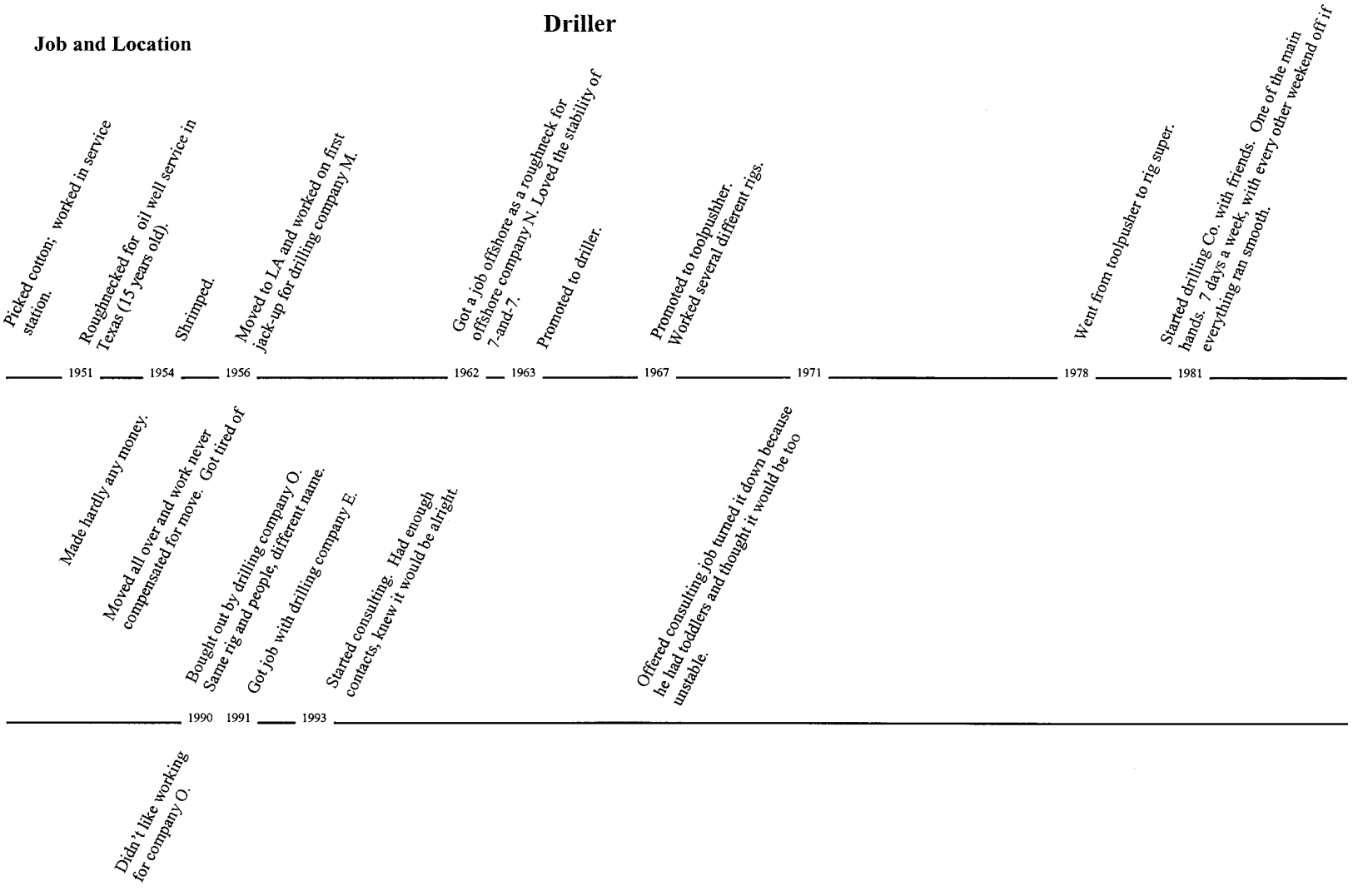

Figure 2.2.c. The Old Generation

frequent shifts among drilling companies and a willingness to undertake overseas assignments. Another worked some 40 years for the same company. Two of the three specifically highlight economic rewards – "paid more," "more money" – as reasons for job shifts; the other started up his own drilling company at the height of the drilling boom in the early 1980's. The two veterans were closing out their careers as the bust struck, and they "retired" from two of the major companies operating in the Gulf. This is a significant final entry to their timelines: retirement implies "the package," a pension.

The "Middle Generation," depicted in Figure 2.3, lived through the good times of the 1970's and the downturn of the 1980's. This is a skewed sample, including only the survivors of the downturn who were still living in Morgan City or New Iberia in the late 1990's. Nonetheless, their occupational timelines portray many of the tribulations of that event. One of those survival strategies, evident in numerous workers' timelines, was a willingness to accept demotions – "bumpbacks." Another was to have a fallback occupation; in one of the cases here it was crawfishing, however unprofitable that turned out to be. Several of these careers underscore a point made frequently by study participants: jobs in production tend to be more stable and durable. And, in contrast to the "Old Generation," none of these careers ended in retirement. One fabricator, after working with the same company since the early 1970's, was "laid off" in the downturn of 1999.

Each of the workers depicted in Figure 2.4 entered the industry in the early 1990's; again, there are commonalities in the issues confronting this "New Generation." Company-switching is frequent, and several of the reasons offered for this have as much to do with family-related issues as with "money." And, although the sample is small, this current generation faces layoffs while those of the middle generation more routinely were bumped back while maintaining jobs. One of the drillers of the old generation offered his perspective on the conditions facing the new generation in the oilpatch, and on the changing nature of loyalty, on the part of both companies and workers:

> "…I wouldn't recommend to anyone in this day to go into the oilfield. Well, it's just not as stable as it used to be. If you go to work for a company and give 'em half or three quarters of the best of your life, they should take care of you. But they don't do that no more. The oil companies won't. And most of the people who are working in the oilfield are looking for another job in which they can make just a little more money a month than they're doing. And they'll change just overnight if they can get a little money. And it wasn't that way when I was working. The company took care of you" [I-199].

2.1.6.2. Impacts and Responses

The 1970's and 1980's created a shadow that still hangs over southern Louisiana communities. That shadow was most evident when the late 1990's downturn began, and its impacts rippled through the communities in a hurry. Many companies were quick to lay off excess workers, and many of those workers responded rapidly as well. Some feared being trapped in an economy that was spiraling downward and moved away. Others looked outside the oil and gas industry for options, often swearing never to return. Some anticipated the worst and began looking for jobs before being laid off. Others, especially those in management positions who had survived the 1980's, were caught by surprise in the layoffs. Workers and their families responded quickly to

Figure 2.3.a. The Middle Generation

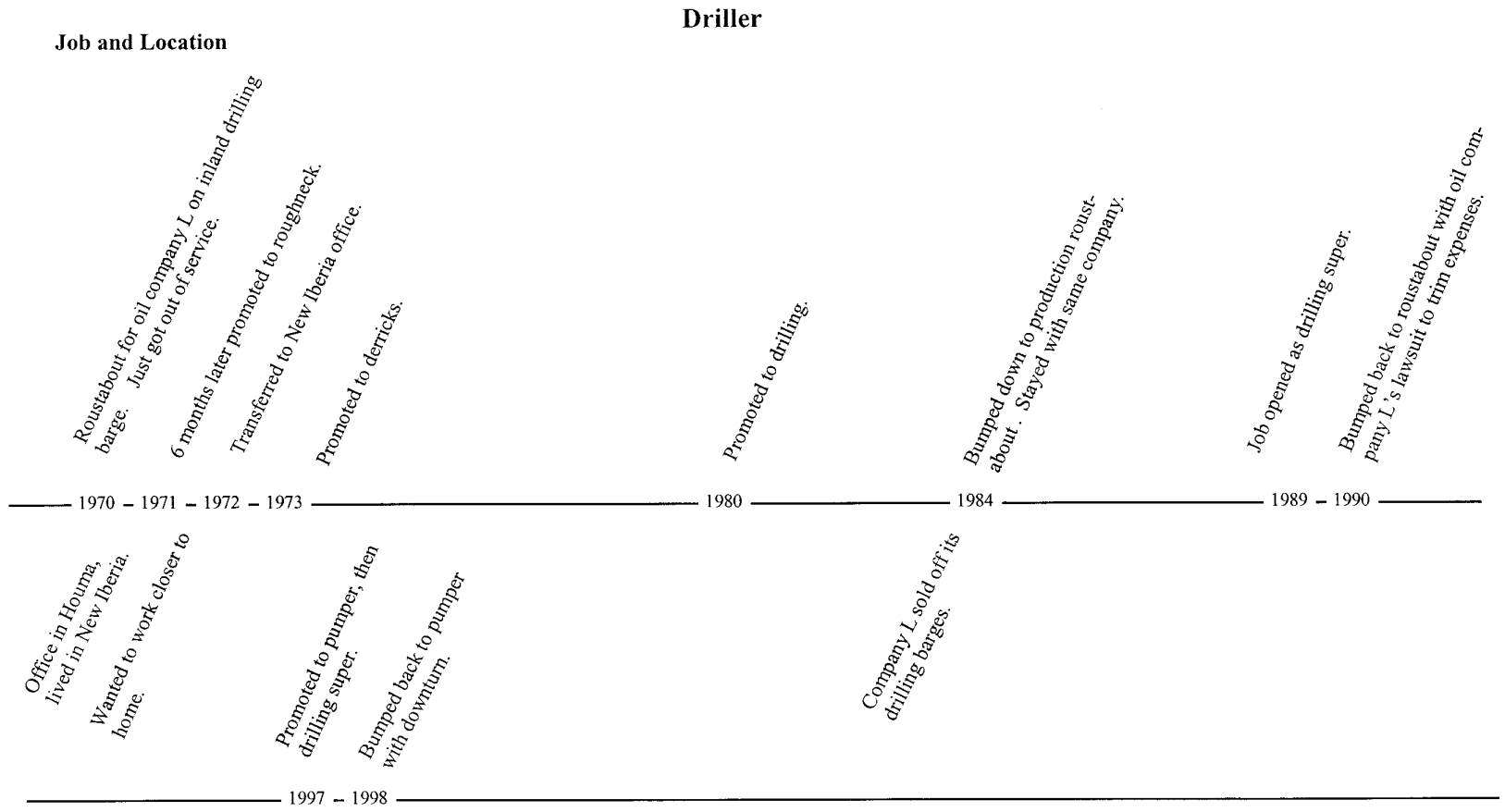

Figure 2.3.b. The Middle Generation

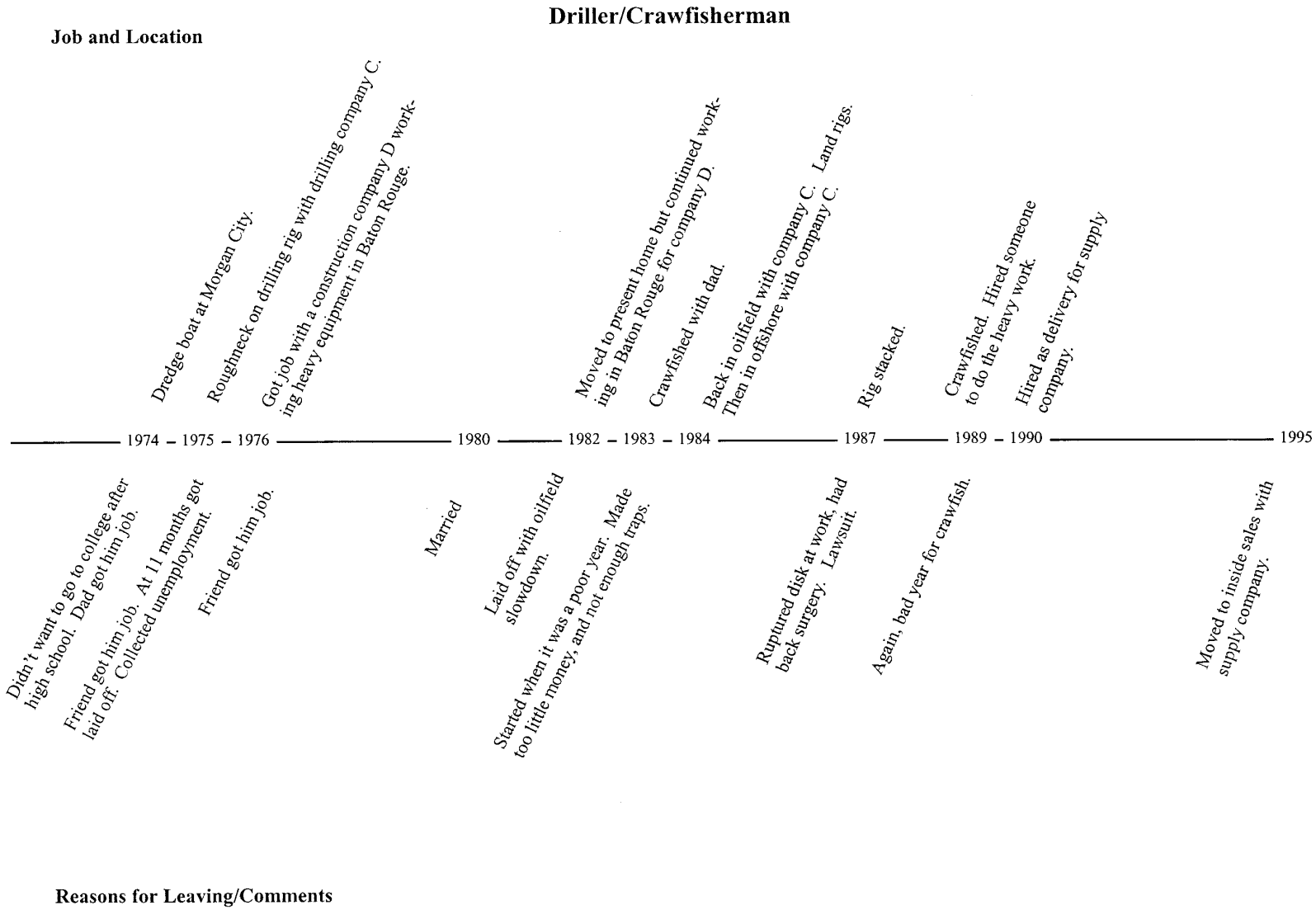

Figure 2.3.c. The Middle Generation

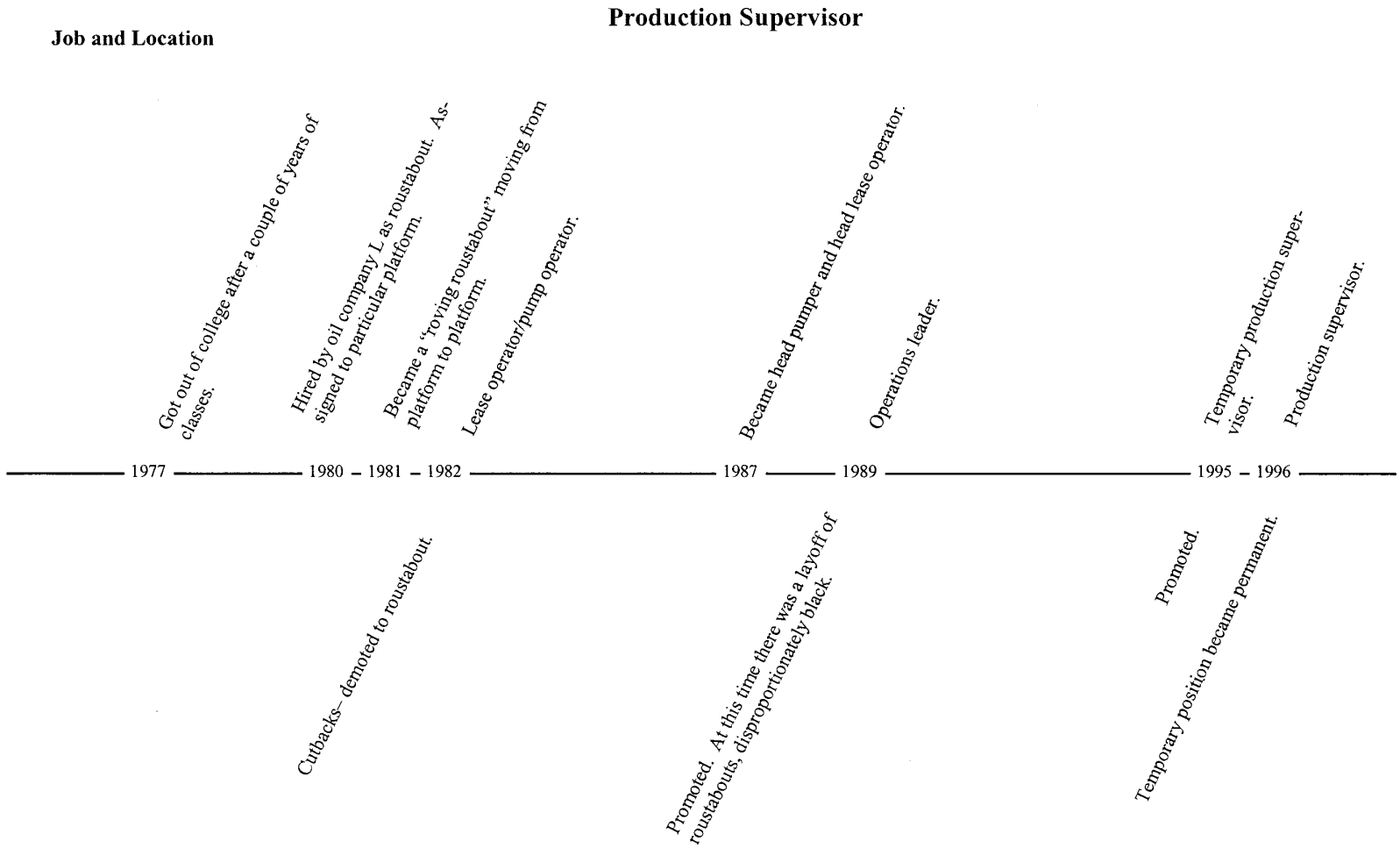

Figure 2.3.d. The Middle Generation

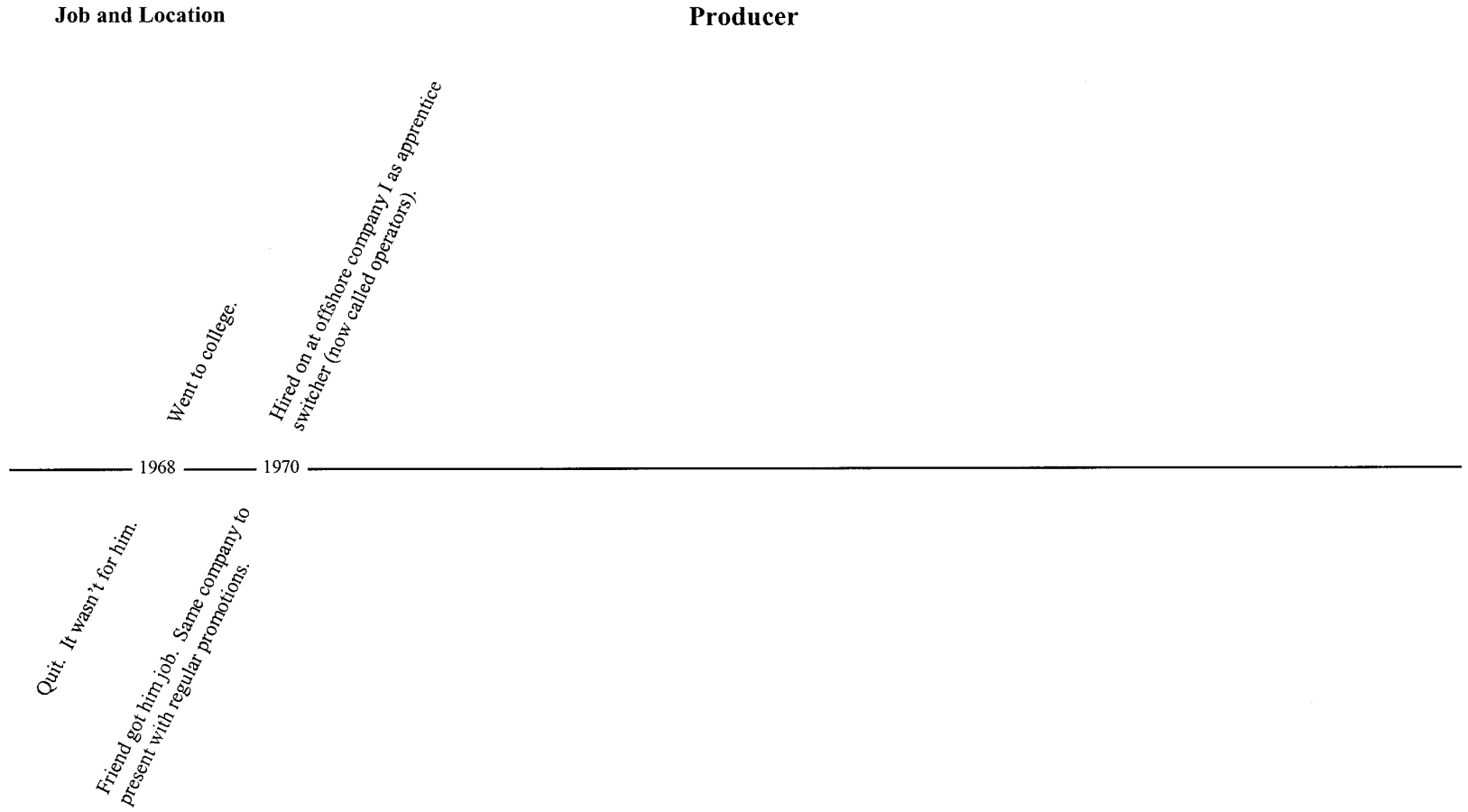

Figure 2.3.e. The Middle Generation

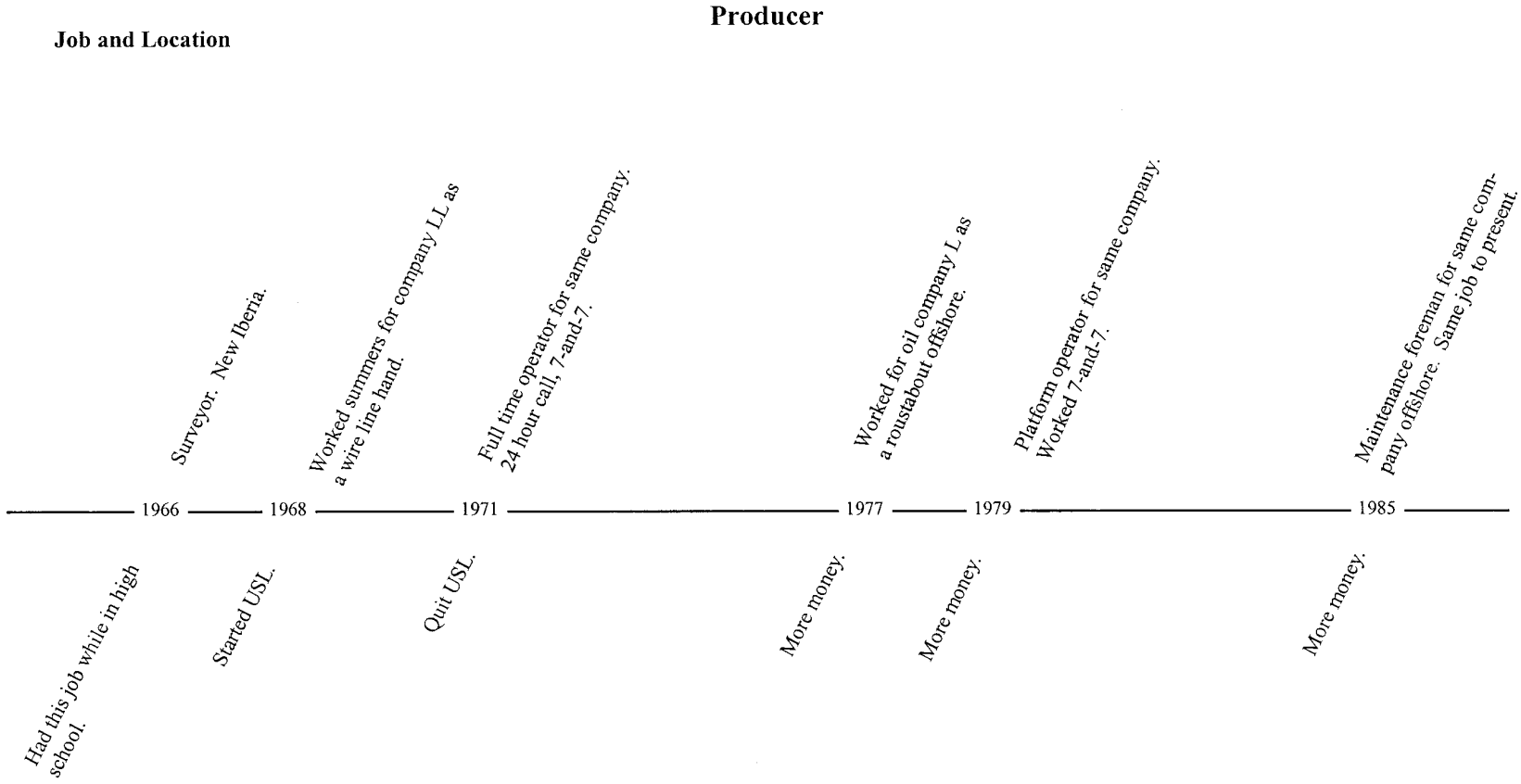

Figure 2.3.f. The Middle Generation

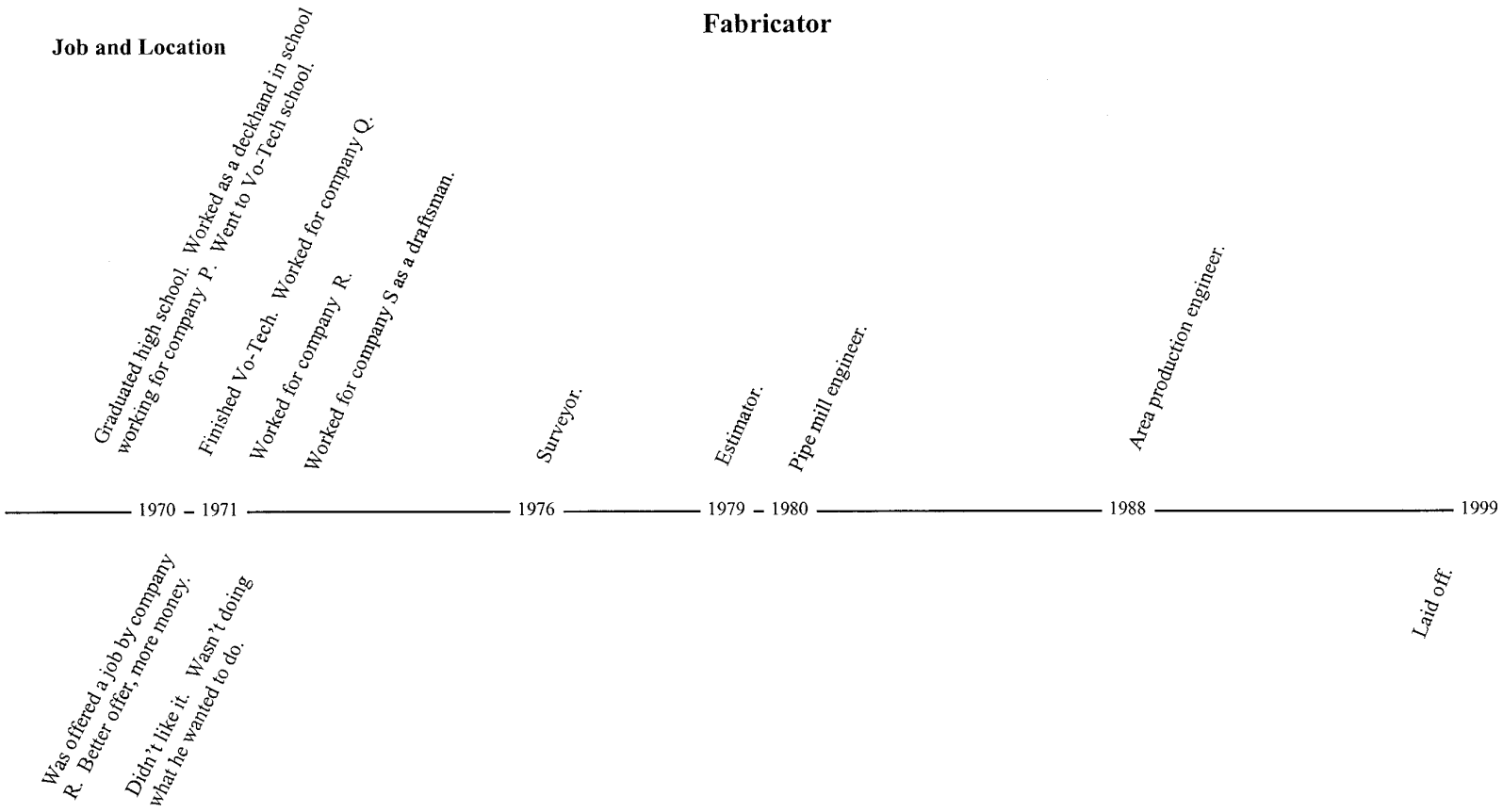

Figure 2.3.g. The Middle Generation

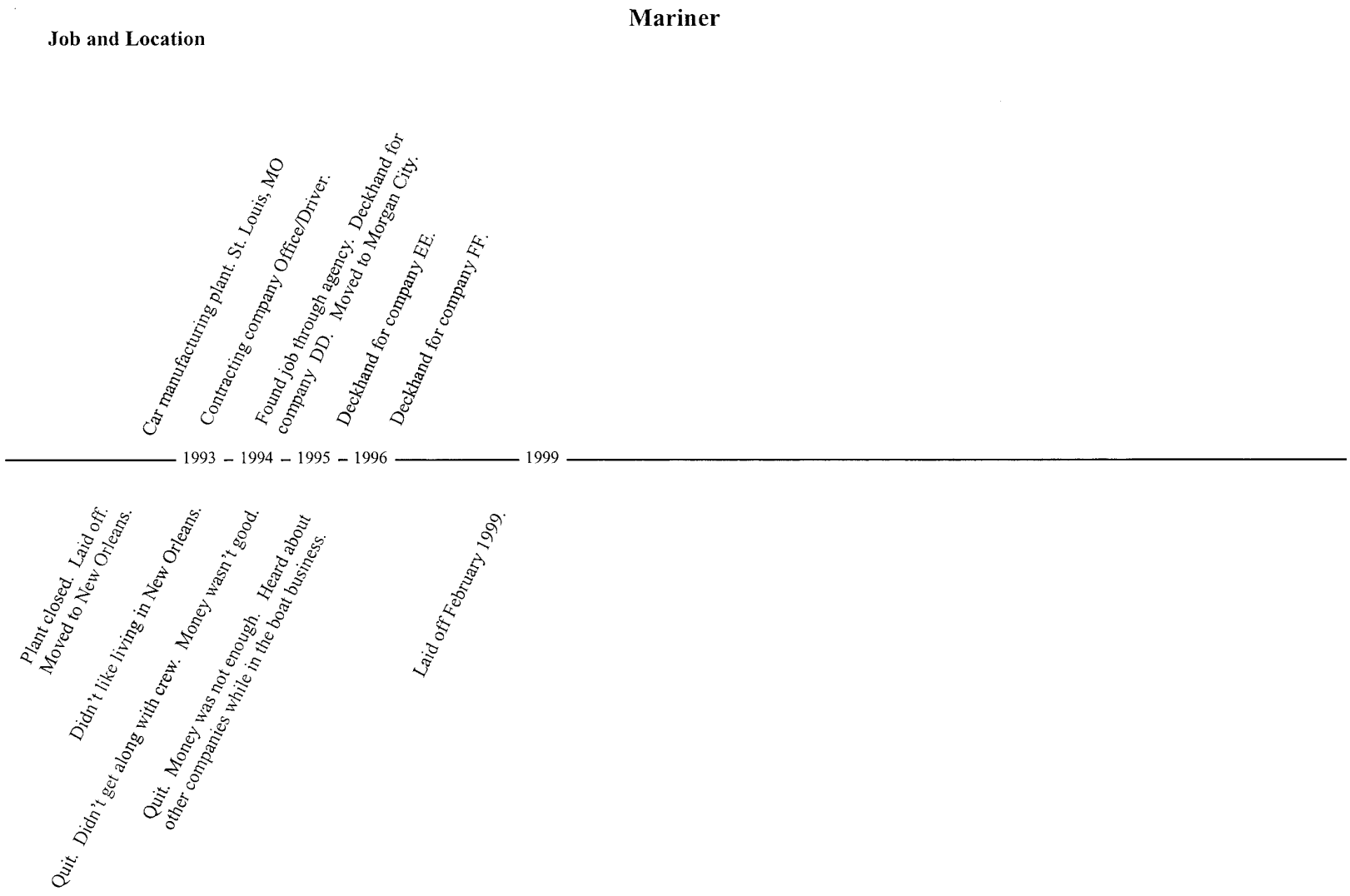

Figure 2.4a. The Young Generation

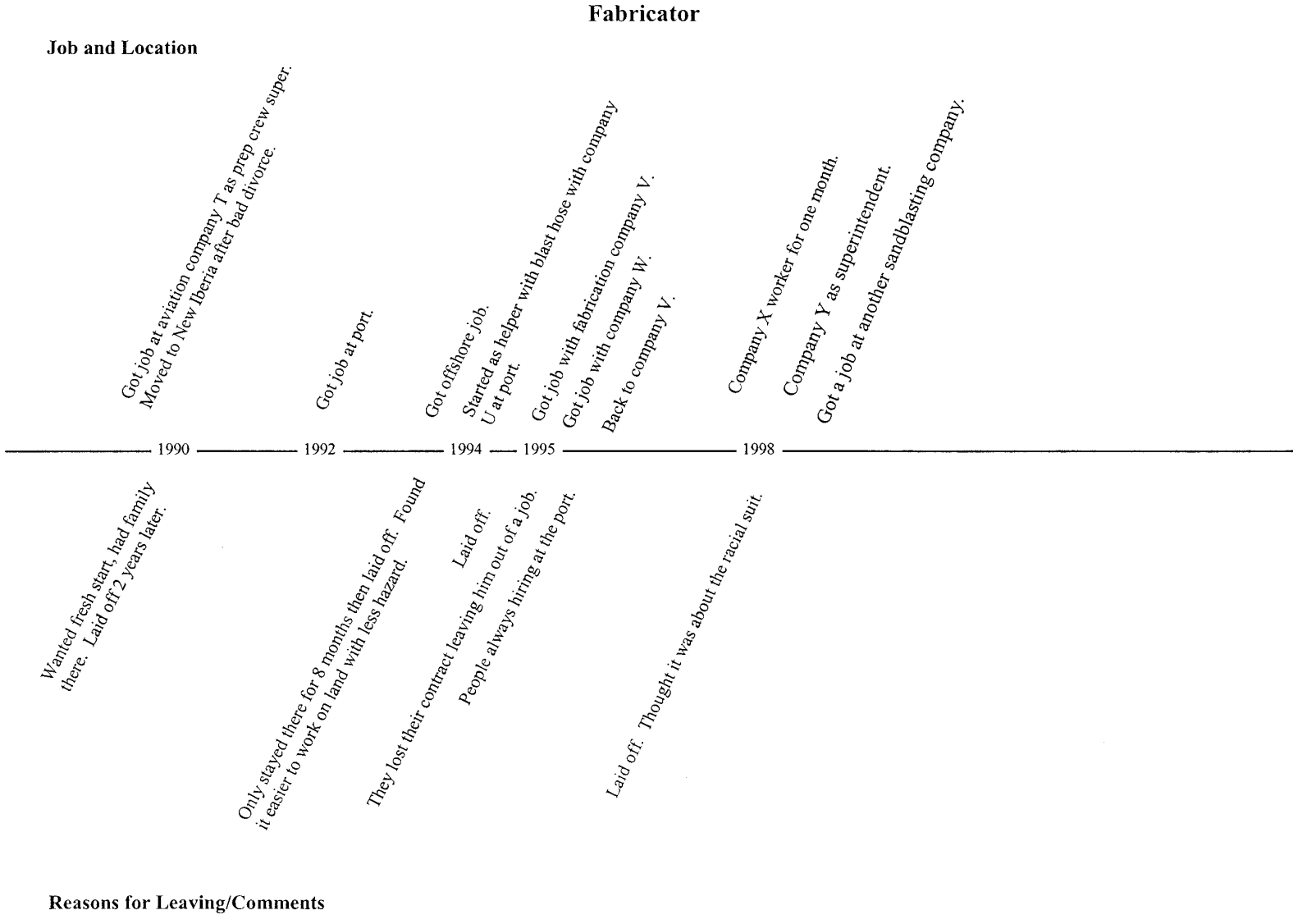

Figure 2.4b. The Young Generation

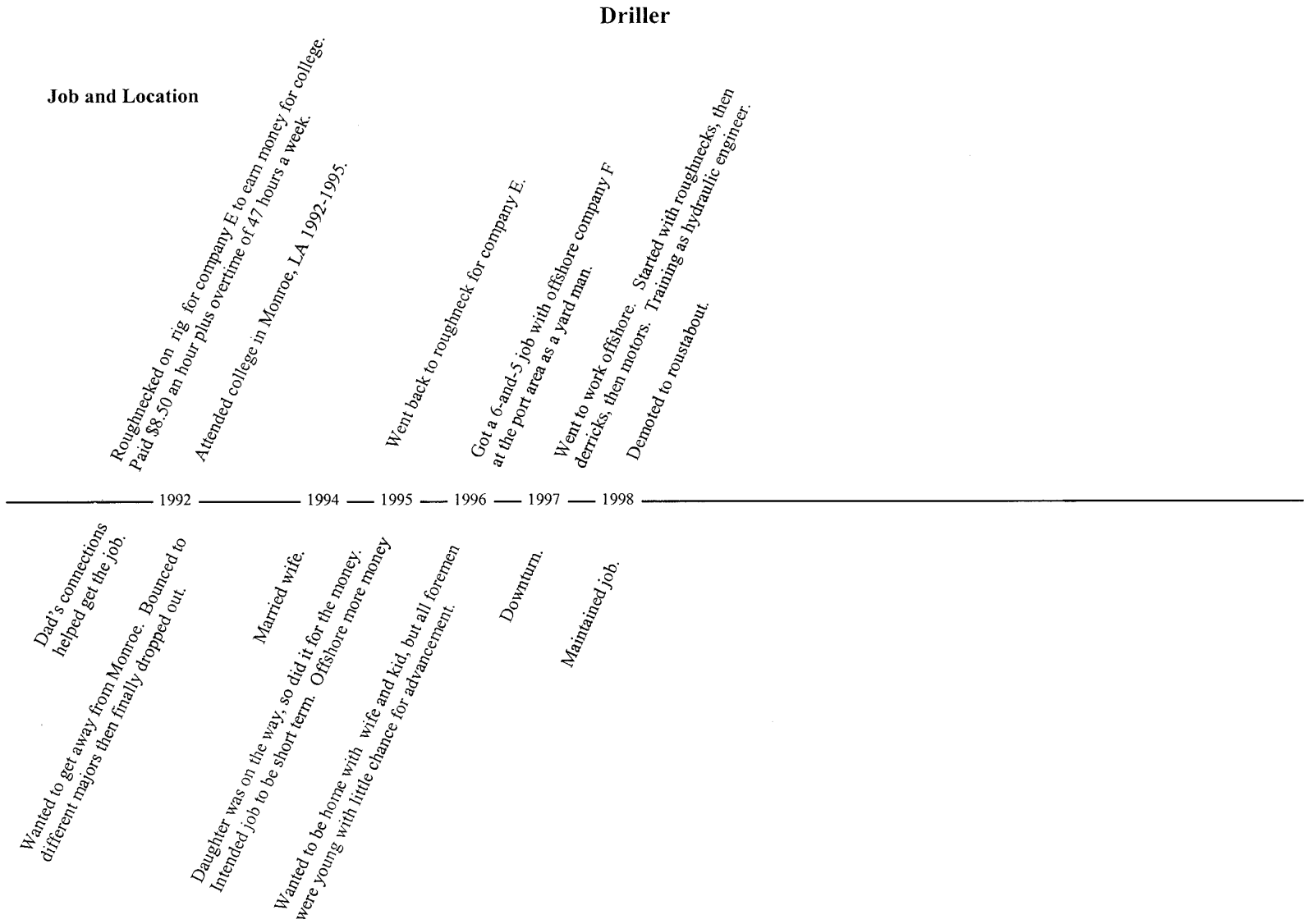

Figure 2.4.c. The Young Generation

the changes. Some almost immediately left the area, as evidenced by a growing number of "For Sale" signs and unoccupied buildings and the study team researchers' inability to find people for follow-up interviews. Others began holding garage sales, selling their trucks and boats, and cutting back on indulgences. Their actions quickly snowballed to affect local businesses, tax coffers, social service providers, and schools.

The quick response by both companies and the workers and their families indicated that, though everyone still talks about the industry as a cyclical one and something to which they have had to adjust, the experiences of the 1980's taught people that those cycles can be very long and require more than good fiscal management at either the company or household level. As oil prices and industry activity fell during the 1980's, many companies hung onto workers and equipment expecting things to turn back up and then had to declare bankruptcy when they did not. Many workers hung around the area waiting for new jobs to emerge, often staying past the point where they had the resources to move anywhere else. In the midst of late 1990's mergers and acquisitions at the highest levels, many expressed doubts that they were experiencing a routine downturn.

2.1.6.3. Relationship between Past and Present

In many ways, the responses to the downturn of 1998 were a compressed version of those of the 1980's. Many companies cut pay, laid off workers, and expanded the responsibilities of their remaining employees. Though some companies focused on maintaining their workforce for an eventual upturn, others used the opportunity to restructure, downsize, and clean house. The timelines illustrate differences between the experiences of workers entering the industry in the 1990's and those who entered in the past.

2.1.7. Implications

Workers and their families are not passive receptors of the impacts of OCS activities. Instead, whenever possible they actively organize their lives to accommodate and take advantage of the wages, cycles, and schedules that accompany OCS-related work. Fluctuating wages, periodic layoffs, and schedules that require long periods of time away from home have all acquired a modicum of predictability, and many workers and families, along with the companies for which they work, have adapted strategies for dealing with the industry cycles. Successful families have learned to anticipate and respond effectively to the inevitable ups and downs. Though their wages and work hours may change, they mirror the rural Vermont families that supplemented "good jobs" with myriad livelihood strategies to maintain a minimum level of material rewards and the corresponding pride, comfort, and security. Families whose breadwinners work in sectors of high uncertainty or work on-call schedules are unable to be flexible and innovative in their economic strategies.

Of significant concern at the time of this study was the recognition that on-call and contingent work had become quite common and new sources of uncertainty were being imposed on workers. Shifts in lay-off patterns within companies, rapidly changing expectations for educational attainment, and changes in established work schedules all compound existing turbulence. Good jobs were becoming hard to find. Consequences of uncertain and erratic work patterns were manifest in family isolation, low wages, and an inability to supplement work with

second or spousal employment. Many of these effects had subsequent impacts on the communities in which the families lived, sometimes negatively affecting the community's ability to help families respond in times of need. The rest of this chapter examines the question of impact from the perspective of the communities and institutions that comprise them. The observations and reflections of civic leaders and service providers help address questions about how workers and families are functioning, the relative growth and decline of good and bad jobs in the industry, and the effect of both family and company strategies for surviving the fluctuations of the late 1990's.

2.2. Communities

Over a half-century of rapid and profound transformation, occasioned by the push offshore, the struggle to build stable and self-sustaining communities in the small towns of southern Louisiana has changed in nature. Through the rapid growth of the 1950's and 1960's, the crescendo of the 1970's and the collapse in the 1980's, these communities strove to control the nature and consequences of the changes that affected their lives. But effective control was elusive for small cities and towns, such as Morgan City and New Iberia, caught in the center of multi-billion dollar business ventures involving national, state, and local interests. By the late 1990's, talk of a new future was abundant, but the definition and elaboration of a community vision was widely contested. The bid for economic diversification and stable communities has brought new sets of conflicts, not only between town residents and the oil and gas industry, but also within and among local planning agencies, chambers of commerce, city councils, local social service agencies, and commercial interests of various kinds.

Adopting a community lens in this study makes it possible to explore the specifically local ways that the impacts of a global oil industry are played out in these communities, and also to illuminate the ways in which the industry affects individuals, groups, and institutions that are not directly associated with it. It is well known that the fortunes of a large industry can affect everybody in the small towns around it, from grocery store and restaurant owners to car dealers and schoolteachers. The previous section described how individuals and families are often drawn into the oil and gas industry for the economic rewards and are subject to a wide variety of positive and negative impacts as a result. A similar pattern holds for communities – the tax revenues, increased population, and higher local incomes make the industry attractive to community planners and developers, but these benefits bring with them an extensive and far-reaching array of impacts. The direct economic impacts of oil revenues on state and local budgets, in the form of taxes and royalties, are well documented. Less fully explored are the ways in which local institutions, from government agencies to private social service organizations, bear the brunt of maintaining stability and providing services to the community while battling for their own survival in the face of economic uncertainty.

Though many of the issues raised here are tied to financial impacts, this section addresses the interrelationships among southern Louisiana communities and the oil and gas industry and focuses on the ability of community institutions to respond to the needs of residents. Local government bodies and community organizations are challenged to take care of the elderly, to provide medications to the indigent poor or the mentally ill, to retain personnel trained at considerable expense, and to keep schools, medical facilities, and emergency services

functioning. OCS-related activity draws workers from across the United States and even beyond, and those workers return to their communities for routine medical care, education, and social services. Nevertheless, certain impacts accrue most heavily to the communities with onshore support services and in closest proximity to the Gulf. These include the medical facilities that provide workers' physicals and emergency treatment, the churches that provide counseling and services, the schools and training academies that help keep workers licensed and certified, and the agencies and organizations that provide food and shelter to those who migrate to the area and are unable to find work.

This section highlights several community functions and institutions in an attempt to illustrate the complex and dynamic linkages between the industry and the communities that house its workers, manufacturing facilities, and offices. In contrast to companies that move into sparsely populated areas and set up "company towns," the oil and gas industry has effectively made "industry towns" out of many of the communities that were already in existence when it arrived. Rather than providing company stores, medical facilities, and schools for which its companies would pay, the industry has indirectly supported the institutions through taxes and occasional gifts and sponsorships from individual companies. As shown in the following sections, this approach frequently has failed to match resources to need.

2.2.1. Background

"Community" is conceived here as a matrix of institutional forms, rules, and relations, both public and private, formal and informal. These institutions, rules, and relations mediate the experiences of individuals, families, and social groups and shape the way that "local" problems are defined and framed. Communities are defined in part by the spatial proximity of their people and institutions, but the boundaries of a community seldom adhere strictly to formal administrative and geographic borders. Study participants used the term "Morgan City" to refer to various versions of community, rarely corresponding to the political unit of the city itself. In some contexts, participants used the term to refer to the tri-city community, comprising Berwick, Patterson, and Morgan City; in others they included Morgan City's eastern neighbor, the small community of Amelia. The concept of community used in this report corresponds to this flexible usage by participants and reflects the multiple and shifting settings within which the community takes concrete shape for residents.

Just as impacts to individuals and families derive from experiences and expectations, so, too do effects on communities. Both Morgan City and New Iberia existed prior to the arrival of the oil and gas industry, and their histories helped shape local responses to the industry. This study includes a cross-section of workers and families from three generational cohorts, as well as residents who live alongside the oil sector and are impacted only indirectly by it. By doing so, it attempts to ground the industry's impacts in the context within which norms and expectations about work and jobs, benefits, services and assistance, family, leisure, and culture are defined and take on meaning. For workers and their families, as well as for city planners and local institutions, these norms and expectations help them evaluate and make sense of change, plan for the future, and determine who and what can help them achieve their goals.

The literature on mineral extractive communities makes a fundamental distinction between situations where closure brings about the disappearance of the community, and those where it severely impacts the community (Neil et al., 1992). As Robert Gramling and Sarah Brabant argue (Gramling and Brabant, 1986), communities along the coast of the Gulf of Mexico cannot be seen as typical "boomtowns" despite some similarities with traditional mining towns. Since the 1960's, these towns have experienced some of the classic boomtown phenomena: dramatic price rises, housing shortages, changes in population size and diversity, and an ongoing strain on civic infrastructure such as utility and sewage systems, roads, medical, educational and recreational facilities (Gramling and Joubert, 1977; Gramling and Brabant, 1984). Yet, the pattern of change along the Gulf Coast was also significantly different from that of the boomtown model.

Despite the extremes characteristic of the 1970's and 1980's, the industry has been cyclical since its beginnings. Population changes have been slower, spread over several decades (Gramling, 1996). In the same way that the industry did not create towns, the 1980's "bust" did not empty them, although there was significant outmigration. Outmigration was often a last resort in southern Louisiana communities: long-term residents in particular tried a number of options, including help from extended families, retooling of occupations or starting small businesses, before they finally left. Also, the bust was not really a bust in the sense of an abrupt, singular, and synchronized end of industrial activity. Activity within different sectors stopped at different times, and, even within companies in the same sectors, changes occurred over a period of years. When oil and gas prices dropped, the Atchafalaya basin still provided alternate livelihoods: some people put their boats back into shrimping, others returned to fishing and trapping. Thus, the reluctance to outmigrate, combined with the staggered decline of the industry, left a residual base of offshore service infrastructure and equipment, boats, and skilled manpower in the communities, a base that has fed right back into subsequent resurgences and downturns in the oil industry.

In a comparative study of downsizing or closure in mine towns across Australia, Canada and Scandinavia, researchers found that moments of crisis, such as downsizing, lay-offs, or closure, revealed long-term conflicts of interest between mining companies and the community, conflicts that may not have been apparent as long as the industry prospered (Neil et al., 1992). Yet, such conflicts cannot simply be assumed for all cases; the popular stereotype of the transnational company as lacking involvement in the life of the local community, and as destructive of local entrepreneurship, is often a distortion of reality. In the 1960's and 1970's, in the heyday of the oil economy, oil company executives and senior managers lived in Morgan City or in nearby towns and were active participants in the social and cultural life of the communities. In the 1990's, however, after most of the companies had moved their headquarters to bigger cities, the community became primarily a supply point for labor and services. Thus, as city planners and residents struggled to build communities that would provide stable livelihoods and security for families, their goals diverged sharply from those of the oil companies to whom these communities had become industrial hubs with human resources and physical infrastructure to be harnessed in their struggle for global competitiveness.

Responding to general societal trends of the late 20th Century and the specific decisions of energy and service companies, residents and community institutions exhibit reduced overall

tolerance for the uncertainties and hardships inherent in the industry. Even through the turbulence of the 1970's and 1980's, when the composition of the workforce changed and commute workers became a prominent feature of the offshore labor force, workers, families, and communities remained loyal to "their" companies. That has changed.

The lessons of the 1980's were followed by subsequent attempts to reduce dependence on the oil industry, but the economies and lifeways of Morgan City and New Iberia remain to this day closely tied to fluctuations in the price of oil. Similarly, while oil companies and many of the service and supply companies on which they depend have moved their principal operations out of these and neighboring Gulf Coast towns, and rely to a large extent on contingent labor and non-local personnel, they continue to rely on local communities for infrastructure and a range of services, and for providing a significant portion of their entry-level labor force. Changes in the character of the communities as well as the industry have complicated the relationship between the communities and the industry. Changing expectations derive from the repeated cycles of good times and bad times, and the new demands of industrial restructuring and global competition confront both sides. These factors have created a dynamic encounter between the community and the industry in which the lessons learned and the strategies devised for dealing with uncertainty occur in the context of ongoing mutual dependence. In addition, the changing terms of state funding, regulation, and licensing affect the range of community institutions and industrial sectors and subsectors in ways that constrain their options and increase the pressure on their respective bottom lines. The combination of these factors has served to intensify the conflicts in goals and strategies between and among oil industry sectors and local communities.

Recent events have both exacerbated conflicts among community members and forced people to come together to solve problems. Both Morgan City and New Iberia have launched initiatives to bring the oil industry, local businesses, city planners, schools and training institutions, and local social service agencies together to devise strategies of response. After a brief discussion of the linkages between southern Louisiana communities and the oil and gas industry and the impacts of the industry on the size, composition, and character of the two cities, this section examines specific points of conflict and processes of resolution in four areas where the communities are called upon to meet specific needs generated by the industry as well as those of citizens who are not part of the industry: housing, healthcare, education, and the provision of emergency services.

2.2.2. Community Issues Linked to the Oil and Gas Industry

Local institutions, from chambers of commerce to social service agencies, play a crucial role in efforts to maintain a sense of stable community under conditions of ongoing change. They establish the geographical boundaries within which they will provide service and also define and defend the various social categories through which individuals relate to their communities and make claims on their governments. Through their interactions with workers and families involved in an array of economic pursuits, the people who operate and manage these institutions help identify and define the impacts of the offshore oil and gas industry within their communities. This study paid attention to the experiences and perspectives of these people, not only because they mediated and managed the impacts of industrial activity and withdrawal on individuals and families, but because they translate national and transnational economic policies and processes into "locally" significant events. The study found, however, that in managing the

effects of the uncertainty engendered by the oil industry, local institutions also confront critical challenges to their own survival and functioning.

2.2.2.1. Demographic and Social Change

Without question, the oil and gas industry has affected the size, makeup, and character of southern Louisiana communities. For Morgan City and New Iberia, the image of quiet and isolated subsistence communities of Cajun trappers and fishermen transformed overnight by the oil boom into buzzing industrial towns filled with outsiders (as portrayed, for example, in the film, *The Louisiana Story*) is only partially true. Both cities, indeed many of the coastal towns of south Louisiana were, from the early 1900's, dynamic centers of small industry or trade, attracting diverse populations from across the country. New Iberia, nestled along the banks of Bayou Teche, was a prosperous sugar plantation town when it was incorporated in 1839, settled by wealthy Europeans and Creoles with their Senegambian slaves. Today, its Spanish influence is still evident in the pages of Seguras and Romaros that fill the phone book. Despite the region's contemporary association with Cajuns, Acadians were not a significant population in New Iberia until after World War II, when many Cajun families were dislocated by Atchafalaya Basin projects or relinquished their subsistence farms and moved to New Iberia for opportunities in the oilpatch. In the early years, New Iberia was also a regional center of commerce, a stopping point for steamboats transporting products down the bayous to the Port of New Orleans. Over the subsequent decades, its traditional industries of salt mining, hot pepper processing, and sugarcane continued to draw people in from the surrounding countryside.

Socially, New Iberia has been undergoing diversification as well. Though both Spanish and French descendents were predominantly Catholic, new arrivals have brought new ideas into the region. The first Baptist church was started in New Iberia by missionaries in 1926, and the influx of newcomers from the southern Bible Belt has contributed to the introduction of numerous Protestant churches. The city and its neighbors have shared the vast changes that have occurred throughout the United States. Cajun dance halls have been replaced by fast food restaurants and strip shopping malls. Many children are as likely to spend their weekends at basketball tournaments and soccer games as they are to be hunting and fishing.

Further south and diverse for a town of its size, Morgan City is generally portrayed as unusually cosmopolitan, home to elites from outside the traditional plantation aristocracy. As a participant well-versed in local history noted,

> "Morgan City since the end of the War Between the States was really a business center, and, even when shrimping was extremely important to this area, that strengthened the business nature of this part of the parish because you had brokers to sell the shrimp and you had processors and plants and things of that nature" [I-82].

In contrast to the predominantly agricultural communities surrounding it, Morgan City had been a business community for decades, with its sawmills and cypress timber industries, commercial shrimp operations and small businesses attracting waves of immigrants from the early decades of this century. Its population comprises a smaller proportion of Acadians than New Iberia or other towns in south Louisiana and of African Americans than the parish average and includes a marked diversity of ethnic groups. A group of Italians moved to the area originally as laborers in

fishing and shrimping and later in the cypress lumber industries, and subsequently became successful businessmen. Irish and German settlers arrived in the 1900's. A sizable population of Cuban settlers traces its origins to two waves of immigrants arriving in the 1960's and 1980's. Also, the arrival of Vietnamese refugees, starting after the fall of South Vietnam, has snowballed to the point where the Vietnamese community comprises nearly 50 percent of the population of neighboring Amelia. This diversity has been reflected in religious institutions as well. For example, in the 1950's, Morgan City was home to the only Jewish synagogue between Houston and New Orleans.

The population influx associated with oil in the 1950's and 1960's began with onshore and then continued with offshore oil and gas development (Gramling and Joubert, 1977), and it occurred at a greater pace and magnitude than had occurred previously: "it was like the floodgates were opened" [I-82]. In the space of two decades, the population of Morgan City quadrupled. The influx was largely from east Texas, north Louisiana, and Oklahoma. The demographic change was reflected in changes in church congregations: Protestant churches quadrupled their membership, and several new churches opened their doors. The Protestant influence came to predominate, with the First Baptist Church becoming one of the largest denominations in East St. Mary's parish from the 1950's on.

Morgan City and other coastal towns adapted rapidly to the sudden burgeoning of the oil industry, welcoming the energy and dynamism that oil brought into a dwindling shrimping economy. New opportunities were opened up across the board:

> "Overnight specialized places were popping up all over the place. The boat builders went crazy. [The industry] got away from the old [Navy] surplus stuff pretty fast" [I-59].

As many study participants noted, the changes brought by oil and the increase in population, especially of white-collar managers and executives, had long-term benefits for the community as a whole, particularly in terms of the expansion of opportunity and the improvement of education.

> "The industry has had, in my opinion, a beneficial impact on east St. Mary Parish and specifically on Morgan City, in that in the Morgan City area there has been so much movement and so many people have come into town that it has made upward mobility in many areas that are not associated with the oil industry much more likely and much more possible" [I-82].

Many older residents recall the 1950's and 1960's as a period of excitement, representing a revitalization of the small town and bringing in newness of all kinds, new stores and restaurants, auditoriums and dance halls, education, wealth and the expansion of opportunity. One local participant who grew up in Morgan City in the 1950's and 1960's recalls,

> "I heard my parents say they wish Morgan City was the little town it used to be. But it changed and it really started booming… I must have been in junior high, like just before the boom started, when they built that shopping center, the Guarisco shop. And that was a big deal. Because you had stores, drug stores, you had little hamburger places, things like that. You were glad to see the changes coming in. And I can remember, too, when they

> built the auditorium in the early 60's, they were really aggressive with some of their projects. I was in high school and I remember they got some of the high school students to go and show the public when they toured it for the first time… What's different about Morgan City than the surrounding towns is that we have a wide variety of nationalities, not just Cajun… I think maybe, being a port city, we were always open to outsiders coming in. So it was no big disruption when they came and we just welcomed them. And you learned about where they were from and you enjoyed it, you know. You welcomed the growth. It's always been a town that likes to grow and change" [I-73].

The transition from shrimping to oil was rapid through the 1950's, its optimism and the rapid transformation of the maritime community marked by the incorporation of oil into the annual shrimp festival and its central feature, the "Blessing of the Fleet." According to a 1954 publication,

> "Once the gulf waters off the coast were fishing grounds for the shrimp fleet and shipping lanes for a few freight and passenger boats. Now vessels of many different types and in steadily increasing numbers criss-cross with the trawlers in the open waters beyond Louisiana shores. They are engaged in seismograph work, drilling for oil and gas, supplying wells, transporting crews, barging oil and in steady commercial towing" (Lehmann, 1954, p. 13).

By 1959, the festival had been renamed the Shrimp and Petroleum Festival under a proclamation that began, "Whereas St. Mary Parish has in oil and shrimp production two of its greatest industries…" (Thibodaux, 1986). For many, the early decades of offshore activity were marked by a festive atmosphere; there are reports of dance groups and mardi gras clubs, theatre and opera from New York. The rollicking lifestyle was not confined to the upper echelon of society. However, tales of sudden prosperity are usually told in terms of conspicuous consumption, uncontrolled drinking, and disruption and reflect a different perspective on the era:

> "The impact was when people came in here with cars and trucks, bought boats – there was lots of drinking, and it put a lot of pressure on our local law enforcement, on the police. Between the river and the overpass in Amelia there were 80 bars, two of them even had no doors! A lot of their money came from the lower class" [I-876].

Evaluations of the impacts of large-scale population influxes on the community are similarly conflicting. In contrast to the positive portrayal of new faces, energy, and ideas, some community activists and planners frame the changes in terms of unmanaged growth engendering massive problems in public order, public health, and infrastructure. These problems have received attention for more than a quarter century (e.g. Gramling and Joubert, 1977), but they persist.

> "We have been having a housing shortage since time began and it never was addressed by government. And when the boom was here, people just suffered through it, they'd say oh, we need more housing, more apartments, etc. And now the same conversation, you can just change the date on the paper! What you have is a certain segment of society that comes for these jobs and these are people who have no skills, have no education, or are

> society's dropouts. They're very transient in nature. They live with duffle bags and backpacks, many of them have drug problems, mental problems, emotional problems, alcohol. And there are people who would probably be in some outpatient form of mental health. Also, in the heyday of the oil industry: the murderers, criminals, out-and-out convicts or escapees! You see, you could come here with little or no identification. Nobody asked any questions and you could spend two to four weeks offshore, longer if you wanted, and make bundles of money! You could go to one of these labor camps and just get lost!" [I-96]

The large numbers of transients and "undesirables" that the oil industry attracted to the towns comprise, to community residents, one of the most obvious of the oil industry's negative impacts. In both communities, during the 1970's and again in the 1990's, boosters in leadership positions initially advertised for labor. In the 1970's, rapid influxes of unemployed workers, driven as much by the economic slowdown throughout the U.S. economy as by advertisements from business leaders (see Chapter 1), led to a range of problems, from housing shortages to health-care problems and crime. A prominent local activist recalls,

> "Oil construction – its biggest negative impact was when they advertised across the country – we had a lot of people coming it and that has caused havoc till today! The transients – the park was filled with sleeping bags. They advertised for 1,000 jobs, we had only 100 jobs!" [I-876].

A former police officer recalled that many arrests were for disturbing the peace. Another resident reflected:

> "It brings in a lot of drugs and stuff. We get all these transients in here who bring in crime. They have long records, and you don't know who's who … They usually clear out pretty quick. When the boom comes, the jails are overcrowded." [I-59]

In New Iberia, many workers who came in as seasonal labor in the sugarcane fields stayed on to take oilfield jobs.

Despite these experiences of the 1970's and 1980's, a similar process occurred during the initial upswing of the 1990's, when people began arriving in the towns in search of work. Once again, newspapers related upsurges in crime rates to the industry. In 1996-1997, the director of New Iberia's Industrial Development Foundation advertised nationwide for labor, and the town was once more flooded with people, many of whom arrived with their families, with no money, home, or assurance of a job. Community agencies found themselves faced with the task of providing housing, food and emergency services for the migrants (McCay,1999, p.6; see also Section 2.2.2.5 below for more on the pressures faced by local social services).

With the restructuring of the industry and its reliance on contingent workers, some parish and municipal officials expect problems with transients to continue. Contract jobs often do not provide enough security to allow workers to bring their families. Consequently, large numbers of transient workers are single men who, given the housing conditions in the towns, are forced to stay in hotels, rooming houses, or "flophouses" that have become notorious in both communities

(see Section 2.2.2.2). Community residents view this trend as highly disruptive for the atmosphere of the city. Single workers come back from offshore with plenty of cash in hand, with no family, bank, or stake of any kind in the community, and tend to party and tear things up. Though not reaching levels of the 1970's, local law enforcement officers spoke of numerous calls from hotels where oil workers tend to stay, reporting fights, minor violence, prostitution, and drugs.

To exacerbate the problems in Morgan City, large numbers of the highest paid workers reside outside the parish in larger communities replete with shopping malls and other attractions, and consequently they spend their pay elsewhere. This problem has become more severe as the oil and gas companies have moved their offices out of Morgan City. In 1996, faced with worker shortages, a failure to attract high-paid workers, and a net out-migration of residents, St. Mary Parish leaders sponsored a study of labor and quality-of-life in St. Mary Parish (Coats and Sorant, 1996). The researchers found the persistent problems of a high ratio of violent to nonviolent crime, a poor quality workforce, and a lack of housing (citing no appreciable growth in housing stock since 1979 and about one third of that in the rental market). Tracing the problems to a misallocation of resources during the 1970's and 1980's, they noted that individual and corporate wealth increased but parish rewards were minimal to nonexistent. They attempted to characterize quality-of-life concerns of residents and workers and learned that, compared to surrounding parishes, St. Mary was rated lower in environment, attractiveness, housing availability, quality of health-care, quality of commuting roads, industrial sites, fairness and honesty of politicians, and city and parish governments.

By the late 1990's, Morgan City had come to be characterized by its planners and community leaders as "basically a blue-collar community" [I-46]. Among the more concerted efforts of its residents is that of building a settled and stable residential population that will invest in community. One such initiative, involving local churches and activists, focuses on neighborhood uplift, crime and drug prevention, along with programs to assist renters to purchase homes in the city. A more ambitious effort, involving the chamber of commerce and local business associations, focuses on changing the city's blue-collar profile by attracting more professionals and managers to the area.

> "[Who is missing] are the people in the middle and top management, [people who] participate in the PTA, contribute to churches, get involved. We are missing our fair share of core leaders… Eighty percent of the upper management people of the big companies are living outside of St. Mary Parish. That's a huge amount of leadership and money that's missing" [I-46].

Unfortunately, decisions by petroleum industry executives to move their offices out of Morgan City and increase reliance on contingent workers make such aims difficult to achieve. Once the community image has been established, without a major shift in community demographics, it is hard to change. At the time of this study, the most promising new class of residents was composed of retirees attracted to the area by the mild winter climate and opportunities for recreation.

Local planners hope to acquire magnets such as upscale shopping malls, entertainment facilities, and better residential subdivisions to attract white-collar residents from outside and also to persuade younger members of the community to return home after college.

> "Right now if you look at the want ads in the local paper, you will not see any managerial or technical positions. They either bring those people in from the outside, or old established businesses here are all filled with families members and friends of relatives. You know, it is a country parish. In terms of life-styles, if your have a degree, there is not a whole hell of a lot to do here, unless you want to hunt and fish. The question people have to ask themselves is whether they want to raise their kids in a lower class environment. Are people going to live where there are no opportunities in terms of retail shopping or restaurants? There is nothing to attract that kind of new blood coming into the system. You notice the young lawyers and stuff here, and the reason they are here is because of their daddies' practice. You are not getting any infusion of new blood. The thing we need to do as a parish is to create an ambiance where people think this is a good place to live and this is good place to raise kids" [I-176].

Though many Morgan City youth express a desire to return to the area after college (see Stauber et al., in Volume 2 of this report), career interests and opportunities may pull them elsewhere.

In contrast to Morgan City, residents and leaders of New Iberia have actively resisted identification as an oil town. Nevertheless, impacts of the oil and gas industry are pervasive. Recent efforts to establish a new image have included greater identification with Lafayette and efforts to become part of Lafayette's Metropolitan Statistical Area. While port industries have successfully acquired sugarcane fields and expanded to the west of the city, attention has been focused on new housing subdivisions to the north and east. In its efforts to carve out a new identity, New Iberia may soon blend with communities to the north in one long metroplex along Highway 90. Commuting between New Iberia and Lafayette has already become a significant source of the traffic that clogs the highway.

Whatever their strategies, community leaders recognize that ambiance alone is not sufficient for bringing young people back to their communities; people need places to live and a way to earn a living. The next sections describe the communities' struggles to provide quality services to their residents. They focus on efforts to provide both public and private goods and services and how the petroleum industry articulates with such efforts.

2.2.2.2. Housing

> "(H)aving a safe place to call home strengthens families, communities, and our nation as a whole" (Federal National Mortgage Corporation nd) (http://www.fanniemae.com/company/history.html).

Shelter is considered one of the most basic of human needs. While the ability to house oneself and family depends in part on the family's resources, it also depends upon the availability of land and the ability to construct, purchase, and/or lease living quarters. In both Morgan City and New Iberia, problems that arose in relation to the oil and gas industry – and continue to be associated with it – are inevitably founded on key features of the community's own history and baseline

characteristics. Conditions that existed prior to the arrival of the industry continue to affect the community's ability to respond to present needs. The notorious housing crunch in both communities provides a good example of the interplay between community and industry and the ultimate effects that accrue to individuals and families.

Housing is a critical facet of local infrastructure that affects the community's ability to meet the needs of current residents, respond to new arrivals, and stake out a path for the future. Though some public funding is available for housing development and community leaders can be more or less proactive about recruiting developers, decisions about whether and when to build houses, apartments, motels, and even labor camps rest largely within the private sector and are driven by the potential for profit.

In New Iberia, the housing shortage owes as much to lack of available land for development as to population growth associated with the oil industry. Large areas of land are tied up in sugarcane farms, and the land market is sluggish, owing in part to traditional attachment to land as heritage (see Schrag-James, Volume 2 of this report). Morgan City's housing problems have been recorded as an impediment to effective response to the oil and gas industry since the 1970's (Gramling and Joubert, 1977). The city is characterized as "landlocked," not only because of its geographical limits but also because much of its land is owned by a few large families that have been reluctant to sell. This small landed elite – mostly trading entrepreneurs who made their first fortunes prior to oil but capitalized on the new opportunities – parallel the "sugar elite" of New Iberia, and, according to some local residents, hold the "key to the future of Morgan City" [I-75].

> "There was a perception that we did not have any land, [but] there were two or three big families, on the back across the river, that owned all the land. They did not want to sell their land because if they did that would bring down the appraised value for all the rest of the land. They might swap something sometimes. Or if they sold one lot a year, they would make, apparently, a whole year's income. The land in downtown Morgan City, at one point, was more expensive than it was in downtown Houston. So that was to the huge detriment of commercial development. Residential was not much better, because we had used up all the solid land in Morgan City and now had to build on reclaimed land" [I-876].

To bypass existing ownership conflicts and constraints, some companies tried to build on reclaimed land in the early years of the oil boom. One resident recalled,

> "A lot of the companies that came in, they built their own housing. Like McDermott, when they came in they realized, hey, we don't have houses for the people we want to move here. So they built Lakeside. They built their own housing for their workers" [I-876].

Despite the drop in prices during the 1980's, housing availability did not improve substantially in these communities. In both New Iberia and Morgan City, large amounts of low- to middle-income housing were destroyed by Hurricane Andrew in 1992. A representative of a local organization working on housing issues explained the situation in the early 1990's:

> "[P]eople had come in and built all these things [earlier], but whatever was available to buy, I mean, now people couldn't afford it. The people who stayed here were those who couldn't afford to move, in a sense. So we had this huge market for rental property. We have about 170 units in our Section 8 program, and at one time we had 400 people on our waiting list. I had people being put up in the motel sometimes overnight. I had a guy run from the motel across from the Texaco station. He asked me what time we closed. He had a slot, we had a place available for him. He *ran* from over there to try to get here before we closed. And he came and he was drenched! But I mean they were so desperate for housing in that category" [I-876].

As local planners describe it, the real need is for low- to medium-range housing. Many of the residences constructed during the 1960's and 1970's were large upscale houses designed for managers and senior executives of oil companies, housing that few local people can afford to rent or buy.

> "[P]eople had developed big tastes for housing. And somehow or other the middle to moderate range housing, or what you'd call affordable housing just got left behind" [I-876].

The housing dilemma is characteristic of decisions these communities face in trying to accommodate and also move beyond the petroleum industry. Current residents, and those potentially drawn to the area for the entry-level industry jobs, require low- to mid-level housing options, but community leaders seeking to attract professionals and their families believe they must direct community infrastructure toward that group.

In the late 1990's, there were few signs that past trends were changing. Housing development was still aimed at the higher end of the income scale. According to some commentators, the new residential subdivisions being established in Berwick, across the river from Morgan City, will fail to ease the housing crunch in Morgan City, particularly the shortage of low to middle-income housing. As a city planner and activist noted,

> "A lot of housing development has taken place [recently], but it's all in the wrong category! It's all in the upper income category. It's having no impact at all on the housing situation in Morgan City. People here can't afford those houses" [I-876].

The new subdivisions, represent a broader regional strategy of targeting particular types of residents, with the aim of building a more settled community of professionals and white collar workers, and encouraging payrolls to be spent locally.

Yet parish officials are not the only ones making decisions about what types of housing to build. Investors have little confidence in the stability of the local housing market, even for low- to mid-range housing and rental units that are often in high demand and short supply. Fluctuations in the size of the renter population complicate planning. A parish official explained the reluctance of developers to invest in apartments in Morgan City:

> "We are [an] itinerant [community]. See, like the Coast Guard, they change out a third of their force every year. The same with the oilfield. You might have a huge influx that come out and …[like]… eight months ago there wasn't a boat in shore… But you go out there now, and they're all parked in there, all the barges and everything. So people who come here to work, they're not guaranteed permanent positions, so they don't want to buy. They'd rather rent, and then once the job's up they leave. So for private individuals who own apartment complexes [it's not worth it]" [I-84].

Private real estate developers confirmed this. One of them commented that, in 1997, he was considering developing apartments in Morgan City because "people were crying for apartments." He had the plans and the finances lined up to proceed, but, on further consideration, realized the risk was too great.

> "And it's a good thing, because here we are on the ropes again. There is good and bad associated with oil, but there is getting to be less good. There should be more long term good for a community that supports such an important industry" [I-52].

Plans to encourage home-buying in Morgan City also meet with little success. Community planners described an initiative for first-time home-buyers, wherein the city, housing authority, and local neighborhood and church groups came together and obtained grants to enable renters to move toward purchasing homes. The problem they faced was in finding takers. Nobody came forward to apply for the loans. Planners were unsure exactly why the project failed, but they suggested that a lack of job security helped explain the low interest in home ownership among low to middle income people in the area. Some speculate that poor credit compounds fear of investment in a home in the midst of such uncertainty:

> "This is one thing we have found – that people may be making $24, 25, 30 thousand, but they're in debt, up to their neck! And that's kind of what Morgan City is, Morgan City is just a little fast-paced town, where they spend their money on everything, everybody's got a huge television, everybody's got a boat, they've got to have all that stuff. I think part of the mentality is, people come in from offshore, there's a lot of money, going down to the bar… When the lottery first came in, I have a friend who owns the grocery store down the road, he says the sales in lottery tickets exactly equalled the drop in food sales. People just use their money on entertainment. So they have huge credit problem, I think, most of them, and so they just don't come forward for home buying" [I-876].

According to some commentators, as much as the housing shortage is a product of existing industry patterns, it also poses a constraint to industrial and business development in these towns. In Morgan City, according to a local official,

> "The Coast Guard was thinking of moving a big installation here, and part of their thing was that they'd have to build their own housing" [I-876].

In New Iberia, with the expectation of continued opportunities for workers to commute to Lafayette and elsewhere, a modest amount of housing development was underway in late 1998. For example, a subdivision with 137 lots was being constructed in Iberia Parish northeast of the

city limits. The developers portrayed this effort as a service to economic development in the area:

> Companies moving to New Iberia have looked to surrounding areas like Lafayette to provide housing to their relocated employees. In several instances, companies looking at New Iberia as a potential site for relocation have given the area negative reviews due to our housing drought. Our goal is to fill this void (Landry, 1998, pp.7-8).

When companies in the 1960's and 1970's built homes for their mid- and upper-level employees, several became involved in efforts to provide temporary housing for lower-level workers. Many of these workers are nonwhite, so race, ethnicity, and class overlap in concerns about how to meet their needs. Actual and perceived problems at some of the facilities during the 1960's and 1970's led both communities to adopt policies to regulate them. One of the most controversial issues in Morgan City in 1998 involved efforts of a local company to house its workers, recruited from out of state, in trailers within the city limits. Thwarted in its efforts to find workers locally, the company brought in 75 Mexican workers from south Texas, and applied to the city for a permit to house them in a trailer park in the city. Such a permit would override the city's 1970 ordinance that prohibited companies from setting up "labor camps" on commercial properties within the city. In this situation, however, the company had purchased new trailers that would house two men to a room in fully furnished facilities, including services such as housekeeping and laundry, for about $150 a month. A company spokesperson claimed that investing substantial amounts in providing good housing was the only way they could attract workers to the city. Ultimately failing to get permission to keep the trailers within the city, the company moved them to a park in the nearby community of Amelia. Researchers talked to residents and businesses near the park and found no outspoken critics of the arrangement. The workers were perceived to have been good neighbors and spent their money in local grocery and convenience stores.

Many prominent activists in the community believed that the company had offered a creative solution to a chronic housing problem that continued to challenge those seeking workers for the industry. The shortened cycle of upswings and downturns, and concomitant unpredictability, caused many to fear that long-term solutions are harder than ever to find. As one activist remarked,

> " I thought this last oil boom was a little bit of a fluke…It came and went in a year. And no community is going to have a bunch of housing sitting around waiting for something like that to happen."[I-876].

Yet, despite its apparent success, company representatives responsible for the program argued that they did not intend to do it again. The time and energy required for operating a housing facility proved to be greater than expected. Then, after all the investment, prices dropped and contracts dried up, so the workers who returned home for the Christmas holidays were instructed not to return. The company sold a few of its trailers to workers who remained, but it had to get rid of the others.

Another form of housing discussed often by participants when the issue was raised, and which is also a form of work that fulfills specific labor needs within the oil and gas industry, is the labor camp, a notorious feature of the Morgan City landscape. In labor camps, issues of housing and labor intersect with poverty and race. To explore this phenomenon, one of the team's resident researchers came to know workers and management at a labor camp near Morgan City, and also talked with foremen in industrial yards that utilized laborers from the camp. The information gathered from these different sources portrayed an understanding of labor camp life, work, and interaction with the community and industry in a way that only partially matches broader, community images of labor camps.

The first southern Louisiana petroleum industry camps were owned and operated directly by oil companies in the late 1930's and 1940's. They were built to house employees and their families in individual and communal housing on company property. Those camps gave way to other arrangements, such as the trailer parkers described earlier. While those company-owned camps have been and still are a critical part of the strategies companies used to attract and retain workers for the oilfield, they are distinct from the type of housing enterprise known as a labor camp.

The camp's role in the industry is specific, and it serves a certain type of worker. Within the various sectors of the oil and gas industry are certain categories of jobs that, while important to the industry, are undesirable for one reason or another. Some jobs are dangerous: cleaning ammonia tanks can expose workers to hazardous fumes that can cause acute and chronic health problems. Other jobs are boring and tedious, like cleaning or inspecting drill pipe. Perhaps most importantly, all jobs in this category are at the very bottom of the job prestige hierarchy within the industry. These jobs are viewed by company workers and management alike as requiring little or no skill and not worthy of company concern past finding a "body" to fill a position, preferably one that will do the work, not cause problems, and leave when the task is complete. Consequently, company workers are not willing or, in some cases, not allowed by management to participate in this form of labor. These jobs are performed by short-term contract laborers, and labor camps provide one mechanism for bringing the workers, many of whom have no social networks within the industry, to the companies to do this work.

Most camps have a similar structure. An individual or group of individuals owns a building and has networks with companies in the oil industry. Through different recruitment strategies, which include vans that drive through New Orleans to seek out people needing income and jobs, these people bring workers to companies. The workers enter into verbal, informal agreements with camp owners or managers to be contracted out as laborers. The managers then provide work and room and board at cost to the laborers.

Morgan City's 1970 ordinance prohibiting labor camps or bunkhouses within the city limits was passed in response to what city planners deemed highly undesirable conditions within such camps. This, however, simply resulted in the camps being relocated to sites just outside the city limits, especially to the rural community of Amelia. According to a parish official, many of the problems of bunkhouses persist, but armed with a parish ordinance that requires permits and encourages strict surveillance of the camps, and with ongoing court orders, the Parish Health Department is able to enforce standards for maintenance, upkeep, and hygiene in the camps. In

the opinion of this participant, the camps were indispensable in the context of the shortage of housing options in the parish in general and in Morgan City in particular:

> Official: "[The camps] never really went away [during the 1980's], they just stayed there. And we've been working with them for over 10 years – you know, trying to get them cleaned up. Because of this ordinance, we were able to get them licensed and regulated a little bit better. Because I don't want to put [the men] out on the street. At least these men have got a roof over their heads and some kind of food in their belly. But they don't need to live in filth. And it doesn't take much to clean up their act."
> Researcher: "So they fill a need?"
> Official: "Yes, and we could easily have more, if people were willing to put up with the rules and regulations that are now out there. And they'd be full. Because a lot of the oil companies would rather hire that type of labor force because they don't have to fool with the paperwork and all. You just gotta drop them off to work and take them home, and then you can work them as many hours as you want. If you just need them for two to three hours, that's it, and they just go home. If you hired somebody off the street, you almost have to guarantee them 40 hours a week. These crews will go from one company to the other, you might work two hours in one company and then go to another. So you see, there is always a need for them" [I-84].

At the camp studied in this research, the men shared semi-private sleeping/living rooms and a communal eating/television room. At full capacity – approximately 50 men – there were as many as four to each 10-by-15 foot sleeping room. Inside these small rooms are two sets of bunk beds and four lockers. Rooms were typically shared by less than four men, so often the fourth bed was used to store clothing and other personal belongings in piles. In one room, next to the lockers, there was a small, black-and-white television on top of a box and milk crate; in general, workers talked about various strategies to make these living spaces more livable. The eating/television room provides the space for eating, socializing, and killing time. On most evenings, workers use this room or the concrete slab out front for lounging after a long day's work, a sound meal, and a quick shower. Not all camps are the same, however. Some house as many as 20 men in larger sleeping rooms and have lower quality meals and less honest owner/managers. The small, private rooms, good food, and respect from management, were reasons cited by laborers for choosing this camp over other camps in the area.

While the local folklore of labor camps – and media portrayals including a *Wall Street Journal* two-part feature (Getschow, 1983) – suggest that these camps have been and continue to be a haven for criminals and derelicts, this characterization is flawed. To be certain, the atmosphere of these camps, even the danger associated with them, is the product of the criminal, marginal elements within the population, but the makeup of these camps is anything but homogeneous. While in these communities for nearly two years, team researchers heard no actual reports of criminal problems stemming from camps. Many argue that labor camps should be eliminated, but under the present structure they serve both laborers at the camps and companies who utilize them.

New Iberia residents and leaders proudly point out that their community has no labor camps; those who recruit labor do not create the social and economic structures that comprise the camps.

Instead, faced with shortages of affordable housing and periodic influxes of non-permanent labor similar to those experienced in Morgan City, New Iberia has offered a range of informal housing arrangements– anything from the back of a car to a room in back of someone's house – that are especially active when the oil business is booming. There is a marginal but developed infrastructure in New Iberia to support both local and itinerant labor. For immigrant labor, the facilities largely consist of motels scattered on the backroads by the Port or near the highway. Rooms rent for $20 to $30 dollars a night, and there are discounts for arrangements by the week, a commonly used option. These "working man's" accommodations, as several study participants called them, cater to the particular needs of the oilfield laborer. The population of these motels presents a striking contrast to that of the town itself. Team members spent several weeks at these motels, and met laborers from India, Mexico, Canada, and a dozen or more different states. Their occupations varied from the lowest positions in the oilfield to supervisors and inspectors. Some brought their families with them and turned the motel into a home away from home; others were simply passing through town and looking to make a few dollars before moving on. What they shared was the unwillingness or inability to hook into the tight-knit community of New Iberia. Instead, the motels' bars, swimming pools, and picnic tables provided an informal meeting place for these people to meet, network about job openings, and relax after a day in the fabrication yards or a stint offshore.

These motels were bursting with guests during the research team's time in New Iberia, and demand for additional space drove one motel owner to seek a further expansion in the number of available rooms. Demand for this type of labor – not rooted in the community, highly mobile, and cheaper than its local counterpart – appears to remain high even, or especially, during downturns. The success of the "working man's" motels is one barometer of that phenomenon, as well as a testament to the difficulty of finding housing in the town of New Iberia.

2.2.2.3. Health Care

Healthcare facilities are a community resource established and maintained by both private and public investment. The problems of healthcare providers exist both apart from and as a result of the oil and gas industry and its various cycles, demands, and resources. Restructuring in the healthcare industry has occurred simultaneously with restructuring in the oil and gas industry and has exacerbated long-standing problems with meeting the needs of local citizens and those industry workers who are at most temporarily resident in the study communities.

Health care institutions in both communities were described as being in various states of crisis – although in Morgan City the problems were felt with greater intensity. These crises exemplify the converging and mutually compounding effects of oil industry uncertainty, cutbacks in federal and state spending, squeezes in private insurance reimbursements, and the changing composition of the local labor force and workers' access to medical benefits. They also reflect, to some degree, local inability or unwillingness to change and to accommodate new healthcare professionals. These processes, reported in detail here for the health sector, can be discerned at work across the range of social service sectors in the two communities.

The profile of health services in both communities, but particularly in Morgan City, has come to be shaped in a variety of ways by the oil industry and its needs. Many of the specialized health care needs for offshore workers, for instance, are provided by the numerous industrial clinics that

are found in the towns. These clinics are usually private outfits established specifically to serve oil companies on a contract basis by providing pre-hire health and drug screening and emergency services for offshore injuries, particularly those covered under the workmen's compensation program. In many cases, these clinics have grown out of the private practices of local "company doctors" who treated workers of particular oil companies with whom they had established special relationships. A few of these individual company doctors remain; for the most part, however, that role is now played by private clinics, some of which are owned by large regional or national chains.

Aside from the specifically oil-linked medical services, many of the larger community service institutions and much of the public infrastructure found in the towns today came into existence as a consequence of the growth of the oil industry in the late 1950's and early 1960's. Lakewood Hospital in Morgan City was opened in 1955 to cater to the large population inflows that were starting then. Morgan City's population and its needs spilled over into neighboring communities as well. The unincorporated town of Bayou Vista opened a full-service acute care hospital in the 1970's when the old single-lane bridge over the Atchafalaya was chronically clogged with the increasing traffic brought in by the oil industry, making it hard for people at the western end of the parish to get to the hospital in Morgan City. Then the bridge was improved, oil prices dropped, hospital admissions started to fall, and the facility was eventually closed in the late 1980's. New Iberia's service district hospital, Iberia General, opened in 1962 and also continues to face ongoing challenges in staying afloat.[8]

In the case of Lakewood Hospital in particular, its historic connection to the oil industry continues to dog its struggles for survival. First, the hospital must meet the challenge of maintaining its capacity in the face of a smaller and constantly shifting population base. In this respect, the financial health of local hospitals and other health care institutions is directly tied to the fortunes of the oil sector. As one of the hospital administrators said, "It's a major part of the market that we serve, so if it takes a downturn… everybody moves out, there goes part of our population" [I-90]. Lakewood Hospital continues to face problems of maintaining a patient base because much of the oil industry labor force commutes.

> "Ultimately it is where you live that determines your health care options…A lot of people who work here reside outside the parish, in Baton Rouge, Houma, even Lafayette. They tend to look for their health care there, where they reside with their families. So, with all the nice residential subdivisions in those places, we do not get their customers here" [I-92].

The repercussions of the connection between the industry and the institutions, however, are more complex. The dependence of the community on oil employment translates into a substantial burden on these institutions during a downturn. In New Iberia, the hospital administrator noted,

> "Where you see the shift [recently] is in terms of people being employed and having insurance. When they're not employed, or like now when they're laying people off, these people don't have insurance, and that definitely financially impacts us because they're

[8] This must also be seen in the context of the fact that New Iberia has another large medical facility, that started as a family concern, but has now expanded and been bought out by a national healthcare corporation.

still going to get sick and they still come here. The difference is that they can't pay" [I-90].

Being hospital service district facilities, these hospitals are obliged to provide care to anybody in the district, and they generally have to absorb the costs. Both hospitals reported large amounts in bad debt – ranging from two to four million dollars a year – during years in which the oil industry suffered downturns. This was despite attempts to pursue a variety of arrangements with uninsured patients, such as staggered payment schedules and referrals to charity hospitals.[9] Another manifestation of the periodic problem of large-scale loss of insured patients is in the overuse of expensive emergency room facilities and a significant underutilization of preventive care, screenings, and other non-essential services in periods of industrial slowdown. As the administrators point out, neglect of preventive care and diagnostic screening results in further problems down the road:

> "People put off taking care of their health in bad times, whereas when they had insurance, they'd come in for pap smears and mammograms. So not only are we losing billable services, but people are struggling to put food on the table. So they let minor health problems mount until they become a real problem… The long-term effects of these are hard to predict because, when we start cycling back up again, we may catch them on time. In terms of chronic problems like diabetes and heart, a lot of times they drop their medications if they can't afford them, and then we see them in the ER (emergency room)" [I-92].

Treating offshore workers for mental health problems can pose similar challenges. A representative of the state-funded mental health facility reported:

> "Most people who come in here are not employed. But a substantial number are employed in the oil industry and we often have to work around their schedules: when they are offshore or at work, we don't see them for long periods of time.…If a patient gets ill on a job and goes without medication for a while they can get very sick. Often they can't get off the boat or the rigs for days, and then we get them in a bad condition. We have to work around their schedules. Some of them may get back to their jobs after treatment, but usually these are demanding jobs and people are expected to perform, sometimes in 100 degree heat, which can disagree with their medications" [I-537].

Personnel in other clinics reiterated these concerns. Their problems are exacerbated because workers and families tend to utilize private medical service providers when they are employed and have insurance and return to the public facilities when they do not. Company insurance policies, which are negotiated with private rather than public facilities, also determine where workers will go. The administrator at a St. Mary Parish facility observed:

> "If we've been seeing a patient with coronary problems or cholesterol, hypertension, whatever, and then they drop out of sight for two to three years (when times are good)

[9] Both hospitals are constantly in search of new solutions to these problems. One has worked out a partnership with the local sliding-scale community health facility to refer patients there; a new walk-in facility in Morgan City is an attempt to take pressure off the hospital's emergency room.

> and we inherit them again (when times are bad) the continuity if lost, and we have to reinvestigate a lot. It is like inheriting a new patient and becomes a financial liability on us" [I-572].

For community hospitals and health care institutions, industrial downswings bring pressures that force them to tighten their belts severely. In the 1980's it meant widespread lay-offs and cutbacks in medical staff. During the recurrent cycles of the 1990's, however, when there was little excess from which to cut, institutions had to adopt different strategies to meet these pressures. In 1999, an administrator in Morgan City told us,

> "We did a lot of hiring in 1997 and '98, we trained a lot of people, gave scholarships, to build up our base of skilled personnel. And suddenly activity is down and I'm having to cut hours. Our biggest challenge is how to keep people that I've invested so much in. When you cycle down if you lose them, what do you do when activity picks up again and you need good people?" [I-93].

These are not trivial problems. Difficulties in finding and keeping skilled staff are among the greatest ongoing challenges for health and educational institutions in the community, parallel to the problems of attracting and retaining reliable labor in the petroleum industry. The problems are linked: when the oil industry is hiring, hospitals and schools have to compete for certain personnel, especially for their maintenance, food services, and business departments. At the same time, oil upswings may bring in skilled workers from outside, often with spouses who have skills and certifications sought by the hospitals and schools, and alleviate shortages in some areas. When workers leave during a downturn, the hospitals and schools often lose skilled staff in some departments but may regain workers in other areas.

Even more vexing than the dilemma of maintaining a base of services through fluctuating demand is that of planning and investing in improvements in an atmosphere of ongoing uncertainty.

> "It's like, you have to gear up and have this diversity of services to meet the needs of as large a patient population as possible, so you can be vastly impacted if you have significant layoffs like in the '80's and the place starts emptying out again. Or if those subdivisions that they are building up don't fill up because the price of oil is down …. So it's hard sometimes to add new services, because you're uncertain about whether there will be a population base, you can't count on them. Until those houses are occupied I can't count them into my future planning, which keeps me kind of planning at status quo" [I-92].

What further complicates the problem is the character of resurgence of the industry in the 1990's wherein a significant proportion of industry workers were contingent laborers, working independently or for small contracting agencies that did not offer insurance. Workers in many companies are given the choice between carrying benefits and earning a higher hourly wage. Many, particularly younger workers, opt for the higher wage. As a result, many workers carry no benefits. From the point of view of health care providers in the community, this translates into

larger numbers of uninsured patients, even in periods of industrial upsurge. As one hospital administrator put it:

> "I just think we have a larger number of the indigent. They may even have employment, but in the '80's it was a known fact that if you were employed, you had health care. Now they don't. Large companies don't provide health care for their employees" [I-90].

Oil industry activity also translated into higher emergency room use in the 1990's because of an increasing reliance on imported or transient workers. A Morgan City hospital official recalls that in 1997-1998 the emergency room had come under severe strain because of the large number of itinerant workers, some of them Mexican, who had no other health care options. Partly in response to this, in early 1999 Lakewood Hospital opened up a walk-in clinic called Health Care Express, designed to provide a less expensive alternative for patients with no insurance and no family doctor. By the summer of 1999, the official noted,

> "Activity in the ER is down, probably a couple thousand cases a year. It was at 18,000 at its peak last year, now down to 16,000. Actually there's a couple of things that happen when the industry is slow: at first there are more injured workers, especially young ones… But then when it goes down further, things become more static in terms of what we see here. Workmen's comp is down by about five percent, but our overall volume is down by 15 percent, so there has been some slowdown in non-workmen's comp, too. Much of that is that we're not seeing the migrant workers here anymore" [I-92].

By March 1999, following the downturn of late 1998 and early 1999, Lakewood Hospital reported a loss of $1.1 million. A substantial bad debt, amounting to $2.6 million, was one of the factors accounting for this. A series of articles in the local papers explained the hospital's financial status and appealed to the community to cooperate in its efforts to collect on debts. Austerity measures were initiated – lower salary and supply expenses. The main problems, the articles emphasized, were volume of utilization and defaults on payments (Shirley,1999).

It is important, however, to see these local developments in the context of policy changes occurring at state and federal levels. The extreme hardship that local health care institutions faced in the 1980's, and have continued to experience since, result from a combination of factors including oil industry decline, federal policy changes (primarily cuts in reimbursement for Medicare and Medicaid), and shifts in the climate of service provision and fiscal planning at a national level (including changes in private insurance reimbursement and managed care). To administrators of these facilities, the changes all occurred together, from the prosperity of the 1970's, when the high levels of industry activity were accompanied by 100 percent government reimbursement for health care services, to the 1980's, when, according to a local hospital administrator put it, "it all went downhill together" [I-90]. The combined effects of the government's fiscal austerity measures, managed care restrictions, and industrial uncertainty engender a climate of conservatism in the strategies of health care institutions. As the hospital administrator put it,

> "So it keeps you to where you're constantly cautious. I find that the oil industry, when we deal with them, when we go and talk to them marketing-wise, they're cautious too!" [I-90].

A new set of federal cuts in Medicare/Medicaid reimbursement, brought about by the implementation of the federal Balanced Budget Act in 1999, exacerbated the crunch that hospitals in the area were already experiencing as a result of the oil downturn. Among the areas of health care most severely affected by these cuts were home health and skilled nursing, and the effect on the elderly population was of great concern to local personnel. The Morgan City hospital administrator noted,

> "Overall the population is slowly skewing toward over 65, mainly because we're not growing in population… It really worries me, I just wonder what's going to become of the elderly people in our community. There were several home health agencies earlier, now there are only two. If we cut those, there will be no one to take care of the seniors in their homes and nobody will even know what's going on with them. They often can't come in when they need help…" [I-93].

In the light of its ongoing financial struggles, the board of Lakewood Hospital, in March 1999, adopted a resolution that modified the hospital's financial goals to stress provision of quality health care and maintenance of its standard of service over profit.

> The board recognizes the importance of the difficult task of balancing the health care needs of the community and its financial responsibility during this time of economic adversity.
>
> The board directs management to continue to take steps to reduce operating costs… but not at the expense of sacrificing quality health care services.
>
> The board recognizes that this policy may not provide positive net income for the hospital, but must provide for adequate financial resources to continue these services and to meet the ongoing financial obligations of the hospital (*Daily Review* Staff, 1999a, p.1)

Additionally, in June 1999, the hospital was driven to apply for "meaningful" debt relief from the National Oceanic and Atmospheric Administration for the 10.6 million dollar loan that it received in the early 1980's. The hospital had applied for and received extensions on its repayment schedule from the early 1990's on, but the condition of its balance sheet by 1999 called for more substantial relief (*Daily Review* Staff, 1999b, p.1). The late 1990's downturn exacerbated the existing financial problems, and fears that Morgan City would continue to face economic problems even with an upturn in OCS activity kept administrators worried.

2.2.2.3.1. Government-subsidized Health Care

Apart from the problems faced by service district hospitals, the repercussions of uncertainties in the oil industry are also felt severely in the sub-sector of health services that receives government grants to provide subsidized services to poor and indigent groups in the community. This study

found that offshore workers, contrary to popular perception, tend to access subsidized services and community assistance to a significant extent (see Section 2.2.2.5 below).

As mentioned above, the two most significant issues that local health care institutions have to contend with are the periodic influxes of unemployed people arriving in town to work in oil, and the increasing numbers of oil workers carrying no benefits at all. These two factors converge to place an increasing burden on federally-funded community health centers that provide health care to oil workers. Community health centers are sliding-scale facilities, instituted under a federal program to assist communities with large indigent populations, and they receive federal and parish grants to serve low-income people.

A senior administrator of one of these facilities reported that their clientele is increasingly composed of oil workers.

> "One of the fastest growing populations we found here since we started are 19-27 year-old white males, coming to work in oil. So it is not the sterotypical black woman with six kids that most uses our facility. These guys were, first of all, new on the job and did not have insurance or their families did not have insurance, there was a waiting period, and often even after the waiting period a lot of them could not afford the premiums for their families. This is what we've been trying to explain to the parish and the city: look, we're looking after oil workers and their kids. So it's a misconception that all oil workers are affluent. Our community, we're not seeing the wealth from the oil industry. We have a lot of people working for the oil industry that make $6-$7 an hour. …. There's a lot of illegal aliens employed by the oil industry, we have to provide them with care. It's in our charter, we cannot refuse undocumented workers.
>
> I've been telling the leaders of this city, you look at the ups and downs of the industry, the bell curve and think that represents the picture. Not for us. We get them on the way up the curve and on the way down, and when the industry is doing good we get them too, but not the ones with insurance" [I-573].

The image of the bell curve (fig. 2.5) illustrates what planners map as a traditional cycle of upturn and downswing, with the assumption that when the industry rises, things start looking good for workers, families, and the community as a whole, and, when it goes down, everybody faces problems. In this picture, things tend to balance out if organizations and families can maintain a planning horizon that takes the whole cycle into consideration, weathering the bad times and enjoying the good, and maintaining an average level of well-being. The case for public

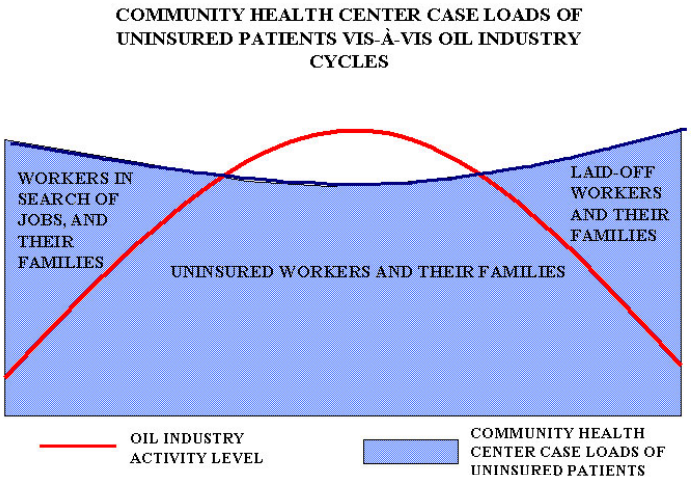

Figure 2.5. The bell curve

healthcare institutions, however, is different. As the administrator pointed out, the periods of upswing bring large numbers of newly arriving oil workers to the doors of the health center. As the curve swings downward and there are a lot of layoffs, the clinic's caseloads increase again significantly. And in between, inside the normal curve, the clinic still supports a certain number of families of uninsured workers, but loses large numbers of insured workers and their families to other hospitals and private healthcare facilities. So the line is almost straight across, representing a relatively constant caseload of oil workers with no insurance.

A representative of the community health center in the second community told the same story:

> "There is a certain core of people who are loyal to this clinic – whether they have insurance or not they come here because they like the care they receive…Other patients, however, only come to us when times are bad and they can't afford care elsewhere. It's about 50-50… When the oil industry bottoms out we'll inherit all the workers who lose their jobs and insurance. In '91-'92 we had a lot more oil workers and their families. Including offshore workers … So when the oil industry bottoms out our caseloads go up a lot. We get a lot of people from Morgan City. But those times get very tough for us too. Our grant stays at the same level whether times are good or bad, so when we have large caseloads of uninsured people, we really face a crunch. We cut back on tests, prescribe cheaper drugs, and generally tighten our belts a lot, especially toward the end of the fiscal year. Although, when the bottom falls out of the market a lot more people move onto the Medicaid rolls and we get paid through that, so that makes up to some extent for the loss of insured patients" [I-572].

Both clinics thus stressed their double-edged liability, of having to provide for uninsured workers when they are laid off but losing these patients when they get jobs that carry health insurance. To appreciate the difficulty this poses for the viability of the organization, consider a typical budget of one of these community health centers. The annual budget is approximately two million dollars, of which about 30-40 percent comes from a federal grant, and only $3,000 and $5,000 from the parish and the city respectively (this center receives no money from the state). The remaining amount, about 60 percent of the budget, has to be earned. The bulk of the clinic's earnings, about 30-35 percent of the budget, come from Medicaid and Medicare reimbursements. Even these, however, have been capped in recent years. Thus there is severe pressure on these institutions to increase their numbers of commercially insured patients. In both clinics, administrators stressed that this was their key to balancing their budgets and staying afloat.

> "In this sense the oil industry is one of the major things that affects us because we treat their workers and that adds to the total number of uninsured on our caseload" [I-573].

Why, then, do they lose these workers as soon as they get a job with insurance? The answer was strikingly consistent across the two community health centers: each can handle four times the demand it faces, but the loss of patients relates to people's perception that theirs is a "free clinic," so when they have a choice to go elsewhere they do. This particular phenomenon, shaped by the identity of the oil worker and the stigma associated with public service seeking, was repeatedly raised by participants in both clinics. They reported that people sometimes even told the clinic's doctors, "I'll go see a real doctor about this." Thus, the norms separating the oil

worker from the indigent population translate into significant financial disadvantages for agencies that are mandated to serve low-income populations in these communities.

2.2.2.3.2. Mental Health Facilities

Local mental health centers, dependent as they are on state severance taxes for the major part of their operational budgets, tend to be particularly vulnerable to the oil economy. In the early months of 1999, reports of the imminent closure of the New Iberia Mental Health Clinic were circulating around town, but by the time researchers visited the facility in June 1999, the threat had been averted. When asked about the impacts of the petroleum industry on the institution, a representative said:

> "It impacts us in every way. We are a state-funded agency. Most of our money comes from the state severance taxes, so every time there is a drop in the oil industry our budget suffers. We've been worried about having to close down the clinic, but, as oil is creeping back in, we've been getting better as far as our budget is concerned. We just heard yesterday that we're not going to close.
>
> The state has a benchmark figure, I think its $18 a barrel. Every time the price of oil falls below that, the state budget starts getting squeezed. It takes about two months, I guess, for the downturn to affect our budgets…
>
> In fiscal terms I remember that we really felt the pinch in the '80's. All income into the clinic was frozen. There were no raises. Positions were cut through attrition; we lost two positions. So people became responsible for more and more patients. I went from having 180 patients to 350; you can't do a good job with a caseload like that. There was no talk of closure back then. They began to cut down long term and intermediate care beds, and the number of beds went down from 1,200 to 120 – this is for the entire region, central and southern Louisiana. They're going to cut more beds now – the budget for these intermediate care facilities is about 5.4 million, and the Louisiana legislature has only put in 3.2 million this year. So what we have now is 10 acute care hospitals, with about 20 beds each. They just try to turn people over as fast as possible" [I-563].

A similar picture was drawn in St. Mary Parish, where a senior staff of the mental health clinic reported:

> "There have been a lot of cuts in funding recently, we lost $80,000-90,000 in January and are getting another cut of about the same amount in July. These are for the whole region, though, not just our parish. I have lost some psychiatry time. And supplies, I can't order supplies. I have to watch every cent. We ran out of paper in this office recently. They also took all our training money and put it into drugs so that they could continue to provide drugs. These may be permanent cuts. But it may change, too" [I-537].

While this scenario is part of the overall rollback in government spending across the nation, in Louisiana the state's reliance on oil and gas revenues compounds the pressures on budgets. In addition, Louisiana's social service structure – based on the 1870's Sisters of Charity model – Is almost completely state-funded and operated, in contrast to other states where such services are

for the most part private non-profits that contract with the state to provide services. And mental health tends to top the list of dispensable expenditures during a fiscal crunch. As a Morgan City mental health provider put it,

> "Cuts in mental health have been very widespread over the last five to six years, I think at a national level. The attention to mental health that developed in the '60's seems to have been completely lost in the '80's. I think the cuts in mental health are bigger than for health in general. Mental health is a forgotten field" [I-537].

As with hospitals and the social service sector in general, these institutions get the short end of the stick in terms of serving oil workers:

> "We used to have a lot of patients who used to be able to pay and now cannot because they've lost their jobs. We give them free medications, too. We wind up here with a lot of patients that cannot afford health care, most of our clients are indigent, the working poor or people with no jobs. Oil workers, if they have jobs and insurance, tend to go to private facilities. It is only when they lose jobs that we see them here [I-563].

The major expenditure items that suffer are staff travel and training, recruitment, and supplies. By June 1999, the New Iberia clinic was running out of medications, especially the ones that they gave away free. Access to mental health medications can be a major challenge for people facing economic hardships. The majority of people diagnosed with minor depression are prescribed anti-depressants by their family or primary physicians, and these cost about $60 per month. As the mental health professionals emphasized, some of the newer medications that have fewer side-effects tend to be more expensive. This picture, of cutbacks to supplies, training and recruitment, was repeated across the board in the parts of the health sector that were state-funded, from Parish Health Units to Mental Health and Substance Abuse Clinics. The major gap between need and provision in mental health, according to an experienced local mental health professional, was care for minor illnesses, what is referred to as "wellness care."

While the recent cuts have not been as severe as those in the 1980's, it is important to consider the relative bases of the budgets: in the 1980's the facilities cut from fat, in the 1990's they cut from already closely trimmed programs. The serious threat of closure that faced Iberia Mental Health in 1999 did not occur in the 1980's, when the center cut from 1,200 to 120 beds. A combination of industrial hardship, managed care restrictions, and state budget cuts caused the actual closure of a drug treatment clinic in New Iberia in 1992. A participant who had worked at the center is the 1980's recalled:

> "[In the 1980's] I was working at the substance abuse inpatient facility at Iberia Medical Center. It was a 20-bed detox and treatment center called New Beginnings. It closed down in 1992. Managed Care came in and limited it, managed care shut the place down, that and the contracts that the companies had with EAPs (Employee Assistance Programs). Also, around '92 this area was still struggling from the oilfield bottoming out in 1986. There was still a lot of unemployment. So all that together put the facility out of business and it had to shut down. That has eliminated a very significant treatment provider for substance abuse. The nearest inpatient facility now is in Lafayette" [I-593].

Many of the larger oil companies now handle substance abuse and minor mental health problems through Employee Assistance Programs, whereby they contract with private providers to cover the initial set of services that employees need, with a limited set of options for referrals to clinics, hospitals, or specialists. This arrangement was pioneered in the United States in the 1950's by some large companies who found that it was more economical to arrange treatment for workers with problems such as alcoholism than to retrain or rehire workers. This basic orientation toward retention of workers has now been replaced by a focus on early detection, screening, and cost containment in mental health and substance abuse care for company workers. Yet, as described in Section 2.1.5, mental health and substance abuse needs remain high in these communities.

2.2.2.4. Education, Training, and Workforce Preparation

Education is a community resource that, since the beginning of the 20th Century, has been viewed largely as a public good, even when tailored to benefit private companies. As such, it has tended to rely more on public than private funds and has undergone its own recent changes in response to evolving societal expectations as well as internal restructuring. Educational institutions face significant challenges meeting the needs of local residents and locally-based industries, especially when those industries are only tenuously linked to local populations or are perceived by the local residents or educators as inappropriate options for young people.

OCS activity began in the Gulf of Mexico in the period of rapid and extensive industrialization that followed World War II; its impacts on education and occupation must be viewed in that context. A significant aspect of industrialization is the increasing segmentation of work from other aspects of living, such as family and recreation. The same is true for education in industrialized societies, as schooling becomes increasingly institutionalized and separated from other life activities (see Wallace et al., 2001). Thus, the industrialization that accompanied the arrival and evolution of OCS activity had a dramatic influence on education in many communities along the Gulf of Mexico. This influence was less significant in the isolated variables such as drop out rates and enrollments in higher education than in the subtle but continuous shift from a society where family, community, occupation, and education overlapped to a highly segregated social order where formal schooling came to be valued as an end, apart from its specific contribution to the individual, family, or community.

When the oil and gas industry arrived in southern Louisiana, there were few schools. Most residents were involved in occupations for which many perceived formal education for young people to be a luxury, if not an outright detriment to their future success within the local society. Common to the effects of industrialization everywhere, the oil and gas industry influenced (1) the values and attitudes of community members toward education, (2) the role of education in individual employment decisions, (3) the personnel available for teaching and administration, (4) financial and other resources, and (5) access to educational opportunities. The effects of the industry on education and work in southern Louisiana are detailed in Wallace et al. (2001). This section focuses particularly on how the responses to the fiscal crisis that followed the 1998-1999 downturn in oil and gas activity were influenced by the particular social and political realities of the parishes and on the distinct positions of the technical colleges within these two communities.

When introduced in south Louisiana, vocational education was perceived both as the province of the home or of on-the-job training and, if conducted with public funds, as a last resort for incorrigibles, intellectually inferior students, or blacks. As vocational education was tailored to meet the needs of industrial society, many perceived, with some accuracy, that students who received training for a specific job would be unable to find employment of that type, especially in the decades after 1970 when job opportunities changed rapidly as a result of changing technologies (Kline 1974). To some extent, the skepticism of southern Louisiana residents toward future OCS activity remains tied to their concerns about vocational and technical education. Extractive industries, such as oil and gas exploration, are not representative of the direction of the broader Southern economy today or in the near future, and the tension between the needs of OCS-related work and of other economic pursuits may heighten the differences among communities investing heavily in specific technologies and those that are not (see Wallace et al., 2001).

Nevertheless, as early as the 1950's, community goals of improving the quality of local education began to converge with the industry's goal of developing a well-trained local labor force for offshore efforts. From high school vocational training and school-to-work programs to technical college curricula and university courses, educational institutions and training schools in much of coastal southern Louisiana have helped to mould the local workforce to the needs of the oil industry, enabled local residents to attain higher incomes, met the demands of newcomers, and provided opportunities for young people to stay close to home. An education official in Morgan City attributed much of the expansion and dynamism in educational facilities and quality in the area to the oil and gas industry, both in terms of the increased funding for schools and the altered educational content and standards the industry stimulated:

> "Up until the early 1950's, education in St. Mary's Parish was geared more towards an agrarian society. There was heavy emphasis on vocational agriculture and home economics courses, and, of course, when the offshore oil industry arrived in the late 1940's, that created some major changes. First of all, there was an influx of people from other parts of the nation who had higher expectations in regards to the quality of education, and thus the arrival of the people associated with the offshore oil industry certainly benefited public education in St. Mary's Parish and benefited parochial education as well, Catholic education.
>
> There was a greater emphasis on industrial arts and also the creation of the vocational schools, the Young Memorial Vocational School in Morgan City, which was designed to train people for the offshore oil industry and for the maritime industry… shipbuilding and offshore oil seem to go hand in hand. Economically, the offshore oil industry was certainly a great benefit. They poured money into the Parish School system through various taxes…And by the 1970's, 1980's St. Mary's Parish was one of the highest paying parishes in Louisiana in regards to teachers' salaries. And that is directly attributable to the strength of the oil industry" [I-82].

A retired school principal recalled,

> "Educationally, the oil industry injected a lot of improvement, through the sales tax base. Whenever they bought a drill bit, or a hose, it helped the economy. Overnight we had new schools. In 1953, we got the junior high. In 1970, we got an air conditioned high school. Everybody watches the sales tax in this area… As an educator, I never went to them and didn't get what I asked for. Like tables for the science fair [or] software for our computer lab" [I-59].

Despite these benefits, the relationship between local educational institutions and the oil industry has been uneven, complex, and shifting, especially with the changes in the nature of the industry in the 1990's.

As the quotes above illustrate, money is the most obvious link between the public schools and the industry. Schools benefit financially from oil and gas industry activity in five principal ways: (1) parish sales tax revenues; (2) increases in enrollment which increase the total state dollars distributed on a per pupil basis; (3) revenues from leases on Section 16 lands; (4) state revenues for education; and (5) corporate and business donations and sponsorships. In some ways, the economic impacts on local schools of a downturn in oil and gas activity remain as direct and powerful as they were in the 1980's, even when mediated by preemptive strategies of school boards such as interim cuts in expenditures to keep the school system running and avoid laying off staff.

In March 1999, the St. Mary Parish school board faced a significant deficit due primarily to sharply reduced Parish sales tax revenues as a result of the oil and gas slump. Though the school board also faced a loss of revenue from the departure of students from the parish, school board leaders argued that the loss in state funds would be only a fraction of the loss from parish tax revenues. In addition, they argued that the loss of students meant a need for fewer teachers and therefore a lower overall impact to the school board. The board had already begun to rely on money set aside in a "rainy day fund" that was created in 1989; the previous such fund had been completely depleted in 1987, and it took a couple of years to generate excess revenues and start a new one. In response to the fiscal crisis, the school board voted to cut about $2.5 million from its budget to match a more than 20 percent shortfall in tax revenue. The board's response and public reaction to it illustrates again how oil and gas industry impacts are intertwined with local histories and customs. The board closed two schools and instituted severe fiscal cutbacks. Though the school closures reflected broader board goals, such as an interest in furthering racial integration, they were justified to the public by the financial realities. In response to the closures, a group of white parents, with approval from the state but not local school board, established a charter school and removed their children from parish schools. The loss of 120 students, almost half of the 248 who were lost within the parish during the year, further reduced the school board budget. Cuts were made to travel budgets, utilities, and special programs, and the number of teachers was reduced through attrition. Corporate donations declined noticeably by the end of 1999 and were evident in decreased advertisements in school yearbooks and reduced contributions to special school programs.

Other impacts of the oil and gas industry on schools are more difficult to track. School curricula do not change overnight, and upswings and downturns thwart efforts to develop programs. Also, though the industry has had a direct impact on the curriculum of specialized vocational programs

such as welding and marine operations since the 1970's, the general curriculum is driven by state and national trends. Where educational priorities converge with industry needs, as in the national 1995 School-to-Work legislation that required schools to develop career clusters from which students would select high school courses, industry influence can be seen within the schools. For example, the career clusters for St. Mary Parish include medical and industrial technology. Yet, even with new educational opportunities, few students are selecting oil and gas industry-related programs.

A parish school official outlined the problem:

> "The superintendent of education… owned a string of businesses, so he really emphasized career education throughout the curriculum. It was the late '70's and early '80's. Then we had a flip flop. We got on the high standards bandwagon. They changed the requirements, said they had to have two math classes. They always had it, but the non-college bound could take consumer math. Then, driven in large part by the business people, they felt the standards were not high enough. They had to take geometry and algebra. They beefed up the core curriculum. We went to college prep for all. All of this was going on when the economy was going through hard times. […]
>
> Now the economy is making a flip flop. The welders, shipbuilders, etc. had left. People had found other professions. School-to-Work was national, but it was driven home here because [the companies] didn't have people to work on the boats, etc. Now they are talking dual diplomas as the school system ends up responding to it. We are starting a marine operations program at Morgan City High School. We have invested huge amounts of money in welding shops and vocational training for before they leave high school… Two years ago is when we started losing the money (from oil and gas). It is ironic. Now they are closing up the jobs... We have had resistance from people to get into the programs. They are not falling over themselves to get in. People have seen what happened. They don't want their kids to be veered off and locked into a skill. [Two years ago] everyone was saying they had ten more years, that they would be hiring forever. Guess what? The price of oil [dropped] and now they're laying off" [I-69].

As described earlier, among the industry impacts are the intangible benefits of newcomers who arrive with fresh attitudes and expectations. After decades of fluctuations and uncertainty, within the new economy these benefits may be balanced, if not outweighed, by the liabilities of adding facilities and personnel to meet the needs of students who are often only in the area for short periods of time and whose families frequently make only a minimal commitment to the area. Other benefits associated with the industry, such as its ability to attract white collar workers whose families would invest in the local schools and community functions, were also waning by the late 1990's as companies pulled the last of their corporate offices out of Morgan City.

Southern Louisiana schools report problems finding local teachers. Many teachers are recruited from outside the area. Also, periods of oil and gas activity draw new workers, and schools have been able to hire spouses. During downturns, though, those spouses can be taken away as suddenly as they were brought to the area.

Operating in an even more complex environment, Louisiana's technical colleges face the fiscal challenges of operating amidst fluctuating resources and expectations while mandated by their mission to respond to industry needs. The colleges were designed to provide industry with an educated and technically competent workforce. They receive base funding for personnel, buildings, and equipment from the State Department of Education. However, they supplement those funds with fees charged to specific companies for targeted training courses and curricula. Regardless of their privately generated income, however, their leaders must get state permission to add personnel. In a social climate where a college education has come to be seen as vital for success in life, and where many business and government leaders are university-educated, technical colleges face special challenges gaining recognition, respect, and support. Recently, reorganization has placed the technical colleges under the same administrative structure as the universities. It is too early to tell how that will affect the technical colleges.

Technical colleges are challenged to meet both technological changes and regulatory/ certification requirements. For instance, in addition to their standard curricular offerings in general office skills, they develop computer classes tailored to the software training needs of particular local companies. A recent example of an industry-related but regulatory-driven change is the 1995 amendment to the Standards for Training, Certification, and Watchkeeping (STCW), which requires all mariners to obtain new certification by 2001 (see Section 3.5.1). In Morgan City, the Young Memorial Campus of Louisiana Technical College was instrumental in bringing industry and state funds together to develop a training program to meet this need.

Rapid changes in technology mean that many workers are constantly in need of new training. This situation is particularly challenging for the schools because demand for technical training is often great during downturns when companies that have retained workers are willing to either invest in their training or at least allow them time off to pursue it on their own. Even when companies help with funds, at those times base budgets are low because of the overall decline in revenues from the state.

When oil and gas activity picks up and workers are in short supply, as occurred in the 1990's when companies found that many of the workers they had laid off in the 1980's were unable or unwilling to come back, the industry faces significant problems and turns to the technical colleges for help. At a 1990 oil industry job fair held in New Iberia, for example, only 20 applicants out of 400 who applied for jobs were considered by the potential employers to be qualified (Johnson, 1990, p.4G). The shortage of skilled workers was described as "desperate." By the end of the decade, technical schools were being expected to produce trained workers for increasingly high-tech offshore positions.

Morgan City and New Iberia illustrate different patterns with regard to their technical colleges, patterns that reflect the more general image and relationship to the industry that each community tries to project (see Chapter 1). In Morgan City, considerable investment has been made in the local branch of the Louisiana Technical College System – the Young Memorial Campus. Residing on land located on the intracoastal canal and donated by a local family, Young Memorial is in close and regular contact with several sectors of the offshore oil and gas industry. College administrators and instructors demonstrate a high level of commitment to responding to industry needs. Innovation and dedication by both management and faculty have resulted in

specialized programs for divers, mariners, and welders that have earned awards and praise by local companies.

Nevertheless, even technical colleges that have traditionally been at the forefront of the training effort for the oil industry face complex challenges in maintaining their viability and meeting the needs of a broad range of industrial needs. Local technical college personnel claimed that funding in the form of big grants from companies tended to go to universities, while they struggled to keep their programs funded.

> "We've been training and training and training, but, when it comes down to it, as soon as the training program is over, they just tell us, we don't need it any more…Most of the time we're writing the proposals for funding for the training programs for the industry" [I-57].

Technical college personnel also reported that funding constraints kept their training programs biased toward the needs of larger companies within the oil industry. Diversifying their offerings to provide for the needs of smaller businesses and smaller local sectors of the oil industry, such as machine shops, was a challenge they were struggling to meet. Another issue that caused these organizations considerable frustration was the sluggish response to downturns caused by the red tape surrounding government programs, such as JTPA (Job Training and Partnership Act), designed to assist dislocated workers. Even the Quick Start training money reportedly took two to three months to access, while laid-off workers needed immediate alternatives. Budgets for the technical schools are set for the year, and, with few avenues for interim funding, they have little chance of adapting their facilities to meet short-term needs. A representative of one of these colleges noted,

> "There's a lot of federal money out there for training, but it's usually tied to special populations. If they'd let loose of some of that money, I could do more. Like the Title 3 dislocated worker funds. The state just got $9 million six months ago, but we had no dislocated workers to train. In many cases, we can't tap into those funds if we don't have a special population. I wish I had more discretionary money. We'd be more effective" [I-57].

All these problems are compounded by the difficulty of finding good instructors for technical courses. The problem is intensified, for technical colleges, partly by their low funding which keeps their salary scales low, and partly by the frequency with which good instructors are lured away by the industry itself.

In contrast, mirroring the community's general reluctance to acknowledge its dependence on the oil and gas industry, the technical college in New Iberia has fewer ties to the industry. Though the college offers welding and other industrial arts, its relationship to local industry leaders is weak, and it has established no specialized programs to serve industry needs. As indicated by discussions with administrators, faculty, and students of the college and with industry representatives, and a review of the college's curriculum, the college has not made a significant commitment to train workers specifically for the industry. During 1990 when worker shortages were beginning, oilfield companies proposed starting a training school that would be financed by

companies contributing ten cents per man hour on all contracts. Dailey Berard, president of Unifab and a prominent sponsor of the proposal, stressed the urgency of the initiative:

> "Even if we started this school yesterday, it would not be enough to fill the void. The vo-tech schools are turning out the workers slowly, and that's good, but it's not enough" (cited in Johnson, 1990, p.4G).

Perceived competition from the long-awaited (see Hardy, 1969) South Louisiana Community College has added to the technical college's woes. The Community College was created as a multi-campus institution by legislative act (Act 369) in 1997 to serve the educational needs of South Louisiana and opened its doors to students in the summer of 1998.

In both communities, regardless of institutional infrastructure or preparedness, educational institutions were facing new challenges at the time of this study. Increasing demands for skilled labor, reduced reliance on on-the-job training, and significantly expanded alternatives for young people have negatively affected technical schools' abilities to meet industry needs. The problem of tailoring the local workforce training to the current profile of an oil industry worker manifests itself as a mismatch between the kinds of skills and the quality of workforce that the oil industry demands and the skills and work attitudes available in the community. Where a high school graduate was once more than adequate, a skilled worker is now required. Also, high school was once an option for very few residents, so the pool of potential workers who did not graduate included people with the motivation, basic know-how, and ingenuity to work and succeed in the industry. Today, high school is readily available, and many of those who do not finish are still not willing or able to perform the work required. As one participant put it, "The oil industry don't need manpower. They need skills. They need more technical people, but those are not a high percentage of the labor available in this community" [I-59].

Those who already have jobs, especially ones they have been doing for a long time, such as working as a captain or welder, resist new training. Those not yet in the industry are wary of the industry and have, or at least perceive they have, other options. For those who do not, by the time they figure that out, oilfield work is an unhappy last resort. If they have gone off to college, they may have to return to begin the process of acquiring the technical training they need to get a job. The technical colleges are placed in the position of maintaining programs and capacity to train a workforce to whatever skills are needed in an environment that, at the local, state, and industry levels, shows little recognition of their value.

At the state level, people with college degrees are often the decisionmakers, privileging colleges and universities over the technical colleges. Within industry, despite dependence on the technical colleges but reflecting instead the backgrounds of many executives, major corporations generally provide endowments to universities. According to one administrator, "Sometimes we feel like stepchildren. The universities get grants, etc. We struggle with money" [I-638].

Then, locally, most parents and teachers have discouraged young people from technical careers. While this is a national trend, experiences of the past two decades give it a unique spin. Many once-loyal oil workers and their families, burned by the experiences of the 1980's and beyond, are reevaluating their options and reassessing the meaning of a job in the oilpatch. Few parents

encourage their children to consider technical college as a first option after high school. A technical college administrator summed up the major barrier to the development of a skilled workforce as mistrust, attributing this lack of faith in work to the older generation's experiences with the oil industry:

> "There seems to be a hesitancy toward skilled labor. People shy away from that. Parents who have been caught up in that discourage their kids from going into those occupations. Traditionally these were more of traditions that the family passed on. You went on the rigs... A 13 or 16 year old would be on the boats and out on the water. School didn't seem that important. The bust caused a hesitancy or devaluation of that type of skilled labor. I ask high school students, "Who wants to get a job in Louisiana?" They say, "There's no jobs in Louisiana"… Also, people in high school are not all that interested in getting dirty, getting hot, or anything associated with that type of work. I don't know if they don't trust it or are being persuaded against it. The parents and teachers have a lot to do with it. They talk about college as your way out. There's just some negativeness associated with skilled labor. In this area, it used to be a prideful thing. I think that this area used to take a lot of pride in what they did. I think a lot of what the bust did was put mistrust, a lot of people are very mistrustful. I can't blame them." [I-638].

In Morgan City, city business leaders commented on the paradox whereby they had well-equipped training facilities in place for oilfield-related job skills, but had great difficulties filling these courses. Another senior executive of a city planning organization noted:

> "You can get a kid coming out of high school – a sharp kid – right now, and they'll start him off at $35,000, $40,000 as a trainee to be a decent mechanic, but there are no takers. We have an excellent program at the vo-tech school, one of the best in the country. They cannot fill up courses in terms of skills development. It is a very poor workforce. And most of the places in the country are essentially at full employment. People will not move down here without any security. Families are telling their kids that they should not become a welder and that they should not go into the oilfield because parents do not want kids to wind up like them, making a large amount of money and then going broke. So there is almost an anti-oilfield mentality…" [I-176].

Compounding the problem of worker training is the configuration of the oil and gas industry as an amalgam of companies and sectors spread across the Gulf of Mexico, and increasingly across the globe, within which each locality must recognize and address the special needs of its companies. In Morgan City, diving and marine operations programs have been developed to meet the needs of a cluster of locally-based companies. The company decisions to locate there were made apart from those related to public educational facilities.

Still, almost against all odds, technical colleges like the Young Memorial Campus are continuing to respond quickly and innovatively to industry needs. The faculty's experience of bringing the National Maritime Center, Louisiana Department of Labor, and local industries together to meet the needs of mariners facing the new requirements of STCW is an example. So, too, is the development and expansion of the college's diving program. As evidenced by the need and support of these programs once they exist, the state, companies, and parents want quality

technical education programs in their communities, but few are willing to put their resources behind them.

Even when geared up and filled to capacity, technical colleges cannot meet all of industry's needs. In some areas, such as welding, many students forego certification and leave the programs as soon as they reach a skill level that allows them to get a job. Consequently, programs to serve these populations have grown up with the support of particular companies. One such need has been providing basic training for roustabouts and entry-level offshore workers. In a unique marriage of the tourist and oil and gas industry, a creative group of Morgan City locals devised a scheme to utilize an early offshore rig, "Mr. Charlie," which had been towed near the city, to establish the Rig Museum as a training facility.

The marriage proved difficult because it thrust the fledgling enterprise into the uncertainties of the oil and gas industry. Soon after receiving private and public training funds and getting the program started, the downturn of the late 1990's occurred. Trainers who were still adjusting to the problems of taking unemployed workers through a rigorous program and helping them see some value in working were suddenly faced with few prospective employers for their emerging workforce. The program was temporarily discontinued and only recently reopened under new management.

The uncertainties of the oil and gas industry combine with ambiguities about work to foster a general ambivalence toward work in the industry. This ambivalence was revealed in discussions where educators and employers attributed many of their current problems to the loss of a "work ethic." Business people, teachers, trainers, planners and residents in both communities expressed great concern about what they had observed to be changes in the work ethic, especially in the younger generation. A local training officer noted,

> "I think that's where that work ethic, accountability, has been lost in our society and in our community. It is a concern of mine as someone who is training people for the workforce. Anybody can get a job, but how many can keep it? I don't know if the oilfield had anything to do with it or if society turned where the parents are not expecting anything from their children. I don't know" [I-57].

The erosion of the work ethic was linked to a lack of loyalty in the current generation of workers.

> "The companies would hire them and train them. They'd move to another company. They wouldn't even stay with the company an extra day. One company hired a guy off the street. They sent him to training. He never worked for that company. It didn't matter that that company had taken an interest in him.... There's no loyalty" [I-564].

More generally, however, the problem was seen as the lack, in the current workforce, of a certain culture of work that had been so evident in the older generation.

> "We're getting the end result of the education system – bright, articulate, lazy, and expect to be paid. I am the true result of the turnover from agriculture to industry. I come from a country background – rice fields, cotton fields, potato fields. My grandfather taught me a

lesson. He had 100 acres of property. I was 11 or 12. My mom decided we would not sit around home doing nothing. We had a 100-acre cotton field. There were 10 whites and 20 blacks picking in the field. They were paid by the pound. I wet the sack so it would weigh more, and my pawpaw did not pay me anything. I use that parable all the time around here. You will be paid after you pick your cotton and not before" [I-139].

"The students need soft skills. Those people (the instructors) can tell you what it's really like. The problems [they face] getting workers, getting them to pass drug tests. The emphasis in our schools has been on programs, like computers and technology, and that has been a mistake. If we provided the students with no technical experience, but worked on the soft skills instead, those people would gladly take someone with a good attitude… They don't have that, and they don't have role models. My dad, he had an eighth grade education, but every day he got up and went to work. …You have a generation of kids, though, who have not seen the breadwinner get up and go to work" [I-69].

But what is generally described as a degenerating work ethic is also interpreted by some community residents as a manifestation of the brain drain, the out-migration of the best and brightest students in the community due to the local unavailability of acceptable jobs (see also Section 2.1.2.2). Even for those unsuited or unprepared for college, going away to college has been held out as something to which every young person should aspire. Until recently, efforts to present other viable and respected options have been lacking.

Further complicating this picture is the presence of large populations, in both communities, of unskilled and nonliterate people that have remained unemployed and on welfare for generations. This tends to be the group that is not mobile and remains in the community while the better educated leave. As one Morgan City resident put it,

"There has always been a fairly stable proportion of this population that lives in poverty, that is dependent on welfare or SSI (social security income). That proportion does not change very much over the years. In terms of the oil industry, there is a certain level of skill and education that you need to have to get jobs there now. Unfortunately a certain proportion of the population of this area simply lacks the education that will allow them to be absorbed into that industry. So there is a certain level of unemployment that stays pretty fixed. When the national unemployment rate last year was at three to four percent, in Louisiana it was about five to six percent, and in St. Mary Parish it was at about seven percent. This was because of the part of the population that is not adequately educated, despite the search for skilled workers in those years. Many companies were having to bring in Mexican workers to do jobs like welding and electrical work" [I-92].

Another commentator in Morgan City also attributed the persistently high local unemployment rates to this structural divide in the community:

"When the boom came back [in 1995] we had some 2,000 open jobs here. And we still had a very significant unemployment rate, triple that of the neighboring parishes. The reason why was the skilled pool is so bad… There are some very hard core unemployed people. The marginal people were hired and now that things are slowed down, we are

> going to be back to double digit unemployment come the first quarter of the year. What was found as the key problem? …The number one issue we have – it is the same issue that every industry in the nation has – and that is the quality and the availability of a workforce" [I-176].

Thus, devising initiatives for training this section of the community in employable skills is at least as much a preoccupation for planners in the cities as is planning related to the oil industry. In Morgan City, such training efforts are inevitably oriented toward oilfield employment. In early 1999, as middle management was being laid off, the need for entry-level workers in the fabrication and oil service industries was still high. A major local initiative was the hands-on instruction for groups of displaced or underqualified participants of the JTPA (Job Training Partnership Act) program, provided aboard the retired rig "Mr. Charlie" on Morgan City's waterfront. The training programs, consisting of 12-day cycles, focused on providing participants with an intensive orientation to the offshore lifestyle and to topics such as safety, rigging, and maritime operations. Instructors were experienced offshore veterans. The program also included screenings to weed out those considered unsuited to offshore working conditions. In January 1990, the director of the program reported a 90 percent success rate in placing trainees after their certification. According to him, the demand for entry-level workers far outstripped their capacity to produce trained workers.

> We don't seem to be able to crank them out fast enough… There is a constant need for these workers and we're doing our best to keep up with it (cited in *Daily Review* Staff, 1999c, p.12)

As noted above, however, the program was suspended later that year when demand for workers dropped.

In New Iberia, on the other hand, the oil industry was hardly mentioned, either as a potential employer for the participants of training programs designed to reintegrate chronically unemployed sections of the population into the workforce, or as sponsors or collaborators in these programs. A major local initiative, PRIME (Program for Retraining in Iberia through Mentoring and Education), was initiated in the fall of 1998 as the collaborative effort of several local social service and city development agencies, partly provoked by the welfare reforms that threatened to stop benefits to nearly 200 families starting January 1999. The training program is oriented toward developing soft skills, responsibility, and job readiness in participants. Most of its trainees get jobs in local fast-food restaurants or other service sector businesses. When specifically asked about the possibilities of employment in the oil industry, trainers acknowledged that offshore catering or port labor were possibilities in the future, but not at the present moment. Trainees lacked the minimum experience required at the port, where work generally involved heavy machinery and strict safety measures. For New Iberia, then, the conundrum – of outside workers flooding the city and causing a range of problems for the towns when oil is active (see section 2.2.2.5 below) while sections of local unemployed people struggle to find jobs – is likely to persist for a while. These programs are still in pilot stages, however, and it remains to be seen what kinds of relationship they can build with the oil industry.

The cycles of the oil industry do, however, affect these efforts in more indirect ways. Inevitably, local service industries expand and hire more people when oil is up, while competition for jobs is more intense when oil is down. Then first-time job-seekers are at a disadvantage against people laid off from the industry, who tend to have better credentials and employment histories. The cyclical scenario itself is de-motivating for these trainees. As trainers noted,

> "… we're in here telling these people you have the ability, you can get a job. They have to make 20 visits to Job Services. They see the lines and talk to the people. People have been bumped, there have been mergers… You're competing with people who have just come out of the workforce. It's hard…" [I-668].

Aside from efforts to address this gap between conditions of high employment in the communities and the industry's intense, if uneven, demand for labor, community planning efforts also confront a context in which the corpus of local skills, the distinctive ethos of the region that had proved so adaptive to the first wave of the oil industry, and the informal artisanal socialization of young people into oil-related occupations is being devalued in the new demand for formal education and certification and a professional work attitude (see Section 2.1.2).

Thus, from a community perspective, the task of planning for stable employment for the local population encompasses complex issues and challenges conventional paths to a solution. Even in Morgan City, where oil employment is still the pivot of such efforts, a community leader in a meeting during the spring of 1999 proposed a different direction for the future:

> "We need some knowledge-based planning for the parish. We need to change our approach. With some people, economic development is about industrial recruitment. But that is not going to solve all of our problems. That might bring new jobs, but as many as a third of those jobs are going to employ people outside the parish…and generating industry and more jobs for people who live outside the parish is not the way to solve that problem. And we have serious leadership problems in the parish. With business, we have absentee management and ownership. That means that many of those people are not committed to the community. We lost a whole generation of leadership in the 1980's, when a lot of people left town. The goal cannot be to generate more of certain types of jobs. We do not need more fabrication jobs. By this summer, we'll have another huge demand for labor in fabrication that won't be met, because people got burned this time around" [I-176].

2.2.2.5. Emergency Social Services

Even where educational institutions are successful in matching local residents with industry needs, there are some who remain or are thrust outside the local economy and require help. Until recently, in both Morgan City and New Iberia, emergency social service agencies have been associated with local churches, and this association persists, although church-based efforts now tend to operate under ecumenical collaboration involving a cross-section of local congregations, or in partnership or coordination with professional organizations like the United Way. These agencies handle the provision of basic needs like food, clothing, rental and utility assistance, and medical assistance to the indigent or to families temporarily in need. This study found that, in

such agencies, the task of serving the poor is complicated by the social structures and normative categories operating to distinguish groups within the communities, in particular the norms separating offshore or oil workers from others. Throughout this study, researchers discovered that the communities were still in the process of coming to terms with the changed profile of the offshore worker in the 1990's. Vestigial images of the 1970's worker, prosperous and proud, were still prevalent even among service providers in the two communities.

In New Iberia, the initial impression conveyed by service providers, with striking consistency, was that few if any of their clients were oil workers. This impression is partly constituted by the pronounced and historically rooted structuring of the community on the basis of race and class, and the tendency for poverty to be associated – to some extent empirically but more strongly in people's minds – with the black unemployed population. This latter population, characterized as chronically dependent on public assistance, is sharply contrasted with the generic figure of the oil worker, who is portrayed as an independent, hardworking, and self-reliant individual, with a regular and well-paying job that carries benefits. According to several agency personnel, an oil worker would do almost anything before seeking public assistance. Service providers in New Iberia, tended to deny that they served oil workers at all:

> "Oil workers don't need nothing, they're the wealthiest people in this community… They're not the poor here… It is a particular kind of people that we see here, and it has always been that section of the population… People who come are NOT usually from job layoffs, they are people who don't want to work. Although recently we have been helping people from Fruit of the Loom layoffs… In the oil industry, the problem is that they can't find the qualified people they need. And if you are a qualified person who worked for the oil company, you don't come in here for assistance. Some of those people would be too ashamed to come into our offices" [I-571].

This participant, however, also reported that things were changing:

> "Many of the people who left in the '80's are going back into the oil industry, but through sub-contractors, where they get no benefits, no insurance. They may get paid $8-9, but they only get $6 in hand" [I-571].

On delving deeper, this profile of the offshore oil worker began to lose its form, revealing different categories of oil workers, between the two communities and over time. Of significance is when someone becomes defined as, and how long he or she remains, an offshore worker. Also important is whether all people who work in the offshore industry, including those living in labor camps and highway motels, are considered oil workers. Agencies in both communities recalled helping large numbers of people who came to the towns, especially during the boom years of the 1970's, in search of work in the oilfield. Many had come with families and no resources, and they needed help until their first paycheck. A participant who had worked at the Office of Family Support in St. Mary Parish in the 1970's recalled,

> "I remember seeing a lot of people come in needing housing. There'd be a whole family that would be at our office, saying my husband's gone away offshore and we have no shelter or food – this was usually before the first paycheck came in. I'd often refer them

to outreach services for short-term assistance. This happened pretty much right through the boom, as people kept coming in" [I-544].

Once these people got a job in the oil industry, agencies were not likely to see them, not even during the 1980's, for a variety of reasons. The majority of oil workers either left the area with their families, received help from extended families, or moved into other occupations. The latter two reasons were especially salient in New Iberia where local family networks seemed to be more extensive and the reliance on oil somewhat less intense than in Morgan City. In addition, oil workers, even when they had no income, tended to have too many assets to qualify for official aid. And, once more, many were held back from seeking help by the stigmas associated with receiving institutional assistance in these communities.

Nevertheless, the situation, especially in Morgan City, often got desperate enough to force oil workers to the doors of such agencies. St. Mary Outreach, the foremost emergency services agency in the town, was established in 1985 as a coordinating agency and frontline provider for church-based and secular social service efforts, largely in response to the economic crisis in the community. Outreach providers soon found themselves almost overwhelmed by the level of need. Oil workers and their families came in for assistance ranging from food and medicines to rent. Representatives of the city's official housing assistance programs, such as Section 8 and public housing, confirmed this:

> "By the hardest part [of the downturn in the 1980's], we had people who would come in here and actually cry, because they never thought they would actually have to go to public housing to live. We did get a few of those people. And some of them were not able to go through with it … even after they signed the application they had second thoughts and they decided not to. They just couldn't take it. We had people crying when they filled that application" [I-72].

These agencies emphasized that these people tended to move off their assistance rolls fairly rapidly as they found alternative employment.

However, there was another section of the oil labor force that relied on assistance on a more routine basis, even when they were employed. A representative of a church-based assistance organization told us,

> "We feed a lot of people here. Especially in those days, during the boom, it was nothing to feed 60 men a day sandwiches. Because in the labor camps and in the crew services, they charge them for all of their meals. And a sandwich could cost $6 or $7. And they could come here and get it free, and it would give them a hand up, so to speak. Because they could work for two weeks, four weeks offshore, come in and owe the labor service money. It was a scam. They would take a man off the street, give him a bunk, food, cigarettes, whatever and keep him there for two, three weeks, all the time charging: he's on the clock! Then they'd find him a job, give him work clothes, hard-toed shoes, a hard hat, gloves, a jacket, all that, and send him out for two weeks. While he's offshore, someone else is sleeping in his bunks, but he's paying to reserve it till he comes back. So they would double dip on the buck. So by the time he came back with two weeks of

> wages, he would owe four weeks of cost of living! Most of the time they had $10 left, $3 left, sometimes they owed $40-50, sometimes $100-200, and they would work it off on IOUs until they could get it down. That's why I say indentured servants. They could work all their lives in the industry and never have anything to call their own. … But they would come here to eat everyday" [I-96].

At the time of this study, agencies were facing heavy demand from families of laid-off oil workers needing food, clothing, school supplies for the children, shoes, medical help, and assistance with utilities. The conditions began to mirror those of the 1980's:

> "Winter was the time, I'd have mothers call, absolutely desperate because their husbands couldn't find work and we were going to have below freezing temperatures and that kind of thing" [I-96].

However, the heaviest pressure on emergency social services at the time of this study came from transient workers that had arrived in town looking for work in oil. For these agencies, and for government subsidized facilities like community health centers, periods of upswing in the oil industry pose a major challenge, bringing large numbers of people to the towns in search of work, sometimes single, often with families, and with little money, no place to stay, and no guarantee of employment. These institutions often bear substantial responsibility for providing for these workers and their families.

In January 1999, as the optimism of the previous year died down, United Way of Iberia reported significant increases in requests for food and shelter: the organization was referring six to 12 people a day to food providers and receiving up to five requests a week for housing. The director of United Way, in an interview with the *Daily Iberian*, attributed this to the advertising campaign by the Iberia Industrial Development Foundation in 1998 for Port of Iberia jobs:

> Many who arrived were not qualified for the jobs that were offered, or the hiring companies required extensive background checks. And in the meantime these people had no money and no place to stay. Sometimes they needed assistance for several months while they waited for these jobs to materialize. Some didn't qualify for the jobs offered, and they are still here. They still have nowhere to go and nothing to eat other than what we can provide (cited in McCay, 1999, p.6).

Coming together with the downturn, the demand was starting to overwhelm local agencies. In Morgan City, a representative of an emergency service agency reported,

> "We're just beginning to run out of money for rent and utilities, so I'm having to find other sources. This is a real problem with the lay-offs, because people who've been working tend to have higher rents, like about $600 per month, than those with a fixed income, like those on welfare or social security. So it's hard for us to assist them at those levels. Some even own their homes, and we occasionally see those people as well" [I-528].

Additionally, oil slowdowns significantly affect the budgets of emergency service providers. In both communities, fundraising drives in 1998 reflected the economic stress in the community. The Morgan City service provider said in the spring of 1999,

> "Donations are down. Food is not coming in. People are just being more cautious, I guess. They don't want to give at a time like this" [I-528].

A local representative of United Way noted that contributions had reached only 75 percent of the goal by the end of the 1998 campaign period.

> "Payroll is a very large proportion of our income, amounts to more than corporate donations. When so many people lost their jobs, we took a big hit in payroll collections" [I-557].

These organizations also depend heavily on corporate membership and donations, which also declined significantly during the slowdown. Apart from economic slowdowns, mergers and buy-outs affect the budgets of charities quite significantly, according to the United Way representative.

Thus, as was seen in the case of subsidized community health facilities (see section 2.2.1.3 above), the roles of providing for and taking care of the oil workforce through a variety of ongoing contingencies have fallen to local social service institutions in the two communities. These institutions fill the widening interstices in workers' income and basic benefits, and pick up the pieces when an oil downturn hurts a range of small businesses in town. The character of economic diversification in these communities, and the convergence of crises that accompany an increasingly globalized industrial context, often result in both wage-earners within a family being laid off around the same time, as occurred when the Fruit of the Loom closures coincided with the oil downturn in Iberia Parish in late 1998. These developments have brought desperate oil workers and their families to the doors of agencies to which they had never turned before. Managers of these agencies also were surprised at the increased presence of working people on their assistance rolls: the administrator of the Section 8 housing program for Morgan City commented on the growing proportion of working families in the program. Partly owing to a failure of industry and city planners to recognize the role that social service agencies play in supporting the oil industry, and partly due to the general climate of austerity in state, federal, and private funding agencies, these institutions face increasing difficulties in fulfilling this role.

2.2.3. Maintaining Community Viability: City Plans and Strategies

Adaptation to the swings and cycles of business in general and the oil industry in particular has been, for decades, the central principle by which southern Louisiana communities have attempted to cope with uncertainty. Local businesses and institutions have come to expect abrupt change and have learned to plan with short-term horizons. But adaptation to uncertainty itself can be debilitating in the long run, as several community leaders pointed out:

> "… it is fair to say we generally get used to the ups and downs the economy brings to us. Some even expect it. People tend to save more and spend less. When you spend less, you

> cut the cash flow. That is not good for the community. “Somewhere in between” doesn't help, in terms of leadership of the community and making it grow” [I-46].

As the Mayor put it, the “everything is temporary” mentality took a great toll on efforts to build a lasting economic base in Morgan City (quoted in McManus, 1999, p.1).

In the late 1990’s, community leaders in both towns struggled to move from a history of unplanned absorption of the oil industry to a more strategic approach in which economic development, strategic planning, and long-range vision have become key words. New horizons are being contemplated. Partnerships and dialogue between industries and community are central elements in this new approach, as planners confront a web of interconnected problems including continued dependence on oil, industrial restructuring, and the effects of globalization on other local businesses. The loss of over 1,500 factory jobs as a result of the relocation of the Fruit of the Loom plant from Jeanerette, near New Iberia, to Mexico in 1998 strained all community institutions and left them particularly vulnerable when oil prices began to dip in the latter part of the year. In addition, delays and red tape in state responses to local economic crises kept local institutions in a constant crunch, and the project of developing a vision was complicated by a growing diversity of opinion within the communities themselves regarding options for economic diversification.

Organizations like the Saint Mary Industrial Group (SMIG) in Morgan City and the Industrial Development Foundation (IDF) in New Iberia, along with the Chambers of Commerce in the two cities, took the lead in bringing industry, government, social services and schools in the community together to hear the needs and problems both of the oil industry and community and to work toward solutions. These efforts at community dialogue were reflected in the discourse of a wide cross-section of community members, wherein a broad consensus on major goals could be discerned, namely, more concerted efforts toward diversification of the economy, revitalization of neighborhoods and residential areas, and greater attention to preparation and training of the local workforce.

These community-level initiatives took a two-pronged approach toward fulfilling their goals: an introspective approach that identified local strengths and constraints and focused on local efforts, and an outward-oriented approach, addressing ways in which state and federal resources could be tapped. The former approach took the form of greater attention to the community’s image, with a view to “selling” the area both for tourist and industrial audiences. Project Pride, a parish-wide initiative in St. Mary Parish to free the area of litter and ensure maintenance of the highway, received substantial funds from both state and local budgets. Litter abatement, clean-up, and image enhancement were also big drives in New Iberia; the Chamber of Commerce set up a committee to work on beautification and signage in the city.

In the second approach, local leaders adopted a more assertive stance in demanding resources from the state. In a meeting with representatives of the Minerals Management Service in June 1999, the mayor of Morgan City deplored the lack of federal assistance in helping the community deal with problems inherent in serving as the hub of offshore exploration for over half a century. The community, he claimed, had been “carrying a bigger burden than the offshore industry is providing” (quoted in McManus, 1999, p.1). At the same meeting, the St. Mary Parish

Economic Development Director insisted that, in the past, local government and industry were "left with the cost of doing business without the benefits." Earlier in the year, lobbying efforts were initiated to pass the Outer Continental Shelf (OCS) "fair share" bill that would give coastal communities a larger share of revenues from offshore royalties. Both Iberia and St.Mary Parish voted to purchase a seat on the lobbying organization (the Council for Conservation and Reinvestment of OCS Revenues) for $10,000 each. St. Mary Parish was slated to gain $6.2 million a year if the bill went into effect (*Daily Review* Staff, 1999d, p.1).

The gravity of the economic crisis of late 1998 and early 1999 also stimulated some state and federal efforts to offer help. In March 1999, the state representative from Morgan City brought various community leaders together with local, state, and federal officials to discuss ways of addressing the needs of oilfield-based companies hit by the dip in oil prices, and to produce a strategic plan to be submitted to the U.S. Department of Labor, comprising both short-term and long-term proposals. Suggestions from the federal representatives centered around a new federal program aimed at matching workers' skills with available jobs, and offering funds for retraining of oilpatch workers faced with job loss. One federal representative also recommended that local leaders write a proposal requesting federal money normally limited to an incumbent worker program (McCorkle, 1999, p.1). But, when it emerged that this funding would take at least months to come through, local leaders lost interest. An ongoing point of local frustration with state and federal assistance was its lack of timeliness in responding to the rapidly changing situations that communities confronted with the oil industry. The meeting did, however, reiterate the need to research options for economic diversification, especially the need to identify industries that would employ the types of workers already present in the area.

A critical constraint that community planners, workers, and residents in general face in attempts to craft a more purposeful approach to their economic and social future is access to information. The lack of information severely impeded the kind of "knowledge-based" planning for which community leaders were aiming. Official numbers such as unemployment rates, critical to accessing state and federal resources, are most often misleading or meaningless in terms of local realities. These statistics are generated with models that do not reflect regional differences, according to local and state officials, and are based on place of residence surveys from small numbers of parish households, given the parish's size relative to other parishes in the state. While these numbers, when plotted against the number of checks written by local unemployment offices, do reflect similar patterns, there are large discrepancies between unemployment rates and these local numbers (checks written per week). Meanwhile, as many sources commented, oil companies tend to be very secretive about activities such as mergers, layoffs, and closures. Even employees often only find out what out what is happening to "their" company through the newspapers. As a local official put it,

> "That is not how you generate loyalty. That is not how you generate people investing in upgrading skills" [I-176].

Compounding this closed-door character of corporate dealings with workers and the community is the industry's own inability to predict changes. Uncertainty underlies everything:

"You do not know what the impact is because the effects are forever evolving. By the time you figure out what is going on, everything has changed" [I-5].

2.2.4. Diversification

On December 31, 1998, Morgan City's newspaper, *The Daily Review*, reviewed the "Top Ten Stories of 1998." Heading the list was "The Economy – Like a Roller Coaster," a story that was essentially about the ups and downs of the oil industry as reflected in the key economic indicators of Parish sales taxes. Other stories included progress on the construction of a four-lane highway through St. Mary Parish connecting Lafayette and New Orleans; progress on the construction of a residential subdivision in Berwick, next-door to Morgan City; progress on the Atchafalaya Basin Project and the expansion of the Port of Morgan City/Berwick, expected to bring in millions of dollars in warehousing of bulk products from South America. The stories also included the controversial permitting process of the GTX hazardous waste incinerator in Amelia, also next door to Morgan City, the expansion of Lakewood Hospital's Emergency Room unit, and the construction of a new after-hours walk-in clinic.

The stories encapsulated in the article represent, in microcosm, Morgan City's major concerns at that moment: despite its vulnerability to the roller coaster economy of oil, the city had begun vigorously pursuing other avenues for income and employment generation. Diversification, long advocated by various individual planners and activists, had become a central plank in the official strategies of the city and its major planning organizations. Infrastructure investments such as the building of highways and housing, once oriented toward inviting and accommodating the oil industry, remain critical to the city's vision but were being targeted toward the goal of diversification.

Plans for diversification in Morgan City have been centered primarily around tourism, and particularly on the enhancement of the Atchfalaya Basin as a tourist center, including improvements to the shoreline, development of a wharf for pleasure craft and fishing, and restoration of the Morgan City Historic District in the downtown area. The Mayor referred to ecotourism as "Morgan City's next economic boom" (Boudreaux, 1998, p.1,5). A letter to the editor of the *Daily Review* echoed this optimism in cataloguing the city's recent achievements:

> Our economic base in 1999 is still oil-dependent, but it is substantially more diverse than it was 12 years ago. Area shipyards are building barges, yatchs, naval vessels and gambling casinos in addition to supply boats, tugboats and crewboats. The Port of Morgan City is bringing cargo from Central and South America to its rapidly expanding facility. Tourism has increased with the opening of the "Mr. Charlie" rig museum and will continue to expand as the Berwick Lighthouse Museum, the Patterson Cypress Sawmill Museum and the Atchafalaya Basin ecotourism projects begin to take shape… (Blum, 1999, p.2)

The optimism was not, however, shared by all. The proposed changes carried hidden costs for some members of the community. For example, some local restaurants and stores found that the raised highway/interstate, designed to attract visitors from New Orleans and Lafayette, actually diverted potential customers from their businesses. With expensive signage not an option for its

owners, one such business closed its doors late in 1998, blaming at least some of its misfortune on the raised highway. There are also some conflicts of interest between tourism and the oil industry, notably in the struggle over hotel/motel accessibility and the workforce available for tourism. When hurricanes bring oil workers onshore and when shift changes take place, oil companies house employees in every available room in the city. For hotel and motel owners, the element of unpredictability and inconsistency in demand is compensated by the volume, and they have come to rely on the oil industry for business. It would be hard, then, to persuade them to set rooms aside for potential tourists while there is any demand from the industry they have traditionally served. It would be harder still for a tourism commission, under these circumstances, to plan on supplying reliable accommodations for incoming groups. Additionally, the oil industry draws local people interested and involved in the tourist industry into oil-related sectors during good years. So the boom periods take people and energy away from a nascent tourist industry that needs constant attention in order to establish itself as a viable, sustainable sector in St. Mary Parish's economy.

This dominance of oil at the expense of other options is by no means new. One local commentator described the effect of the oil industry on the local economy in Morgan City through the metaphor of displacement within an ecosystem: historically, the diverse economic activities that the city accommodated had tended to blend and mix according to opportunity, time, and situation. But when the oil sector came, it descended as one big layer on top of everything else. Some people were squeezed out around the edges, certain lifestyles and economies were forced further into the swamp, and those that remained were profoundly transformed. As the commentator put it,

> "Fishers set their nets aside and put oil equipment on their boats because they could make more in one week hauling supplies and people for the oilpatch than they could all season fishing" [I-203].

In addition to local conflicts, investments in tourism development in 1998-1999 faced constraints from the state's budget crunch, which derived in part from the oil price slump and affected parish and city capital outlay funds in particular. Local officials trying to tap state monies for tourism projects had to pursue unconventional avenues such as the "fair share" bill described earlier. In early 1999, a state congressman from Morgan City was attempting to get a special bill through the state legislature to fund the Atchafalaya Basin Project, also a means of attracting federal matching grants.

That diversification does not spell the end of a city's economic woes is exemplified by New Iberia's recent experiences. Oil slumps in New Iberia, as local officials, residents, and the research team's own observations revealed, are no longer as severe in impact as they were in the 1980's when the downturn affected the whole community. On the other hand, economic crises still tend to become generalized owing to the character of the increasingly globalized local economy. A representative of the New Iberia job services organization observed,

> "In comparison with the '80's, when everyone was affected, this last time I didn't see restaurants and other places all closing down. There's a lot of things in the parish now. But a lot of things happened in the parish about the same time: the Fruit of the Loom

> factory closed down in June ‘98. The hospital (Iberia General) got rid of about 100 workers in September ‘97. The salt mines had a lot of temporary lay-offs, [where they lay them off for] one week out of the month. And then the hurricane season. We had a very bad hurricane season, three or four hurricanes hit in September of 1998, and they had to evacuate everything, couldn’t do anything offshore. So this time we got hit hard by several things, not just oil. …The Fruit lay-offs were bad, but I heard that they were restructuring, moving from just sewing, to making the material and preparing it for sewing, sending it offshore, then reassembling, things like that, and a lot of that was being done here in St. Martinsville and Jeanerette” [I-561].

In New Iberia, as in many other small southern Louisiana towns tied to oil, the search for alternative avenues of business began as soon as the oil slump settled in the 1980’s. Several prospects were eagerly pursued and welcomed, such as a seafood processing plant that was proposed in 1987 but never materialized.

The relationship between oil and other industries in New Iberia, and the expansion of industrial activity in general, has been historically controlled by the powerful sugar elite in the city. Some local people claim that this elite exhibited, in the past, a resistance to the oil industry’s entry into New Iberia, for example by allowing the Oil Center to be established in Lafayette in 1952. New Iberia had been one of the towns considered for the Center, on the basis of its proximity to the Gulf, its water access by way of Bayou Teche, and the potential for development at the Port of Iberia. Reportedly, powerful local sugar interests elite did not welcome the possible industrial expansion onto their sugarcane lands, the changes to the local labor base, and the likely influx of new people. Once the oil industry established itself in the local economy, however, it came to dominate the sugar industry in precisely the ways these people had feared. At the time of this study, local cane farmers were still complaining that they had trouble finding workers during periods of high OCS activity due to the high wages that oil offered, thus raising the cost of labor in sugarcane and reducing its competitiveness [I-466]. The price of labor, they noted, has continued to rise with the expansion of employment opportunities at the Port of Iberia, which lures a lot of good hands out of the farms. Sugarcane farmers, consequently, are increasingly reliant on Mexican labor on a seasonal basis. They also noted that, as industry expanded in the area, developers were buying up prime sugar land and driving up prices [I-466].

Current diversification plans in New Iberia, as in Morgan City, place tourism high on the agenda, with a focus on the revitalization of the historic Main Street and the marketing of a Cajun cultural tradition that is being consciously recuperated and celebrated in the area. Other major strategies of the Iberia Industrial Development Foundation (IDF) in 1999 included a campaign to bring Iberia Parish within the Lafayette Metropolitan Statistical Area (MSA) in order to boost the parish’s visibility and enhance its population base with a view to attracting industrial investment and federal grants. In February 1999, the IDF formed a committee comprising representatives from the Port of Iberia and from other industries in the area to seek avenues for diversification. The focus was on using existing resources for alternative purposes. A committee member told the newspaper:

> The idea, for example, is to attract companies to the area to utilize resources at an oilfield-related industrial facility for pharmaceutical means. We want to diversify so the area does not depend on the oil industry so heavily (Badeaux, 1999a, p.2).

Another strategy pursued is the use of Enterprise Zones. Iberia Parish has over 20 such zones, established in 1990 by the state to provide businesses with incentives to locate in areas with high population and low income. Incentives include rebates on state taxes and property tax exemptions for companies that employ 35 percent of their workforce from the local area.

In 1996, Iberia Parish issued $4 million in bonds to finance the construction of a hangar at Acadiana Regional Airport in New Iberia, and in March 1999 the New Iberia City Council and the Parish (drawing from the Parish Royalty Fund) approved another $100,000 each to the project which promised 150 new, permanent jobs for the area. The commitment by the local governments drew considerable support in the form of funding from the state government as well (Badeaux, 1999b, p.1), one rather rare instance of a team effort to sponsor investment in the area.

As the process of lobbying for the "fair share" bill highlighted, one lesson of survival that local communities have learned from the experience of the 1980's is the need for local control in financial planning and budget allocations. Government agencies, including state, parish and city, tend to be large-scale employers in these communities. The impacts of the oil downturn in the 1980's on a government sector heavily dependent on the coffers of the State of Louisiana forced local governments to reevaluate this dependence. A representative of an Iberia parish organization recalled,

> "Government, the state especially, which filtered all the way down to the local government, were living high on the hog in the 80's. They were in this cloud that nothing could happen to us. When everything dropped, we had no resources.
>
> The (parish) government had to tighten its belt substantially. Our reserve was depleted to almost nothing. It carried the parish government through the lean years. Had it not been for the resources on the local level, the government would have shut down" [I-684]

Thus, in addition to strategizing for a diversified economic base, local governments have come to realize the need to anticipate and plan for periods of fiscal hardships by cutting back spending and setting aside funds

Still, despite all the planning and preparation, the rapid and significant downturn of the late 1990's caught both government institutions and local businesses unawares. In less than two years, civic leaders and industry boosters went from expecting a ten to 20 year period of prosperity to school closures, layoffs, and hiring freezes. The restructured oil and gas industry is not only operating differently than in the past, it is not returning to its former centers. More than a few residents of Morgan City, for example, fear that the city is being passed by for other sites. Neither Morgan City nor New Iberia have channels deep enough for the large vessels and equipment now associated with deepwater development. Of course, predictions that Morgan City would suffer because of insufficient channel depth and lack of adequate housing have been made

since the 1970's (e.g., Gramling and Joubert, 1977). It remains to be seen how these problems are addressed.

2.3. Discussion

One of the most notable themes of this study is change. Major sources of impact, such as stability, schedules, and safety, are undergoing changes in the wake of industry restructuring. At the same time, in many sectors, the workforce is in flux. Who the workers are, where they come from, what they expect from their work, and what their families and communities expect from them are all in transition. Communities, too, are caught up in the change. Their ability to respond to the needs of their residents, businesses, and social institutions is diminished by regional, national, and global forces beyond their control.

The knowledge, experiences, and expectations of workers and families determine whether impacts are perceived to be positive or negative. Despite the early disparagement of poorly educated southern Louisiana workers, oil and gas companies and associated service companies benefited from the unique population of southern Louisiana and the Gulf Coast South. From the 1940's to the 1980's, the region provided the offshore oil and gas industry with: (1) loyal, committed workers; (2) workers with a strong work ethic; (3) skilled, entrepreneurial workers with initiative; (4) poor workers to whom even low wages appeared good; (5) workers with little formal education and restricted options; (6) workers who came from large families and used their social networks to maintain a labor pool; (7) workers who had access to an informal economy and markets relying on abundant natural resources that helped buffer oil and gas industry cycles; (8) workers and families willing to take personal and financial risks; and (9) workers with few alternatives from which to choose. These conditions no longer hold for the current generation of workers. Some, such as the reliance on informal economic activities, such as hunting and fishing, have been affected by changes in the environment, the economy, regulatory structures, and attenuation of local knowledge.

The relationship between the offshore oil and gas industry and southern Louisiana has been one of ongoing adaptation of one to the other. Just as the early industry learned to operate over open water, the long-time residents of southern Louisiana and those who relocated there for jobs integrated the industry into their livelihood strategies. Even as residents became reliant on the wages earned in the offshore oil and gas industry, informal economic activities buffered the fluctuating economy. Over time, though, expectations about necessary compensation for labor also shifted. Whereas food and clothing could at one time be obtained directly and wages supplemented the household acquisition of goods and services, in the 21st Century few families in southern Louisiana or elsewhere in the country rely on such practices. In addition, wages are generally considered insufficient for meeting household needs, and workers and families try to supplement them with health and retirement benefits provided through employers.

The oil and gas industry does not exist in a vacuum; social policies and institutions mitigate or exacerbate industry impacts. Shifts in social expectations about the relative responsibilities of the private and public sectors affect everyone. Reduction of services through the public sector may affect the types of jobs workers seek and hold. For example, as public sector support for healthcare and retirement programs has waned, many current workers must assume responsibility

for assuring that they and their families will be protected now and in the future and therefore pay greater attention to retirement and health packages than did their predecessors. Some workers are juggling among all three options: seeking stable jobs that offer good benefits, working overtime to supplement their wages, and going fishing and hunting in their time off. Others are able to construct livelihood strategies from only one or two of these options.

Five areas were identified in this chapter as the source of social and economic impacts to workers and families. For many workers, the economic rewards associated with OCS-related work are no longer perceived to be worth the tradeoffs that accompany them. Though many families adapted to the concentrated 7-and-7 and 14-and-14 work schedules that are commonplace in the industry, moves toward longer rotations and increased use of on-call workers have created new challenges for families. Increase automation and safety programs have mitigated the physical dangers of offshore work, but stress-related health impacts remain high. Satisfaction from offshore work is less evident among younger workers than their predecessors. The most pervasive change has been loss of loyalty and commitment to company, occupation, and industry. Finally, recent and rapid cycles have strained the strategies that families and communities developed for coping with change.

With few young southern workers eager to enter the oilpatch, companies are employing many contingent and immigrant workers. Many company representatives expressed dissatisfaction with the workers they now employ, but few acknowledged that they may have to pay higher wages to get and maintain a workforce. They seek workers who offer the hidden subsidies upon which the industry came to depend.

Community-level impacts of OCS activity are also changing, and the attitudes of civic leaders and social service providers toward the industry affect how offshore workers and their families are perceived and affected. This chapter examined four areas of community services – housing, healthcare, education and training, and emergency social services – to explore those interactions. Company decisions to close local corporate offices and withdraw managers and white-collar workers have altered the overall composition of the offshore workforce and the community perceptions of the industry. Policies that favor short-term, contingent workers thwart local efforts to build sustainable communities. Community institutions that once benefited from the good salaries and insurance benefits offered to OCS workers have suffered. Those that rely upon volunteers have found fewer offshore workers able or willing to structure their time off to help out. Communities such as New Iberia have had some success with economic diversification and have partially replaced the financial and other resources once provided by OCS workers. Morgan City has attracted little to offset the loss.

In the midst of such change, families and community institutions require information. The need for timely and accurate information is intense, as agencies struggle to assess trends and gear up to meet them. A local hospital recently undertook a systematic appraisal of how the community's profile and needs in order to plan its services:

> "This year we have become more involved with how the community is affecting us. I contacted the Economic Development Organization, and he provided us with lots of information on the community at large. We are trying to learn where the labor is coming

> from, what is out there, and the problems of other institutions. We wanted to learn about the businesses out there, if they have health insurance, what their needs are" [I-137].

However, it is naïve to expect that information alone can make much of a difference. In a proactive move, St. Mary Parish officials sponsored a study of their community in 1996. Their researchers reported on conversations with 11 major employers:

> Those 11 employers alone (responsible for more than 20 percent of the community's workers) plan to increase their workforces by at least 533 workers cumulatively. None of those surveyed indicated a planned reduction in the workforce (Coats and Sorant, 1996, 33).

Less than two years later, responding to global events over which they had no control and about which they could not have known, those employers laid off hundreds of workers. Within months, many of these employers were again looking for workers.

To further complicate the situation, the assumption that is made by community leaders and researchers referring to "offshore" or "oil" workers, that these individuals comprise a homogeneous group about which conclusions can readily be drawn, is inaccurate. This chapter has identified and described overall trends in the conditions and experiences of workers, their families, and community institutions impacted by OCS activity. In its synthesis, though, it has obscured the enormous heterogeneity of the companies and jobs that enable the exploration, development, and production of oil and gas on the OCS.

The next chapter is an attempt to explore the consequences of this diversity by examining six sectors vital to OCS activity and how the workers and families that derive their livelihoods from these sectors have come to the industry and have fared in recent years.

3.0. Producing Oil and Gas on the Outer Continental Shelf: Impacts by Sectors

Today, a seemingly endless array of jobs and companies are directly connected to the offshore oil and gas industry, and these present a vast range of working conditions. The phrase, "working offshore," which is widely used and understood in southern Louisiana, comprises many distinct jobs and situations. In addition, many onshore sectors are so closely tied to outer continental shelf production that they have been included in a study of OCS impacts. It is impossible in a report such as this to talk about each sector of the offshore oil and gas industry, so this chapter presents six sectors that represent diversity in several areas that workers and their families have indicated are important, including stability and vulnerability of employment in the sector, patterns of work scheduling, and safety (see Table 3.1). Each of the sectors also highlights a particular issue that contributes to impacts on individuals and families and has a significant presence in Morgan City and/or New Iberia. Many trends, such as restructuring and the increased use of computer technology, cross all sectors. Nevertheless, the chapter is organized to highlight different aspects of these changes in different sectors.

The drilling sector is in many ways the heart of the offshore oil and gas industry. Exploratory and production drilling are highly capital-intensive activities that typically set the pace at which many other sectors must operate and incorporates large numbers of workers, both on the rigs and in onshore activities in support of those rigs. This section then describes the production sector, the domain of major and independent oil and gas companies. Next comes the fabrication sector, which is responsible for constructing the platforms from which oil and gas are produced.

The second half of the chapter is devoted to several service sectors. First, the diving and underwater construction sector is described as an example of a specialized service developed within the offshore oil and gas industry. The movement of rigs and platforms into water created a niche for underwater construction and maintenance work and contributed to the expansion of the commercial diving sector. The chapter ends with two components of the transportation sector: offshore service vessels and trucks. Transportation is critical to successful OCS exploration, development, and production. Boats, trucks, and helicopters move people, equipment, and supplies, often rapidly. Especially during the drilling phase, when day rates for operating rigs are high, those who move people and parts to the rigs must be quick and reliable. Workers and companies must be organized to respond to regular needs, such as employee shift changes and supply shipments, and to emergencies – a broken drill bit or an injured worker.

For each sector, this chapter provides a brief historical overview of the major highlights in the evolution of that sector and a discussion of the companies and workers that constitute the sector. Growth in the offshore oil and gas sector has brought standardization and regulation. Platforms and rigs are regulated by the Minerals Management Service, and other sectors fall under the jurisdiction of the Occupational Safety and Health Administration (OSHA) and the U.S. Coast Guard. Though platform and rig operators and regulators have shown great interest in what happens on these structures, they pay little attention to the other industry arenas which are outside of their legal juridsictions. This chapter attempts to address that deficit. For each sector, characteristic jobs, pay, and training requirements are described. Throughout, the experiences of workers and their families are explored and the particular impacts of the sector discussed.

Finally, the chapter concludes with a discussion of patterns and trends in offshore employment and impacts on workers and families.

3.1. Drillers and the Drilling Sector

The act of drilling an oil or gas well is a complex process in which each step involves a range of different technologies, occupations, and companies. Further complicating the situation, every offshore oil rig – and each group of contractors employed on that rig – is supported by numerous onshore personnel, all of which seek to expedite the drilling process. This process, in comparison to most of the other activities in the oil and gas industry, represents the most capital-intensive activity involved in exploiting oil and gas on the OCS. This section will attempt to provide an overview of the drilling sector of the Louisiana oilpatch, the history and types of changes that characterize it, and the individuals, families and communities that provide offshore labor to this vital segment of the oil and gas industry.

3.1.1. Tools of the Trade

The process of drilling for oil involves a vast array of technology. The rigs – mobile offshore drilling units (MODUs) – fall into three basic categories. Drillships are fully functional ships that hold a drilling rig. The ship powers to the drilling location and is then secured using anchors or kept in place via dynamic positioning, which relies upon global satellite positioning and thrusters to maintain a precise position over the selected location. Drillships are the frontline of the drilling sector's technological innovation and are most frequently used in ultra-deep drilling situations. Some of these drillships are now capable of drilling for oil in depths greater than 10,000 feet.

Jack-up rigs are barge platforms that rest on three (or, less frequently, four) tower-like support legs that reach to the ocean floor. The units are towed into place, and the legs of the rig are then slowly lowered. The platform itself is then raised some 50 feet above the surface of the water, thereby providing a degree of safety and stability. The effective depth limit to the jack-up rig is around 600 ft. Jack-up rigs represent the mainstay of the drilling industry, and they were the technological advance that carried drilling crews out of the shallow inland waters into the Gulf of Mexico.

Submersibles and semi-submersibles follow the same basic principle. The submersible is used in shallow water (to approximately 60 ft): the rig is towed to a location and then sunk to the ocean floor. The working platform of the rig remains well above the surface of the water. The semi-submersible is used in deeper water: the rig is towed or propelled to its location and then ballasted down into the water. The rig floats, stretching from above the surface to 50 or 60 feet below the surface, yielding a degree of stability. It remains in place either through a series of anchors or through dynamic positioning. These rigs are built for use in deep water and under adverse conditions.

Drilling rigs vary dramatically in size. All of the drill rigs described above provide accommodations for the various crews necessary to operate the drilling equipment. Larger rigs

Table 3.1. Six Sectors of the Offshore Oil and Gas Industry

	Drilling	**Production**	**Fabrication**
Stability /vulnerability within the industry	Experience early the impacts of price fluctuations – early to layoff, early to hire back	The most stable oil and gas employment in 1980's downturn; 1990's restructuring left workers more vulnerable to layoffs and uncertainty	Experience the impacts of price fluctuations, but buffered by long term contracts and diversification within the company; greater impact to small companies
Tradeoffs in day-to-day impacts	Predictable schedules and variable pay	Predictable schedules and good pay (recent shift to 14/14)	Standard shifts, variable schedules and pay
Turnover	High at low levels	Low	High at low levels
Personal risk and safety	Medium to high danger	Low danger	Low to medium danger
Other relevant issues	Increasing regulations on rigs – carry over from vessels	Experimenting with the use of contractors	Welders and fitters are scarce during high activity and are the first to be laid off during downturns
Where concentrated	New Iberia	East St. Mary, New Iberia	East St. Mary, New Iberia
	Diving/Underwater Construction	**Offshore Vessels**	**Trucks**
Stability/vulnerability within the industry	Experience the impacts of price fluctuations, but buffered by long term contracts and diversification to ROVs (remotely operated vehicles) and AUVs (automated underwater vehicles)	Impacts of price fluctuations complicated because larger companies use the fluctuations to further manipulate prices and drive out smaller ones; changing licensing regulations, restructuring have had impacts	Completely new picture in the '90s; impacted by deregulation and restructuring; rates forced down, independents pushed out, career ladder broken for owner/operators
Tradeoffs in day-to-day impacts	Unpredictable schedules but high pay at the top	Variable schedules and pay	Variable schedules and pay
Turnover	High, especially at low levels	High, especially at low levels	High among drivers, single owner-operators
Personal risk and safety	Medium to high danger	Medium to high danger	Low to medium danger
Other relevant issues	Many workers from out of state, fewer get support from kin networks; training is expensive, many divers feel misled about payoffs	Increasing demand for a new type of mariner that is a cross between the typical brownwater and bluewater mariners; training needs exceed capacity	More women and African Americans; friction between truckers and companies
Where concentrated	East St. Mary, New Iberia	East St. Mary, some New Iberia	East St. Mary, New Iberia

can house well over a hundred workers, while smaller or older rigs may house fewer than two dozen employees. Drilling companies often use the larger rigs to support the crews on smaller rigs nearby – the larger drilling rigs may house the cooks and custodians that provide basic services to other rigs.

Transportation to and from the drilling rigs occurs by helicopter and boat. Boats and barges ferry the various equipment necessary to the drilling process – pipe, mud,[10] motors, and so on. In addition, boats often ferry the drilling crew to and from rigs in the waters closer to the Gulf ports. Helicopters carry key personnel and vital pieces of equipment to and from the rigs as well, and for those rigs in the deep water far from shore, helicopters fly all personnel to and from the rig. Cranes mounted on the drilling rig are used to load and unload the boats containing the various drilling equipment.

The drilling process itself involves a variety of equipment and technology. The hole is bored with a drill bit connected to segments of drill pipe, which is the thick, reinforced pipe constructed to withstand the torque of the drilling process. As the drill bit carves through the rock, it creates cuttings – the gravel and detritus at the bottom of the shaft. To remove the cuttings, "mud" (fluids containing chemicals and minerals) is pumped down the interior of the drill pipe, and as it exits the drill bit, it carries the cuttings up to the surface of the borehole. The mud is then re-injected into the drill pipe after cleaning, achieved by passing the mud through a shaker that separates the cuttings from the mud. The mud is also weighted to form a seal, preventing pressurized oil and gas reserves from uncontrolled escape up the drilling shaft.

In addition to the various tasks in which the drilling team itself is engaged, a variety of other companies and crews participate in the drilling process at particular junctures. Should drill bits or other equipment become lodged in the shaft, fishing tool companies are contracted to help remove the equipment. Other contractors specialize in the perforation of the shaft to accelerate the flow of the oil reservoir, a process accomplished through the firing of specialized guns within the shaft. Teams of engineers send specialized equipment down the shaft to evaluate the strata for its oil potential, while others specialize in the completion of wells once oil or gas is reached. Together, then, all these contractors and workers (as well as many additional specialists not mentioned here) are part of the process by which oil and gas are sought and, in the best circumstances, found. More specific information about these various tasks is presented in the sections that follow.

While the components described above comprise the basic components of the offshore infrastructure, the drilling rig entails a large support network on land as well. The oil companies themselves, through contractors hired to drill for oil at particular locations, employ a variety of personnel directly commissioned with providing support and oversight of the drilling rig and drilling process. Drilling companies also employ personnel on land – individuals oversee the transportation of equipment and personnel to and from the rig and locate and hire consultants or contractors to deal with particular problems in the drilling process. Furthermore, many of the other sectors described in this chapter are directly related to the drilling rig and drilling process. Truckers provide transport of key equipment to and from the docks, boats carry this equipment and personnel to and from the rigs, and fabricators construct and fit out the rigs upon which the

[10] Drilling muds are complex chemical mixtures injected into wells to establish and maintain pressure.

drilling process occurs. While the drilling rig represents the culmination of these efforts, each sector manifests distinct sets of processes. Drilling for oil is a complex business, and contextualizing the drilling process, both historically and in relation to other sectors of the industry, proves necessary.

3.1.2. History

In early January of 1901, Anthony Lucas, an Australian-born mining engineer working in the salt mines of Louisiana, learned of efforts to drill for oil at Spindletop Hill, near Beaumont, Texas. With assistance from several Pittsburgh-based wildcatters (the term for men or companies drilling for oil on unproven land) and with financial backing from Andrew Mellon, Lucas and his team struck oil on their second attempt. Once spudded, the single well produced 80,000 to 100,000 barrels of oil a day. By 1902, with 285 active wells on Spindletop Hill alone, the focus of the nascent American oil industry shifted to the south. The vast reservoir of subterranean oil fostered the growth of the first giants in the petroleum industry, and their reign in the oilpatch solidified with the outbreak of the First World War. The shift away from rail transportation to the automobile, the outbreak of the Second World War, the rapid suburbanization of the American landscape, and the global switch from coal to oil power mandated by the Marshall Plan pushed the demand for oil to increasing heights. Already the center of oil production, the Gulf-based petroleum industries were able to increase production through a series of technological advances, foremost of which was the ability to drill for oil offshore (see Knowles, 1959; Gramling, 1996).

Some of the companies that would later become leaders in offshore drilling had modest beginnings on the East Texas oilfields. Charlie Rowan, for example, left his job as drilling superintendent of Humble Oil in 1923 and bought a land rig. Joined in the enterprise by his brother, Arch, Rowan contracted his rig back to Humble to drill in the Powell field southeast of Dallas. The brothers incorporated a year later as the Rowan Drilling Company and established a sister enterprise, the Rowan Oil Company, to market oil produced from Rowan wells. The production company would eventually be sold, but the drilling operation moved into offshore work in the early 1950's, drilling in Tambalier Bay under contract to Gulf Oil (Rodengen, 1998, p. 61).

The offshore oilfields stretch for hundreds of miles along the Gulf Coast, beginning just west of the Florida Panhandle and ending midway down the Texas coast. The oldest productive fields and, by many counts the heart of the Gulf oilpatch, lie just off the low marshy plains of Acadiana. Here men moved platforms from the muddy earth to muddy water, then out over the open sea to the depths of the Gulf.

Although the waterlogged landscape of southern Louisiana created much difficulty for early industrial efforts in the region, the muddy bayous and marshes were at the same time the ecological template upon which technological innovation thrived. With the basic infrastructure of land-based drilling in place, the oilmen of southern Louisiana began to experiment with drilling in the shallow waters of the region. Just after the turn of the century, the Gulf Oil Company purchased the lease for 8,000 acres of Caddo Lake, erected a set of pilings upon which the drilling rig would sit, and utilized barges to move equipment to and from the shore, an event which represents the first successful effort at drilling over the waters of southern Louisiana

(Gramling, 1996, p. 35-36). Next, in 1933, the Texas Company pioneered the use of the submersible barge, a drilling rig that could be sunk in a particular location and later re-floated and reused (Gramling, 1996, p. 35-37). Countless minor technological advances accompanied each of these progressive moves to deeper water.

In the decade that followed, a handful of oil companies forged their way into the offshore oilfields. Many still utilized the piling system designed decades earlier, but, in 1949, the first self-contained offshore drilling barge entered into regular use. The success of these efforts – well beyond the sight of land – encouraged the industry, and by 1954 nearly 200 structures were in operation in the waters off southern Louisiana (Gramling, 1996, p. 52). The explosive growth of this sector induced widespread changes to the communities of southern Louisiana; much of the region's shrimping fleet was pulled into service for the offshore oilfield, more and more men began to find employment in the oilfield, and small coastal fishing ports grew into larger supply points for the burgeoning offshore industry. Furthermore, the details of a federal system for the sale of offshore exploration leases were finalized in 1954, completing the political structure under which the oil industry could continue to expand into the depths of the Gulf.

The organizational structure of the offshore drilling sector also took shape in the 1950's. Initially, banks were reluctant to fund the construction of specialized offshore drilling units, so the production companies themselves had to underwrite the costs. A few independent designers of vessels were able to obtain funds from companies to build rigs and supply vessels and, subsequently, to establish businesses around this inventory. One of these entrepreneur-engineers was Alden J. Laborde, who helped to design the submersible rig, "Mr. Charlie," as well as specialized supply boats. Laborde raised capital by establishing the Ocean Drilling and Exploration Company (ODECO) in 1953 and, shortly after, Tidewater Marine (Laborde, n.d., p. 163). These were among the first specialized contract drilling and transportation companies along the Gulf.

ODECO and Tidewater set a pattern for the industry. As *Offshore* editor Leonard Le Blanc recounts,

> After several years, major oil companies considered themselves producers, not rig or supply boat operators. They were uncomfortable with the fact that drilling vessels sometimes logged long periods of idle rig time, waiting on seismic interpretation, well log analysis, or location of another prospect…. If the drilling units were owned by independent contractors, these contractors could train the drilling crews themselves and make the drilling vessels available to operators (Le Blanc, 1997, p. 90).

To ensure the availability of equipment, operators entered long-term contracts with independent companies; these arrangements induced financial institutions to offer construction loans. Le Blanc continues the story:

> After the external financing for independent drilling contractors emerged in the late 1950's, contractor fleet size increased rapidly. By 1965, the offshore drilling contractor was a fixture in the business, and a financial success, although a few vessels were still owned by operators (Le Blanc, 1997, p. 90).

Drillship and jack-up rig designs were refined in the 1960's. This was a time of rapid expansion in the offshore industry as technological innovations, combined with federal leasing, encouraged the rapid growth of the offshore industry. Rig fabrication in even the slowest years of the 1960's approached 100, and during bursts of activity rose above 200 per year (Gramling, 1996, p. 67). The industry would double this rate during the boom periods. The designs and advances pioneered in the marshes and bayous of southern Louisiana were exported throughout the world as the oil companies pushed exploration to the corners of the globe. Despite this rapid global expansion, Acadiana very much remained the epicenter of the global oil industry – never coalescing in a single location, but instead consisting of hundreds of fabrication yards, small businesses, and complexes spread out over the winding bayous and communities of southern Louisiana.

This industry, through the boom of the 1970's and the bust that followed, not only employed thousands of individuals in southern Louisiana, but also enmeshed them and their communities in a vast political economy that spanned the globe. At the same time, the regional oil industry had from its infancy depended upon the social and familial networks of the area; as this and the other sections of this report will show, these networks provided a key to accessing employment, building and financing a business, and finding customers. Amidst the many changes in the industry, these alterations in the fundamental social template underpinning the oil industry in southern Louisiana forever changed the nature of the relationship between families, communities, and the industry in which their livelihood was based. Before turning to the details and nuances that comprise the drilling livelihood, however, this section will present a brief overview of the political and economic context in which the drilling sector is situated, a context that instigated vast structural changes in the drilling sector during the 1980's.

3.1.3. Restructuring of the Drilling Industry

The drilling sector, much like the other sectors of the industry, passed through a series of key changes in the decades before and after the downturn of the 1980's. As a group, these changes did not result from any single event – one cannot firmly establish a single line of causation connecting the multiple variables at play. While the dynamics of this process are complex, the endpoints are clear, and, for most of the participants of this study, the contemporary oilpatch is a much different place than that in which their fathers first worked.

Older workers of the drilling sector remember the days when an individual might work for one or two companies for his or her entire career; many of these companies were formed by Cajun men in the early years of the industry, a period during which the Acadian oilpatch gained its reputation for innovation, and for the production of an experienced and knowledgeable labor force. Furthermore, many of these companies evolved into the oil and service companies where facilities lined the bayous and waterways of southern Louisiana.

During the increase in drilling activity in the 1970's, drilling companies expanded rapidly. New companies formed to serve the booming oilpatch while large companies expanded from regional to global markets. Contract drillers built up their inventories of active rigs in anticipation of ever-expanding demand for their services. These were high times in the oilpatch. One participant

noted that the Cadillac dealership could hardly keep a car on the lot. Another noted that doctors, lawyers, and anybody with money to spare poured investments into oilpatch related ventures.

When that demand slackened, then collapsed in the mid 1980's, debt-ridden drilling companies faltered. Global Marine, which would successfully reorganize after a bankruptcy filing in 1987, responded by

> staging a series of belt-tightening moves to conserve cash through lower operating expenses. In addition to stopping dividends, it became apparent, as contracts were fulfilled, that rigs would have to be placed in storage, or "cold stacked" as the practice was called. This process was delayed as long as possible. If the hard-cash cost of stacking a rig was $2,000 a day and the operating expense for the company to run the rig was $10,000 per day, Global Marine could accept an $8,000 per day contract, which would result in keeping its crew employed. Under such an arrangement, the company suffered no greater cash loss. When even that became impossible, as the price of oil continued to slump and drilling was reduced 50 percent, rigs, including some with working contracts, were stacked around the world (Burleson, 1999, p.171-172).

With the downturn of the 1980's, only those companies that successfully made the jump to global markets were able to persevere. As a result, smaller companies folded or, in another decades-long trend, were acquired by larger service and oil companies. The price collapse resulted in mixed reactions by the larger oil, drilling, and service companies. Some solved the resulting financial predicament through mergers and acquisitions, while others streamlined their operations in an effort to preserve profitable ventures. Corporate biographer Jeff Rodengen, in describing one of the largest service company's attitude in the 1970's, noted that Halliburton

> continued to add divisions in an ongoing effort to create 'one-stop shopping' for oil field services. In looking at potential acquisitions, the company was more concerned with providing new services than with increasing gross revenue (Rodengen, 1996, p. 166).

This attitude changed dramatically in the following decade. Describing Halliburton's reaction to the downturn in the 1980's, Rodengen noted:

> To divest itself of operations not essential to its core business of oilfield service, Halliburton Company sold Southwestern Pipe to a group of that company's managers. It also sold some of the railroad freight car repair facilities run by FreightMaster and most of the assets of Premium Threading Services, an unprofitable division of Otis Engineering (Rodengen, 1996, p. 174-175).

Not only did the downturn of the 1980's result in widespread changes in corporate philosophy, but it fostered a highly variable set of responses by companies. Some, unable to cope, were quickly swept up in mergers and acquisitions. Others were able to persevere through spartan fiscal efforts. Others still were able to grow and prosper during this period.

With the fluctuations endemic to this market, many of the energy and service companies began to rely on contract labor which allowed them to better match the peaks and lows of labor demand

without the burden of maintaining labor costs during the troughs in the market. As one driller noted, this is increasing:

> "Contractors are taking over the oilfield. Right now, the percentage of contractors to Conoco workers is about 60/40, and I think it's going to go even higher. Every six months or so they lay off, bringing in contractors in the workers' places. I figure by Christmas I'll be offered a package, and my job will go to a contractor" [I-624].

Contracting allows companies to call labor when demand exists but avoid any maintenance costs associated with that labor. As one participant described his experience as a contractor,

> "I quit because they didn't work me enough – I went out once, and then they didn't send me out for three months. Then they call me up and send me out on a little three-day job! After being off for three months, it was just not steady enough work" [I-203].

These processual changes are most acute in the drilling sector, for drilling not only represents the most condensed locale of offshore oilpatch labor, but one of the most volatile as well. Workers on production platforms, for example, are fairly insulated from the ebb and flow of the global political economy in which oil production is enmeshed; for the drillers, however, even the slightest ripple in the global economy can stop drilling plans, close down active rigs, and result in retrenchments in the drilling industry. As the next section describes, coping with this insecurity is one factor among many faced by drilling sector laborers.

3.1.4. Drilling as a Livelihood

For the men and women of southern Louisiana who described their occupational histories for this study, the most notable element was the amalgamation of occupations that comprise the drilling sector. For some, drilling has provided a lifetime occupation; for many others, drilling proved a waypoint in the movement to other jobs both inside and outside the oil and gas industry. And although drilling is often a less secure offshore occupation than employment on one of the production platforms, many of the men and women of the Louisiana oilpatch actively pursue drilling jobs, citing both the higher pay and offshore atmosphere as major attractions. Work on the drilling rigs, however, bifurcates an individual's life into periods of onshore liesure and offshore work, and while some thrive on the movement between these two worlds, others note the difficulty of readjusting to home life upon returning from the rig (see Chapter 2).

The path to finding employment in the drilling sector traditionally passed through the dense familial and social networks prevalent in southern Louisiana. Sons followed their fathers and uncles into drilling, often beginning in high school. This system provided an avenue for young Cajun men to enter the oilfield and gain the experience necessary to advance up the occupational ladder. In other cases, a driller with a shorthanded crew might drop by one of the local cafes or bars to hire a roughneck, roustabout, or mudman – older men from the oilfield are replete with stories of sobering up on the way to the docks and the nauseous morning boat ride to a rig after a night at the bars.

This historical portrait of the entry points to the drilling sector, however, was subjected to widespread change beginning in the 1960's. In part, as the industry grew in scope, employee benefit packages grew as well, and, as a result, hiring policies became more formalized. Furthermore, technological advances in the drilling process required a more highly trained labor force – one not always available at the local level. Together, these forces eroded the traditional, localized process by which labor for the drilling rigs was located. This change was further confirmed by the downturn of the 1980's, during which hiring almost ground to a halt.

In the reconfiguration that resulted from these changes, many drilling positions – roustabout and roughneck, for example – are filled via companies that specialize in providing unskilled labor to the oilpatch. Rather than working through social and familial networks, many of the men and women of southern Louisiana, as well as workers from other regions both in the United States and beyond, find employment in the drilling sector through these labor brokers. These companies broker their employment with the contract drilling companies that, in turn, accomplish much of the drilling for the major energy companies in the Gulf. As a result, a particular individual may work on a variety of rigs and with a variety of drilling teams over the course of a year, and personal connections to particular crews, particular companies, or, as many of the older oilpatch workers describe, to particular rigs – become difficult to maintain. Furthermore, the possibility that an individual might begin work for a major oil company as a roustabout or roughneck and proceed up to driller, supervisor, or superintendent – as one could in the past – has decreased. Entry into the most secure jobs of the oilpatch now begins at college, not on the floor of the rig.

These divisions of labor evolved over time as a mechanism by which the oil companies and larger drilling contractors might better deal with the fluctuations in the market. Sustained low barrel prices can push new drilling to a halt. In decades past, the major oil companies dealt with these fluctuations by transferring personnel into other divisions, be it production, construction, or other occupations. In the watershed slowdown of the 1980's, however, the oil companies had to go beyond these traditional strategies. Many companies encouraged employees to take early retirements, some employees were simply laid off, and new hiring, even after the worst had passed, was done with much greater care. This sustained downturn solidified many of the processes already underway, and, for the companies themselves, instigated policies that, at least ideally, would help them weather the next significant downturn in the global market.

Further complicating the organization of drilling sector labor, many of the individuals working on the rig are the offshore representatives of companies with a small to large occupational support network inland. Large shipyards and fabrication outfits build the drilling rigs, secretaries and personnel managers order visas for work abroad, individuals clean and paint drill bits before returning them to the rig, and truckers move equipment to and from the point of embarkation. The rig offshore is the culmination of these efforts, and in that sense, the hub of a vast network of labor that stretches well inshore and beyond the confines of the Acadian oilpatch.

At the bottom of the labor crew on the rig is the roustabout. Roustabouts are basically general laborers; the bulk of their time is spent on odd jobs on the rig, including anything from swabbing the decks, lifting heavy objects, or assisting more skilled technicians with other tasks. As one might expect, the roustabout position represents the entry point for many individuals in the industry. While some never advance beyond this position, many of the more skilled laborers, as

well as some with a college education, worked for a period as a roustabout. The position of shaker is roughly at the same level of roustabout, but the shaker's task consists solely of removing the rock detritus from the mud pumped from the drilling shaft.

One step above the roustabout in prestige is the roughneck, also known as the floorhand. These laborers work on the floor of the drilling rig. Their primary responsibility consists of either connecting or disconnecting the sections of pipe entering or leaving the drill hole. In the past, and on many rigs currently active, this is done through the use and manipulation of heavy hydraulic tongs suspended from cables. New technology is changing this process, however, and some newer drilling rigs have equipment to replace the two or three men on the floor.

The derrickman works on the monkeyboard, a platform located one or two lengths of pipe up the derrick. He handles the upper end of the pipe during removal and is responsible for maintaining the flow of mud into the pipe during drilling. The derrickman's job is roughly parallel in prestige to the crane operator, the individual operating the crane used for loading and unloading materials from the rig. In the past, the crane operator functioned as a sort of head-roustabout, and on some rigs this remains the case. Finally, at this same level, many rigs employ a motorman responsible for the maintenance of the drilling engines. Rig mechanics, electricians, and welders may also work on some rigs.

All rigs include a driller; on smaller rigs, the driller may function as the head roustabout. On larger rigs, the driller often has an assistant to perform this function. The driller is the overall supervisor of all labor on the floor, and operates the drilling machinery. From a control console on the floor of the rig, the driller holds the primary responsibility for drilling the hole and for the oversight of the crew. The driller's boss – and often the senior man on the rig – is the toolpusher. The toolpusher supervises the drilling process, coordinates contractors, and handles affairs with the oil company.

All of the positions listed above usually – but not always – comprise the drilling company team. The drilling contractor employs these laborers and owns the drilling rig. Oil companies or other corporate entities own the rights to drill on offshore sites and rent out the services of these drilling contractors. In periods of high drilling activity, the day-rate paid to the contract drilling outfits are high. As a result, the oil company sends a company man to the rig to supervise the toolpusher, order services and supplies, and oversee the drilling process. Company men, or more specifically, supervisors, are often responsible for multiple rigs, and may split their time between the rigs under their supervision, as well as the inland office. The company man may not spend all his time on the rig, but with the capital-intensive nature of such an enterprise, oil companies often have a company man present during key periods of the drilling process.

Beyond this basic crew, a panoply of contractors and other employees work on particular stages of the drilling process. For example, the mud used to lubricate the drill bit is often managed by a team of contracted employees responsible for transporting the mud to the rig and maintaining the correct formulation and fluidity. Wireline and fishing tool companies are contracted to drop tools and equipment into the hole or remove items that have become wedged or trapped in the hole. Snubbing contractors specialize in capping blowouts; in addition, specialists are often contracted to deal with cementing the hole and completing the well. Finally, the drilling rig usually includes

some combination of cooks, galleyhands, medics, and linen hands, the number of which depends upon the size of the drilling crew. In regions of intense drilling, these services are now sometimes provided from a central rig.

In addition to those employed on the rig itself, many work in the transportation of equipment and personnel to and from the rig via helicopter and boats. Numerous others work inshore to support the rig activity – fabrication yards construct drilling rigs, and clean and maintain older rigs; truckers carry supplies to support bases; drillbit companies service and replace bits and ship them rapidly to the rig; pumps and pipe are forged and prepared for use on the rig; catering companies purchase and prepare provisions for the crew of the rigs. Periods of intense offshore drilling activity pull countless individuals into the workforce – the bayous buzz with activity, the highways fill with trucks moving equipment to and from the docks, and money courses through the economy of southern Louisiana.

Historically, many of these positions – both onshore and offshore – were filled by Cajun men. The dense social networks discussed throughout this section provided a means for matching individuals with employment opportunities. These networks also maintained gender and ethnic segregation in the workplace. Through the 1970's, women were largely relegated to onshore office support or offshore positions as laundresses and cooks, while African-Americans were prevented from working offshore through discriminatory hiring policies. During the boom in offshore drilling, African-Americans filled those onshore positions abandoned by labor's migration offshore, but it was only with the formalization of hiring policies in the largest oilfield companies, accompanied by a series of key lawsuits, that discrimination truly decreased. The mergers and acquisitions of the 1980's subjected much of the offshore industry to formal, corporate hiring policies. Human resources offices were established and specialists hired to develop policies and procedures for hiring and promotion that led to more standardized job categories and away from discrimination based on race and ethnicity. As a result, African-American men began working offshore in larger numbers, and, in the following decades, women began making significant inroads into offshore work as well.

3.1.5. Pride, Loyalty, and Identity

Drilling represents the frontline of the oil industry, and although the sector requires enormous quantities of labor during the boom periods, the hardships of the drilling livelihood – including the rigorous offshore schedules, the danger of the work, the periodic layoffs during the downturn, and much more – are mitigated by the pride drillers take in this particular livelihood. However, the changing conditions of the drilling sector, described in the previous section, present new challenges. One important impact of these changes is the threat to the drilling companies' ability to locate adequate and competent labor during periods of great demand.

For the purposes of this report, issues of loyalty and pride will be explored at three distinct strata – at the level of the company, at the level of the sector, and at the level of the industry. No stratum has been immune to the structural changes of the drilling sector; both the changing relationship between companies and laborers and the generational shift in the local labor pool contributed to the contemporary context of company/labor relations, as described by the drillers below.

As is the case in many occupations across the nation, lifelong employment with a single company is now uncommon in the oilpatch. While a few of the older Cajun men in the oilpatch worked for one or two companies during their entire career, contemporary laborers must negotiate a much more complex system of employment, one that may include stints as independent contractors or temporary laborers, as well as one that may carry them to dozens of different companies either through their own design, through layoffs, or through the continuing mergers and acquisitions predominant in the oilpatch. As one older driller recalled,

> "No, I didn't encourage either of my boys to work in the oilfield. In fact, I wouldn't recommend anyone in this day to go into the oilfield. It's just not as stable as it used to be. If you go to work for a company and give them half or three-quarters of your life, they should take care of you. But they don't do that no more … The oil companies won't, and most of the people working in the oilfield are looking for another job in which they can make just a little more money a month than they're doing. They'll just change overnight if they can get a little more money – it wasn't that way when I was working. The company took care of you" [I-199].

Not only does the participant note the changing relations between companies and labor, he notes the generational trend away from oilpatch work. Young Acadians no longer hold the oilpatch in as high regard as the generations that preceded them. In part, this can be attributed to the success of the oilfield, for breadwinners like the participant quoted here were able to send their children to college, which for many young Acadians opened options well beyond the oilfield. On the other hand, the generational trend away from oilpatch work can be partially attributed to the shifting relations between companies and labor.

In the drilling sector, as well as many of the other sectors described in this report, companies shifted away from secure, long-term employment, instead seeking a configuration that allowed them to quickly meet the changing labor demands of the fluctuating economy of oil production. Over the short term, this strategy helped the drilling companies deal with the fiscal perils of the long downturn in the 1980's, as well as the fluctuations of the last decade. Over the long term, however, local pools of labor have been alienated by the reconfiguration. Without the promise of secure, employment, the youth of Acadiana, whether college-bound or not, often consider other occupations preferable to a lifetime in the oilfield. As a result, finding experienced and reliable oilfield labor is proving more difficult.

Loyalty to the sector, rather than the company, is still discernible in the local labor pool, but, like loyalty to the company, it has been affected by both structural change in the industry and by the generational shift in the labor pool. The drilling sector traditionally offered a straightforward ladder for young Acadian men to ascend, as described in the previous portions of this section. With the imposition of a glass ceiling in this chain of drilling occupations – one largely created by the need for college training – the drilling sector became less attractive to the young men of Acadiana. While experience derived in the drilling sector traditionally served as a springboard to occupations in many of the other sectors of the industry, today the labor pool is bifurcated into those less skilled positions below the ceiling and those for which the companies now require college training.

For those without college training, expectations of lifelong employment in the drilling sector have waned, and, as a result, many of the men and women of Acadiana often look elsewhere for employment. This confounds the companies' ability to find labor in periods of intense activity, as evident in this driller's description of his experience after the turmoil in the 1980's:

> "They [the drilling company] called when they bought the Teledyne rigs. There were four Teledyne rigs, and they bought them and called me up to ask if I wanted to go back to work. I said, "No, I'm trying to get out of the oilfield. The oilfield left me high and dry and I'm trying to get out of it" [I-520].

As this driller notes, frustrations with the drilling sector – one of the most volatile sectors of the energy industry – articulate at much broader levels as a general distrust of the oilfield economy itself. This change in attitude is a significant shift in the character of the local labor pool: at a community and familial level, the structural changes in the industry have left many Acadians insecure in this now-traditional occupation. These themes of shifting identity, generational changes in the attitude of the labor pool, and the evolving requirements of oilfield work are recurring themes throughout this report.

3.1.6. Job Characteristics and Demands

3.1.6.1. Demand for Workers

The construction and operation of a drilling rig entails a substantial capital investment – an investment that represents great financial risks to even the largest companies in the oilpatch. Nonetheless, during periods of intense activity, the drilling sector takes on large numbers of workers, and the demand for capable employees reaches both deep into the communities of southern Louisiana and far outward as well.

For much of its history, this sector's demand for workers was filled through the social and familial networks of southern Louisiana. During the periods of rapid expansion in the drilling sector, laborers on the rigs ascended the job ladder through series of rapid promotions, leaving openings at the bottom. These were largely filled through interpersonal contacts – nearly all of the older participants found their initial employment through friends or family. One participant described his own experience:

> "I started working in the oilfield when I got out of high school – actually, it was really before that because my dad was living in Houston … and every weekend and holiday that I was off, I worked with my dad at the shop … I got to see a lot of the equipment that people use on the rigs, and I saw things that a lot of toolpushers have never seen. I was flat out of high school and getting all this experience … When I graduated, I started full time, and then I started working with my brother-in-law at one of the drilling companies" [I-520].

For many of the study participants, this story is typical. However, in the contemporary oilpatch, multiple factors have worked in concert to alter this process. Changes in company policy, for example, have shifted hiring policies toward short-term contingent workers rather than lifelong

employees, and much of this workforce is contracted through secondary companies that specialize in providing labor to the offshore industry. At the same time, a generational difference in the perception of oilpatch work has pushed many of the youth of southern Louisiana to other occupations, often outside the region. Finally, the increasing role of technical training and college education in the oilpatch, and the glass ceiling thereby created, has made drilling sector work less attractive to many local laborers. Without the traditional possibilities of advancement, many seek to apply themselves elsewhere.

As a result of these multiple factors, finding capable and experienced labor to work the rigs has proven more and more difficult. One rig supervisor describes his experience:

> "The worst thing I remember is when I was superintendent and I didn't get to pick my own … they would send out a dozen people and only one or two of them would be worth a damn. Some were on drugs or drunk or whatever. At first I would send them back in, but that ended up being a crapshoot – oftentimes the replacement was worse than the problem" [I-644].

These represent typical problems cited by many of the study participants. Because the process of locating and hiring labor has been removed from the social milieu of southern Louisiana, the quality of new laborers is an unknown for the supervisors on the rigs. And because advancement from roustabout to toolpusher or supervisor cannot be accomplished without a college degree, on-the-job experience – once the hallmark of advancement – is now a scarcer commodity.

3.1.6.2. Training and Pay

This section will explore the changes in the training necessary to work and advance in the drilling sector, the pay labor typically derives from that work, and the impact of structural changes in the industry upon this wage structure. Changes in both training and pay can be tied to a variety of factors, including the changing face of the drilling sector labor pool, structural changes in the oil companies and their contractors, and the shift in the political economy of the oil industry to one predominately situated in global financial markets.

In the past, training typically took place on the job. As one retired consultant described,

> "I made it a point when I was a driller and when I was a toolpusher, when I had a fishing job going on, I would learn how to use them people's tools. So when I went to work for this company I knew how to work the tools already, so I didn't start at the bottom and have to work my way up" [I-866].

In the past, this attitude and motivation was fairly typical of rig work – men began working on the rigs as roustabouts, and through their own initiative they were able to take advantage of openings higher up in the rig hierarchy. This experience on the rig was often combined with some training from high school. As one old driller noted,

> "In my first year of high school, I took regular classes half the day and vocational classes the other half. Freshman year I learned to weld, and I was a quick learner. So the next year I taught myself to be a machinist – the teacher had all the equipment but didn't know

> how to use it, so he just handed me the textbook. So I was a pipewelder by age 14 and a machinist shortly after that. I worked for the last two years of high school, but I went ahead and finished up at the same time – I was a journeyman machinist during the last two years of school" [I-644].

What attracted men (and more recently, women) to offshore work was the money. For many of the older participants in this study, the pay available for offshore work lured them away from high school and away from other occupations. The money was just too good to pass up. Once participant described this decision:

> "I admit I wasn't sorry I started in the oilfield. At the time I started it was a higher paying job than anything else. I think it's not really like that anymore – it's the same pay as on the beach. You're not making more offshore anymore. Back then, though, you went to work offshore because you made more money … I had a lot of time invested in a company onshore, for example, but I went to work offshore because I made more money roustabouting than with my land job." [I-190]

Following the long downturn of the 1980's, many of the larger companies in the oilpatch entered into a period of fiscal reorganization. At the industry level, these conditions resulted in the mergers and acquisitions described in previous sections; on a company level, however, the fiscal tightening resulted not only in layoffs, but also in a reorganization of company/labor relations, the primary manifestation of which was the growing reliance on contract labor. Contract labor allowed the companies to escape many of the costs ancillary to wages – benefits such as retirement plans and medical insurance.

While contract labor may comprise the lower echelons of rig labor in the contemporary oilpatch, many of those positions higher up the rig hierarchy are now available only to college graduates. As a senior research engineer at one of the major oil companies noted,

> "Labor really has to be more qualified now. It used to be that you could go all the way up to superintendent with a high school degree – that's what my father did. Nowadays, you don't even get the starting positions without a college degree" [I-664].

Onshore training, whether through college or through the various training programs instigated by the oil and service companies, can only provide some of the experience necessary to manage and operate the components of a drilling rig. Because of this, many of the oil and service companies rely upon experienced personnel to train the "college boys" on the job, a situation that results in much friction on the rigs. As one retiree recalled,

> "They started doing that about when I retired. They were hiring boys out of college – engineers – and teaching them to be operators. A bunch of us old hands didn't think too much of the idea, and some of the companies didn't like it either. They would send them out with an experienced operator, and it would take a lot longer to train them than normal. They don't just hire them and turn them loose – they got to be trained" [I-866].

At the same time, the increasingly technical requirements of many levels of rig work make college and technical training a necessity. As one participant noted, "A lot of stuff nowadays, like project logic control, is on computers. That was the hardest thing for me when I got transferred … I thought I was going to go crazy" [I-872]. In the past, many of the men who worked in the oilpatch could not even read – today, computer and technical skills are required for many positions. This fact reinforces the contemporary hierarchies of work in the drilling sector, and, prevents those without a college degree from proceeding up the hierarchy to the levels of income their fathers achieved.

3.1.6.3. Turnover and Advancement

The contemporary labor force in the drilling sector represents a significant shift from that of the past. The bifurcation of the workforce into more skilled and less skilled positions is certainly the most obvious manifestation of this change, and one result of the imposition of the glass ceiling in the drilling sector's job ladder is a dramatic increase in turnover. In turn, the increases in turnover relate to the issues of industry and company loyalty described in previous sections. Together, these factors resulted in changes to the drilling sector.

Increasing turnover in the drilling sector can be related to a variety of factors. First, drilling sector laborers – like most other employed Americans – are seeking to maximize their income. A better offer from a company down the road provides a quick way to achieve this end and, as noted in the previous section, with the diminished bonds of loyalty between companies and laborers, there is little to prevent the reduction of this calculus to a strictly economic one.

While money is certainly the driving force behind much of the turnover in the drilling sector, laborers also move between jobs in search of better work schedules. Less preferable schedules – particularly on-call and 28/28 – often provide sufficient impetus for such job moves. Descriptions of the participants' perspectives on these schedules are provided in the next section; as the participants make clear, however, the rigors of particular schedules can easily drive individuals from one job to another.

High turnover in the drilling sector can also contribute to rapid advancement. In the past and present, offshore laborers note that the typical advancement scenario involves the departure of a superior – as the company scrambles to assemble a crew for the drilling rig, individuals are bumped up the job ladder to fill the necessary positions. At the same time, several individuals noted that in the contemporary oilpatch, drilling laborers with a college education are promoted more quickly than their less educated counterparts.

Underpinning both turnover and advancement in the drilling sector are the dramatic changes endemic to the energy economy. During periods of rapid increase in drilling activity, numerous individuals are quickly added to the labor force, providing ample opportunities for rapid advancement. These same conditions can lead to more rapid turnover as well, for periods of intense drilling activity produce numerous new, lucrative positions and lead to labor shortages. Conversely, during periods of slowdown in drilling activity, laborers in the drilling sector are laid off, demoted to lesser positions ("bumpbacks"), or shifted to different schedules. During these periods, turnover also increases, as large segments of the labor pool scramble to find what little employment remains, and look for opportunities elsewhere.

Together, these forces help shape the drilling labor force in the oilpatch. Job turnover, the participants agreed, has increased in the recent past, primarily because the companies no longer seek to establish career-long relationships with oilpatch laborers. Where those relationships do exist, they are mostly with college-educated engineers. This confluence of factors represents a significant change in the context of oilpatch labor.

3.1.6.4. Schedules

The schedules for rig workers are both variable and evolving. For individuals working in distant waters – contracted or hired to work on a rig in Alaska, Nigeria, Mexico, or one of the numerous other locations of offshore drilling – long departures of a month or more are the norm. For drill rig workers in the Gulf of Mexico, a variety of schedules are utilized. If a standard schedule for rig workers exists, it lies somewhere between the 14/14 and 7/7. However, several factors complicate this standard. Workers often choose to work longer periods during times of active drilling; the particular stage of the drilling process may require more workers for shorter or longer periods. At the same time, the drilling companies and personnel managers have pushed for scheduling systems that make more use of existing labor, leading to an industry-wide trend toward two or three rather than four crews in rotation on a given rig and longer periods offshore. As one study participant noted,

> "A lot of the big companies went to 14 and 7. It used to be 14 and 14, but now it's 14 and 7 – the company men want better crews and to have them work more often. Now they work three crews instead of four" [I-417].

Participants in this study related a diversity of views about the preferred schedule. However, several trends became apparent, the foremost of which was the general dislike of 24-hour on-call positions. For many of the ancillary or contingent positions on the drilling rig, companies establish a pool of laborers serving in an on-call status. These men and women must be ready to depart for the rig at the drop of a hat but are not guaranteed work for any period of time. In some situations, these laborers receive full or partial payment for on-call time; for others, payment only occurs for services rendered. On-call status is the last choice for most oilpatch laborers – men or women on-call can make no plans for their time, must avoid traveling, and can be called to service day or night. As the wife of one offshore worker described,

> "I hated him working 24 hour call. It was hectic because he got calls at all times of the night. We couldn't plan anything, and many times I had to go to functions all by myself or I'd just not go at all. Finally, it got to be too much, and I said he needed to get another job. He found a job working 7 and 7, and I was glad about that! He may be gone for a week at a time, but at least it is steady, and we can plan stuff together now" [I-497].

Or, as a supervisor relates,

> "Being offshore 28-28 wasn't so bad. I had a steady schedule and knew that I would have a break in a couple weeks. I was on 24-hour call for some of my career, and that was terrible – no job is good enough with that schedule. To me, 24-hour call means that you

> don't get a chance to enjoy life on land. With the breaks I have now, I am able to get a good long break, do things in the house, paint the place, hang out with my wife" [I-446].

As workers progress in the drilling industry, they often seek out jobs that offer a more preferred schedule. While the 7, 14, and 28-day offshore stints are generally preferred to being on call, these schedules also cause difficulties for the families of Acadiana. Parents working offshore report missing their children's births, their first steps, baseball games, school performances, and other activities. While some occasions, such as Christmas and birthdays, are celebrated with families and can be rescheduled to occur when the worker is present, others, such as graduation, are community–wide events that cannot be changed. The partners of offshore laborers must make similar adjustments – they must learn to pay the bills, manage the household, and organize countless other activities on their own. Some men and women working offshore note that it is hard to maintain a marriage through these rigorous schedules. Despite these difficulties, many of the families of Acadiana are now in the third generation of offshore work, and these schedules have become a part of life. Unlike offshore workers in other places who are new to the lifestyle, many Acadian laborers do not have to adjust to it. Their fathers worked these schedules, and they long ago became accustomed to the tide of laborers moving on and off shore.

3.1.6.5. Personal Risk and Safety

The drilling platform can be a dangerous workplace. Heavy equipment is in constant use, laborers are often in precarious positions, and problems inevitably occur. Drilling companies strive to mitigate the risks through equipment maintenance and through safety training, with variable success.

Short-term health risks abound on the offshore rigs. Nearly every driller the team spoke with could recall some accident on the rig, and many of them had dealt with injuries themselves. Laborers lose fingers, fracture vertebrae, break limbs, injure their eyes, and endure countless other minor and major injuries. These events can shake the confidence of rig workers, as the young man describes below:

> "[After he fell off the scaffolding], I saw them climbing back up the ladder … I ran down and he was cold, wet, and his thumb was just hanging there. Blood was pouring out of his hand. The company man came up behind him, and I brought him inside and I was trying to take care of him. We didn't want him to go back into shock … I said I quit this, I quit the oilfield. I said that it was my last job, I won't see another one, and I kept talking to him to keep him from going into shock" [I-520].

These types of events overshadow the cumulative health effects of oilfield work, which can include deafness from the loud machinery utilized offshore, lung damage from the gasses released during blowouts, and heart disease and other stress-related illnesses.

The formalization of hiring practices in the drilling sector also resulted in increased safety training for drilling sector labor. As companies merged and expanded and came under increasing scrutiny from insurance carriers and federal occupational safety regulators (which includes random inspection of offshore facility by federal agencies), formal training regimens were

designed and implemented. Today, most drilling crews include a safety engineer who helps ensure that safety regulations are known and followed.

As companies have moved to formalize and instigate safety training, however, they have also increased their reliance on itinerant and contract laborers. As noted earlier in this section, this system does not explicitly favor those with experience in the oilpatch. With high turnover rates at the lower positions in the rig hierarchy, many of the individuals seeking employment in the oilfield lack the depth of oilfield experience of the previous generation. Similarly, contractors often shift between rigs, companies, and positions, giving them less experience with particular rigs and particular work crews.

Finally, because drilling has always been a risky profession, the oil and service companies have relied upon the pride and loyalty of the local workforce to keep them on the rigs despite the danger. As this pride and loyalty to companies, to the drilling sector, and to the oilfield in general wanes, the risky work environment of the drilling rig becomes one more factor encouraging young, local men and women to seek work elsewhere.

3.1.6.6. Mobility Across Sectors and Outside the Industry

Drilling traditionally represented the springboard for oilfield employment – a great number of the oilfield workers participating in the study spent some portion of their career on the drilling rigs. The skills garnered during such stints allowed young Acadian men and women to move into other sectors of the oil industry, as well as to start their own service companies. Basic electrical knowledge, welding experience, and pipefitting skills were transferable not only within the oilfield but outside it, allowing local men to find employment in the shipyards, factories, and other industries of the south.

As a result of the structural changes in the drilling sector, mobility was somewhat altered. For the more lucrative offshore positions – those for which college training is now a prerequisite – the quantity and expense of this advance training (in computer skills, well logging, or other particular technologies) make mobility more problematic. Conversely, for those working as roughnecks and roustabouts, the lack of opportunity for advancement means that manual labor, the primary skill these individuals master in the oilfield, is their only ticket to other industries as well.

Finally, mobility outside the industry has been encouraged by the changes described in this section. As laborers have a harder and harder time finding well-paid, secure, permanent employment in the drilling sector, they seek opportunities outside the oilfield altogether. And as the system of social networks by which employers and employees located each other became supplanted by more formal, extra-regional systems, drilling labor is drawn from an increasingly diverse pool of individuals from around the nation.

3.1.7. Drilling and Acadian Families

Families played an important historical role in the structure of the oil industry labor pool. Foremost, the Acadians reproduced the vital source of labor for the oilfield. The extended familial and social networks allowed individuals to secure gainful employment, build business

relationships, and find customers for those businesses. However, with the changes in the structure of the oil industry – as exemplified by the drilling sector – many of these traditional functions of social and familial networks were altered. As a result, families and communities were segmented from the everyday function of the oilpatch, resulting in changes in the structure of loyalty and pride, explored earlier in this section.

While many of the individuals in their third or fourth decade of work in the oil industry still recognize the dramatic improvements in employment opportunities brought about by the arrival of the oil industry, the newer generations have largely dropped this from their social memory. For the most part, they focus on the negative aspects of oilfield employment; for those employed in the drilling sector, these concerns are particularly acute, since this sector – at least during periods of intense activity – represents the largest offshore activity in the oil industry.

In discussions of the impacts of offshore work with individuals in the drilling sector and their families, the impact of scheduling predominated. As one rig superintendent noted,

> "I was home for two of my children's births, but gone for the other two. Those two were born when I was on a new job offshore, and I was afraid to ask for time off for their birth because it might reflect poorly. I know some guys who go home for every birth, funeral, etc., but their jobs suffer because they're seen as not being dedicated … both my brother and I relied on our families and mother-in-laws to take care of our wives, and the wives learned to deal with our absences. It takes a strong woman to be an oil wife" [I-472].

For many families, having a member of the household away for long periods of time poses some difficulty. At the same time, many note that having a husband or wife back onshore can lead to other problems. As one individual describes,

> "So many marriages fail around here. So many women have affairs, and so many men, when they come home they don't want to step into any figure or role in their family, so they go fishing for a week, they go hunting for a week, and they never really see their family. I think that is more common than a marriage working and people truly being able to raise a family that works" [I-515].

At the same time, typical schedules – many of which carry individuals offshore for a week or two at a time – also allow many individuals to spend a lot of time with their families when they are onshore. Teachers note that offshore fathers often show up to chaperone field trips at school, for example. Another offshore father described the upside of offshore scheduling:

> "I missed a lot of baseball games, but when I was home I got to see a lot of them. When you're home, it's great! You're not tired, and you can devote your whole time to your kids when you're home. I think there are advantages and disadvantages, but you play the advantages … in the summertime, when the kids are off, you can go fishing for seven days" [I-190].

Scheduling, then, certainly poses difficulties for the families of Acadiana, but also confers some advantages to family and community life. Many of the local families have long been accustomed

to the schedule of offshore employment, for their own fathers were often similarly employed. These subjects will be dealt with at length in the later sections of this report; for this particular focus upon the drilling sector, however, it should be noted that many of the individuals also lamented the change away from the predictable offshore work schedules of the past to the more variable and less predictable schedules imposed by the increasingly popular contract-based, on-call employment arrangements.

This insecurity extends beyond familial concerns about time, for there is much uncertainty about long-term employment, yielding a host of additional economic problems to families enmeshed in the drilling sector. As one of the most volatile sectors of the industry, drilling employment can hardly be guaranteed. Most of the companies involved in drilling are effected by the global political economy, which, in many scenarios, results in demotions and layoffs. With lifetime employment in a single company improbable, most drillers conceive of their work as more temporary – subjecting them and their families to the uncertainty therein implied.

Drilling is also one of the more dangerous vocations in the oil industry. Families stand the chance of losing their primary breadwinner to accidents offshore, and such accidents are at least common enough to feed these concerns.[11] Together with the other concerns noted here, employment in the drilling sector impacts the families of southern Louisiana through a complex nexus of social, economic, and personal concerns. While many individuals from the communities of southern Louisiana grew up in this occupational environment, and are hence accustomed to its travails, the changing context of work in the drilling sector – including the shift to contract-based work, to on-call schedules, and to short-term relationships with employers – has put a new burden upon many families of the region. Those factors of known quantity, such as the safety issues and the traditional offshore schedules, are now compounded by factors stemming from recent changes. Workers in the drilling sector face uncertain employment even over the short-term, difficult on-call schedules, and changing criteria for advancement. These burdens inform the drillers' perception of their work and their loyalty to the industry – impacts that inevitably carry over to family and community life.

3.2. Production

When oil and gas exploration began in the Gulf of Mexico, some of the companies that comprised the offshore production sector drilled, serviced, and produced their own wells. Others began contracting out drilling and most oilfield services. In the late 1990's, the production sector consisted solely of the people and equipment responsible for managing the systems by which oil and gas are produced. This section focuses on the evolution and current state of the labor and technology associated with the production process, but it also provides a brief sketch of how business philosophies, logistical strategies, and the development of specific companies have affected this evolution. Over the years, corporate influences on the process, along with national policy, have resulted in the current system and concomitant effects on workers, families, and communities. This study took place during a period of accelerated change in this evolution and consequently leaves some questions unanswered.

[11] The MMS collects accident reports, but changes in the system of reporting make documentation of long-term changes difficult.

The production process is the phase in oil and gas extraction which takes raw materials – once they have been located – from below the ground and sends them through pipelines to refineries. The following discussion of jobs, processes, and issues connected with production refers to the time after initial drilling, when wells are said to be "producing" and oil and/or gas are coming out of a well. Though it has evolved over the years alongside important changes in technology and labor, this basic arrangement has been in place since oil and gas were first produced in the Gulf over five decades ago.

3.2.1. History

Houston business correspondent Jeffrey Share aptly titled his collection of interviews with industry leaders as *The Oil Makers* (1995), emphasizing the complexity of decisions and actions required to turn hydrocarbon resources into usable products. The companies that produce oil and – increasingly in the Gulf of Mexico – natural gas, are diverse, and the organizational structure of this sector is ever-changing. Simplistically, the aggregate of "oil companies" is divided into majors and independents. Typically, the majors are involved in both upstream and downstream activities, from exploration, development, and production of oil and gas (upstream) through refining and distribution (downstream). The independents, historically, have focused on production, exploration, and drilling, the upstream end. But observers quickly caution that the dichotomy is imperfect. Writing in 1994, after a frenzied period of mergers and reorganizations in the 1980's and before the mergers of the late 1990's, Bergman and Hammer note that

> the primary gainers in the offshore industry have been companies that one observer describes as "a whole new breed of big independents." These companies resemble majors in terms of capability but independents in terms of organization and staffing. Their existence illustrates the need for a multidimensional industry categorization. The important variables include not only production, reserves and downstream integration but also in-house staff capabilities, E&P strategies, sources of capital and operating versus nonoperating status (Bergman and Hammer, 1995, p. 163).

The purpose here is not to refine such categories, but simply to mark the highlights of an evolving production sector in the Gulf of Mexico since the 1970's. The majors, vertically-integrated firms such as Exxon, Mobil, Chevron, Texaco, and Gulf, dominated exploration and production into the early 1980's. These were household names, in large part because they distributed their refined gasoline products at service stations, but also because they were the companies that had the financial resources to find and develop large oil fields. By the 1980's, the size of fields being discovered in the "maturing" Gulf had declined markedly – with average reserves only one-tenth of those discovered before 1960, making them less and less attractive to high-volume oil producers. Smaller independents, economically structured to operate smaller properties and attracted by the peaking prices through the 1970's, moved in to fill the niche. Bergman and Hammer identify three factors which aided the entrance of the independents:

> First, the independents gained increasing access to first-line technology, which had been largely monopolized by the majors prior to 1980. This spread of technology was linked in part to the evolution of the contracting sector and its recruitment of experts from major companies. Second, the independents benefited from the progressive development of

> offshore infrastructure (e.g., the pipeline network), which reduced the cost of establishing production facilities. And third, exploration activity by the independents was greatly encouraged by changes in MMS leasing policies, namely the shift from nominated leasing to areawide leasing in 1983 and the reduction in the minimum bid to $25 per acre in 1987. These changes allowed companies to pursue opportunities with a reasonable assurance that tracts of interest could be secured at moderate cost (Bergman and Hammer, 1995, p. 167).

While the barriers to entry were thus eased for the independents, the exit doors were opened wide with the collapse of oil prices in 1985 and 1986. Without downstream refineries to earn profits from low-priced feedstock, independents were devastated. Majors were better-positioned to weather the crisis, having already gone through a major period of realignment in the first half of decade. Companies where financial resources had been weakened by expensive exploration programs or excess refining capacity in the face of dropping demand in the early 1980's were taken over. Thus, Texaco acquired Getty; Exxon bought Hunt; Mobil purchased Superior; British Petroleum took over Standard Oil of Ohio; Gulf Oil fell to Chevron (Baxter, 1999, p. 277). With the downturn, the restructured majors continued to produce from developed fields but reduced exploration spending; they closed branch offices, reduced employment, and rid themselves of unwanted assets and non-core subsidiaries. Conoco's chief executive recalled the consequences for energy correspondent Jeffry Share:

> A half-dozen major oil companies disappeared through mergers. Seven thousand independent companies folded. The oil service sector was decimated. Two million jobs vanished in many related professions, causing immeasurable hurt and heartache. The net impact has been a much smaller U.S. domestic industry than that of twenty years ago (Share, 1995, p. 78).

For the survivors, several significant trends emerged in the 1990's. Majors and the big independents increasingly sought out lower-cost production opportunities abroad, in South America, Southeast Asia, and the Former Soviet Union countries. John Olson, a vice president at Merrill Lynch, put it succinctly:

> There is a pronounced trend to move capital and people overseas, simply because the opportunities to make money there are much bigger than here in the United States (Share, 1995, p. 286).

There were apparent push factors operating as well. Referring to the increasingly stringent regulatory environment and to environmentalists, one independent oilman complained,

> What has happened there is they've made it so difficult to operate now, and we have all seen this. The majors in the United States are gone. They've left. They've gone to Russia, Indonesia, South America, everywhere. It's no longer feasible for them to operate in the United States….And do we want a domestic industry? I don't know whether they care or not. Certainly Hazel O'Leary doesn't care. She told us all that we were dinosaurs and ought to go get reeducated as welders… (Share, 1995, p. 137).

Capital flight had slowed somewhat by mid-decade as the majors increasingly invested in deepwater prospects in the Gulf of Mexico. Several of the majors, most notably Shell, had begun exploratory work off the shelf in the 1980's, but the high cost of the work, combined with low oil prices and unrefined technology, had infused the industry with pessimism. But the low-price environment of the early 1990's spurred advances in deepwater technologies, and the passage of the Deep Water Royalty Relief Act in 1995 sparked a leasing frenzy in 1996. Several high volume test discoveries were made in 1996, confirming "the emergence of a new oil province and the renewal of the U.S. Gulf as an attractive theater" (Le Blanc, 1997, p. 174) for the majors.

Astute independent operators followed a different path in the late 1980's and into the 1990's. Companies had acquired unwanted properties from the majors and, aided by technological advances in seismology, drilling, and "off-the-shelf" platform design (see EIA, 1995, p. 8), worked them intensively. *Offshore* writers Furlow and DeLuca characterize the strategy of such operators:

> Independent oil and gas companies make their money by taking risks and developing projects the majors cannot afford. They have small staffs, low overhead, and focus a great deal of attention on each prospect in their portfolio. It is a formula that works well – to a point. Because margins are narrow and staffs are small, an independent has to focus very closely on each prospect. It is in the details that producers find success (Furlow and DeLuca, 2000, p. 37).

By the late 1990's, as a consequence in part of the merger, acquisition, and divestiture activity among the majors, hundreds of thousands of acres of "non-core" shelf leases were optioned out to independents. Mobil sold 23 shelf fields to Vastar in 1998; Shell transferred 22 fields and 16 undeveloped blocks to Apache the following year. Anadarko bought 82 blocks from Texaco; McMoRan increased its portfolio by a factor of five in deals with Texaco and Shell. As the *Offshore* writers comment: "…independents are inundated with more properties than they can handle" (Furlow and DeLuca, 2000, p. 155).

The merger trend among major oil companies cascaded throughout the industry. Corporate offices closed or consolidated, much as they had through the earlier merger wave of the 1980's. Staffs were cut and costs were trimmed. The new companies took time off from exploration and development drilling to assess their combined assets and prioritize their drilling programs. Contract drillers and virtually all the service and support sectors discussed in this chapter felt the effects of this pause in activity, even in the face of spiking oil and gas prices in 1999. At these prices, the oil producers continued to pump from operating platforms; by the year 2000, producers began reporting record earnings (Fletcher, 2000, p. 22).

Some of the big independents followed the merger trend of the majors, for many of the same reasons – to cut costs, to diversify portfolios of reserves, and, expectantly, to increase shareholder value. For example, Anadarko, which had acquired large reserves from Texaco, merged with Union Pacific Resources (which itself had acquired several smaller independents in recent years) in 2000. Anadarko's chairman, Robert Allison, Jr., explained the deal:

> This merger is an excellent fit for both companies. We blend Anadarko's strengths in exploration with what UPR does best – profitable exploitation with industry-leading drilling and completion technology. The new Anadarko will have the financial strength to aggressively pursue a broader portfolio of projects. We can accelerate activity in the most prospective areas offering the best returns for shareholders. We do expect some modest cost reductions with the merger but that's not what drives this deal. It's about complementary skills and assets that give us dramatic growth and profitability (Union Pacific Resources Group, Inc., 2000, n.p.).

News of this merger caused some worry for the staff of UPR's offshore platform support and supply base in Morgan City. The shorebase personnel had remained intact through the string of acquisitions in previous years, changing their company uniforms with each new owner. The logistics of supply had become more difficult, however, when one of the majors shut down its heliport adjacent to the UPR shorebase. There was concern, at the time of our study, that Anadarko would decide to supply its newly acquired fields from its own bases elsewhere, making the Morgan City base, and its staff, redundant.

3.2.2. Tools and Terminology of the Trade

Offshore production platforms are installed within leases, 5-mile-by-5-mile square sections of ocean floor. These leases are assigned a name and a grid number ("Ship Shoal 36" is located in the Ship Shoal region in grid 36), offered for bid to companies, and, when under subsequent development, host one or many platforms and satellite platforms – small platforms that handle production from a single well. These smaller units are visited and maintained by production crews, but they have no living quarters. Adjacent and nearby leases may be organized into complexes developed by the same company or set of companies. For example, a lead operator participating in this study oversaw a complex for his company of 50 platforms within 5 leases.

Oil and gas flow up from the ocean floor through metal tubing to platforms. Though many inland wells require a pump, oil and gas are under pressure in the Gulf of Mexico, so controlling rather than creating pressure is the concern. Blowouts, while not common, are a constant concern. "Safety" in production is sought through regulations and measures designed to control blowouts. "End devices," located within the steel pipes that bring oil and gas to the platform, are production's main arsenal in this effort. These devices operate below the water surface and have two main functions. They detect changes in pressure within pipes and, when necessary, automatically engage "rams" that seal off pipes, preventing further upward flow of materials and containing potential blowouts. On many old platforms and all new ones, the older, pneumatic types of these devices have been replaced with electric, computer-managed systems. The newer version gives constant information to production crews who monitor pressure levels via computer screens, not gauges. (This change is discussed in more detail in Section 3.2.3.)

Once flowing materials – oil, gas, water and sometimes sand – have safely reached the platform by way of subsurface pipes, they are first separated. Separation units comprise a major section of the production work area where these components are subjected to various physical processes to separate them from each other. Once they are separate, oil and gas are partially processed on the platform. After this initial processing, they are piped to shore. Oil is transferred with a series of

pumps, while gas is pressurized to ensure its flow back to land. Operating and maintaining the system of equipment and network of pipes that perform these functions are major tasks for the production crew. Gauges are checked regularly, leaks must be repaired, valves that stick must be fixed or replaced, and, after years of operation, some components have to be rebuilt entirely. In general, the strategy is to locate and solve problems before they become serious, which means individuals are responsible for monitoring these systems through manual inspections to ensure that areas needing attention receive it promptly. One lead operator described this aspect of the job: "I call it putting out fires. I go to the problem and take care of whatever it is" [I-317].

Another major component of production platform work involves ensuring that flowing materials keep flowing. This involves additional "workover" drilling at times and multiple other services designed to keep the metal tubing below the platform clean and functioning. A lead operator described one scenario involving this type of maintenance. A field he managed had many wells that produced large amounts of high velocity sand, which deteriorated the structural integrity of the pipes by slowly wearing them away from the inside out. This would eventually cut pipes. For the crew, this meant constant effort to maintain the flow of an otherwise consistently producing set of wells. But wells do not always produce consistently. In many cases, a well produces for a certain number of years at a desired level of output and then decreases to an unacceptably low level. It is the production crew's responsibility to track these changes and schedule the "reworking" of those wells not up to par. This involves re-drilling the same hole, often at new angles or different depths. Both the upkeep of subsurface piping and reworking (re-drilling) periodically require personnel in addition to basic production crews.

Like offshore drilling, platform work requires support from an onshore workforce, which is referred to within the sector as "marine support." Production companies typically have one or more support bases located along the Gulf Coast to supply platforms with all that is required for life and work offshore. This support is managed by a team of onshore workers, working in the yard or one of the offices that comprise a support base, and involves two types of support: supply and logistical. At the support base for one major, for example, ordering, handling and shipping supplies – groceries, chemicals, equipment – keeps about a dozen people busy during a typical day. Logistical support, coordinated with individuals on the platform, is equally important. Marine superintendents and their assistants organize and carry out these duties: they arrange for transportation of crew and supplies; they make calls to service companies to schedule work from them; they serve as liaisons between platform personnel and regulatory bodies (e.g. Coast Guard, MMS). Onshore support of marine operations is critical to effective production operations, and, like platform work itself, it often involves responding to unpredictable needs or problems.

3.2.3. Industry Restructuring and Reorganization

Despite and because of heavy competition for quality personnel and leases, there is considerable cooperation – in the form of joint ventures – among and between majors and independents. As some production workers describe the situation, there are very few properties in the Gulf of Mexico being developed by a single company. Even so, one company – the "operator" – usually has the decisionmaking authority on the platform.

With these joint ventures, trends tend to spread through the industry. Though most trends do not saturate all companies at any one time, certain trends do define particular periods of this sector's history. Four types of changes emerged as dominant within the production sector during this study: (1) recent mergers and buyouts, (2) utilization of contract labor, (3) downsizing, and (4) increased reliance on computer technology. All of these changes impacted workers, their families, and communities. While some of these impacts are described in this section, there are further discussions in subsequent sections.

Mergers and buyouts did not directly affect workers and families in Morgan City and New Iberia as much as they did in New Orleans or Houston, where large layoffs occurred in corporate offices during the team's stay in southern Louisiana. But these smaller communities were certainly affected by this restructuring. As workers in all sectors worried about job security, they paid close attention to oil prices and national rig counts, and were confronted with weekly local and regional newspaper headlines that announced thousands of lost jobs in New Orleans. It seemed like no position was safe in the late 1990's, and job loss totals in larger metropolitan areas reinforced local perceptions that individuals had little or no control over their livelihoods.

Exacerbating worker concerns were changes in personnel policies. The positions on a platform were once filled entirely by company men. As of the late 1990's, this distinction had blurred. Starting in the late 1980's, many energy companies, both large and small, shifted from using their own employees to contracting out most, if not all, of the positions on a platform. Similar in form and function to other types of employment agencies throughout the United States, there are several production management companies in Morgan City and New Iberia. Under a contract, these management companies supply oil companies with workers of all types, from roustabouts to lead operators.

The reasons behind this switch to a reliance on contract labor vary from company to company. In general, however, companies have benefited from decreased operating costs and increased flexibility to control the size of their workforce. As one lead operator explained, this system views and treats individual workers like rented tools that can by easily returned if and when necessary:

> "We had a surplus of contract workers, and we got rid of them, and just moved everybody down a notch or two. But my company has not had to fire anyone, yet" [I-317].

The issue of not firing is particularly important here. Company image is enhanced when, during downtimes, management can report that they have kept all of their employees on board. Getting rid of contract laborers is not viewed by companies, company workers, or the public as constituting a layoff.

For all of these reasons, contract labor has become an attractive option for corporate managers and shareholders. But there are also potential liabilities. At the time of this study, problems associated with contract labor took two forms. First, in lower-level positions, the use of contract labor disrupted the normal route of advancement by negatively impacting on-the-job training, which workers feel is important to proper advancement in this sector. Second, when contract

laborers fill positions at all levels, loyalty is challenged. Employee discussions indicated the switch to contract labor – being laid off by an oil company and hired by a management company – was interpreted by workers as a loss of commitment on the company's behalf, and thus resulted in loss of worker loyalty to the company and even more generally to the production sector.

In conjunction with and aided by the trend toward utilizing contract labor, downsizing was another change in production operations evident in the late 1990's. This lead operator's concern was about both of these trends:

> "The cuts just started in December [1998], with the move to complex lead operators. The foremen got hit with price cuts. It might save some money, but I don't think it's a good idea. [It] is not worth the savings. They are cutting at the lead operator level, but nobody got fired, just demoted and a cut in pay" [I-859].

Because lower level positions were increasingly occupied by contract laborers, those workers were easily disposed of when necessary, especially during downsizing. In some cases, management's goal was to retain trained, experienced personnel. This was achieved by either laying off roustabouts, if they worked for the company directly, or simply not utilizing them, if they were contracted laborers, with the latter being the easiest, most desired option. Once these positions were open, management demoted low-level operators to roustabout positions, sometimes changing pay and title but not duties, and then moved upper-level operators to these lower levels. In some cases, this also involved relieving new lead operators of their positions and requiring senior lead operators to manage a larger production field or complex.

Historically, downsizing has also been closely related to the final industry trend described here. Computer technology has reduced the requisite number of workers on platforms, as the following operator emphasized when responding to a question about production's past and present:

> "There were six people, there are two now. Working 7-and-7. We push a billion barrels of gas… We use a mouse. It tells you the pressure. So technology has definitely taken up residence" [I-872].

Started in the 1970's, the move to computer technology was still an issue for production workers in the late 1990's. Along with revolutionizing the production process, computer technology has changed what working in production means in two ways. The first is described above. Simply put, computers have replaced people, and thus production companies have needed and hired fewer new employees relative to the number of new properties or platforms. Second, computer technology has changed the nature of platform work, the training and skills required to manage a platform, and the structure of crews.

This change has required a new set of platform workers and onshore personnel. The technical side of the platform rests on the shoulders of a new breed of production workers, because computers must be run and maintained. Computer use is not as problematic as maintenance or support, according to workers. As is the case in other industries that have switched to computers, problem solving becomes a problem in itself. The question faced by production management, engineers, and platform workers is deciding who does what and from where. At least one

company has had significant problems figuring this out. Positions, titles, and duties have changed from one year to the next that workers literally could not remember what they were, or necessarily the range of duties for which they were responsible. In the mid 1990's, it was decided by management that computer support personnel – college-trained computer technicians – were better utilized if working from land bases. This required creating a new position: the middle support person on the platform. This did not work either, because these middle support workers could only handle certain levels of problems. Technicians needed to be on platforms, but switching back was itself troubling given previous budget decisions and attitudes. The change to utilizing computer technology was viewed as a good one by many workers, but some considered it a complication to which management has responded poorly. Within certain companies, workers feel these changes have hindered efficiency and effectiveness.

3.2.4. Production as a Livelihood

Having heard about offshore production work during discussions with multiple workers and while visiting onshore facilities, one of the team's resident researchers arranged to spend four nights on a production platform and experience life offshore first-hand. Located in 800 feet of water, 100 miles from shore, the platform was within sight of a handful of other platforms. Oftentimes, supply boats were docked at the lowest level, which consists of the large steel tubes comprising the base, the lattice of support beams, and a few low walkways – used, though not designed, for fishing. From this lower level, a series of stairways lead to the upper levels. Rarely do crew members enter from this level, however. They are flown in by helicopters, which land on a pad located at the top of the structure. From here, workers duck to avoid the blades of the chopper and then descend two levels of stairs to the production area, which consists of multiple levels for work stations, offices, the galley, living quarters, and a recreation/television room.

Workers fly in mid-day and in most cases are expected to start working right away. Crew members relieve their counterparts, who go home on the same chopper that brought in their relief. This exchange is much anticipated by those going home, and is more or less undesirable for those coming aboard, who talk or complain about "another week at the office." For workers, the transition can be a time to express discontent, conspicuously so in some cases, and/or to switch gears. Some individuals complained about being overworked; others immediately, almost enthusiastically, started their work day. But as one operator put it, it is not a typical work day in that it starts for workers at noon the day they land and does not end until they climb back on the chopper a week later, almost to the hour:

> "Because when I'm out there, basically I do sleep, but it's not as restful of a sleep as I think I get here at the house. I know, [offshore] I got the radio and phones, I've got to listen to them, because if something happens, I have to be able to help out or gear up. We have alarms on everything. The alarms are tied to the radio system, into the telephone, the pager, you're going to hear them" [I-345].

Workers and spouses who contributed their stories to this study – both in production and in other sectors – agreed that production work is more desirable than that of other sectors. Job security and scheduling regularity were the most commonly cited characteristics that create this positive image of platform work and its relationship to family. However, what it actually meant to be

employed in this sector was clearly changing during the course of this study, and thus altering the sector's ability to live up to such expectations. Even so, for many workers and their families associated with this sector, production work was a preferred way to earn a paycheck. Furthermore, it was a way of life. Historically, production workers considered platform management a lifelong career. As families grew up with it, they came to know and both enjoy and dislike life with one member living half the year on a platform, away from home. While some workers were looking to get out of production in the late 1990's, others, having known nothing but this form of employment, were hoping to stick with it as they approached retirement.

Production work is regularly scheduled: there is little variation from 7-and-7 shifts, and on-call expectations are uncommon. The positions vary from manual laborers that require few specific skills, to on-the-job trained operators, to formally trained electricians and computer technicians. The workday is typically long, often 12 hours or more. In general, the work and lifestyle require adjustment; they are not for everyone. However, relative to other sectors, the demands are less daunting, and consequently production attracts of wide range of people.

As in drilling, the entry-level position in production is the roustabout. These workers are general laborers. Their duties include maintenance, cleaning, and responding to orders from other workers. They are the "gofers" of the industry. They go for this and go for that. Their work can range from long hours of intensely physical labor to hours spent killing time and fighting boredom.

One step up is the low-level operator, whose most basic duties are sometimes hard to distinguish from those of roustabouts. In fact, for some companies the positions are nearly interchangeable. When there is a difference, it has to do with mobility, moving up within the company. As a first level operator, a person is essentially in training to eventually move up through two or three operator levels to become a lead operator, the person in charge of one or more platforms. This position requires both a comprehensive understanding of platform management and skills for the management of personnel.

Productions crews also include one or more electricians, who handle electrical problems of all sorts, from control panels to ice machines in the galley. Large platforms include mechanics, instrumentation technicians, and computer technicians. For all of these positions, the size of the platform and the specific company policy determine whether employees work on one or many platforms. In some cases, demand is high enough to warrant the full-time presence of an electrician on a single platform. Otherwise, the electrician might travel within a complex from platform to platform. Such logistical decisions are left to field supervisors or field foremen, who spend most of their time onshore working between engineers and platform crews.

In the early years of offshore activity, gaining employment in the production sector meant knowing about a job opening and/or knowing the right person. Most production jobs were not advertised then, nor even through the boom years of the 1970's and early 1980's. Energy companies maintained steady crews of production workers and generally only hired when new leases were developed. At the time of this study, one company operating in the Gulf had not hired a worker since 1974. When jobs did become available, social networks were important. Describing these hiring practices, some workers expressed negative sentiment about what they

saw as cronyism, nepotism and racism, while others spoke more positively about social networks being an important part of life in general in southern Louisiana.

Because of these traditional hiring practices, whites – first Texans and then local residents – dominated the early production sector. However, in the 1970's, these traditional practices were partially dismantled, and blacks gained notable access to these jobs. In part through legal actions taken by blacks to fight discrimination within certain companies, blacks gained not only jobs in this sector, but also power in hiring, which further affected the racial composition on certain platforms. In many ways, the game did not change. Rather there were a new set of players: familial and social networks were as important for blacks when they entered this sector in the 1970's as they had been for whites previously. Participants in this study told stories of particular platforms being managed almost entirely by black workers. This was explained both by the fact that blacks had acquired higher positions, and by the fact that many white workers were unwilling to work for, or even alongside, blacks. One former white production worker described his reason for getting out of the industry in terms that highlight this situation. He was working for one of the majors in 1977 when he decided to quit:

> "You want to know why I got out? I got out because they were giving blacks all the jobs. They were uneducated, and they still got the same job I got after going through four years of school. I don't have anything against blacks, but I don't believe in quotas either" [I-475].

These statements reflect production work of the past. At the time of this study, both whites and blacks perceived production work as a favored occupation, one that was less segregated than in its earlier history.

Starting in the late 1980's and early 1990's, the trend to contract labor also became an important force that impacted hiring practices. Beginning in the mid 1980's, through production management companies, individuals commonly entered the production sector without relying on social networks of any sort. Production management companies recruited and hired workers who had no production experience and who recruiters did not know personally. These workers were placed on platforms where they could not only advance up through the ranks of the management company but could also find jobs working directly for oil companies. However, this latter possibility seemed less likely in the late 1990's than it did a decade earlier because entry-level jobs were being contracted out exclusively as low-end positions with few possibilities for advancement or promotion. One major, for example, eliminated the position of roustabout from its job roster. Operators and most other positions were still filled by personnel employed by this company, but upper management decided they did not want "unskilled" roustabouts on the payroll. They contracted out these jobs when they needed specific tasks completed. Under such circumstances, the roustabout position was neither permanent nor a stepping stone.

Social networks were never the only way to enter this sector: the study team talked with several workers who simply found out about an opening, applied without a company contact, and got the job. Nor has networking been limited to family and acquaintances. It has also taken place within the work context. For example, a worker, while employed as a service hand for a company

working under contract for a production company, can make contacts on the platform that allow him access to a job with the oil company directly.

Finally, these arrangements for hiring and promotion have changed further with the introduction of computer-reliant technology in the 1970's. The skills required often preclude hiring someone without them, regardless of a foreman's personal association with the employee. The shift to computer-aided technology has also widened a narrowly opened door for women looking to find work in production. While there has never been an absolute exclusion of women , the nature of the work, the work environment, and the social arena have certainly kept the number of women on platforms low. Computers have helped to challenge the perception that offshore work is not for women.

3.2.5. Pride and Loyalty

On all platforms, for all companies, leaving the platform for less than a medical or family emergency simply does not happen, so individuals must deal with each other within this space. This closeness causes conflict, but it also forces people to work out problems and to work together, in many cases for years or decades. There is ample opportunity and plenty of time on board platforms for longstanding work relationships to develop. Aboard the platform visited by one of the team's researchers, it was clear that workers were a team and that the dynamics of that team fostered strong pride and loyalty among crew members. While there were often complaints about work or coworkers, there was nonetheless a strong sense of employee identity centered around work, which included doing a "good" job, working together, and having pride in their company. Company goals and accomplishments were set up in competition with those of other companies, and this further fostered company specific loyalty. In the last half of the 1990's, things were changing, however, as workers were becoming increasingly frustrated with what it meant to work in production and for their company. Much of this frustration centered around the restructuring of the industry.

For production workers of the late 1990's, stability was becoming a thing of the past. One day a platform would be entirely staffed with workers employed by an oil company. Upper management within that company would make the decision to switch to contract labor, and, consequently, would find a production management company to come in and hire all employees working on their platforms. Workers would not usually be required to switch jobs or locations, and in many cases the most significant logistical change would be that paychecks, and often benefits, would now come from the production management company and not from the oil company directly. There are, however, negative effects that stem from this change. Some workers quit rather than go to work for the management company, sensing a lack of loyalty in the move to contract labor. And some employees who stay on board have new, often less positive thoughts about what it means to work on that company's platform. The company is technically no longer their company. Simply put, some workers viewed the change as evidence that production companies were becoming less committed to workers and more concerned about minimizing costs to increase profits.

Decisions about restructuring that come from upper management and affect work and life on platforms are particularly important in this sector, because pride and loyalty are almost entirely

fostered offshore. Whereas in many occupations across the United States work creates social ties that are maintained outside the workplace, production work rarely involves these types of relationships:

> "After being forced to live with those people for seven days, you really don't want to see them for a while. I mean it is nice if you could, but I work with guys that live in New Iberia, but ever since I have been on the job, that is enough for us" [I-134].

Most workers describe similar work-only associations with coworkers. They seldom socialize with other workers while onshore; it is common for spouses and children of one worker not to meet those of another. Company picnics and other social events vary in frequency from company to company, and they are not always well attended given that many coworkers do not live in close proximity to each other or the company's base. Consequently, relationships between workers are determined largely by positions or roles within the structure of offshore work and the socializing that takes place within this offshore arena.

3.2.6. Job Characteristics and Demand

3.2.6.1. Demand for Workers

As the trend to contract labor continues to develop, it is hard to gauge whether and how it will affect demand for workers. Production as a sector has not had problems finding workers, because many of the entry-level jobs do not require prior training, the scheduling is desirable, and the sector in general has a reputation for retaining workers from young adulthood to retirement. But, things are changing. As with other sectors, each production company has its own experience with the switch to contract labor. Certain companies have made the switch, have not been happy with the results, and are reversing their approach to managing properties. Others like the flexibility it has given them regarding changes in their workforce, regardless of deleterious effects. As these issues get worked out company by company, demand for workers will likely change in ways that cannot be predicted.

However, one change in the industry has produced a significant effect on demand for particular types of workers – electricians and computer technicians. The industry-wide switch to reliance on computer-aided operations, monitoring, and maintenance has changed the composition of the workforce. In the late 1990's, more than ever before, training in electronics was sought by production companies, as was training in computer technology. Existing personnel were learning the basics of computer usage, but trouble shooting and problem solving were duties for computer technicians only. In this same way, operators might handle basic electronic problems, but, in many cases, the array of problems associated with the vast network of electrical systems on large platforms required full-time electricians. Both electricians and computer technicians were in high demand as the industry continued its sweeping trend to computer-dependent platforms.

3.2.6.2. Training and Pay

> "I didn't have clue at first. But I was a natural, that's why I got the promotion. Ninety percent of what I was doing was common sense" [I-839].

Under the system of advancement and training that characterized most of production history, and still is in place for some companies, training takes place almost entirely after people come to work for a company as entry-level platform personnel. New employees come on as roustabouts or the lowest level of operator. Though they are required to have safety certificates, as is the case with most other sectors of the industry, there are no explicit training prerequisites for these workers. Depending as much on the need for workers in upper level positions as on their progress in acquiring skills and knowledge, individuals advance upward. From this entry point, workers learn on the job and are tested to move up to Lead Operator. Electricians, mechanics, and instrumentation technicians require general training and certification beyond on-the-job experience. People in these jobs might have previous production platform experience to help customize general skills to platform needs, but this is not required. People in higher positions are promoted after being a Lead Operator and coming to know the right people.

Production work has always paid better than most non-oil jobs in southern Louisiana, and pay was initially the main reason why many workers entered the industry:

> “Mama was a school teacher, and my pay check for one week was more than hers for one month. And back then I was only making $4.17 per hour. Now, I make $22.00 per hour” [I-294].

In the late 1990’s, production salaries were competitive enough to keep many workers from going to other sectors, but they were certainly not the highest in the industry. Coupled with a favorable work environment, though, the pay has helped maintain production’s reputation as a desirable livelihood.

3.2.6.3. Schedules

As stated earlier, production workers work 7-and-7 shifts, and individual opinions about the scheduling vary:

> "I am not there (home) at all for seven days. The telephone is not the answer, although I can call home whenever needed to. I adjusted (to the schedule), but I never loved it" [I-522].

> “You can hold your breath for seven days” [I-203].

However, when compared to other sectors, nearly all study participants in this sector agreed they had it made. Though production workers have concentrated schedules, their shorter absence-presence cycles are more easily manageable for many families. While problems still arise, scheduling is rarely a point of major concern for production workers; most work 7-and-7 and prefer that schedule. In fact, comments from workers in other sectors place production’s 7-and-7 pattern among the more sought-after among all offshore schedules. These schedules are desirable not only because of the relatively short stints offshore, but also because the schedules are very consistent. Workers and their families can plan events well into the future knowing with a high degree of certainty that the worker will have particular weeks off.

Nevertheless, two areas of uncertainty related to scheduling were raised during our research. Given company strategies to reduce costs, there is some debate about whether deepwater activity will affect the scheduling of this sector, changing the typical pattern to 14-and-14. In addition, some younger workers with families were concerned that overseas production will increasingly require domestic crews, commuting from the United States. Such a commute would affect production's unique and desirable scheduling.

3.2.6.4. Personal Risk and Safety

Safety has a double meaning on production platforms. Within the production sector, the money, technology, and time devoted to "safety" are high. However, the term "safety" as it is most commonly used among production personnel is not exclusively about human safety. Though companies have well-developed programs to minimize danger, "safety" practices that minimize the monetary and environmental consequences associated with a blowout are as important as human safety. A blowout that spews thousands of barrels of oil into the ocean may cost the company more in terms of image and fines than an on-the-job injury.

There are risks associated with production, but, compared to other sectors, especially diving, marine transportation, and drilling, danger and/or risks are less obvious and less talked about. From what the research team observed, production work is simply less dangerous, though not devoid of risks to personal well-being. One of the largest, most-talked about risks involves transportation. Whether by boat or by helicopter, getting to and then onto a platform is dangerous. Landing pads are small, helicopters are single engine craft, and weather often adds another element of danger. To make matters worse, transportation accidents tend to be very serious, often fatal. Transporting by boat is also not without risk. A personnel basket – commonly known as the "widow maker" – is lowered onto the deck of a vessel where workers climb in and are hoisted a hundred feet or more onto the platform. Once again, compared to other sectors, the risks to production workers are relatively low, and most are aware of this as they make decisions about working in the industry's various sectors.

3.2.6.5. Mobility Across Sectors and Outside the Industry

Based on the occupational timelines of workers who participated in the study, there has been little movement of production workers into other sectors. This is explained in part by the fact that many production workers over the past two decades have been relatively satisfied with their work environments. It is also explained by the fact that, until recently, production workers felt few significant effects from economic cycles. Additionally, company upper management has also made it a point to retain trained workers. Like other aspects of production, this is changing.

New production workers might not work directly for the company that owns the leases and platforms, and this change affects how workers are treated and how they perceive their role in the company. Whether this means that workers will leave production, and, if they do, move into other oil sectors or out of the industry altogether remains an important question, this research cannot answer. Nonetheless, the range of skills needed for production work is transferable to some degree. Generally, the organizational skills required of workers from low-level operator to supervisor would likely be useful in many other economic niches. More specifically, the

computer and electronic skills being honed on production platforms will continue to be an important and marketable skill in many sectors of the economy.

3.2.7. Impacts to Workers and Families

The offshore lifestyle, the nature of the work, and issues of scheduling are not typically the sources of major problems for families associated with production, at least not to the degree they are for other sectors. This does not mean all production families have the same experience with and opinion of the lifestyle. Nonetheless, the range of responses families gave to questions about life associated with production varies only to a certain degree:

> "We can call him anytime we want also, day or night. I call him and he calls me. They have a phone on the platform for the guys to use. Oftentimes, I call, and he's the one who actually answers the phone. That's always nice" [I-843].

> "I'd say about three times a day. Yeah, oh yeah. And I can call him right now. The number that I call is a Lafayette number and then it just rings to his platform" [I-135].

> "He went to work yesterday, ok, he got on that platform, I want to say maybe 8:30. I got a call over here at 9:15 to let me know he made it in safe. And that's good, cause my sister from Baton Rouge called to say there were these two helicopters that crashed somewhere near Cameron" [I-256].

Though life for families working in production has its problems, the nature of production platform work allows for greater access to resources to help solve those problems. The effects of the absence of husbands/fathers and some wives/mothers from households are often mitigated with daily contact over the phone and other lines of communication such as email, all of which allow for concerns to be addressed almost immediately. It is for these reasons that a discussion about the impacts on families is less about the offshore lifestyle and more about the effects of corporate decisions on communities, and thus on families:

> "We are in production, so we are the last to see the slow down" [I-317].

This operator was talking specifically about his platform. However, his statement applies to the entire sector during the time of this study. Livelihoods in this sector were affected by the slowdown, but production was insulated and thus affected late in the cycle. While drilling rigs were being stacked and supply vessels were being docked indefinitely, production workers were waiting to see how they would be affected by their company's merger, buyout, or workforce change.

When decisions were made, things certainly changed for workers, but, more profoundly, for communities (see Section 2.2). Oil companies were making major changes in the way the production sector was structured, mostly in the form of mergers and buyouts. Workers in New Orleans and other metropolitan areas were affected directly through layoffs, but the families participating in this study were more indirectly affected by the moving of industry hubs out of

their areas. Effects were felt at a community level, as described in Chapter 2. The loss of a major company's hub had profound effects on community and family life.

When oil companies pull out of towns like Morgan City and New Iberia, a partnership is destroyed. These changes have been taking place in stages over the past two decades. In one company, the engineering department was the first to go, in the 1980's, following a decision from upper management that the engineers should be centralized in New Orleans. This occured even though the move placed engineers farther from those with whom they worked most closely. Company personnel described this as an inconvenient change that resulted in loss of effectiveness and efficiency. Community officials talked about how this resulted in the exodus of families from the area who filled important community and business leadership positions and other socially significant roles (see Chapter 2). To coworkers, friends, and family that remained, these workers and their families were irreplaceable. The most recent episode in this particular company's punctuated flight from the area was the final and complete relocation of the company's hub, which in some form and function had been in the community for over half a century. This pull out dealt a serious blow to the community's economy and perception of the industry.

3.3. Fabrication

Offshore oil and gas extraction requires a variety of structures, vessels, and vehicles that operate on and above the waters of the Gulf of Mexico. All of these must be designed and constructed; the fabrication sector described here is responsible for the production platforms. Though not discussed in detail here, shipbuilding and repair are important complements to the fabrication sector. While shipyards and fabrication yards occupy different economic niches, the two sectors both compete for the same workforce during booms and lay off the same types of workers when attempting to maintain profits during a downturn. Workers may move among sectors in response to opportunities for higher pay, better schedules, or more stable employment.

Offshore structures range in complexity and style from the 60-foot platforms of yesteryear made of creosote-treated wood to today's 1,400-foot mega-structures, built, supported, and maintained with advanced technology. The earliest structures were constructed on site in offshore environments. However, as production moved farther from shore, most of the construction occurred onshore and the products were then hauled out to sea for final assembly. Platforms are, and have been for decades, built in the fabrication yards located throughout southern Louisiana.

Fabrication companies vary widely in size and type, but they can be grouped into three categories. The largest companies during times of high sector activity employ thousands of workers and depend almost entirely on large projects, often to the exclusion of smaller ones. Mid-size companies make up the second group, and, though they too build complete offshore structures, theirs are usually much smaller and less costly. Where large fabrication companies commonly build structures 500 feet and larger with budgets near, and in some cases well over, a billion dollars, mid-sized companies typically build structures with costs ranging in the millions. Mid-sized companies employ up to a few hundred workers. Small fabrication companies and machine shops comprise the third group, and they number in the dozens in communities home to

the fabrication sector. These companies do not build complete structures; rather they build portions of them on sub-contract for either larger or mid-size fabrication companies.

In communities where fabrication yards are concentrated, generations of people have relied on this sector's need for welders, fitters, foremen, and drafters as they raise families, pay bills and plan their futures. For many, working in a "fab yard" is a way of life. Also for many, starting out as a tacker, moving up to become a welder, and accumulating the knowledge, skills, and tools necessary for breaking away from a company as an independent contractor is a way for an entrepreneur to become his or her own boss. The history of fabrication in southern Louisiana dates to the middle of the 20th Century and includes stories of advances in construction techniques that are an entire study in and of themselves. The stories of labor and related migration to these areas are equally complex. Today, like other sectors, fabrication is caught in the midst of change.

3.3.1. History

The earliest structures fabricated for removing hydrocarbons from below the ocean floor were built off the coast of California. Started in 1890 and financed by an entrepreneur from Santa Barbara County, this pioneering effort involved eleven wells located 500 feet from the shoreline. Wharfs for each well were built to extend operations over the water. Approximately two decades later, in Caddo Parish, Louisiana, this technique was adapted for inland waters. Wooden derricks were erected in lakes on wooden platforms, atop cypress tree piles. These piles are long support cylinders driven deep enough into the ocean/lake floor to reach firm ground and establish stability in water. Around the same time, over-water drilling was also being attempted on lakes in Venezuela (Graff, 1981).

In 1933, the first structure was built to extract oil in the Gulf of Mexico proper. It, too, was a wooden platform, constructed in 12 feet of water, 3,000 feet from shore. There is little written about the actual construction of these early platforms or who built them, but the commissioning of such structures to outside companies can be traced to 1937. That year, Superior Oil Company and Pure Oil Company hired Brown & Root to design and build a platform in 14 feet of water, nearly one mile from shore. This was the first time consideration was given to a structure's ability to withstand high seas and hurricane winds, initiating what would become a necessary trend as platforms were located farther out to sea (Graff, 1981).

Various energy and fabrication companies claim to have pioneered the "first offshore platform." The phrase itself is ambiguous, as is "out of sight of land." Between 1937 and 1942, various early oil companies either built or commissioned work to construct a total of 25 pile foundations in the Gulf of Mexico. WWII, while temporarily putting construction on hold, also changed the nature of fabrication significantly. Advances in technology resulting from the war introduced steel to offshore fabrication, and this allowed certain companies to secure strong positions in the fledgling fabrication industry. Steel rapidly replaced wood as the material of choice in the Gulf of Mexico, though concrete structures were determined more suitable in other regions. J Ray McDermott and Brown & Root were both early pioneers and eventually became industry giants. Both companies started building steel structures soon after the war, and by the 1960's they had secured similar, powerful positions within the fabrication sector (Graff, 1981; Pratt, 1997).

Standards and technology evolved. Originally, steel platforms, like their wooden predecessors, were constructed on site, rather than inland in fabrication yards. These early structures were comprised of multiple steel piles and initially took two to three months to build. Early safety/construction standards were set to ensure resilience to hurricane winds of up to 150 miles per hour and wave heights of 18 feet. In 1947, Superior Oil commissioned work for a structure 18 miles from shore and instituted two changes in design: platforms were built to withstand stronger winds and higher waves, and they became more self-contained, requiring less transport to and from shore during operation. Field development farther from shore also meant structures were fabricated onshore and then barged to sites and installed (Graff, 1981).

In the early years, freestanding structures in open waters were a gamble for investors, but by the 1950's it was clear to oil company executives that they would enable reasonably safe and assured exploitation of a hitherto unexplored niche in the oil and gas industry. According to one company history, "Marine construction thus required trial-and-error methods and close interchange between engineer, fabricators and construction crews" (Pratt, 1997, p. xii). The history of individual companies and the entire sector is one of technological evolution as the physical environment, commercial conditions, and equipment interacted to influence design.

In 1949, McDermott put the first derrick barge designed for offshore use to work in the Gulf. This allowed for greater pile diameters and another shift in the trajectory of design philosophy. Larger diameter pile meant fewer piles, which in turn began to have thicker walls and thus more strength and stability. Construction lagged in the early 1950's, due to the controversy over whether states or the federal government had ownership of offshore properties, but, once the dispute was settled in 1953, construction accelerated. The first structure in over 100 feet of water was installed in 1955, and by the early 1960's marine systems were able to produce oil in 200 feet of water (Graff, 1981; Pratt, 1997).

In the 1970's and early 1980's, an offshore platform construction boom, catalyzed by high oil prices and declining promise from onshore production in the United States, pushed structures into increasingly deeper waters in the Gulf of Mexico (Pratt, 1997). The 1980's downturn slowed but never halted activity. The resurgence of interest and investment of the 1990's brought a new series of upswings, while exploration technology and the push into the "ultra" deep waters bred a new type of industry. The resulting increase in fabrication activity, erratic as it was in the 1990's, was fueled by and added to advances and creativity in design and construction technology. When this study began in 1998, thousands of workers were welding pieces of metal to support platforms designed for use in thousands of feet of seawater, breaking world records and accomplishing feats only dreamed of during the industry's early history.

Mishaps of various types have the potential to create unexpected work in this sector. If a completed project encounters bad luck or poor planning during any stage of installation and sustains damage, it could require extensive repair before it is ready to go again. Though certainly not welcomed by management or the company financing the project, such accidents produce extra work, as do flaws found before projects leave yards. One unusual example occurred during this study. A section of a platform being installed was dropped in over 1,000 feet of water, where pressures severely damaged its structural integrity and the depth prevented salvage.

Consequently, the module had to be rebuilt with the least delay. The incident took place during a downturn, and workers in the yard replacing the section were happy for anything that would help keep them out of unemployment lines.

3.3.2. Tools and Terminology of the Trade

The welding torch and rod are fundamental tools of the trade. Whether perched atop scaffolding, crammed inside steel pipe, or hunched over in a shop, welders fuse together pieces of metal, a skill that is the most basic, common, and critical component of steel fabrication. There are several different types of welding, distinguished by the physical and chemical processes involved in transforming steel into its molten state and then bonding it with other steel. Five of these types are commonly used and taught in offshore fabrication. Stick, Flux Cored and TIG (Gas Tungsten Arc) welding are among the more popular. The decisions to use one type over the other are based upon the level of quality and precision needed and the specific application. An additional consideration is the skill level of the operator. Certain types of welding such as MIG (Gas Metal Arc) require less skill and thus can be carried out by less experienced welders.

Fabrication also involves other complex processes that require drafting software, computer models, cranes, pipe rollers, and a variety of machines that shape and alter steel. Fabrication yards range in size, but the largest ones cover several acres and are comprised of a pipe mill where sheets of steel are made tubular, prefabrication areas where the smallest pieces of a structure are constructed, and fabrication areas where everything comes together. Some projects are built under the cover of huge buildings, and others are built in open that can accommodate their enormous dimensions. A typical yard utilizes a dozen or more cranes and other work vehicles to lift and haul steel within and between these yard sections. These processes usually involve multiple companies working together; many of the prefabrication tasks are contracted out by larger companies to smaller ones. This division of labor and the ability of larger companies to use smaller ones to handle work when they are overbooked has made it possible for the small companies to persist.

People are viewed as fundamental tools throughout the oil and gas industry, and this is frequently articulated in the fabrication sector. Some jobs require little skill or experience, so employers turn to “body shops” to fill these positions. Other tasks are highly technical and require years to master; the skilled welder often contracts out his specialized labor and equipment. Managing those “tools,” at the workplace and the places they stay when they are not at work, is a major concern. Various arrangements govern the relationship between the worker and the company (see Section 3.3.3). Some companies provide housing for the often-temporary workers they recruit for specific jobs; others rely on area motels and labor camps. Several shipyards in the region provided trailers on site, and one Morgan City company purchased trailers and installed them in the nearby community of Amelia. However, none of the local fabrication yards took that approach.

3.3.3. Restructuring and Reorganization

Large fabrication companies underwent significant structural and organizational changes in the 1990’s aimed at reducing costs and increasing flexibility. Their activities affected both the

middle-sized and smaller companies. Owners of the smallest companies argued that they survived lean times by finding special niches and providing superior service. However, the cost-cutting competition of the late 1990's was forcing companies to operate below cost and led one company owner to describe the low bidding as "cannibalization" [Focus Group, 3-15-2000].

This section addresses two sector trends that impacted workers: (1) an increased reliance by all companies on contract work, mostly welders, fitters, and general laborers; and (2) a shift among larger companies to target for layoffs both middle managers and employees close to retirement.

The fabrication sector has long relied on contract labor to adjust the size of its workforce, especially during periods of very high activity when large numbers of workers are needed for short periods of time. Contract labor increases flexibility because companies do not have to go through regular hiring procedures or establish pension plans and benefit packages for contractors. As independent contractors, workers typically earn a higher hourly rate than their company-employed counterparts, but they receive no benefits. Some workers, especially those without families, or with spouses whose employers offer benefits, find this option attractive.

Greater technical sophistication and specialization in construction have made the contract option even more appealing for some employers. Some highly technical and specialized tasks are only done at one or two points in a construction process. Human resources managers in this study argued that hiring contract workers reduced the time and expense of bringing on a new worker, a factor that they deemed critical because of the nature of the work and the speed with which workers come and go from jobs.

Though the use of contract labor is not new, by the late 1990's southern Louisiana fabrication yards had come to rely heavily on contract workers, not only on those self-employed individuals who opted for the higher pay and greater flexibility the arrangement offered them, but also on workers employed by contract agencies that had grown up across the Gulf of Mexico. Large, middle-sized, and small companies had at least some contract workers on their yards.

The second change – the nature of layoffs – was most evident in the large companies. Though layoffs and instability in the workforce are common to the fabrication sector, the process by which companies reduced their labor pool changed qualitatively during the time of this study. People were still being laid off to cut costs in the face of low activity, but management redefined which cuts were desirable and acceptable. Low activity translates to a lack of projects, and this typically meant bad news for new employees and those of lower rank. Within large fabrication companies, during the time of this study, like in many industries across the United States, no one felt safe from the effects of cost-cutting layoffs. Efficiency experts arrived on the scene, and, along with management, decided that expensive employees, those close to retirement or with large salaries achieved through decades of pay increases, were more effective targets in the effort to save the company money.

3.3.4. Fabrication as a Livelihood

It is impossible to live and work in southern Louisiana and be untouched by the fabrication sector. Huge platforms loom above cities, towns, and waterways. Almost every male learns how

to use a welding torch from a relative, a friend, or an industrial arts teacher and puts that knowledge to work on his car, boat, and home. With hard work, an entrepreneurial young man (or rarely woman) can barter for or purchase enough equipment to strike out as an independent contractor. Though the investment is significant, it is an option that is perceived to be within reach of many individuals (see also Section 3.3.6).

Paul Willis, in *Learning to Labor* (1977), describes how adolescence and school life in England perpetuate a legacy of labor for working class citizens. He argues that students reject formal ways of learning, including high school, in part because their social arena and upbringing lead them from an early age to labor. Applying his analysis of society and labor to the fabrication sector – a link not without problems, but nonetheless useful – helps reveal how labor and society are related in southern Louisiana.

Lance Callahan was born and raised in Morgan City. He grew up on a houseboat that was docked just north of a local shipyard. He went to Morgan City High School, but dropped out in 1972 and went to work for the shipyard as a tacker. Growing up around the shipyard put him in constant contact with a lot of guys who worked there, which in turn fostered an admiration and desire to earn money as a shipyard hand even before he could legally do so. The company had just gotten some big contracts to build vessels, and it needed workers. Lance said he had a little training, which he had gotten informally by living so close to the shipyard, before he started with the company. After working at the shipyard for a year, Lance served two years in the military. When he returned to Morgan City he started, but did not complete, welding training at Young Memorial Technical College. For the next twenty years he worked in and out of the oil industry, moving among companies. He worked mostly for contract welding firms that bid on work in both fabrication and shipyards. At the time of this study, Lance was self-employed as a contract welder mostly in offshore fabrication, but he was having a tough go at it, given the slowdown and the expenses associated with his work [I-449].

Willis (1977) might argue that Lance had little choice but to get into welding, given early influences from local culture on his decisions concerning his future. The legacy of welders and fitters in Morgan City and New Iberia suggests that labor has been and is reproduced locally in the continual interaction between the fabrication sector and these communities. Many work configurations are possible within this sector, and people can move among them. Some workers are single-company, career oriented, and others change companies, sectors, and even industries with some regularity. For example, some welders leave the oil and gas industry to work in cane mills during the months after harvest when the mills are disassembled and rebuilt. Both long-term residents and some immigrants groups, such as the Vietnamese Americans, have tended to be career-oriented in their approach to work in the fabrication sector.

Access to employment in the fabrication sector varies. Jobs with higher pay and better working conditions are, not surprisingly, in higher demand by workers, and thus more difficult to acquire. These jobs include positions as foremen, crane operators, and middle management. Yard workers report that nepotism and favoritism play a role in hiring and advancement, but so do other factors including work performance, reliability, and training.

Fabrication, especially in Morgan City, employs more local/regional workers than any other sector, and during busy years it has provided opportunities for workers with or without high school diplomas. Still, southern Louisiana communities cannot produce as many workers as the sector requires, so fabrication companies have long looked beyond the pool of local white males to meet their needs. They have found workers among immigrant blacks, Asian-Americans, and Hispanics and, in rare cases, among young women. They have supplemented those recruits with temporary workers from other parts of the south, Texas, Mexico, and places as far away as India.

Today, three demographic groups comprise much of the workforce in fabrication: long-term residents, often with families going back multiple generations; more recent immigrants primarily from Latin America and Vietnam; and blacks recruited locally and from New Orleans and other urban areas. The latter group works almost entirely out of labor camps or bunkhouses and acquires duties or positions of the least desirable nature, bringing low hourly wages and no benefits. In some cases, the immigrant workers came to the area to join family and friends already taking advantage of a small town with "good paying" jobs, and, in other cases, companies have recruited heavily from across the U.S. southern border. Welders from Mexico and Southeast Asia are not only readily available and willing, but foremen talk highly about the high quality of their work (see Donato et al., 1998)

Though fabrication companies hire a range of workers who require different levels of training, their employees are predominantly skilled and unskilled laborers. The largest number of workers are employed as welders and fitters (see Section 3.3.6). For this skilled labor force, fabrication companies have relied on a core workforce from southern Louisiana. At the time of this study, however, Willis' argument seemed to be applicable to fewer and fewer high school students. Young people of all ethnic backgrounds indicated that they intended to attend college and avoid the types of physical labor they associated with the oil and gas industry in general and the fabrication sector in particular. Educators, especially those in vocational programs and the recent School-to-Work initiative, described a lack of interest among students and low enrollment in special programs that offered apprenticeships in welding and fabrication. As a consequence, few young people choose such work and enter this sector with either the skills or attitude to perform it effectively. Nevertheless, the presence of and historical ties to this sector still pull in young workers:

> "I took some college prep classes and almost failed a couple of them. When that happened, [a large fabrication company] was the place to go. My dad had worked there forever. There were lots of other fab yards, but [the company] seemed to stick out as the best" [I-862].

3.3.5. Pride and Loyalty

Lance, described in the previous section, typifies the local welder who worked his way into his own business. His story illustrates how many workers with limited formal education but the wherewithal to establish a niche within the fabrication sector have been able to earn the respect of employers and peers. Workers who opted to stay with a single company for decades also spoke proudly of their service to the company, the sector, and the offshore oil and gas industry. They named platforms on which they had worked and discussed relationships among coworkers.

Welding is a craft, and regardless of where they perform it, welders are proud of what they do. Likewise, fabrication companies in southern Louisiana pioneered an impressive industry and, at the time of this study, were fortifying that legacy with increased prominence in accessing oil in deep water. Though many workers came and went within this sector through the decades of cyclical activity, some were able to stay with it long enough to stake out a career, build or finance a home, and raise a family.

By the late 1990's, workers indicated that things had changed. Most evident was a perception that workers are less committed to either their companies, the sector, or the industry than they had been in the past. Particularly noticeable is the new attitude toward the companies. According to one study participant, recently laid off after nearly 30 years with one company, the employee/employer relationship had degenerated and loyalty was affected:

> "Company philosophy has definitely changed. Job security is gone. People, including myself, used to think they would start with one company and eventually retire. That is not the case today. People expect to have multiple careers in their lifetime. I put my heart and soul into that job, into that company, but we are just going to have to look somewhere else. I've got to get over the insecure feeling that I've got now from literally being kicked out the door that morning. There was no warning" [I-380].

Conversations with workers such as this one revealed a once-strong loyalty to the fabrication companies. For some, this has clearly changed as layoffs became common throughout the sector and were interpreted by workers as a switch in company priorities:

> "I was shocked. Their goal is to cut costs, and that's how they do it. They cut the high paying jobs, the guys who have been here for a lot of years, the ones with the benefits and who are close to retirement. Companies just want to make money and they do not care about anything else. But in busts like this one, it is not smart for them to cut the experienced guys like myself" [I-380].

Company managers were not ignorant of the changed attitudes, and some acknowledged their role in fostering insecurity and disillusionment. A few companies were taking steps to change things; they were reversing the trend toward hiring only contract workers, increasing contact between management and workers, and establishing programs within which their workers could earn secondary and postsecondary degrees. Individual foremen offered their workers support beyond the workplace through help with budgeting, informal counseling, and other services. The downturn of the late 1990's put a strain on these efforts, and some were already questioning whether their companies could continue what they described as perks under the financial strain they were facing.

3.3.6. Job Characteristics and Demands

3.3.6.1. Demand for Workers

Small fabrication yards and machine shops have not only the smallest number of workers, but also the fewest different work positions. The workforce typically includes drafters, welders, fitters, machinists, and general laborers. The workforce at mid- and large-sized companies

includes this same core with additional positions necessitated by both the larger company and project or structure size. For example, 1,500 employees require human resource departments and a whole team of foremen. Crane operators and riggers are common in large yards because cranes are requisite machinery for building structures with dimensions of 200 feet or more.

Large companies employ college-educated engineers who handle the planning of not only basic building but early project development where ideas are transformed into blueprints and models. Within small companies, company owners and possibly one other employee may fill drafting positions whereas mid-sized and large companies typically have an entire drafting and planning department. These positions require considerable training, most of which is done at technical colleges and can be obtained locally in most communities where fabrication yards are prevalent. Individuals who got into drafting 15 years ago may have needed six months in classes to earn a degree and get a job, but such programs now require two years to complete. Beyond the drafters, mid-sized and large companies hire "materials take-off" personnel to look at a blueprint prior to bidding on the project and determine how much the final product will cost to construct. These workers must calculate with a high degree of confidence the number of worker hours and the cost of materials for a potential project. Because of its centrality to success in the fabrication sector, this task has become an industry skill at which some individuals have achieved a high degree of competence.

Once a bid has been awarded, the project moves from the drafting table to the yard where construction or fabrication starts. Again, only large and mid-size companies actually build entire offshore structures. Consequently, the work done in these yards requires more equipment and workers. Machinists, fitters, and welders comprise the basic unit of workers in any fabrication yard, and nearly all the workforce of small companies. Once the structure or object has been designed, pieces of steel must be cut, shaped and welded together. Machinists cut or shape steel. This is done with large, costly machinery such as drill presses and pipe mills. This type of work requires little or no formal training because most of the skills, which are often machine-specific, can be taught quickly through on-the-job training. Fitters and welders are charged with connecting pieces of steel to form pieces of or entire structures. The skills needed for these tasks can be learned on the job.

In addition to the tackers, welders, fitters and others doing the fabrication, the crane and crane operator are perhaps the most essential. Crane functions in a fabrication yard are two-fold: to lift and to hold or stabilize. Assisting crane operators are riggers, whose main task is to response to the needs of crane operators. This usually takes the form of hooking and unhooking chains or cables used in the lift of objects.

Rigging refers to the manual labor associated with assisting a crane operator. It requires lifting equipment and materials, and pulling and hooking up steel cables. Working as a rigger is one route to becoming a crane operator. Some riggers, when they put forth the effort, use the opportunity to learn from the crane operators and undertake on-the-job training. In addition, employees can take specialized classes to become certified as a crane operator.

3.3.6.2. Training and Pay

As mentioned earlier, some positions in fabrication require no prior training. These positions require skills, but they are acquired during on-the-job training. Many positions, however, require prior training or are such that companies prefer to fill them with trained applicants. Today, most welders take anywhere from six to 18 months of classes at technical colleges, where they receive training in several different types of welding. Oftentimes, according to welding instructors, students do not complete degrees but rather acquire just enough training to become certified and hirable. Certification has become increasingly important within this sector because of demands by insurance companies (see Section 3.3.6.5). Pay is generally tied to experience and certification, so workers with more of both earn more money.

Most yard workers earn an hourly wage, not a salary. For workers hired directly by the company, seniority partly determines their hourly pay rate. Fabrication workers, whether welders, machinists, or crane operators, get periodic pay increases according to years of service. Additionally, for welders and fitters, hourly wages increase with the further development of skills. When starting work for a company as a helper and then being upgraded to a full-fledged welder or fitter, a person starts at the bottom of the wage scale. This starting wage is company-specific but fluctuates within an industry range. Workers and families have grown accustomed to working over 40 hours a week. Workers make a good living in fabrication because they frequently accumulate as many as 20 hours of overtime pay per week.

Contract workers, whether self-employed or working for a contract agency, face different issues. Seniority is not a factor in determining their pay. Since they do not work for a specific fabrication company, but rather switch from one to another to find work, they do not build up official years of service. Experience is still important, however, because yard foremen prefer veteran welders. Self-employed contract workers are paid more per hour than company-employed workers because they are expected to provide their own equipment and because they do not receive benefits. Agency-employed welders and fitters often do receive benefits from the contract agency, and they earn a lower hourly wage than self-employed workers.

Engineering and drafting require formal education, but on-the-job training is still crucial. Currently the Louisiana Technical College's Young Memorial Campus offers a seven term, 2,100-hour drafting and design program in which students learn fundamental manual drafting and then specialize in one of several disciplines that may or may not be related to offshore platform fabrication. Attended full time, the program takes approximately two years to complete. Course instruction is competency-based: degree and certificate completion is based on the student's ability to demonstrate occupational skills specific to the area of study. In all areas, this includes intensive application of computer-aided drafting.

Though the technical college program was praised by students, instructors, and local employers, it has problems that, according to one instructor, are common at many technical colleges. The program has limited resources and difficulty keeping up with the changing equipment and software demands. One instructor had worked locally as a draftsman. His initial training and work experience were frustrating:

> "When I graduated, my training was almost useless. Everyone had gone to a new system. I had to relearn everything I knew, because the software had changed so much" [I-272].

The first major change in the drafting world was the switch from board drafting to computers, and this instructor had received little training on computers upon completing his training as recently as 1993. At that time, Young Memorial had very few computers.

The introduction and widespread use of computer technology has been an important change for many current drafters and also for materials take-off personnel. Of the people in these positions trained in the 1980's or even early 1990's who lost their jobs during one of several rounds of layoffs in the late 1990's, many faced significant skill gaps and discrepancies between what they had been earning prior to their lay off and what they could expect to earn in a new job. Having never received formal computer training, they faced difficult job searches in a sector where computers have replaced the drafting board. During his search for work, one study participant contemplated taking classes to improve his employability. However, he found work prior to enrolling, which suggests that experienced workers, even those without formal training in computers, are still in demand.

Even younger workers who were trained on computers were concerned that they had not been trained on the latest software or the software used by companies to which they were applying. According to a drafting instructor, changing software is still a problem:

> "Students graduate with proficiency in AutoCAD 13, but they end up working for companies that use completely different software. I buy new software for my training regularly to keep up, but my budget is limited. Some companies will train new hires, and others will not. So, for them, you must have the training before they will hire you" [I-272].

Welding has not typically required prior training. Companies train welders and fitters during the first several months of their employment through a system where these new workers serve as apprentices under more experienced welders and fitters. Called "helpers," the positions require only the desire and will to learn the trade and the eventual aptitude to pass certification. Training starts slowly, usually with the helpers apprenticing alongside a fitter, not a welder. Fitters align adjoining pieces of steel and tack them together. They serve as good initial mentors for helpers during their first several months of learning, because tacking is the most basic form of welding. After helpers have demonstrated competency at this level they go to work with a welder and start making spot welds, short welds that require less skill than the long, more complicated welds that comprise much of fabrication welding. Many of the welders in this study learned this way during the 1970's. Unlike drafting, the welding technology is not changing fast enough to make welding skills acquired decades ago obsolete.

Recently, especially during worker shortages, companies have sought trained and certified welders. Potential welders are looking to institutions to learn the skills needed in fabrication yards. Welding programs have been established at technical training centers – one is in Morgan City – where students can gain the skills leading to professional certification and a job.

Crane operators also learn either on the job or through more formal methods. There are few, if any, non-company programs for instruction on operating cranes. One study participant who had been operating a crane for over 20 years at the time of this study described how he came to the job. He had worked as a rigger for two years, and during this time he gradually gained the experience and instruction needed to run a crane. He started off slowly with small cranes and easy maneuvers, and worked his way up to more advanced tasks. He took every chance he could to show his ability; yard supervisors would watch him work the crane. When enough people said good things about him, the company started him as a relief operator. If someone did not show up for work, he would work that person's crane for the day. Then in 1978, he became a full-time operator.

3.3.6.3. Turnover and Mobility

During long periods of high activity, workers face constant overtime and a lack of time or energy to seek other options. During periods of low activity, few yards are hiring. Nonetheless, there is high mobility within this sector. Companies and workers make use of the contract labor system in ways that facilitate both turnover and inter-sector, inter-industry mobility. Contract workers, either operating independently or through a contract company, tend to move from company to company and in and out of the sector frequently – sometimes monthly. Companies that utilize contract laborers – especially contract welders – do so according to their demand for workers which varies from month to month according to industry cycles and even the stages of individual projects. Some welders react to this uncertainly during slow times by moving out of fabrication, and some take advantage of their ability to get higher pay down the road during good times. This further exacerbates high turnover and mobility.

3.3.6.4. Schedules

Unlike many other sectors in the offshore oil and gas industry, fabrication involves little concentrated work scheduling. However, this has not eliminated the work schedule from the list of factors that impact the lives of families associated with this sector. Scheduling issues that concern these families relate directly to industry cycles, and like many other aspects of work in cyclic industries, there seems to be no middle ground. When business is good, workers are overworked and families become a lower priority:

> "You have no time to do anything else, you can't train yourself to do something else. You have to use all your time. Once you get up in the morning it's dark, you go home at night and it's dark, you have no family life, you have no social life, you can't love your neighbor, you can't love your dog, you can't even love your wife, because you're too tired. It's get up, go to work, come home, and then when you go to bed at night, as soon as you wake up, I mean, as soon as you go to sleep you wake up [and] it's time to go back to work. And it's been going on for years, the years I've been here. The only time you get off is when it rains, and even if it rains you still have to show up for work so it's really not like a scheduled day off where you can plan with your family" [I-205].

However, when business slows down, hours are cut to 40 per week or less. The loss of overtime pay can create a major strain on family finances and outweigh any benefits of the worker being with the family more often.

3.3.6.5. Personal Risk and Safety

With the shear volume of workers and the complexity in many fabrication yards, accidents happen. Most companies stress personal safety, and few workers reported serious injury. Though deaths have occurred at the fabrication yards in the past, researchers in this study heard of none during this study. In fact, when describing the dangers of the job most study participants were matter-of-fact and nonchalant.

One individual did express concern about his early work in fabrication. In 1974, he quit his job at one of the large fabrication companies in the area because he was afraid of injury. When he was hired, he agreed to perform climbing duties. In the fabrication of large structures, some welders must be lifted to heights of 100 feet or more. They have to climb and hang from support lines to gain access to some of the welds. Without having done it before, this worker agreed, in the beginning, to do this type of work. When it came to actually climbing on round steel several hundred feet in the air, he did not like it and decided he was not ready to do what the company was expecting of him. He chose to quit rather than deal with climbing or trying to get a change in his job description. Some older workers, in this sector and others, expressed concern that their jobs were tightly tied to their physical abilities.

There are additional health risks that accompany welding, as several welders described. These workers claim that it can be hard on the body and personal health. One described how he thought that all the smoke generated during the welding process was possibly harmful to his lungs. He was having stomach problems and breathing problems:

> "I either had to leave again, or switch departments. I told my boss that I wanted to switch to rigging. I had been to the doctor and the doctor had given me a note saying that the smoke was bad for my lungs" [I-862].

In addition to health risks, fabrication workers face significant risks to their pocketbooks and careers. One result of restructuring has been a shift of financial risk and liability from the oil companies to the contracting and service companies and, within many of these, to the individual worker. Fabricators are among the latter group.

> "To walk into any fabrication yard, a guy must have an insurance policy with, say, a million dollars worth of coverage. Same thing when you go to work for a contract company, the first thing anybody wants is your insurance certification. If you choose to work under the contract company's insurance policy, then your hourly pay drops" [I-449].

Contract welders in fabrication expressed concerns about insurance. In addition to worrying about life, medical, and dental plans, which they often choose to purchase out-of-pocket, they must pay for their own liability insurance. This insurance covers the cost of mistakes they might make on the job. If a structure is built with a flaw in it, and that flaw causes an accident that involves injury or financial loss, then regulators and insurance companies look for the financially responsible party. The flaw is traced back to the location, time, contract, company, and person (if

necessary), and the insurance policy covering that portion of the fabrication process has to cover the damages.

This system is much like any other in the insurance industry, but it is worth noting here because of the financial inequality of the players. Workers whose monthly financial scenarios range from broke to that of a middle-income family are forced to purchase business insurance policies to protect large corporate entities – along with themselves – from financial losses resulting from the rare event that a billion-dollar structure with thousands of individual welds fails under the various pressures it was designed to withstand.

When asked how this affected his livelihood, one worker pointed out the difficulty the current system poses for workers who are not insured by the fabrication yards at which they work:

> "Insurance costs more for me working for myself than if I was covered under a company policy. They get it cheaper because of the numbers. The majority of the time, the extra pay I get working for myself and the extra cost for insurance cancel each other out. It works out about the same. But when it's slow, like now, it does not work out. I have to drop my rate and work for less or I won't get any work" [I-449].

Like most types of insurance, the cost of an insurance policy depends on the coverage. The basic or minimum policy costs workers $2,500 per year and provides umbrella coverage up to $300,000. For coverage up to $1,000,000, the cost is about $3,500 per year. The insurance requirements, in terms of maximum coverage, vary from yard to yard. For contract welders, these costs come out of their paychecks. The type of policy limits the yards where they can solicit work. During slow times, this is particularly troubling, because a person's only employment option could easily be in a yard where coverage requirements are too high. Given the relatively high costs, the purchase of additional coverage is often not an option during these times.

3.3.7. Impact to Workers and Families

> "I mean I had life insurance, medical insurance, dental, vision, the whole nine yards. But I got laid off from there in 1986" [I-194].

The most important issues faced by families associated with the fabrication sector are financial instability and long work days and weeks. For most, when one is present the other is absent. Money is perhaps the most critical concern. Layoffs and unemployment create tremendous uncertainty and common misfortune. When layoffs come, they are rarely sector wide, but often they are broad enough to reduce the number of employment opportunities. Many people stay unemployed for months, some choosing to leave this sector or even move out of these communities to search for more stable employment in other areas of the state or country. These changes come quickly and unannounced, leaving workers and spouses with decisions about whether a good job or closeness to extended family is the more important priority.

3.4. Diving and Underwater Construction

U.S. commercial diving got its start in California, where abalone populations attracted deep-sea fisherman. There the sharp drop off the continental shelf necessitated the use of deep-sea divers almost as soon as the oil and gas industry moved offshore. Soon though, as activity in the Gulf of Mexico increased, both companies and divers gravitated there, and, by the mid-1970's, the Gulf had become the place to which commercial divers would go to "earn their stripes" [I-654]. The Gulf of Mexico quickly surpassed California's lead in the offshore oil and gas industry, though California has retained a significant role in the commercial diving industry.

Morgan City is home to one of the few publicly-funded diving training institutions in the United States from which individuals can receive training for a small fee (see Young Memorial website; www.youngmemorial.com/diving/default.htm). By the 1990's, few southern Louisianans enrolled in the program; instead, students came from throughout the United States and abroad. Nevertheless, several large companies in New Iberia and Morgan City provide diving and underwater construction services, and, in their first few years on the job, tenders and divers must live close to their company warehouses. Consequently, many divers and diver-tenders live in these communities. This section explores the history and operation of oilfield diving and underwater construction and the experiences of those involved in the sector.

3.4.1. History of Commercial Oilfield Diving

Underwater diving dates back hundreds of years and emerged on several continents; early divers gathered sponges, salvaged sunken wrecks, and searched for other treasures of the deep. As early as 1828, divers were using helmets supplied with compressed air from the surface (Parker, 1997, p. 7). Industrialization in Europe increased demand for underwater construction and established commercial diving as an enterprise. Special challenges of underwater engineering projects included placing concrete, cutting and welding metals, and laying pipelines. Deep-sea diving gear was developed to allow divers the flexibility to work in cold temperatures, under high pressure, and under conditions of low visibility.

Though salvage divers worked in the United States throughout the 1800's, it was not until the latter part of the century that large commercial diving projects, such as deepening shipping lanes and constructing bridges and ports, were undertaken. In 1905, Greek immigrants from the island of Aegina brought their specialized boats and compressed air diving equipment to Tarpon Springs, Fla. for open sea sponge diving and were soon recognized among the best professional divers in the world. On the west coast, Japanese abalone fishermen began diving with compressed air by 1900 and contributed to the growing diving expertise developing in California (Parker, 1997).

Then, in 1929, oil entrepreneurs needed a comprehensive deepwater survey to examine leases that extended beyond the low tide line. California's narrow continental shelf and deepwater shoreline required special methods of prospecting and production, and oilfield diving was begun off the coast. At the time, offshore oil development was a natural extension of existing construction and salvage operations:

> Having broad experience in underwater operations, and already engaged building oil piers near Santa Barbara, the underwater survey work was contracted to the Merritt-Chapman & Scott Corporation. Thus, their diver Rigden Crawford has the unique distinction of becoming the first offshore oil exploration diver (Parker, 1997, p. 95).

Using pneumatic drills and even a telephone to communicate with a survey crew onshore, the diver demonstrated his value during exploration; he then progressed to the underwater construction, inspection, and maintenance of oil drilling piers. When the first offshore oil platform was constructed off Huntington Beach in 1932, three Californians became the first divers to work on an oil platform not attached to land (Parker, 1997). Until the mid-1930's, there were only about 50 commercial divers in the United States. That number increased during the construction boom of the New Deal era following the Great Depression and then dropped off until WWII stimulated new activity.

Diving was an important responsibility of the U.S. Navy in the war, and divers conducted salvage operations, helped construct ships, cleared ship channels, and performed numerous other tasks (Thompson, 1944). During the war, new techniques of underwater welding, burning, and the use of explosives were advanced, and new tools and equipment were developed for undersea construction and other work. After the war, the human and technological resources developed during the war were quickly adapted to many sectors of the expanding offshore oil and gas industry, and commercial diving was no exception. For example, one of the largest diving companies working in the Gulf was begun by a wartime underwater demolition team diver (Parker, 1997). Postwar construction and the oil industry significantly boosted commercial diving, beginning with a handful of divers working for oil companies in the Gulf of Mexico and off the coast of California. The rapid expansion of oilfield diving led to more dangerous working conditions as divers began diving below 200 feet without recompression chambers or standby divers. According to a diver of the time, many divers, breathing straight air at those depths, became victims of nitrogen narcosis (Parker, 1997).

One of the early oilfield diving companies in the Gulf of Mexico, WorldWide Divers, Inc., was formed in Morgan City in 1964 by two divers who began their careers working on dam projects for the Tennessee Valley Authority. WorldWide Divers formed a partnership with CalDive shortly thereafter and began one of its first projects in 1967, in the aftermath of Hurricane Camille, by recovering a Shell Oil platform off the mouth of the Mississippi River. The company was an industry leader by 1975 when it went public.

Taylor Diving and Salvage Company, another Louisiana-based company, grew rapidly when it entered the offshore industry in the 1960's and broke new ground in the use of saturation diving. Before long, the oil and gas industry had become a chief source of innovation and new applications in diving. This trend has continued into the 21st Century as diving companies have broadened their missions and aims to include the ownership and operations of surface as well as remotely operated and automatic underwater vessels.

By the 1970's, the commercial diving industry was becoming technologically sophisticated and capital intensive (Pratt and Castaneda, 1999). Still, several small diving companies survived against the "seemingly unlimited resources of [their] giant-sized competition" and became major

market forces (Handelman, 2000). By the late 1970's, there were more than 30 diving service companies operating in southern Louisiana and Texas (Zinkowski, 1978).

In response to the downturn of the 1980's, several diving companies disappeared and others were reorganized. Similarly, through a series of mergers and buyouts over a three-year period in the late 1990's, three diving companies vanished. Most of the remaining companies serve international markets. Some companies, such as Global Industries, responded to the bust through acquisitions of vessels and a range of offshore construction capabilities; diving is only one of many divisions in what is now a full service offshore construction company (Pratt and Castaneda, 1999). Some, such as Oceaneering, diversified and now provide service to oil and gas companies, government agencies, and firms in the telecommunications, aerospace, and marine engineering and construction industries (see Oceaneering homepage; www.oceaneering.com).

3.4.2. The Tools and Terminology of the Diving and Underwater Construction Trade

Two factors dominate decisions made within the diving and underwater construction sector: depth and time under water. Pressure increases with depth. There are limits to the pressure the human body can withstand and the time during which high pressure can be tolerated. Divers in the oil and gas industry use surface-supplied gas and are classified as compressed air, mixed gas, and saturation divers. The choice among the three techniques is dictated by diver decompression requirements, which are determined by the water depth at which the diver works and the time spent at a given depth (see Oceaneering website: www.oceaneering.com/oilfield/diving/oilfield_diving.htm). Air diving is used for projects of short duration in relatively shallow water depths, down to about 160 feet. Divers are connected to the surface of the water by a diving umbilical containing compressed air lines and communications equipment. The diver enters the water on his or her own accord, descends to the work site, performs project-related tasks, and generally decompresses in the water while ascending back to the surface.

Mixed gas diving is used for projects of short duration in intermediate water depths, between 160 feet and 300 feet. Divers breathe a mixture of helium and oxygen, and decompression takes place both in the water and in a surface decompression chamber. For subsea projects in water depths of 300 to 1,000 feet and for projects of long duration in shallower water, saturation diving is utilized. Divers live at the surface in a special chamber pressurized to the equivalent depth of the work site and are transported in that chamber to the work site. With increasing depth, both the risks and the knowledge required for operating safely increase, and the diving and underwater construction sector has developed to meet the expanding needs of the offshore oil and gas industry as it has moved to deeper and deeper water.

In the technology-driven world of offshore oil and gas production, oil and diving companies have worked to overcome the physiological limitations of human divers. Although there have long been attempts to create sturdy metal suits that would withstand pressure and thereby protect divers, it has been the mechanized underwater vehicles that have established a place in deepwater survey, construction, and maintenance work. Total reliance on human divers has evolved to a complex interrelationship among divers, remotely operated vehicles (ROVs), and autonomous underwater vehicles (AUVs).

Underwater vehicle technologies were first developed in the 1970's. For example, Shell introduced a one-ton vehicle named the MOBOT that was intended to replace divers. According to a diver working at the time, the MOBOT broke more things than it fixed and earned its nickname, "a diver's best friend" (Handelman, 2000). In the past decade, spurred by activity occurring in water too deep for even saturation divers, efforts to develop machine replacements for divers have accelerated. The industry has advanced from early machines that allowed operators to see into the underwater construction world to relying almost completely upon ROVs or AUVs to perform exact maneuvers, delicately place precision engineering tools, and communicate with surveying instruments in the underwater construction domain (Rosenbalm, 1997).

A variety of underwater oilfield tasks including drill support, installation and construction support, pipeline inspections and surveys, and subsea production facility operation and maintenance are performed by ROVs and AUVs. Several companies that provide divers to the oilpatch also manufacture and operate these vehicles. Their increasing importance to the oilpatch signals continued changes in the future of diving and underwater construction services.

3.4.3. Industry Reorganization

In the Gulf of Mexico, the oilfield diving sector has undergone significant changes since the first divers descended underwater to weld platform legs and lay pipelines. Small companies that once operated out of trailers have grown into diversified international corporations. Underwater construction is only one of many activities they perform.

Oilfield diving companies began as distinct entities in the early days of the offshore industry when specialized companies emerged to provide an array of services to large oil and gas companies with which they established strong relationships. Soon, large companies such as Brown and Root and J. Ray McDermott controlled offshore construction (see Section 3.3.), including diving (Pratt and Castaneda, 1999). They enjoyed profits and expansion through the 1970's. The 1980's slowdown forced companies to tighten their belts and led to the reorganization of many offshore services and the divestment of diving divisions. Specialized companies such as CalDive and Global Divers were able to gain a foothold during those years. The late 1990's downturn led to new mergers and acquisitions.

Over the years, new technological advances in the diving sector have been capital intensive and favored large, established companies over smaller ones. Certification requirements and safety standards designed to protect divers are also used within the industry by companies seeking to shut out upstarts and small operators. Lawsuits and insurance premiums constrain operators as well. Nevertheless, over the years, as the specialized equipment became more readily available, smaller companies found niches within which to operate. Entering the 21st Century, though, there has been significant consolidation of diving companies and divisions, and new international standards for diving companies could further disadvantage the smaller companies by setting minimum requirements for both the equipment and number of personnel present at a worksite (see Section 3.4.6.).

Regardless of their size, companies rely on commercial diving schools and certified divers, so in many respects individuals still come to the diving profession as they have since the 1980's. They still "break out," or move from tender to diver after proving they can be trusted. Given the increased capital costs of underwater construction operations, though, divers' opportunities for breaking away from established companies to start their own companies, as many of the predecessors did, are currently very limited.

3.4.4. Diving as a Livelihood

Diving can be an extremely dangerous occupation, divers must go through an extended period of training and apprenticeship, and divers' lives are defined by their on-call schedules. For those who "break out" and survive the transition to full-fledged diver, diving is an occupation that commands high pay and respect. The apprenticeship period, harsh working conditions, and a continual array of new challenges provide many opportunities for divers to get to know one another and identify which of their workmates are capable, reliable, and trustworthy. Successful divers develop close bonds and tight social networks.

Commercial divers begin their working lives as tenders. According to one tender, the title refers to the fact that a tender "tends to this and tends to that" [DA fieldnotes, 10/99]. Whether supplying compressed air to the diver or maintaining the pressure in the decompression chamber, the tender stays at the surface and is responsible for taking care of the diver, literally holding the diver's life in his or her hands. Many tenders aspire to be divers and work their way from tender to diver-tender and finally to diver in a process known in the profession as "breaking out." Others remain tenders their entire careers. At the pinnacle of a diver's career is saturation diving, and advancing to that level requires at least five years.

Until recently, diving was an all-male profession, characterized by the macho, individualistic, single man. In a 1970's publication, a former diver both describes the tender's role and reinforces stereotypes about the diver's lifestyle (see also Poyer, 1995):

> Diver tending is a specialized and seriously responsible job... Considering the total job, a tender undoubtedly works harder and certainly longer hours per given day than his diver. To begin with, when the call to go to work comes in (almost always around one o'clock in the morning), the tender will have to know which bar his diver is probably hanging out in. The tender will have to drive to the diver's house or apartment and load his personal diving gear, wet suit, mask, weight belt, etc. (Zinkowski, 1978, p. 31).

Though some southern Louisiana men learned to dive when the offshore oil and gas industry was beginning, many workers in this sector are drawn from beyond the Gulf of Mexico region. Working in the Gulf of Mexico oilfield is a typical first step for commercial divers. A diver who had begun his career in the Navy commented,

> "As far as learning to be a good diver that can work anywhere in the world, southern Louisiana is the place to get your feet wet. There is zero visibility, so you learn fast how to work and survive in such conditions, and there is huge variety in the work situations with construction, demolition, pipe laying and platform work all in the area. If you say

> that you have worked in the Gulf for five years, they will hire you on the spot anywhere else" [I-259].

Human resources personnel rely on eight certified commercial diving schools across the United States to provide the divers needed by their industry. West coast divers are common. Many started diving for recreation and turned to commercial diving as a way to turn a hobby into a profession; some are sorely disappointed by the jobs they end up doing. According to a human resources manager,

> "That in itself is one of the problems. The yahoos from Arizona or Kansas. The biggest version of water they have seen is a swimming pool, and they come down to Louisiana. It's a culture shock for them. We get a lot of turnover from that... There's this image of diving that it's beautiful. Down here it's noisy and loud. Some of them make it, but a large majority don't" [I-265].

Following formal schooling, divers go through an extended apprentice period on the job. Both the dangers of the work and the scarcity of steady employment ensure that this system persists. Veteran and beginning divers recognize that nothing can replace actual experience and that those with the experience should be rewarded financially for their abilities. However, those who invest thousands of dollars in a diving school and then several thousand more in equipment are concerned about the low starting pay of tenders (around $8 an hour) and the extended period of time they might remain tenders when work is slow. Most tenders and divers in the Gulf of Mexico oilpatch work the typical 12 hour days, being paid eight hours straight time and four hours at time and a half. Divers receive higher hourly wages and may increase their wages and job security by taking difficult jobs. Still, they remain subject to the unpredictability of the occupation. Because of the irregularity of their schedules, few can supplement their incomes by taking second jobs. In the slowdown of 1999, this diver and his wife discussed the tradeoffs:

> Diver: "Right now I'm just kinda happy out there. A lot of people are getting laid off. I'm just happy I got a job right now. I'm trying to get in with a production company, working on the platforms, 7 on, 7 off. Money will be better, and I'll be able to plan things, you know, I'll be able to say, 'Well, I'll be home this date and I'll be leaving this date'. But, I'm just kinda waiting for the industry to pick back up, hoping it will pick back up a little more before the end, the beginning of the year, and then I'll probably be getting on with them."
> Spouse: "He doesn't want to do the platform work though. He likes diving... it's just that he doesn't get enough dives in. Because the dives are what really make the money 'cause you get a dollar a foot. It really starts adding on to the paycheck, and when he's not getting enough dives in..."
> Diver: "I do like diving, and if there was a schedule I'd stay with it, but it's hard... without a schedule, that's what makes it hard on the family. It would be the perfect job for a single man, it really would. Stay offshore, just come back in and have a big check waiting for you" [I-705, I-706].

A single female diver who had been transferred to an onshore position and was waiting for a chance to return offshore confirmed that the lifestyle could be ideal for a single person of either gender:

> "Actually, this (coming onshore) has been a really big adjustment. I don't like doing laundry, cooking, having to go grocery shopping. I need to go offshore for a break. When I'm home, I can actually use the phone all the time and make plans. I can't use work as an excuse" [I-697].

Women entered the commercial diving profession in the 1950's, but they are still the exception rather than the rule in the oilpatch. Women divers were first profiled in *UnderWater Magazine*, a leading industry publication, in 1993 (cited in Russell, 1998). More recently, Madalyn Russell argued that "women tenders and divers are now working their way to the bottom!" (Russell, 1998). One young southern Louisiana woman who battled stereotypes and challenged rumors to become a commercial diver described how hard it is for women to prove that they can work alongside men and emphasized that she cannot tolerate women who reinforce the stereotypes that she and other women are trying to break:

> "I've found that after awhile, being on the rig, it's all a matter of your persona. You are out here to do a job. You leave the fact that you're a female on the beach. I have been in situations where they ran out of berthing. I said, send me in and pay me… They have pretty stringent rules nevertheless. When you get out there, the first thing you've got to do is set them straight. I've had crew members tell me, 'If my wife knew I was working with a woman…' It bugged me. What do they think we're doing out here?" [I-697].

She persisted and became well known on the rigs as a good worker. Another young woman began as a tender but transferred to her company's ROV division after giving birth to her first child [I-258].

The development of ROVs and AUVs has created new jobs in the underwater construction sector. In the warehouse and on a job, ROVs and AUVs must be maintained in a constant state of readiness. In a role parallel to that of a tender, the technician must do whatever it takes to get and keep the vehicle ready to work at a moment's notice. Though some technicians begin their careers as divers, others are now entering the field with expertise in mechanics and electronics.

3.4.5. Pride and Loyalty

Oilfield divers identify themselves both as commercial divers and as oilfield workers. For some, this identification is a source of great pride; for others, it is an identity to escape. Though turnover among tenders is high, once they are established, divers are more likely to stay in their profession. Many view the oilfield as a stepping stone to something else, but a lack of jobs elsewhere keeps them there. Others find their niche within the oilpatch and find ways to mold their personal lives around an oilfield diver's schedule.

Experienced divers expressed pride in their work and their ability to do what others cannot. One woman noted that others would ask specifically for her because of her quality job performance.

Even though she is now working onshore support, she is still requested, and commented, "It touches my heart that they keep asking for me" [I-697].

Having come through a relatively small number of schools, the community of divers is still fairly tight, and workers' loyalty to their companies still exists, at least for those past their first year or so. In general, divers were less likely than others such as welders and mariners to talk about jumping from company to company.

Nevertheless, diving companies experience high turnover among entry-level personnel. Though some of that cost is borne by the divers who pay out of pocket for their initial training and certification, companies pay recruitment, orientation, and other hiring costs. There is further attrition when divers reach the age at which they can no longer dive; some are retained as diving supervisors while others move onshore to desk jobs.

In oilfield work, divers may work alone or in groups of dozens of people. In all cases, special bonds develop among divers and tenders, and trust is critical to any successful working relationship. Relationships begin in diving school, and at least some instructors work to foster a sense of camaraderie among their students:

> Once they leave the program and begin working in the industry, [the instructor] expects them to help out the next batch of students coming from the college by offering them a place to stay, helping ease their way through the hiring process, or showing them the ropes in other ways (Johnsen, 2000).

On the boats, barges, rigs, and platforms from which they work, divers and tenders stay in close quarters, often segregated from the other workers. This segregation tends to reinforce the group cohesion. When returning from offshore, divers and tenders frequently go together to a local bar or hangout to unwind and prepare for reintegration into the onshore community.

3.4.6. Job Characteristics and Demands

Underwater construction jobs include platform inspection and salvage, mechanical platform repair, and pipeline installation and repair. This section describes in greater detail the working conditions of oilfield divers and ROV/AUV technicians. The sector can be characterized by (1) a dynamic and expanding corporate segment with a fairly steady demand for workers and underwater vehicles; (2) high training requirements and start-up costs for the individual worker, low pay and high turnover at the lower levels, and generally good, and predictable, opportunities for advancement; (3) extreme uncertainty in work schedules; (4) very high personal risk; and (5) relatively high individual worker mobility to and from other industries. The two principal changes in this sector have been in the development and incorporation of ROVs/AUVs and the increasing emphasis on standards for worker training and safety.

3.4.6.1. Demand for Workers

Divers and/or ROVs are needed in all aspects of the offshore industry, and demand for their services continues to evolve and grow as exploration and production move into deep water.

Construction, operation and decommissioning of structures require divers. According to a former diver,

> "There is a bigger supply of divers than there is work for them, but companies want to retain their employees because of the removal work. This stuff started in Texas, especially along the beaches; it's been a bit slow to take off in Louisiana. It's really dangerous work! (He talks about how he was involved in it once and got blown 10 feet into the air). Explosives are used to shoot the platform legs off into the air... Salvage companies are doing it cheap right now because of the oversupply of divers" [I-531].

Though there are many qualified divers, even with the slowdown in oil and gas exploration, worker shortages are reported for entry-level tenders and ROV pilots.

Though companies are investing in ROV and AUV technologies and capacities to remain competitive, the increasing use of these vehicles has not yet had a major impact on divers. Even as ROVs become more widely available and used, divers expect to find work offshore. The reworking of nearshore properties has kept activity there, and ROVs do not operate well in waters less than about 1,000 feet. Also, even in the deepest fields there are underwater jobs close enough to the surface to require divers. In this period of transition, some divers are learning to operate ROVs, but many lack the technical knowledge or aptitude and remain only in diving. Divers and ROV technicians share similar work schedules, so many of the impacts to divers accrue also to the technicians. Technicians do not face the same dangers as divers, nor do they make the same wages that divers do. According to some individuals who have worked both as tenders and technicians, ROV technicians are more likely to be included with other rig and platform workers and are afforded greater respect while offshore [I-258]. This study did not obtain the data necessary to describe differences in the impacts on divers and technicians; as the numbers of technicians grows this will be increasingly important.

3.4.6.2. Training and Pay

The first generation of commercial divers got their experience on the job, but things changed after WWII. During the war, U.S. Navy personnel helped produce some of the earliest diver training manuals; requirements for divers included a physical examination, the ability to “pop” one’s ears at 100 feet, a 40 foot training dive during which the diver demonstrated he could open and close his control valve, two weeks of intensive classroom study with repeated dives to practice signals, and proficiency in bolting and assembling steel plates and pipe fittings (Thompson, 1944, p. 1-3). New work opportunities following the war caused a rapid rise in the number of divers and the establishment of diving schools. In 1946, for example, the first civilian diving school in the United States trained over 100 divers under the GI Bill, more than all divers working during the mid-1930’s (Parker, 1997). That school closed in 1954, and it was not until the 1960’s that another one opened. Soon, however, in response to the rise in offshore oil and gas activity in the 1960’s, several commercial diving schools opened in the United States. Yet, even by the late 1970’s there was no standardized field training, and in the Gulf of Mexico many divers lost their lives due to inadequate preparation for offshore work.

In 1968, a small group of diving companies founded the Association of Diving Contractors International (ADC); one of their objectives was to establish uniform safety standards for

commercial divers and encourage industry-wide observance of them (see ADC website, www.adc-usa.org/what.html). In 1974, the diving schools organized into the Association of Commercial Diving Educators (ACDE) to develop standardized diver training programs in the United States and establish minimum parameters for curriculum, hours of training, equipment requirements, safety standards, and standards of good teaching.

The United States does not have a commercial diver licensing program, but, in 1977, the U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) established mandatory safety and health requirements for commercial diving operations in any natural or artificial inland body of water and along the coasts (state territorial waters) of the United States and its possessions (29 CFR Part 1910.410). The U.S. Coast Guard promulgated regulations for offshore operations. The ADC and ACDE joined with the American National Standards Institute (ANSI) in developing the Consensus Standards for Commercial Diving Operations. Consistent with American business philosophy, the standards are presented as minimum standards, and employers are responsible for determining the competency and qualifications of their personnel (Doyle, 1999). Nevertheless, OSHA requires that employers ensure their divers are trained "to the appropriate level" (e.g., surface-supplied air diver certificate or surface-supplied mixed gas diver certificate) at a commercial diving school or that they provide documented evidence of training to the national consensus standard (Jefress, 2000). Diving schools stay in business by recruiting and training students, and they have maintained a surplus of entry-level divers even during periods of high demand.

The internationalization of the offshore oil and gas industry has led some to try to establish uniform diving standards. The International Marine Contractors Association (IMCA), an international trade organization formed in 1995 through the merger of two diving contractors' and vessel owners' associations, published an International Code of Practice for Offshore Diving (IMCA D014) in 1998. Based on the United Kingdom's Health and Safety Codes of Practice, the IMCA code is more prescriptive and allows less interpretation by employers than do the ADC consensus standards. Because the standards mandate the use of expensive saturation equipment and vessels originally purchased for the North Sea market, some argue that efforts to implement the standards in the contract process will preclude many companies from bidding on large contracts (Doyle, 1999). To date, the IMCA diving standards have not been implemented in the United States.

In addition to the standard certification, divers may also become certified in specialties such as emergency medical procedures. Recently, for example, CalDive took advantage of Louisiana's Incumbent Worker program (see Section 3.5) to train some of its divers to become emergency medical technicians (EMTs). According to a Department of Labor representative, the arrangement made more sense than trying to train EMTs to become divers [I-666].

As noted earlier, tenders start their careers working long hours at low wages ($100 a day), restricted to hourly rates they earn in the warehouse or at the surface. They are expected to work in the shop while they are onshore, and onshore pay is always less than offshore pay. According to one individual who had to return to onshore because of an injury, "When I quit diving, I was making 11 something offshore. I make 8 something in the shop" [I-702].

Divers can earn considerably more money, depending on the jobs they take. For example, by the 1920's, commercial diving pay rates were linked to dive depth, and these pay and work rules were generally transferred to the oilfield diving sector. Divers receive a standard daily rate down to 50 feet and then premium pay based on each additional foot down. For example, in 1935 divers were paid an additional $0.25 for each foot between 50 and 120 feet and $0.40 per foot from 120 to 150 feet. Zinkowski observed that the depth bonus was subject to wide variation, and some companies operating in the Gulf of Mexico paid none at all. At the high end of the spectrum, saturation divers, who may stay in pressurized chambers for several weeks at a time, earn the most money. By the late 1970's, though, a few of the larger companies had established a ceiling on saturation diving, effectively reducing the maximum for such a dive from $1,000 to $450 (Zinkowski, 1978, p. 289). According to a New Iberia diver in 1999,

> "Any diver over 50 feet starts accruing depth pay which compounds every 50 feet. So at 100-150, you get a $1.50 bonus, at 150-200 feet, you get $2.25 and so on. If you go to Mexico, you get an additional 15 percent bonus, and Africa you get a 25 percent bonus, but in Africa you get no depth pay" [I-552].

As this diver indicates, wages still vary considerably by location. In many parts of the world, though not in the United States, divers are contract laborers. One recruiter argued that companies that use contract divers do not develop the "esprit de corps" or team spirit necessary for a successful operation [I-260].

Within the U.S. oilfield, west coast divers are at the top of the scale, east coast divers in the middle, and Gulf of Mexico divers at the bottom. More divers are employed in the Gulf of Mexico than elsewhere in the United States, but "(t)hey are still the lowest paid, however, with hourly rates often less than that paid for similar work done topside in other parts of the nation" (Parker, 1997, p. 113).

> Unfortunately, the word is out. Divers are poorly paid in the Gulf, and there is no advancement or job security even for good divers. The Gulf starts at approximately $8 or $9 per hour for entry level divers that must be certified (they call them 'tenders'). Inland they start at $10 to $15 per hour for entry level divers that must be certified (they call them 'divers'). However, in both areas they must have the same skill level (Tamara Brown, quoted in Doyle, 1999).

Despite the low pay, diving schools encourage their students to come to the Gulf of Mexico to gain experience. One individual relocated to southern Louisiana after paying $15,000 for dive school in California. He was unable to find work and was working as a deckhand in order to make ends meet. He argued that it was "like musical chairs looking for a job" [I-654]. After graduation, his first stop was the Gulf of Mexico because, "this is where divers earn their stripes, here in the Gulf."

Another diver who was born and raised in California had been diving since the age of 15 and learned she could turn her favorite hobby into a career during high school "occupation day." This individual had heard there was great money in commercial diving and took a year-long course prior to moving to Louisiana to work in the Gulf.

3.4.6.3. Turnover and Advancement

Many beginning divers are deterred from establishing a career in oilfield diving by the low starting pay, high start-up costs associated with purchasing equipment, unfavorable working conditions, and the need to live in southern Louisiana. As an incentive, some companies loan equipment to their tenders and then give it to them if they make it to diver. One company personnel manager reported a 50 percent turnover in tenders each year; his goal was to see about one third of the tenders advance to divers and stay with the company. In 1998, a slow year, he calculated a 71 percent turnover among tenders [I-265].

The offshore oil and gas industry is the major client of divers leaving a commercial diving school, but many divers nevertheless argued that they were unprepared for what they found when they arrived in the Gulf of Mexico. Such responses by people who participated in this study mirrored a recent exchange about inadequate compensation for commercial diving that occurred on the interactive web site dedicated to commercial diving, ROVs, and marine technology (see Doyle, 1999).

After successfully completing both commercial diving training and several years as a tender and diver-tender, an oilfield diver faces fairly good prospects for advancing and earning a decent living. When things slow down, companies work to retain their experienced divers. In the slowdown of the late 1990's, for example, one company eliminated some shop and office personnel but retained its divers, even though it had little work for them to do. With pay tied to jobs and depth, divers took significant cuts in wages as a result.

Diving is rough on the body, so, by the age of 40, most divers either transfer to a deck or office job or leave the diving sector. Schools discourage people over 30 from entering the profession. Some companies are paying their divers and tenders to go through mechanical and electronics technician courses so they can work in their ROV divisions.

ROV pilots have the same primary duty as tenders: keep the vehicle operational and the job on schedule (see Jones, 1998). The development and proliferation of ROVs has challenged underwater construction companies to identify and train vehicle pilots. In 1986, Santa Barbara City College started an 18-week course of study in Undersea Vehicle Operations. A few companies operate their own ROV training programs, and Oceaneering's program was certified by the IMCA in 1999.

> Oceaneering International, Inc. started the course in 1996 in an effort to complement its high tech ROV business with qualified technicians. Oceaneering built a training center with an electronics lab, hydraulics lab, fully functioning ROV for training, ROV simulators, and classrooms. Four full-time instructors teach entry level courses and newly incorporated advanced courses for the company's veteran technicians, supervisors, and superintendents. Just like for divers: it is not possible to leave an ROV training establishment and think you are qualified. This can only be achieved with offshore operational experience (Jones, 1998).

In 1996, in conjunction with Cable & Wireless Global Marine, SubServ helped develop an ROV "Certificate of Competency" to ensure the quality of pilots (Jones, 1998).

Though some divers become ROV pilots, there is no consensus on whether that is the best or even an appropriate route for acquiring trained pilots. Divers' familiarity with the underwater work environment and performing the types of jobs required of ROVs gives them some advantage, but only a fraction of an ROV pilot's time is spent piloting the vehicle. The remainder of the time the pilot is required to service, repair, and maintain the vehicle, which requires mechanical and electrical skills rather than underwater experience. Other attributes, such as a strong work ethic, the ability to think quickly and improvise on the job, and top performance under pressure, mirror the traits of a successful commercial diver. With the shortage of qualified ROV pilots, one individual reported that he came out of the Air Force as an electronics technician and moved into ROVs with only six weeks of training at his new company.

3.4.6.4. Schedules

Divers' and tenders' lives are defined by their on-call schedules. Whether onshore waiting for a call or offshore waiting to be needed, these workers contend with constant uncertainty. They are called out at a moment's notice, often in emergency situations. Company policies require divers and tenders to reach the warehouse or dock soon after receiving a call, so many live in southern Louisiana.

In some companies, experience brings the opportunity to work on a set rotation, and some, like this single diver who prefers to be offshore, find themselves looking for work even during their shifts onshore:

> "I have my mother, brother, and sister down around here, but as far as the rest of it, I keep a bag packed. If I'm off too long, I pick up a job between rotations. I'm on a set deal, and I worked more than guys on call did" [I-697].

Divers, however, have more control over their schedules than tenders. A 27-year old diver recalled his early days in the profession and described how divers achieve some modicum of influence:

> "When I was a tender, I hated it a lot of times. You are considered a scumbag by everybody. And you have no say in your schedule or how much you work. You listen and do what they tell you, when they tell you, because you want to be broke out and complaining is not the way to get out early. If you are a diver and are not a complete idiot, you can tell them when you want to work and when you want off" [I-837].

3.4.6.5. Personal Risk and Safety

Diving safety has improved significantly from the early days in the Gulf of Mexico when divers were recruited and put to work with little or no experience and tragedies among divers were legion. To increase safety, nearly all commercial divers use surface-supplied air rather than SCUBA, self-contained underwater breathing apparatus (Johnsen, 2000). Nevertheless, there is still considerable danger working hundreds of feet below the sea's surface in dark, cold, and often tight spaces amid large structures, moving pipelines, and powerful tools. Most divers and those who work around them have witnessed tragic accidents, and they construct various stories and explanations of why they occur. In his nonchalance, this driller reveals how "normal" accidents are:

> “I had to cut a window in one piece of pipe and inside they had another piece of pipe and they had some divers down below us that were getting out 20 foot below the mud line...There was a diver down there and the scaffold caught the diver behind the head and the bottom and pinned him in the mud... They got the other diver up and he had something wrong with his shoulder. They had to put him in the decompression chamber and he had to go through all of that before they could send him in. My dad and the company man, [who were] just about in shock, the Coast Guard put them on the boat and they went in. They get to the other bank and there was no ambulance or anything. There wasn't any danger after that. They rode in the boat for about an hour. My dad had his thumb hanging" [I-520].

Following trends in other high-risk sectors, underwater construction has come under increasing scrutiny and regulation. In contrast to the offshore vessel sector described below, however, these regulations have focused on the companies rather than the individual divers. The Marine Occupational Safety and Health Standards (46CFR197), for example, prescribe rules for the design, construction, and use of equipment. They also govern inspection and operations, and establish safety and health standards for commercial diving operations that take place from vessels and facilities under U.S. Coast Guard jurisdiction.

The opening paragraph of Steven Barsky's (1999) article, "Diving accidents: truth or consequences," attests to the growing cadre of non-divers who now pay attention to diving accidents:

> When a diving accident occurs, everyone loses. Whether it is a fatality or a crippling pressure- related injury, the costs to the diver, his family, the company, the client, and the insurer are high. Nobody wins, except perhaps the accident investigators, attorneys, experts, and judges who try the almost inevitable lawsuits that occur as a result of these accidents.

Barsky challenges divers to resist the "it wasn't my fault" response to accidents that has become "fashionable" in U.S. society today and to strive to make workplaces safer. He describes the consequences of letting regulators, rather than the divers and diving contractors, take responsibility for safety:

> When a diving fatality takes place today, a variety of agencies will line up at your door. These may include the U.S. Coast Guard, Federal OSHA, state OSHA, the local coroner, and even law enforcement agencies who may investigate the incident as a potential homicide. The diving contractor has no choice but to comply with these investigations, all of which are intrusive and time consuming. In addition, everyone involved must painfully relive the incident over and over again... As a diving contractor, once you've been sued, whether you win or lose in court, you have lost. You will lose hundreds of hours in searches through your records for documents that must be produced, in depositions, and in worry and aggravation. If the case actually makes it to trial, it can tie up you or your personnel for weeks or even months. A major judgment can wipe out corporate assets.

Divers perform much of their work on drilling rigs, pipelay barges, and other pieces of equipment with high day rates and are compelled to operate quickly and efficiently. Despite regulations and accepted best practices, they may be subject to pressures to push the limits in terms of time underwater or frequency of dives, as evidenced by the following warning:

> A very important part of you decisionmaking responsibility as a tender is to refuse to tend a diver if the conditions are unsafe. This is unquestionably a very difficult stand to take, but sometimes necessary, and certainly preferable to contributing to the death of disablement of a diver (Zinkowski, 1978, p. 33).

Allowable work periods are determined by physiology as well as by regulation or company policy. The costs of exceeding them may be immediate and extreme, leading to death or disability. Divers in this study know the dangers they face but did not talk much about them; they were more likely to express concern or frustration over the uncertainty and irregularity of their schedule than the work itself. As described above, divers and diving contractors have responded to federal requirements by developing policies regarding workplace safety. Though some divers object to any stipulations, others recognize and appreciate the efforts of groups like the Association for Diving Contractors to increase safety standards [I-552]. Though unions have had limited success in the Gulf, many divers carry union cards and have benefited from union rules developed in other parts of the United States to increase safety.

3.4.6.6. Mobility Across Sectors and Outside the Industry

With experience gained in the Gulf of Mexico, oilfield divers face good prospects for moving into other commercial diving positions. From salvage archaeology to sewer maintenance, inland jobs require experienced divers. Nevertheless, the abundance of divers trained in the Gulf creates competition for such positions. Despite the desire of some to leave, many divers remain in the oilfield because of lack of other options.

3.4.7. Impacts to Workers and Families

The early literature on commercial and oilfield diving clearly considered the profession to be one for single males. Yet, commercial divers of today include many men and women with families. Gulf of Mexico divers come from diverse backgrounds, and several talked about wanting to get past the stereotype of divers as "partiers" and rowdies [e.g., I-552]. Though rare, some of the

companies operating in the Gulf of Mexico boast second and even third generation divers within their ranks.

There are many aspects of diving that require special attention: the danger, uncertainty, training requirements, low wages for entry-level positions, and fluctuations in availability of work. Of these, the unpredictable schedule creates among the most significant impacts on all diving families. The inability to plan, difficulty maintaining relationships with family members and friends onshore, and inconsistent paychecks are paramount concerns among divers and their spouses.

Divers' lives must be organized around work, and family members and friends are forced to adjust to them. Spouses uniformly disliked the diving lifestyle. The wife of a long-time diver, when asked if she would share her perspectives, summed it up in one word, "Hell." Family members do not share the excitement and challenge that balance the hardships of the work for divers.

Because of the unpredictability and their position as "outsiders," divers frequently establish networks and socialize among other divers. One diver's wife acknowledged that she was not very involved with anyone else in the community:

> "A lot of our friends are also involved with diving. There are a lot of cookouts and there is a lot of partying with that crowd" [I-331].

Divers and their families are impacted during periods of both low and high levels of industry activity. In slow times, inexperienced personnel are laid off and those who remain may have their hours and pay reduced. During busy times, workers may be gone so often their friends and families scarcely see them. A married diver who requested and received a transfer to an onshore position recalled the days offshore:

> "The best part of going offshore? Coming in. You have to understand. I didn't work ROVs. I went out and worked till the job was done. The longest job I had was six months. We came in three times just because of hurricane evacuations, but I was also single, not married, no kids, no responsibilities. The day I was hired, I went home, packed, and came back. I was on call 24 hours a day, 365 days a year" [I-702].

During busy times, tenders may be quickly advanced to diver status, even before fully ready. Because divers often work together, the presence of inexperienced divers can impinge on everyone's safety. Though they did not often discuss it with researchers, divers and their families face the constant possibility of a serious, even life-threatening accident or injury. Liability for accidents rests heavily on companies, so trade publications seek to educate both divers and company owners about the need for the industry to reduce risks (e.g., Barsky, 1999).

Especially among beginning divers, turnover occurs frequently because divers' expectations do not match the reality of their work and living environment. For their first few years, tenders and diver-tenders work on-call schedules and are required to live near their company warehouses. Most of them are from outside Louisiana, and many come from the west coast, so cultural and

lifestyle issues sometimes figure as strongly as the workplace environment in their decisions to leave (or to not come in the first place). Especially for tenders who are at the lowest pay scales, the early years in the industry are rough.

Young tenders who arrive in the Gulf of Mexico with their families face particular impacts; they find themselves caught up in an occupation for which they have little or no control over their work schedule, the amount of money they bring home in a month, or the type of jobs they will be doing. Where the divers and tenders may overlook the social and cultural differences because they are generally surrounded by people with whom they have much in common, and under the best of circumstances by those in positions to which they aspire, their spouses and families are thrust into an unfamiliar environment within which they may find few close friends. Many southern Louisiana residents identify family ties that go back for several generations; Acadiana is known both for its southern and Cajun hospitality and its closed social networks. Consequently, many diving families form their own networks. Some spouses, to overcome loneliness and supplement an uncertain family income, look for work in the local communities.

The story of one young woman from Seattle illustrates the challenges even those who venture out are likely to face. Sarah had gotten a job as a hairdresser in a local beauty shop, and became part of the study when one of the team's researchers went for a haircut. The waiting area was full, but when the researcher asked how long was the wait she was asked the name of the hairdresser she wanted to cut her hair. When she said she had no preference, she was surprised to be told she would be taken immediately. Unknown in the area, Sarah received no requests, so she was dependent on strangers who wandered into the shop. When told about the study, Sarah said that her husband was a tender and began talking about the decision they had made to move to Louisiana so he could get a start in diving. She had few friends and talked about how she missed shopping malls and Starbucks (DA fieldnotes, 9/00).

Financial difficulties also loom large for young families, and divers and tenders who work on-call are generally unable to take second jobs. In families without children, spouses often work, but their lives are still structured around the diver's work schedule; some reported difficulty becoming integrated into their workplaces. With children in the picture, it is increasingly difficult for spouses to work. When they are nearby, grandparents and other close kin are critical for providing childcare and continuity for the family.

Throughout this study, researchers identified some people thriving in their present circumstances and others having trouble. High turnover, the tendency of many divers to relocate once they earn sufficient status and money to support commuting long distances between work and home, and the difficulty many newcomers have getting to know people outside the diving sector all contribute to the rather temporary existence lived by many diving families in their early years in the industry. In young families, workers and family members talked as much about what they were working toward as they did their present situation. For those who had been in the industry for more than a couple of years, responses to this reality were as varied as were the people themselves. Some had converted transience to a more permanent situation by making friends in the area or successfully convincing family members to relocate to southern Louisiana to be near them. Others had moved as soon as possible to establish lives elsewhere and commuted to work.

Still others had accumulated debt and remained tied to the industry and the area without any commitment to either.

3.5. Transportation: Vessels

Specialized transportation, via boats, trucks, and helicopters, was developed to service the Gulf of Mexico OCS activity under the leadership of local innovators and entrepreneurs. Many of the local companies have grown far beyond the boundaries of the Acadian oilpatch, but they are still an important part of the regional economy. Whereas the transportation sector has been impacted by the changes in technology and social expectations that have affected the rest of the offshore oil and gas industry, the people and companies who constitute this sector also have experienced changes in the laws and regulations that apply to members of their trade. In particular, federal policies outside the oil and gas industry have had unforeseen impacts on each of the major offshore oil and gas transportation modes in the Gulf of Mexico. This section examines vessels and the mariners who pilot them. Several companies both build and crew their vessels; this section considers the operation rather than construction of the vessels. The focus is on offshore vessels, but there is no simple distinction between the inland and offshore operations. Companies and mariners may be involved in both activities and help support OCS activity by moving rigs and barges in inland as well as offshore waters.

3.5.1. History of Offshore Vessels

The offshore service vessel (OSV) evolved with the OCS oil and gas industry. Since exploration and production moved offshore in the Gulf of Mexico, boats have been needed for locating drilling sites, moving rigs and platforms, and transporting people and supplies to and from these structures. Those activities remain the central tasks of OSVs today, and they have led to specialization within this sector. Large companies have separate divisions for seismic vessels, tug boats, crew boats, anchor tenders, and supply boats.

Prior to WWII, vessels in the Gulf of Mexico region ran up and down the bayous and rivers, across the bays and marshes, and out into the Gulf. They were used for fishing and trawling and for carrying freight and passengers. In the 1930's and 1940's, when oil companies began looking for oil in the marshes, local fishermen provided them with boats and crews. Some enterprising shrimpers converted the storage hulls of their wooden trawlers into cargo holds to haul supplies to the rigs that were being set up out on the water.

Over the next several decades, as OCS activity increased and the offshore industry matured, inventors and entrepreneurs developed and put into service the vessels that kept the industry moving. Protected by the Jones Act of 1920, which requires that any vessel that transports U.S. passengers or cargo between U.S. ports must be built in the United States, the new offshore vessel industry expanded quickly. Responding to the promise of continued expansion, many residents left fishing and shrimping to devote themselves full time to designing, building, and operating the specialized vessels needed by the industry. The early changes included conversion from wooden to steel hulled vessels. Then, crews and supplies were separated on different vessels. Exploration required the use of explosives dropped from the stern of the boat, and soon specialized seismic vessels were developed. As rigs moved farther offshore and distances to and

from them increased, larger offshore vessels were built to serve them. The late 1970's and early 1980's witnessed a massive fleet expansion. Though many of the older vessels remain in service – 40 percent of the Gulf of Mexico supply vessel fleet is at least 20 years old – the 1990's brought in a new era in vessel design, size, and operation. Each advance has ushered in new technologies, and many operations are now computer-controlled. The most obvious change over time is the increase in vessel size, as illustrated by the expansion of the Seacor fleet shown in Figure 3.5.1.

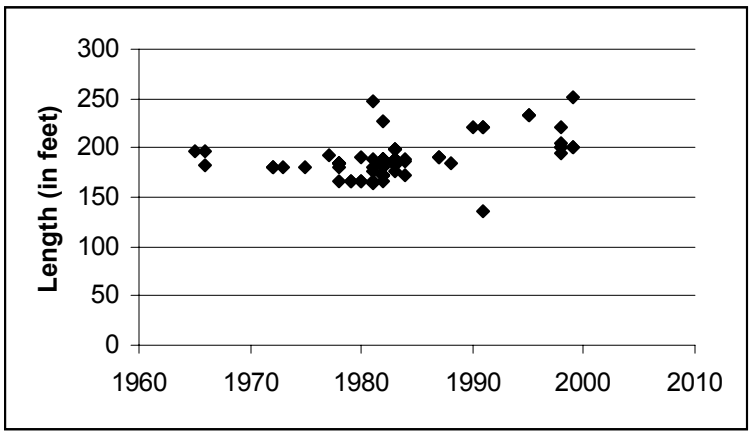

Figure 3.5.1. Change in length of supply and towing supply vessels over time
Source: SEACOR SMIT Inc. (http://www.seacormarine.com/fleet/supply.htm)

Despite the technological changes, vessels still rely on human operators. The nature and extent of oil and gas-related marine operations have depended on the abilities of operators and owners to respond to the challenges of a harsh work environment. When exploration and drilling began in the Gulf of Mexico more than 50 years ago, boat operators were trained and approved through an informal, local mentoring system based on social contacts, experience, and demonstration of ability. Children grew up on boats and many were running small outboards through the bayous by the age of seven or eight. Most fishing vessels were family-owned, and individuals earned the privilege of operating them, usually after many years of work alongside family members and close associates.

Although women and children frequently accompanied the men on fishing and trawling trips, those patterns ended with the rise of the offshore oil and gas industry. Work in the oilpatch was dirty and dangerous and perceived to be a man's job. Insurance companies restricted those onboard the offshore vessels to the paid crew and effectively precluded family enterprises. In the smaller companies some couples continued to work together, but that occurred more and more infrequently with company growth and the standardization of crews.

Fishermen and trappers were accustomed to long periods away from home, so they adapted to the concentrated work schedules of the offshore oil and gas industry and even took advantage of the periods onshore to continue their pre-oil activities (Gramling, 1989). As the offshore oil and gas industry spread across the globe, mariners were among the first to ply their skills in foreign waters. Those who did not move overseas worked there from one to three months at a time. In the 1980's when oil prices plummeted, OCS-related vessel companies responded like others in

the industry by laying off workers, reducing pay, and getting rid of material assets. Many mariners left the industry for good during that period.

By the late 1970's, offshore vessel operators had become part of a growing international maritime industry. One consequence was a rising demand for occupational safety standards, new regulations, greater professionalism, and efforts to minimize liability. In 1978, for example, as part of its efforts to improve maritime safety worldwide, the International Maritime Organization established the Convention on Standards of Training, Certification, and Watchkeeping (STCW). Though the U.S. Senate did not ratify that Convention until 1991, it set the course that would influence training, pay, turnover, and advancement for mariners working in the offshore oil and gas industry. In the 1970's, the U.S. Coast Guard developed testing and licensing procedures for mariners, and training schools were established to help the mariners study for and pass the new essay-style exams. Then, in 1980, Congress passed a new federal law requiring licensed deck officers on all offshore supply vessels and licensed engineers on all vessels over 200 gross tons. The Coast Guard modified the tests to consist of multiple-choice questions that could be quickly and easily scored. In the process, the testing process became standardized, and marine training schools changed their programs to focus on teaching mariners to take and pass multiple-choice exams. Within a few years, some of the schools had developed computer-based training and practice exams.

In the 1990's, amid changes within the oil and gas industry, maritime accidents and insurance data that attributed most of those accidents to human error led to more stringent requirements for mariners. The U.S. Coast Guard established certification requirements for specialties such as radar, firefighting, and tanker training, while also dictating that only the Coast Guard could approve courses and issue certificates. New requirements were implemented in 1995 as amendments to the Standards for Training, Certification, and Watchkeeping (STCW-95). All mariners working on vessels admeasuring 200 gross tons or more and candidates for licenses and documents must take courses, pass examinations, and demonstrate their skills aboard vessels.

Even though STCW-95 will affect most offshore mariners by February 1, 2002, within southern Louisiana a general lack of awareness or understanding about these amendments persisted into the 21st Century. In discussions about the topic, maritime educators held the U.S. Coast Guard responsible for the widespread ignorance and misunderstanding surrounding the new requirements. Early attempts by the vessel companies and their industry associations to gain exemptions for the offshore service vessels further delayed action. By 1999, companies and educational institutions serving the OCS were establishing training programs, but some Coast Guard officials warned that the courses being prepared to meet the requirements were woefully inadequate for what was needed. Though the Coast Guard could not report how many mariners work in the Gulf or would be affected by the amendments, most of the industry representatives and mariners in the study reported that the effects would be extensive.

The new deepwater activity got the attention of the boat companies. Deepwater meant longer trips and larger vessels. Between 1996 and 1998, utilization rates stayed above 95 percent, and the sector began an aggressive new building program. The downturn of 1998-1999 found the Gulf with too many vessels and not enough demand. Boat companies experienced drastically reduced revenues. Day rates fell to their lowest in April 1999, dropping to one-fourth of what

they had been at their 1998 peak. Vessel revenues for one of the major Gulf fleet operators fell from $252.5 million during the last three quarters of 1998 to $104 million for the same period in 1999. The company began stacking vessels and, to reduce costs, deferred the normal procedure of repair and maintenance on drydocked boats. It also reduced its crew personnel. Another company's annual revenues declined from $126 million in 1998 to $31 million the following year. The pattern continued into the year 2000. Most mariners were returned to the familiar cycle of demotion and pay cuts in exchange for not being laid off.

3.5.2. Tools and Terminology of the Offshore Vessel Industry

There are many types of vessels in service to the offshore oil and gas industry. For all types, most companies provide both the vessels and their crew under contract. The size of the vessel determines the type of license required to operate it. In all categories, the trend over time has been toward larger, more powerful vessels equipped with high-tech navigational and operational features. Crew sizes range from three to more than a dozen and include at least a captain (master), mate, and deckhand. Many vessels also have one or more engineers who are responsible for maintaining the engines as well as loading, transfer, and discharge of bulk cargo, fuel, and water. Able bodied seamen assist with vessel operations and maintenance.

Seismic vessels are specialized offshore vessels that are equipped with systems that acquire two and three dimensional (2D and 3D) seismic data in water of varying depths. These vessels may also provide for the acquisition of bathymetic, hydrographic, sonar, gravity and magnetic data collection operations.

As their name suggests, *supply vessels* are designed to carry a wide variety of cargoes, including large amounts of fuel, drilling fluids, cement or mud in tanks and other materials such as casing, drill pipe, tubing and miscellaneous deck cargo. Supply vessels are highly versatile and are known for their size and power. Specialized supply vessels exist for towing and anchor handling activities, wherever they may be required. *Crew boats* are generally smaller and faster vessels. Despite their name, they also transport moderate quantities of cargo along with from one to nearly one hundred workers at a time. These boats also are noted for their versatility.

Offshore tugs are very flexible vessels, providing towing for projects of virtually any size and in locations ranging from shallow to very deep water. Tugs come in a wide range of sizes and power. They are used for many functions, such as towing drilling rigs, providing support for platform construction, and handling anchors for pipe-laying barges. Tugs also are employed in coastal and ocean commercial towage of both containerized and bulk cargoes.

In addition to the above categories, *utility vessels* support offshore production and function as all-purpose vessels in diving operations, offshore structure maintenance, and general assistance. Other specialty vessels include line-handling vessels, maintenance vessels, and diving support vessels.

3.5.3. Industry Reorganization

Vessels were among the first specialized services developed for the offshore oil and gas industry. As the size and range of companies providing vessels for the industry grew, the companies began to recognize common interests and formed the Offshore Marine Service Association, an industry trade organization. Following oil and gas industry restructuring and an upsurge in activity by the mid-1990's, the oil and gas companies reworked their shelf fields and moved into deeper water. Many boat companies and mariners found themselves shifting from supplying working rigs and platforms to providing support for seismic operations. On the larger projects, demand for bigger, more technologically advanced vessels grew, and some companies capitalized on the new opportunities. For example, Edison Chouest Offshore, a family-owned southern Louisiana company, was an industry leader, constructing specialized deepwater supply and anchor-handling vessels under advance contracts with Shell Offshore.

Between 1996 and 1999, the offshore supply vessel industry experienced a significant "new build" boom, concentrating on the large vessels that service deepwater activity. Most of these vessels were delivered between early 1998 and 1999 and command the highest day rates. As a result of the boom, by 2000 over one-fourth of the Gulf of Mexico fleet was 200 feet or larger in size and was specially equipped for deepwater work with larger liquid mud capacity and dynamic positioning capability (Pickering et al., 2000). Day and utilization rates peaked in March, 1998, and hit rock bottom in early 1999. By 2000, the market was again tight, and all actively marketed supply boats were working (Pickering et al., 2000). The analysts predicted that the boom also would affect the market for the smaller vessels that work in shallow water because the smallest of the new vessels could cross over and replace the standard 180-foot vessels.

Most companies, however, responded to the sputtering upturn of the 1990's through mergers, acquisitions, and the conversion and refurbishing of an aging fleet, a relic of the late 1970's and early 1980's. Newsletters and reports from Marcon International, Inc., a boat brokerage company, track the changing industry through the decade: Tidewater, for example, became the largest owner of offshore support vessels when it acquired Zapata Gulf Marine in 1992. Hornbeck Offshore followed Tidewater's lead in acquiring supply and utility boats from Petrol Marine, then itself was acquired by Tidewater in 1996. Tidewater purchased another company in 1997, bringing its fleet to around 750 vessels. Seacor joined the movement, purchasing Smit International's fleet in late October 1996 and then Galaxie Marine Service. One industry research firm estimated that, due to the 1998 downturn and resulting consolidation, more than half the smaller boat operators, those with three or fewer boats, were no longer in business (Pickering et al., 2000). Still, despite the recent mergers and acquisitions, the Gulf of Mexico offshore vessel fleet remains highly fragmented, with two-thirds of the operators owning ten boats or less and almost one-third with three boats or less. The most recent cost-saving move, which is to try to reduce the boat-to-rig ratio by "pooling" several boats to serve a group of rigs, will reduce the total number of boats needed in the Gulf of Mexico and affect operators even further.

In addition to the mergers and acquisitions, vessel companies formed alliances with both oil and gas companies and marine training academies. Though the companies face significant pressures from the oil and gas companies, many mariners perceive that the demands, policy changes, and cutbacks originate with the boat companies. Certainly, even among the larger companies there

are significant differences in policy and efforts to protect and retain mariners. Turnover at the lower levels remains very high, and all companies express concerns about the costs of preservice training for deckhands that will not last even one shift at sea. Industry analysts conclude that crew shortages have hindered the pace of vessel reactivation in 2000 (Pickering et al., 2000).

3.5.4. The Livelihood of a Mariner

When oil and gas exploration and development first moved offshore, a fisherman could run people and supplies to and from offshore rigs and continue fishing in season. Even then, some individuals recognized that their fortunes, or at least a more stable livelihood, lay in oil and gas, and innovative entrepreneurs began to specialize in service to the burgeoning industry. Boat owners moved from merely taking off the hatch of their shrimp boats to carry supplies there to designing and building steel hulled boats capable of handling the variety of materials needed on the rigs and platforms.

Gulf Coast mariners developed occupation-specific identities that encompassed the dexterity, attentiveness and individualism required of fishermen (see Pálsson and Helgason, 1999), the machismo of oilfield workers (see Kittle, 1985; Lynch, 1987), and good old Cajun pride. These identities evolved as the coastal communities did, and the mariners' place in the social structure initially was preserved. Technological problems required spatial and mechanical abilities as much as formal schooling, and locals were able to achieve status as well as financial success. Their prowess became recognized internationally when many individuals and their families were recruited to the North Sea in the 1970's to service the developments there. Success at sea and in the businesses connected to the offshore oilfield became a means to gain political as well as economic power in Louisiana.

Still, the offshore industry was developed by people from Texas and Oklahoma, and southern Louisianans initially did not possess the financial or social capital necessary for establishing a place within that system. According to men who worked on the boats in the early days, mariners were placed at the bottom of the evolving industry hierarchy of production workers, drillers, and contractors and support people. Pay rates followed the hierarchy, both within and among industry sectors. On the boats, a typical progression is from deckhand ($85 a day) to mate or engineer ($100 a day) to captain ($225 a day). As time passed, even members of the community began to adopt the negative impression of mariners. According to one mate who worked on some of the larger, specialized vessels and was completing an internet computer course to earn his captain's license:

> "People tend to look down on us… It goes with the art. My mother ran into a friend of mine from high school and asked what I was doing. She told him I was working on the boats. He said, "I figure your sons could have done better, knowing them, than working on an old boat" [I-604].

As the OSV sector became more specialized, hierarchies among vessels developed, and both status and pay became linked to the type of vessel upon which a mariner worked. The mate went on to explain:

> "The people on the seismic boats look down on the supply boats. Their attitude is that all [the supply boats] do is haul mud and all. The people on seismic boats tend to act like they're better than people on regular boats, but I feel people on regular vessels are better. One guy on seismic got tired of it and went to a regular boat, and he couldn't handle it. He got a rope caught in the propeller… He couldn't handle it around the rigs. He went back to seismic" [I-604].

The promulgation of Coast Guard regulations formalized the distinction between "bluewater" mariners, who work aboard oceangoing ships, and "brownwater" mariners, who work in the rivers and coastal areas. A special OSV license restricted mariners to the Gulf, but the high level of activity and wide variety of boat companies precluded any sense of capture among the mariners. In addition, because many of the companies were owned and operated locally, mariners could move among companies but remain within their social networks. By the late 1970's, it was not unusual for mariners to quit a job for higher wages elsewhere and then be taken back by former employers when they returned for the same reason.

Mariners experience the feast or famine cycle characteristic of the oilfield service sectors. When times are good, they may be called out for one shift after another, sometimes for as long as six months without a break. During lean times, they are lucky to work enough to keep their families fed. Most mariners supplement their income by hunting or fishing or with handyman-type jobs; some use their oilfield jobs to support their preferred occupations of crawfishing or shrimping.

Companies sometimes keep mariners on back-to-back shifts due to personnel shortages or to save money and time, as this young wife describes:

> "Sometimes they are on a three-week shift out and they are told on the 23rd day that they are not going to change shifts because they are only 100 miles from where they need the boat next and it is 300 miles back to shore" [I-686].

When such changes occur midstream, the people on the boat are unable to go home and those still onshore lose the opportunity to earn a paycheck.

Though the Gulf of Mexico oilpatch originated as and still is largely a man's world, female mariners have found a place there. Within the larger companies, policies on equal employment and non-harassment opened up opportunities for women and blacks that would not otherwise have been available. Some women argued, however, that the companies still were not doing enough to educate men about working with women and, because of some problems that had been reported, were becoming less willing to hire women.

One captain argued that a company hired her only after they had been bought by a larger one and forced to comply with non-discrimination hiring policies. However, when talking about her work as a female mariner, the word she used repeatedly was "hard." Another woman, who initially took a job with a large vessel company because of that company's willingness to hire females, argued that some of the companies have shown greater reluctance as they have run into problems:

> "As for myself, I ended up having a captain fired over sexual harassment. It was not my fault. It was his fault. It was their [the company's] fault because they don't train them. They sent out a video with the company president sitting there in this monotone voice… At the end he says, "treat these women as you would your mother or sister." Well, what if they are abusive to their mothers and sisters?" [I-774].

3.5.5. Pride and Loyalty

The Texans and Oklahomans who came to southern Louisiana to explore and develop the offshore oil and gas fields came to realize that they could benefit from the knowledge and expertise of the locals. Few others were up to the challenge of laying pipes, moving rigs and platforms, and holding a boat alongside floating structures to transfer people and equipment in the rough waters of the Gulf of Mexico. Even as the economic booms attracted thousands of newcomers to the area, whether in search of fortunes or just wage labor, the special skills and experience of the local mariners initially preserved their place in the new social, economic, and political reality. Cajun mariners adapted their skills, boats, and equipment to service the ever-growing number of rigs and platforms. The individualist, hard-living Cajun manner was well suited for the risky lifestyle that came to characterize the oilpatch. Though not as notorious as the stereotypical commercial diver, the oilfield mariner gained a reputation as a proud and tough individual.

In the late 1990's, the debate over STCW-95 stimulated discussion about broader mariner concerns. There is no doubt that the OSV industry that once existed in the Gulf is very different from that which it has become. Mariners have little control over their workplace, the people they work with, and how they prepare themselves and the next generation for doing their jobs. Though mariners are expected to obtain considerable formal education and numerous licenses and certificates, they are not extended the respect, status, and pay consistent with these expectations.

Many argue that oilfield mariners are treated better today than they were in previous decades, but the changes and wrangling within the maritime industry have had a significant impact on them. Coupled with a social message that education is only acquired in school and that college is the path to success and respect for children and parents alike (see Wallace et al., 2001), the continued distinctions between bluewater and brownwater captains, the increasing emphasis on formal education, and the observations that paper licenses command higher positions and salaries than do experience and ability have challenged the mariner identity and pride. Many mariners worked for small companies within which they could enjoy perks such as phone calls and the ability to negotiate changes in their work schedules; frequently these companies were owned and operated by people they knew. The mergers and reorganization of the 1990's added to the ambivalence with which mariners now talk about their work.

> Researcher: What have been the biggest changes you have seen since you were bought out?
> Captain: We get treated like stepchildren. There are more rules.
> Researcher: More rules you have to follow?
> Captain: Oh Lord, yeah.

Researcher: Do you have benefits?
Captain: Yea, we got real good benefits – dental, health. That's the only good thing about the big company taking over [I-451].

3.5.6. Characteristics and Demands of Jobs in the Offshore Vessel Sector

The offshore vessel sector employs tens of thousands of mariners. In the early days of offshore oil and gas activity, southern mariners had neither the capital nor experience to acquire and operate rigs and platforms. Thus, it was the fishermen who, by modifying their vessels to service oil and gas rigs and platforms, were among the first locals to enter the industry as entrepreneurs. At first, they would hire themselves and their boats out to the oil companies. Later, some would build or buy additional boats and hire relatives and friends to operate them. The growth of offshore vessel companies changed the trajectory by which people moved into and through the system. Changes in technology and a shift to larger vessels to service deepwater platforms have created a need for mariners with specialized skills, combining the ship-handling and electronic monitoring skills of the bluewater captains with the dexterity of the brownwater captains.

The sector can be characterized by (1) a consolidating and contracting corporate segment and an uneven demand for workers; (2) moderate, but frequently changing, training requirements and start-up costs for the individual worker, low pay and high turnover at the lower levels, and generally good, and predictable, opportunities for advancement, although demotions are common during downturns; (3) uncertainty in work schedules; (4) high personal risk; and (5) low individual worker mobility to and from other industries.

3.5.6.1. Demand for Workers

Mergers and consolidations were commonplace in the offshore service vessel industry by the end of the 1990's. Deepwater activity, shelf drilling, and the production demands of mid-decade had day and utilization rates soaring until 1998. In this frenzy of activity, worker shortages became common, and personnel managers acknowledged that they had "fished out" the south. Mariners found themselves working for new corporate owners. Recognizing the problems they faced in attracting and keeping southern mariners, following laws such as the Jones Act that prohibit hiring foreign workers, and trying to position themselves in an international market, many of the larger companies shifted their hiring strategies to national recruitment efforts. A slump in the U.S. bluewater shipping industry resulting from increased use of foreign flagged vessels for transportation between the United States and other countries made merchant marine jobs scarce and helped boat companies recruit new mariners to the Gulf. It also contributed to the growing presence of maritime unions in the region.

3.5.6.2. Training, Pay, Turnover, and Advancement

Historically, mariner training and professional development in the Gulf of Mexico have relied heavily on on-the-job training, supplemented by license-specific classroom instruction. Increasing industry globalization and vessel automation led to the development of international standards. The Oil Pollution Act of 1990 (PL 101-380) directed the U.S. Coast Guard to determine the feasibility and practicality of mandating simulator training. Private companies and labor unions worldwide established computer-based marine simulator facilities to teach

shiphandling and maneuvering skills and radar operations. Mariners are still required to accumulate sea time before they can take the exams, but license preparation has strayed far from the early days of mentoring and hands-on demonstration of proficiency. As possession of a license has replaced years of service and competence, older captains, especially, are being squeezed out. One mariner expressed the sentiments of many as he described the conflicts between mentoring and preserving one's job:

> "I learned to drive a boat in the wheelhouse, with captains showing me how. Now, captains don't show deckhands. They are afraid they will lose their jobs if there are more captains because the companies try to lay off the captains last. [But] how else will they learn? They don't learn by being on boats anymore. They can get sea time without ever going in the wheelhouse except to mop the floor and bring the captain coffee. Then they go pass the exams and show back up as a captain without ever having touched the wheel. In the old days, people would show them how to run the boat" [I-377].

Licensing has been a requirement for work in the offshore oil and gas industry for more than 20 years. Yet, unlike divers, few mariners come to the industry having completed years of schooling for which they paid themselves. Instead, deckhands have tended to get hired first and certified later. The licensing system has allowed them to begin with only a Z card, the documentation demonstrating U.S. citizenship and eligibility to serve on a vessel, and earn sea time while working on their licensing requirements. Many companies help mariners get their licenses – some pay for their entire schooling and others provide the funds up front and then deduct the cost from the mariner's paycheck.

Both companies and mariners operate vessels of many sizes with different staffing requirements. Some operate both inland and offshore vessels while others work only with one or the other. Licensing requirements have been linked to particular sizes and types of vessels, so those without licenses have moved around to keep working. The presence or absence of a license affects not only whether or not mariners work but also their pay, schedule, and type of work. For example, in the early 1990's, more companies began requiring their wheelmen to be licensed. One mariner who was laid off from one company in 1992 because he did not have a license was able to find work as an unlicensed wheelman on a schedule of 30 days working and four to five days home. After getting his license, he was able to move to a 7-and-7 shift with the same company [I-451]. Mariners working on larger vessels generally receive higher pay than those working on smaller ones, giving mariners incentive to work toward additional licenses.

Training requirements associated with STCW-95 are one attempt to rectify some of the problems associated with licensing requirements that did little to enhance a mariner's proficiency in operating a vessel. The STCW-95 requirements coincided with the testing and expansion of Louisiana's Incumbent Worker program, one of the country's largest workforce upgrade training programs. The program provides grants to businesses and consortia using unspent unemployment insurance taxes. Training is conducted to meet the specific needs of the grant recipients. It is intended to help entry-level workers advance within their companies and to increase employee productivity and the growth of the company. Companies and maritime educators were quick to recognize the potential for beginning to address what many still consider to be a looming crisis for the offshore service vessel sector. In one example, Louisiana Technical College's Young

Memorial Campus helped nine companies write Incumbent Worker grants. Examples of the resulting partnerships include Seacor Marine's donation of funds for the construction of a training pool enclosure and CalDive International's donation towards facility expansion (see www.youngmemorial.com/seacor.htm and www.youngmemorial.com/caldive.htm).

Turnover among mariners, especially at the lowest levels, is high. During periods of slow activity, companies do what they can to avoid layoffs and the negative public perception associated with them. A common strategy is to reduce pay and then reduce the number of employees through attrition. For example, in the downturn of 1998-99, one vessel company reduced captains' wages from $205 to $185 a day. Many captains left the company. Those that remained were assured that the reward for their loyalty would be that they would not be laid off and would then reap the benefits when things turned up again. More than a year later, things had not turned up and mariners continued to leave.

3.5.6.3. Schedules

Many companies retain full crews for their working vessels, even while those vessels are at the docks. Therefore, mariners generally work set schedules, although they may be required to work an extra shift if their replacement does not show up for a crew change. Mariners also frequently work double shifts to earn more money or because their employers are shorthanded. Consequently, mariners often stay on their vessels longer than they are at home, in patterns such as14-and-7, 21-and-7, and 28-and-14. The exception is the mariner who works only inland and in nearcoastal waters on a 7-and-7 rotation. The shift to larger vessels and deepwater platforms has been accompanied by an increase in time offshore for many mariners.

Mariners and their spouses commented on the difficulties of being gone 14 or more days at a time. Jim, for example, is a captain with experience with longer rotations but who has stayed with a 7-and-7 schedule for the five years he has been married. Despite the financial cut he took with the downturn, he does not plan to increase his days:

> "I like it like this. I am home for a week. My daddy worked 14 and 7. I always said if I married I'd never do it. I never saw my daddy. A week off goes by so fast. My uncles showed me how to go hunting and fishing…I do all kinds of stuff to make extra money. I used to pull time [work overtime]. Now, I can do other things and stay with my family" [I-451].

A spouse whose husband worked as a mate and had decided to increase his days at work had adopted a wait-and-see attitude:

> "It will be interesting to see how we handle the 28-and-14 schedule. We really like the 14-and-14, but I do not know about this. His thinking is that if he can do this for two or three years, then he can stop doing it altogether and dictate when he wants to work" [I-285].

3.5.6.4. Personal Risk and Safety

Maritime safety requires both vessels and crew to be in top condition. Technological advances such as radar and Global Maritime Distress and Safety Systems are intended to improve vessel operations and management. Yet, vessel operation remains a risky occupation.

Oilfield mariners operate on the busy Intracoastal Waterway, the open waters of the Gulf, and around rigs and platforms. They regularly face hazardous conditions, often after many days or even weeks on the job. A few notorious incidents have called attention to the environmental and health risks of maritime accidents, and insurance companies and regulators have responded by focusing on the training and preparation of mariners. Some mariners and educators have warned that new STCW-95 requirements intended to increase safety may have the opposite effect if experienced mariners leave the profession or are demoted because they do not hold the required certificates. As described above, since 1999 many efforts have begun to help mariners attain the necessary paperwork, but many observers believe they will be inadequate.

Mariners typically are paid by the day, and many work 12-hour shifts each day. On smaller vessels, crews are composed of fewer than a half dozen people with little or no redundancy, so it is not unusual for mariners to work more than 12 hours in a single shift. Fatigue-related accidents and near-accidents are common. Mariners complained to researchers about the problem, and the issue gained national attention after a tug and barge accident in the State of Washington that was attributed to a captain who fell asleep at the wheel after being on watch for 24 of the 31 hours preceding the collision (Lange, 2000a, 2000b). The Gulf Coast Mariners' Association focused its efforts on the issue and collected the personal statements of several hundred mariners about instances during which they were required to work more than 12 hours in a row (GCMA, 2000). In September 2000, the Coast Guard issued a policy letter clarifying its policy on work hour limitations and confirming that mariners are not permitted to work more than 12 hours in 24-hour period, except in an emergency (USCG, 2000). Such efforts attempt to modify the environment within which mariners work, rather than focusing solely on the mariner.

3.5.6.5. Mobility Across Sectors and Outside the Industry

Mariners have limited occupational mobility either within the oil and gas industry or beyond. Beyond the entry level, it is rare for mariners to move into other sectors of the oil and gas industry. The restrictive OSV licenses of the 1980's have been replaced by unrestricted licenses, so mariners who are licensed in the Gulf can move into other maritime positions. The near-collapse of the U.S. merchant marine (see Gibson and Donovan, 2000), however, means that competition for jobs outside the oil and gas industry is fierce. The recent creation of OSV-only STCW certification has made it possible for mariners to meet the STCW-95 requirements and continue working; its long-term impact on companies or mariners is unknown. Even with unrestricted licenses and certificates that allow them to work throughout the world, many individuals elect to stay within the Gulf and will leave the industry rather than take a job elsewhere.

3.5.7. Impacts to Workers and Families

Mariners face the same challenges as many others who work in the oilpatch: the uncertainty of unemployment, concentrated work scheduling, and danger on the job. Their families learn to cope with the health and financial risks and to adapt to a part-time spouse or parent. Many mariners are responding to the same pressures facing other U.S. workers and are selecting and retaining jobs based upon benefit packages and schedules rather than only the salaries they will bring. One semi-retired 68 year-old mariner, for example, continued working to retain his insurance benefits.

Many mariners face more difficult employment decisions. Companies use three strategies to reduce personnel costs: cuts in pay, cuts in hours, and layoffs. In the late-1990's downturn, one of the larger companies dropped the pay for captains from $205 to $185 a day (12-hour shifts) and reduced the number of days they could work. The company laid off few people because many mariners quit in search of better wages. In some companies that were short on workers, mariners were able to increase the number of shifts they worked to make up for the loss in pay. Others tried to supplement their income. Several mariners talked about how they would often turn to crawfishing when their pay was reduced, but the crawfish season was poor during this study.

Reduction in work time is equivalent to a cut in pay for those people who work extra shifts to make up for already low wages. Deckhands, for example, make around $10 an hour and usually depend on working many back-to-back shifts to make ends meet. When their time gets cut significantly, they often leave, and several mariners and company managers noted that the downturns provided an opportunity for companies to get rid of workers. According to one mate,

> "[In this recent round of cuts, my salary] stayed the same. It was time in a way to clean house. Anyone who caused trouble or was less desirable, they'd let them go. Lots of companies do that. The guys that are working straight time for six months on a boat, they got cut out. The captains and engineers got put on a salary. We're accustomed to working 28 days and got cut down to 14 and salary" [I-604].

While single people can string together several shifts to make ends meet, this choice poses a significant problem for families. Even for those who like being offshore, the lack of control over the schedule and the need to be gone for long periods takes its toll. According to an engineer and 20-year veteran of the industry,

> "The working conditions, the loneliness – these are the negative things. And then there are the times when you are working and you look down at your watch and you realize that it is little Johnny's birthday and there is nothing you can do. You have no control over things that you want to be back for. You remember the party that your wife was wanting to go to, but you know that you are going to miss it" [I-284].

Recent buyouts and mergers have had mixed impacts on the workers, families, and communities. For example, one worker described how his company went from seven to over 100 boats in a few

years because his company and several others were bought by a larger company. Personnel policies have increased the rotation of mariners from one boat to another and resulted in crews that are unfamiliar with one another. The emphasis on licensed captains has brought aboard individuals who are not only strangers but have no experience in the Gulf or the oil and gas industry.

Many of the impacts that accompany such growth, such as decreasing contact with company owners and managers and decreasing familiarity with co-workers, are perceived as negative. Mariners who worked for companies bought later in the sequence have argued that they are treated differently that the original company employees, and everyone experiences the loss in flexibility that accompanies standardization. Other changes include requirements about staying on the vessels when they are in port, going home for special days such as Christmas, and having family members and visitors aboard. The mariners acknowledge that these changes result from events such as thefts aboard stacked vessels and insurance company rules as well as the increasing distance between the companies and their employees as companies grow in size.

A key aspect of successful family relationships is communication, and older mariners and their spouses described the positive evolution from the marine radio operator, who had to be told all the details of whatever family crisis had occurred, to the public and then cell telephones where mariners could be reached directly and hear the news firsthand. Families also use fax machines, email, and trips to the dock to meet the vessel when they need to communicate. The availability of multiple modes of communication is a significant difference between older, smaller and newer, larger vessels. Some company executives noted that improved communication on all vessels was a change that is within their power to make. Still, after one recent merger, mariners reported that their company had eliminated their ability to call out from the vessel because people were abusing the system.

Another subtle but pervasive impact on mariners is the negative attitude toward them that many express, both within their communities and within the larger maritime industry. One mate spoke for many when he said:

> "I read an article recently that they call ours a low level license. That is kind of demeaning. [The upper level mariners'] schooling is all book work and theory. They have 90-day semesters and summers off. They go to sea 30 days each summer and accumulate sea time. They leave the states and cruise to the Caribbean, France, occasionally stop and dock the boat, clean the toilets. They are not doing the same type of work that we're doing. It's a totally different type of work that we do. It's like combat compared to just flying a commercial airplane because of the things we have to do. People look down on us because of years ago in the 70's when people were coming into Morgan City and the south from all over. They were lower class people, unemployed, coming in from all over. They would go into bars, get in fights. They were always dirty. They made the industry look like trash. That's where we got the term oilfield trash. The word was that any trash that drifts into town they put to work" [I-604].

Further impacts of the training and licensing requirements are the need to attend schools, study for exams, and travel to Coast Guard offices to take the exams and turn in paperwork, all of which must take place during time at home. Such tasks can reduce time with the family from a week or two weeks to a weekend at home. In many families, both mariners and their partners talked about how they worked together to help the mariner prepare for licensing exams and shared the joys of passing and the disappointment of failure. For example, during several visits with Lisa and Tony, one researcher was told about how Tony was preparing to take the exams to obtain a mate's license. Lisa was helping by making flash cards and reviewing the material with Tony. She was confident he would pass the exam. However, several months later during a visit when Tony was offshore, Lisa mentioned that Tony had failed his exam and would have to start over [I-383, I-386].

Paying for the training and licensing is another concern. Several of the large companies have policies to pay for training, but those policies often are not followed during a downturn, and several mariners said they have just gone ahead and taken the time off and paid for their own schooling rather than wait for the company to get around to it. Because there is no merit or longevity pay associated with working on most vessels, obtaining a new license is generally the only way to increase one's salary. The early concerns about paying for new courses required under STCW-95 have been addressed through the Department of Labor-financed programs. Schools that are offering those programs have been surprised by how few mariners have taken advantage of the courses and feared they will be overwhelmed in 2001-2002 as the deadline nears, especially as oil and gas activity picks up in the Gulf of Mexico.

Despite the frequent hardships families face when involved in the oilfield, the mariners and their spouses were quite upbeat in discussions with researchers and emphasized positive aspects of their lives and their companies. Company policies that allowed mariners to be home for the birth of a child or funeral of a grandparent were named. In their discussions, mariners readily distinguished good from bad companies and captains for whom they had worked.

Many mariners are second and even third generation oilfield workers, but their recent experiences have led them to dissuade their children from entering the profession. When asked whether they thought their children should follow in their footsteps, parents' responses ranged from the unhesitating "no" ("I prayed the kid would get sick on the boat his first time out, and he did… I didn't want him doing what I did.") to an attitude that the child should make those decisions ("I never told him what to do."). The one individual who had successfully encouraged his son to be a boat captain acknowledged that he was not like most of his peers. Yet, among those who left the decision up to their children, the pride in those who had followed after their fathers was evident. According to one captain,

> "I didn't tell them to go on the boats or not to go on the boats. The older boy just took into it. I don't think he's ever done anything else… I'm glad he took into it. He made a decent little captain. He didn't have but a seventh grade education, so it took him awhile to get his license" [I-616].

Though many families are ending their marine tradition, it is not without some sadness.

Still, impacts are relative, and mariners weigh costs and benefits of working in the oilfield against those of other maritime jobs. According to one captain,

> "One thing about the offshore industry, … the pay is so good. I called a cruise ship, 28:14 are the regular hitches in offshore. They wanted six weeks on, one week off. They were only going to pay me as a captain for $25,000. I used to own and operate a charter boat in the Virgin Islands. It's not a vacation" [I-774].

3.6. Trucking and Trucking Companies

Although truckers are not often considered an intricate component of the offshore industry, this research team's work in the communities of the Louisiana oilpatch proved otherwise: every girder, drill bit, pipe that comprise an offshore production platform or drilling rig spent at least part of its life on the back of a truck. These trucks, and the highways on which they travel, make up a key component of the infrastructure of the offshore oil industry, and, in that capacity, tie thousands of individuals and their families to the ebb and flow of the oil economy. This section will provide a more detailed picture of this sector of the oil and gas industry, the individuals that work in it, and the challenges they have faced in the midst of a decade of rapid and significant reorganization.

3.6.1. Tools and Terminology of the Trade

The smallest vehicles of the fleets that serve the petroleum industry are really glorified pickup trucks. These pickup trucks, called *hotshots* in the Acadian oilfield, come in a variety of shapes and sizes; the smallest being the half-ton trucks, the largest over a ton, and many have been converted to flatbeds in the rear. The state does not require hotshot operators to obtain commercial driving licenses. Nonetheless, these trucks fill the major corridors in the Louisiana oilpatch, and the drivers of the larger trucks consider the hotshot drivers their brethren in oilpatch trucking. New models of these trucks retail for anywhere from $25,000 to $35,000 dollars, making them the least expensive way for an owner/operator to enter the oilpatch trucking business. For that reason, and because no commercial driving license is required to operate the pickup trucks, many drivers get their start as hotshots. These small trucks have, for decades, served as a means of moving small pieces of equipment quickly from one place to another. Because the operations of the petroleum industry are so capital intensive, the breakdown of an essential piece of equipment – a drill bit, for example – can cost a company tens of thousands of dollars in down time. The hotshot is the transportation sector's response to the unique demands of the industry; these trucks ferry key pieces of equipment to and from the docks and between the service companies scattered across the delta. The drivers' ability to carry vital pieces of equipment at top speed earned them the nickname *hotshots.*

Although some truckers operate mid-size trucks, the current mainstay of the oilpatch is the eighteen-wheel tractor. Top-of-the-line tractors usually have an exterior constructed of durable aluminum, accoutrements made of chrome, and the dog-nose style that provides easy engine access. Less-expensive fiberglass models have proven quite popular with the oilpatch drivers as a cost-effective alternative. New top-of-the-line tractors retail for as much as $130,000, while less expensive fiberglass models retail for $40,000 to $80,000. Because oilpatch truckers are often

forced to sleep over at the various industrial yards as they await loading, many truckers opt for the more expensive sleeper models. Unlike the smaller hotshot trucks, the diesel tractors are built to run for hundreds of thousands of miles if properly maintained.

These rigs commonly pull a standard, flatbed trailer. Flatbed trailers (also called platform trailers) usually come with pine floorboards and are built to carry 45,000 to 48,000 pounds. Most new trailers come with an air ride system that minimizes jostling and impact to the cargo. Platform trailers are used to carry all sorts of oilfield equipment, although it would seem to the casual observer that most platforms on the road carry pipe. These trailers retail for between $15,000 and $20,000, but further customization can push the price well beyond $20,000. Many of the truckers in the oilpatch pull drop-decks – modified flatbed trailers in which the main deck is several feet lower than the typical flatbed. There are several advantages to the drop deck trailers; loading and unloading heavy freight is made easier by the lower deck, the lower center of gravity prevents tipping, and the trailers can carry tall pieces of equipment without exceeding the state limits on cargo height. These trailers retail for several thousand dollars more than the standard platform trailers, and they are usually capable of carrying nearly the same tonnage. For the purposes of billing, these trucks are considered special equipment, and therefore incur additional charges to the vendor.

Another modified trailer is the lowboy. Lowboy trailers are constructed of heavier steel and are built to carry loads as heavy as 120,000 pounds. Lowboy trailers are often manufactured with swing-out attachments allowing the owner to widen the trailer; they often include a rolling tailgate and a winch for self-loading as well. Extra axles help support the extra weight. In addition to the lowboy, many of the trucks in the oilpatch pull trailers called *goosenecks*. Gooseneck trailers come in various sizes; the name refers to the particular design of the trailer's hitch. The full-size tractors can pull a gooseneck trailer much like the lowboy described above. More commonly, however, hotshot owners purchase light gooseneck trailers to increase the weight and size of their hauls: because the pay for particular hauls correlates to the weight of the load, these smaller lowboys provide a way for hotshot owner/operators to increase the earning potential of their equipment.

With only a slight evolution over time, this equipment represents the current infrastructure of the trucking sector of the Louisiana oilpatch. While this equipment has been fairly stable throughout the history of the industry, the organizational structure under which this equipment was employed proved more variable.

3.6.2. History

During the Great Depression, the trucking industry emerged as the primary competitor to the established rail companies. The contracting economy of the 1930's invigorated the nascent trucking sector, favoring it over rail transportation because of its implicit flexibility and low costs. The importance of the trucking sector did not diminish, and by 1990, 77 percent of the U.S. freight market traveled by truck (Teske, et al., 1995).

During these early years and with the expansion of the trucking industry, a complex, two-tier regulatory system emerged. As an outgrowth of the regulatory systems developed for the rail

sector, states began imposing a series of regulations on the trucking industry that, at the time, largely consisted of localized transportation networks that were relatively easy to regulate. Intrastate regulation focused on the issues of safety, service quality, and the maintenance of consistent pricing (Teske, et al., 1995). By the mid-1930's, however, the quantity and importance of interstate freight hauling had increased rapidly, and the federal government, through the Motor Carrier Act of 1935, moved to establish a regulatory framework for interstate trucking, to be managed by the Interstate Commerce Commission (ICC). The legislation left the states' regulatory purview over intrastate trucking intact, resulting in variable regulatory structures particular to each state. Federal regulation of interstate trucking remained in place until the passage of the Motor Carrier Act of 1980, which dismantled many of the key regulatory components of the ICC (Felton and Anderson, 1989). The Act did not alter state-level regulation of intrastate traffic. Louisiana, along with many other states, solidified its intrastate regulatory structure in the window between interstate and intrastate deregulation, and it was not until the passage of the Airport Improvement Program Reauthorization Bill of 1994 that the process of dismantling the state regulatory structure began.

In Louisiana, the Louisiana Public Service Commission (LPSC) regulated the trucking industry through several mechanisms.[12] At the foundation of the commission's regulatory duties were two functions: the commission managed the distribution of the state operating permits required for business, and the commission established the price for *line hauls* – the term used for point-to-point freight hauling. The policies and rates established by the LPSC applied to all forms of trucking within the state – private carriers, contract carriers, towing companies, and so on – but the oilfield haulers represented the most significant contingent of intrastate truckers in Louisiana [I-753]. The intricacies of these functions in relation to the organizational structure of oilfield transportation will be explored in the sections that follow. In general, however, the two functions described above comprised the core of Louisiana's regulatory system. By controlling the distribution of permits, the LPSC limited entry to the oilpatch transportation sector; by establishing the price for line hauls, the LPSC maintained comfortable profit rates for Louisiana oilpatch haulers. The role of the LPSC in managing entry to the transportation business and establishing the price for line hauls ended in January 1, 1995, resulting in a series of dramatic changes in oilpatch transportation (Wolf, 1996).

Until well into the 1950's, many oil and service companies of Louisiana maintained their own fleets of trucks, hiring drivers as employees, while other individuals owned fleets of trucks that were leased to the oil industry. Neither of these organizational systems was particularly efficient. Companies that maintained their own fleet of trucks found the truck-utilization rate too low to justify the costs compared to leased trucks. Both systems resulted in poor equipment maintenance by the hired drivers, and the process of establishing a business of either type was capital-intensive. In the early 1950's, a New Iberian truck company owner named Sam Broussard, Sr. sought a business design that would minimize equipment abuse to his fleet of trucks and solve this problem of high start-up costs.

[12] The LPSC has a long and colorful history in the state. Originated as the regulatory agency for oversight of the rail industry, Huey Long transformed the Commission into a political springboard in his ascension to the post of Governor (Williams 1969). The Commission continues to play a central role in Louisiana politics.

Rather than purchase the trucks, Sam Broussard Sr. configured a system in which the trucking company leased trucks from independent owners and owner/operators. The owners of the trucks were responsible for maintaining and operating the trucks. Owners of multiple trucks often hired drivers. The advantages of the system were obvious, as Sam Broussard Sr.'s son notes:

> "My dad came up with the concept of leasing in the oilpatch. He thought that instead of having a company with employees, he could figure out a way to go in as partners with them. That was the concept of the lease. Because the drivers would own the trucks, they would not only take care of the equipment, but they'd go out and hustle jobs, and then all would be better off. He brought the idea before the LPSC and they approved it. That's how he described it to me when I was a kid – he figured the lease concept would make a man his own boss, let him run his own business, and therefore he'd do a good job."

Other truckers and company owners followed suit, and the independent trucking firm soon became the norm. This basic division of labor remains in place today, as few companies maintain their own fleets [I-139].

Under this business structure, the trucking company traditionally provided an operating permit and insurance to the independent owner/operator. In turn, the trucking company received between 20 percent and 30 percent of the line haul – the tariff rate established by the LPSC. The trucking company would, at times, receive calls and provide work to the independent owner/operators under lease, but the truckers themselves were largely responsible for securing the bulk of the work. This organizational structure was built upon the interconnections between social and occupational realm of the oilpatch – one in which trucking companies came to depend upon the social and familial networks of the operators they employed.

The articulation of this business design resulted in a system in which the trucking companies grew dependent upon the entrepreneurship of the individual owner/operator. The trucking companies provided only a small portion of the customer base to the truckers under lease – the success of an individual owner/operator depended upon his ability to find and secure relations with a wide variety of customers. This merged the social and familial sphere of Acadian life with the occupational one, yielding a system in which truckers – and the companies under which they operated – relied on networks of kin, friends from high school, neighbors, and so on to supply work. Through this process, truckers of the Acadian oilpatch could transform their social milieu to a source of economic sustenance.

The substance of this process has been termed *social capital* by a host of social scientists (Bourdieu, 1986, 1992; Coleman, 1988, 1990; Putnam, 1995a, 1995b; Fukuyama, 1995). While a variety of definitions of social capital now hold currency in the social sciences, most agree that social capital represents systems or scenarios in which social networks or connections can facilitate or construct economic activity. Bourdieu's notion of social capital, for example, focuses specifically on the transformative process by which social connections are transformed into economic capital, and vice versa (Bourdieu, 1992). In the trucking sector of the Louisiana oilpatch, the industry came to rely upon these networks of social capital which, together, provided a communicative infrastructure for industry, access to the local labor pool, access to financial capital, and a host of other efficiencies that fostered the nascent trucking system.

In part, this system depended upon the haul rates – called *tariffs* – established by the L. P. S. C. Because the rates for point-to-point hauls were determined by the state, competition shifted to vectors other than price. Many participants noted the role of service quality and safety record in the competition for customers. Although these factors certainly played a role, participants repeatedly pointed to the importance of the aforementioned familial and social networks, or social capital:

> "I was good at keeping customers. I'd bring them boudin in the morning to keep them happy, and on cold calls we'd go out to lunch. I'd get attached to customers quick, and we'd have more fun that the law allows. We'd have dinners together, barbecues, beer – my wife and I would blow $300 to $400 every once in a while on those barbecues. That's just the natural way of living down here. And after a while there weren't many cold calls left to make – most everybody knew me" [I-748].

Or, as another driver describes,

> "You had to do a lot of favors for the customers, but that was your business, and it was a good one. I'd bring them lunch, pick them up when they were out drunk somewhere, whatever. There was one guy I built three racecars for. You had to entertain the customers and keep them happy, or you had to have a brother-in-law that likes you at one of the companies. Either way, that's the way the business worked" [I-744].

As the truckers make clear, the activities entailed in the maintenance of the social networks were conceived as an integral and inherent component of the oilpatch transportation industry. This template had been established early in the reconfiguration of the industry from the corporate-fleet system to the leased system of the owner/operator. Through this reorganization, trucking companies took advantage of the extended family and kin groups of the Acadian oilpatch; these familial networks functioned as the foundation from which individuals expanded their network of customers through entrepreneurial effort. Establishing and maintaining these social capital-rich networks proved essential in financing entry into the trucking industry, establishing a customer base, weathering the periodic busts in the oil economy, and obtaining the permits necessary to form a trucking company.

3.6.3. Deregulation, Mergers and Alliances

On January 1, 1996, Louisiana deregulated intrastate trucking. The impact of this policy change can be directly tied to two components of regulation: limited entry and state-established prices. With deregulation, anyone could enter the business provided they obtained the proper insurance, and, furthermore, any price could be offered for particular line hauls. Competition quickly affected prices, and the rates for line hauls dropped 20 percent to 40 percent over the next year. Coinciding with this change, the negotiations involved in the business shifted from driver/customer to trucking company/customer.

Because competition was now based on price, several of the larger trucking companies moved to establish single source alliances with large customers in the oilpatch. In essence, the trucking

companies offered deep discounts for the right to carry all of the cargo for a particular company. Consolidation within the offshore industry – resulting in part from the economies of scale necessary to competitively extract oil offshore and get it to market – increased the vertical and horizontal integration of the customer base, decreasing the number of customers in the oilpatch and increasing the importance of alliances. These alliances were brokered by the trucking companies that, as the participating truckers often noted, own no trucks. These alliances not only locked out independent truckers from most of the business in the oilpatch, but they created countless low paying "contract loads" which, as the number and scope of the alliances increased, comprised the bulk of the work available in the oilpatch. The truckers who participated in this study estimated that 90 to 95 percent of the business in the oilpatch is now run through the alliance system.

The alliances and subsequent cuts in the price of line hauls resulted in a significant reorganization of the trucking industry. With payments to make on trucks, owner/operators faced the choice of joining one of the three or four large, alliance-based trucking companies to haul at their low contract rates, or join one of the smaller, struggling independent trucking companies seeking to make a go of it with the few service and oil companies not enmeshed in the alliance system.

As most truckers were forced to join the alliance-based trucking companies in order to keep working, it became apparent over time that the low rates established by the alliance contracts resulted in the oilpatch truckers' inability to make basic repairs and meet the maintenance schedules for their trucks, much less finance the purchase of additional trucks. As a result, the new organizational structure of the trucking industry is much more heavily composed of the single-truck owner/operator. Some of the trucking companies from the old system have been incorporated into the new system as commission terminals – essentially, the owner of the pre-deregulation trucking company now owns a terminal and trucks under one of the major truck companies – but the individual owner/operator represents the new norm. Gone is the avenue through which an individual might build a small trucking company through the reinvestment of the profits generated by a single truck.

The economic impact of these changes cannot be overstated. The truckers in the oilpatch contend that they now work twice as much for half the pay. They are unable to properly maintain their equipment, resulting in increased concerns about the safety of the trucks. Many of the truckers have been unable to make a go of it under the reconfigured system – trucks for sale line the highways – while others look for opportunities in cross country trucking or in another industry altogether. For the truck drivers of the Acadian oilpatch, however, the economic impact of deregulation is only part of the story.

The alliance system disrupted the role of social networks and social capital in the trucking industry of the oilpatch. More specifically – and with reference to Bourdieu's notion of the logic of capital transformation – the alliance-based trucking companies were able to wrest control of the process by which social capital was transformed into economic capital. Through the alliances, the large oil and service companies were required to utilize a single carrier. To meet the logistical demands of the system, the trucking companies set up 1-800 numbers through which the customers funneled transport requests, while also increasing the role of in-house dispatchers. Under this system, the trucking company assigned the drivers to particular hauls. As

a result, social connections between the truckers and their customers became irrelevant; the truckers' social capital played no role in their success or failure in the deregulated oilpatch, and the trucker's entrepreneurial skills were of no use.

3.6.4. Trucking as a Livelihood

Under regulation, truck drivers usually started as hotshot drivers, often at a young age. Driving one of the hotshot pickups did (and does) not require a Commercial Driver's License (CDL), and the pickup trucks represent one of the cheapest ways to enter the trucking business. Many of the individuals now in the trucking industry began driving while in high school, frequently jumping between other employment and trucking. After some time driving one of the smaller trucks, drivers typically moved to earn their CDL and purchase a truck of their own, graduating from driver to owner/operator and thereby increasing their take of the line haul. With some business acumen and steady work from the industry, the owner/operator might then seek to purchase additional trucks, hire drivers, and start a small trucking company. These small trucking companies operated under lease to the larger, permit-holding companies. Eventually, a particularly successful truck company owner might move to obtain a state operating permit and, at that point, assuredly move from behind the wheel to behind the desk. It was this job ladder that traditionally attracted both educated and uneducated men of Acadiana to the trucking sector.

For the owners/operators of the oilpatch, the book rates of regulated trucking provided a stable foothold in an essentially volatile industry. The primary source of this volatility stems from the long term economic fluctuations of the region. Drops in the international price of oil result in sharp cutbacks in the amount of oil company money allotted to exploration and drilling. These activities are the mainstays of the southern Louisiana oilpatch (Liebow et al., 1980); the economic impact of curtailed drilling and exploration trickles through the industries of the region, first impacting the service companies, then the transportation sector. The downturn of the 1980's lasted through the end of the decade and looms large in the minds of all in the region. Nearly every trucker and, for that matter, nearly every adult in southern Louisiana remembers the period as "the bust."

For many of the truckers driving in the 1980's, diversification represented a primary coping strategy. As one driver reports,

> "I started driving when I was 21, just before the bust. I'd drive on the weekends, sometimes through Monday, and then go in to my cousin's butcher shop for the rest of the time. That's how I got through the bust – I had two things going" [I-678].

Another husband and wife team reports,

> "We got started back in trucking back in 1982. My husband was working in the oilfield before that, but things went belly-up and he couldn't get any work … we decided to buy a shrimping boat, and we moved the family out to live on the boat. I ran the shrimping boat and the kids helped out. A friend of ours helped us get started in trucking – we bought a one-ton truck and then just kept buying more. Eventually we moved out of shrimping" [I-712].

With many of the options in the oilfield closed because of the economic downturn in the industry, truck drivers and truck owners often turned to other livelihood strategies to survive, while others left the region altogether. For those who chose to both remain and continue trucking, their ability to work out arrangements with creditors became essential, as many of the trucking businesses could not make ends meet. Also, owners and operators with enough savings or large social networks were able to persevere in the economic decline of the 1980's. Maintaining the production rigs required some equipment and supplies that, in turn, entailed some transportation. The picture that emerges from discussions of this period suggests that the timing and impacts of the downturn, while widespread, were variable. Some owner/operators were able to find work, and a few even prospered. Because the rates for particular hauls were set by the state, those able to find work earned enough money to persevere.

The lessons of the 1980's became part of the oilpatch trucking industry. During downturns, truck drivers and truck owners tend to buckle down and wait it out, depending as best they can upon savings, credit, and alternative forms of income.

Truckers thus utilized a variety of strategies to cope with the periodic downturns that plagued the region. Underlying these strategies, however, were the price supports provided by the LPSC – line haul rates that guaranteed the profitability of the trucking enterprise when times were good. At the same time, the overlapping social and familial networks underpinning the business ensured that local men, and occasionally women, could best succeed in the industry. Over time, these conditions resulted in deep, historical loyalties between the people of Acadiana and the industries at work there. These loyalties counterbalanced the rigorous work schedules faced by truckers and helped prevent the problematic relationship between labor and industry observable in other regions of the United States.

3.6.5. Pride and Loyalty

The high costs of running the offshore drilling rigs and much of the other oilfield equipment made the rapid transport of key components an absolute necessity. The rigors of making this transport possible – 24 hours on call, driving through the night, breaking the speed limit, and so on – fostered an occupational pride amongst the truckers of the Louisiana oilpatch. As one participant elucidates,

> "Working in the oilfield is 24 hours a day, seven days a week, and response time counts. A rig might be shut down, maybe the pipes burst, or nine out of ten times the rig coordinator forgets a crucial piece of equipment. That's the thing about oilfield trucking – it's essentially a hotshot service. As a driver, you're allowed time to wake up and get dressed, but you've got to be on the road fast, and you're on call for 24 hours" [I-730].

Rather than associate themselves with other truck drivers, the truckers of the Acadian oilpatch traditionally carved an identity within the context of the oilpatch itself. There are several justifications for this attitude. First, most of the truck drivers in the oilpatch carry only oilfield equipment; it is rare for an owner/operator to also haul sugar or carry interstate loads. Second, many of the truck drivers currently employed in the oilpatch worked in other capacities within

the oilfield – for example, as a roustabout or roughneck. In the past, their experience with oilfield equipment came in to play in the loading and hauling of that same equipment, and, for that reason, strengthened their association with the oilfield. Finally, this knowledge of the oilfield, combined with the regional boundary of their hauling operations, clearly differentiates them from interstate truckers. As two truckers noted,

> "We're not cross-country drivers. You'll see us on the same road as them, but we're oilfield haulers. We have specialized equipment and specialized skills" [I-731];

and,

> "Cross-country truckers are wheel-holders, that's all. They don't load or unload, and they don't know their cargo. In the oilpatch, we're out bustin' ass, rolling pipe … we're a different breed down here, and I don't know how those interstate guys keep a family being away from home all the time" [I-748].

Truck drivers in Acadiana also prided themselves on their entrepreneurship. Under regulation, both the trucking companies' and the owner/operators' well-being depended upon entrepreneurship within the context of Cajun social networks:

> "I used to go door to door; some of the people I stopped in on were friends and acquaintances, but a lot of them were people I didn't even know. After a little work with someone, we'd get to be friends and they'd call back more and more. I gave them good quality of service" [I-712].

Overall, the organizational structure of the pre-deregulation trucking in the Louisiana oilpatch provided ample business opportunities for individuals from the region – the opportunity to build a business from the ground up through individual initiative, buttressed by the extensive social networks of Acadiana and the capital which flows through them.

These durable social and familial networks often connected truckers to many oil and service companies for extended periods of time. As described above, these relationships were encouraged and fostered through a variety of means. Over time, however, families in Acadiana began to associate themselves with particular companies, and individual owner/operators often relied upon one or two customers for the bulk of their work. As one individual described,

> "We were a Texaco family. You see, we're from Houma, and Texaco came to Houma after WWII. My daddy trapped for a living until he got a job with Texaco. He started as a roustabout and later owned a Texaco filling station, and all my uncles worked for Texaco too. When I came back from college, I knew a lot of people around here, and they said to buy some trucks, so I did. That's how I got started" [I-670].

The template of family overlaid that of industry in much of the region and thereby reaffirmed the role of transportation in the larger task of bringing gasoline to the pumps across the nation. The identity of the truck driver in Acadiana reflected their essential role in the process – prior to deregulation, the oilpatch truckers felt a part of the industry at large.

Much of this would change with the passage of deregulation in the mid-1990's. Shifts in the structure of the industry resulted in a rapid loss of economic standing, changes in the waypoints of the trucker's career path, and an accumulation of power within a handful of companies. At the same time, these economic changes altered the occupational identity of the truckers in the oilpatch, pushing the drivers into a liminal state and changing their attitudes about their work and its context. As one trucker noted,

> "Before deregulation we were all proud of the job we did and the people we knew, but I'm not proud of the job I do anymore, and I'm not going to bust my butt getting back and forth with my load. The drivers have become complacent, and if that rig shuts down, well here's the world's smallest violin. They're not properly compensating us, they're not paying our speeding tickets, and they're not helping us out. We used to get business for good service, and damned if I didn't have the tickets to prove it. We hustled that equipment down there, wherever it had to go and at whatever time of the day or night. You know, I had nine tickets between 1971 and 1985 – but those days are gone now and I'm not doing anything more than I have to" [I-731].

The pride and loyalty of the oilpatch trucker represented a key bond in the social facet of the occupation, one that drew workers to the avocation, kept them there, and increased their motivation to perform efficiently. The impact of deregulation, while certainly economic in character, articulated with the social fabric of the coastal communities as well. Furthermore, while the social and economic impacts of deregulation described in the sections above provide a general framework for understanding the changes resulting from this policy shift, the resulting structural changes in the transportation industry include myriad specific impacts upon the companies, truckers, and families that comprise this segment of the oilpatch.

3.6.6. Job Characteristics and Demands

Deregulation changed the very nature of trucking in the oilpatch. From the perspective of both trucking companies and owner/operators, many of the changes stemming from deregulation were unforeseen. In turn, both companies and truckers are struggling to meet the challenges of this reconfiguration.

3.6.6.1. Demand for Workers

As noted above, deregulation resulted in significantly lower rates for line hauls in the oilpatch. At the same time, the diminishing role of entrepreneurship in the trucking industry, as well as the vanishing possibilities of advancement, make trucking a much less attractive occupation for the men and women of the oilpatch. In the past, the trucking industry provided Acadians with an opportunity to build a trucking company from the ground up, and many individuals did so without a high school education. Today, however, the conduit between the trucking sector and the local labor force has largely collapsed. As a result, the trucking companies face labor shortages.

For the trucking companies, the situation is marked by an increase in the average age of drivers. As a corporate officer at one of the big three companies noted,

> "Things are really changing. The quality of drivers is way down, and the average age is going up every year. Our company's average age is somewhere around 46 … there's just not a lot of new blood coming in. The reason for that is money – there's just not enough money to be made as a driver" [I-673].

While the corporate officer notes the increase in the average age of drivers, he also focuses on the quality of driver. Many of the older truckers working in the oilpatch came to the business with some experience in the oilfield – perhaps they had worked on a rig during summers in high school or tried some fabrication work at some point in their career. As the local labor sources have vanished, however, the major trucking companies have sought to locate drivers from other regions of the United States, and many of these drivers have little knowledge of the oilfield equipment they haul.

At the same time, labor shortages have forced the companies to accept a lower quality of trucker. Faced with shortages, the companies now accept candidates they might have passed over prior to deregulation. To combat the potential ill effects of this situation, many of the companies have instigated more rigid training courses, drug tests, and other measures to improve the safety and quality of incoming drivers. These measures, while potentially effective, have the additional result of further alienating the local labor pool. For veteran drivers, the increase in training and safety programs are an affront to their years of experience in the oil industry and on the roads of Acadiana. For the incoming drivers from the local region, the amount of training necessary, as well as the costs associated with that training, represent a formidable obstacle for entry into the trucking sector.

Finally, as hiring policies have shifted from the social and kinship based systems of the past to formalized, corporate systems of the present, an increasing number of African Americans, women, and outsiders have entered the labor force. These populations, traditionally excluded by the social and kinship networks necessary to succeed in the pre-deregulation oilpatch, have a much easier time securing employment under the major companies. The pay from trucking has pushed many owner/operators to the point of insolvency, and the resulting shifts in the structure of the industry have changed the face of the oilpatch truckers.

3.6.6.2. Training and Pay

Historically, the owner/operator's training was on the job. Many truckers began their careers driving hotshot pickup trucks. For larger trucks, the CDL is required. Many of the oilpatch truckers combined this training with experience working in other sectors of the oilpatch. Their experience on the drilling rigs, production platforms, and fabrication yards helped them establish contacts in the industry, and provided them with knowledge of the equipment they were hired to haul.

With the changes wrought by deregulation and the ascendance of the three major trucking companies, training became more formalized. As described above, many of the trucking companies instigated safety training courses to combat the inexperience of the incoming drivers. Today, few truckers opt for the specialty training required to haul oversized loads, hazardous materials, and other types of freight. In the past, these specialty licenses allowed them to better

serve their customers; in the contemporary oilpatch, however, the additional pay for hauling such loads has been minimized, and, as a result, few truckers pursue these costly additional licenses.

For the administrative employees of the trucking companies, the training requirements have changed dramatically over the last decade. Where once simple phone skills and a wide group of contacts were all that was necessary to succeed as a truck company owner, these companies now employ a vast array of individuals. Many of these jobs are technologically intensive, as employees now work with computer systems that track trucks, manage their schedules, and so on. The companies typically seek college graduates, and most of the employees arrive with some computer skills.

Despite the requirements for more rigorous training, deregulation has meant a dramatic drop in income for most truckers. The construction of the alliances between the oil and service companies and the major trucking companies resulted in cuts in the line haul rates, pushing them down by as much as 40 percent. For the major trucking companies, the dropping line haul rates were balanced out by the increase in volume of business. The owner/operators, however, faced fixed maintenance costs for their trucks and for living expenses, mortgages, and car payments. The decrease in income pushed many of them to longer hours on the road, sometimes stringing together run after run for several days. Others abandoned the transportation sector altogether.

3.6.6.3. Turnover and Advancement

As the income available to the owner/operator has diminished, and as the local labor pool seeks other occupations where entrepreneurship provides a viable template for advancement, turnover rates at the major trucking companies have increased. While many of the older owner/operators plan to finish out their careers at one of the larger companies, the incoming labor pool is more itinerant. Some young drivers utilize the trucking sector as an entry into the oilfield but plan to move to more secure sectors, such as production, when the opportunity presents itself. Other drivers are moving to and from interstate hauling which, while not necessarily more lucrative than oilfield hauling, represents another variable in the career calculations faced by most drivers in the deregulated oilpatch.

Because the major trucking companies are locked in competition for the largest customers in the oilpatch, the line haul rates are continually pushed lower and lower from their pre-deregulation levels. As these income cuts are passed on to the owner/operators, the structure of the trucking sector has changed. In the past, the combination of an oilpatch boom and the line haul rates established by the state allowed truckers to build a surplus. Many owner/operators devoted this surplus to the purchase of additional trucks for which drivers were hired, and through this process Cajun truckers were able to build small – and occasionally large – trucking companies.

As the deregulated line haul rates plummeted, these surpluses have evaporated, and the purchase of additional trucks is no longer economically feasible. For the contemporary oilpatch trucker, the only economically viable alternative is to operate a single vehicle, for the costs of financing the purchase of additional trucks after paying a driver 20 percent to 30 percent of the line haul rates are prohibitive.

Low line haul rates have effectively established an impenetrable ceiling for advancements within the trucking sector. Without the options of purchasing additional trucks, truckers are consigned to a career of operating a single truck for one of the large trucking companies. Conversely, there are new opportunities for advancement within the growing corporate segment of the trucking sector. These posts no longer rely upon a knowledge of the oilpatch, its equipment, and the trucks themselves, but are instead more dependent upon a pool of skills based around the growing role of technology, office management, personnel management, and the legal affairs associated with the management of a large corporation.

3.6.6.4. Schedules

Declining line haul rates have also pushed truckers out on the road for longer periods of time. As the major trucking companies cut the line haul rates, they have made up for the decrease in per-haul income with increases in the total volume of hauls. The truckers themselves pursue a similar strategy. Facing maintenance and gasoline costs, most truckers have sought to increase the overall number of hauls in order to maintain their income level and meet these costs. As a result, schedules have changed – drivers now seek to increase their total number of hauls, often linking together job after job for several days of straight work.

At the same time, as the industry has shifted from one based upon the social networks of the truckers themselves to one firmly under control of a handful of trucking corporations, the owner/operator's control of his or her time has also diminished. As noted in the sections above, prior to deregulation truckers were largely responsible for securing their own work, and within that context established their own schedules. Under the reconfiguration, trucking companies now control the conduits to customers and have formalized scheduling. The major trucking companies maintain scheduling boards by which drivers are selected in rotation, and several companies have instigated penalties for truckers who refuse a job when they are selected.

As a result, truckers now spend nearly all of their time on call. During slowdowns in the oilpatch, trucking companies may have little work to give, but a call can arrive any time, day or night, weekday or weekend, and the trucker must always be prepared to depart at a moment's notice. This form of on-call scheduling taxes the family life of the Acadian truckers.

3.6.6.5. Personal Risk and Safety

With the owner/operator's income severely diminished by deregulation, the truckers report that they are increasingly unable to properly maintain their trucks. Many of the drivers contend that this problem will only get worse as the trucking companies continue to negotiate tighter profit margins. As truckers struggle to cope with this situation, they often strategically increase the amount of time between oil changes and tune-ups. Replacing brake pads and tires – both expensive items – is delayed as long as possible, increasing the potential for accidents. Although no statistics are available, truckers perceive the poor maintenance of trucks as one of the primary impacts of deregulation.

At the same time, truckers spend increasing amounts of time on the road in order to compensate for the low rates of line hauls. Truckers report working a wearying number of hours in order to maintain income levels sufficient enough to make truck payments, house payments, car

payments, and so on. These long hours on the road, drivers contend, decrease the margins of safety traditionally maintained in the oilpatch trucking sector. Together, the increased amount of time spent on the road and the poor maintenance of equipment are a threat to highway safety, as one trucker noted:

> "I've seen brake pads like onion skins on some of these trucks. The family that slams on their brakes in front of those trucks is a dead family. Do people think the drivers are just sleepier now? It's the equipment! The government needs to step in and regulate so drivers can make enough money to maintain their trucks and eat" [I-610].

3.6.6.6. Mobility Across Sectors and Outside the Industry

The labor pool in the trucking sector of the Louisiana oilpatch traditionally consisted of a fairly mobile labor force within a particular set of confines. In the discussions with older Acadian truckers, it became clear that many of them had, at one time or another, worked in other sectors of the oilpatch. Many had experience working offshore – primarily in the drilling sector – but also in other capacities. Furthermore, working as a driver was traditionally conducive to part-time work, as individuals who drove someone else's truck often did so around other forms of local employment. For the men (and occasionally women) of the oilpatch, their mobility existed across many different sectors of the oilpatch but was largely confined to the social and familial networks through which employment was obtained.

Owner/operators were constrained by another set of factors as well: much of the equipment purchased for service in the oilfield was fairly specific to the oil industry, making mobility to interstate trucking difficult and/or costly. First, most of the trailers purchased for oilpatch service were flatbeds, drop-decks, and lowboys, all of which are particularly useful in the oilpatch but less common in other regions of the United States. Second, many interstate truckers purchase trucks with engines large enough to carry heavy loads up the various mountain ranges that cross the continent. Few of the oilpatch truckers select these stronger cabs, as southern Louisiana is flat. The equipment, then, binds the oilpatch truckers to the oilpatch, making mobility to other trucking sectors difficult, although not impossible.

Deregulation resulted in a variable impact upon the mobility of truckers in the oilpatch. On the one hand, lower pay and fewer opportunities for advancement pushed truckers to other occupations both inside and outside the oilfield. As the role of social capital in finding employment diminished, movement into the truck sector became much easier as well. At the same time, however, truckers working under the alliance-based trucking companies forge few connections with the oil and service companies for which they haul. As the truckers' role has shifted from one of oilpatch entrepreneur to oilpatch laborer, their ability to establish the business connections that traditionally allowed them to move between sectors has diminished.

3.6.7. Impacts to Workers and Families

The impact of the changes wrought by deregulation and changes within the oil and gas industry can be roughly divided into two spheres. Perhaps the most vivid impact of deregulation are those of an economic nature; as the large, alliance-based trucking companies scramble for market

shares, the owner/operators bear the brunt of the change through vast cuts in the line haul rates. As the owner of a small, independent truck company declared,

> "With deregulation, the pay is down 40 percent, but the costs of operating are doubled … It's just unbelievable. Chevron reports earnings of $3.6 billion, while the truck drivers down here live in rat-infested mobile homes. The politicians are all on the take, and we're wasting our time in the courts. The whole country is a piece of … Most of these truckers' kids don't even have medical insurance – they can't get decent medical help. When it comes down to it, the oil companies are squeezing the life out of the people down here" [I-610].

The deep cuts to the line haul rates pushed many truckers to the brink of insolvency; within the context of the industry, their only option was to increase the amount of time on the road. A sales representative from one of the major, alliance-based trucking companies sympathized:

> "With deregulation and the price wars, the banks began to repossess trucks all over the place. A lot of these owners were faced with a $2,000 monthly note on the truck, and they were fighting for work. Those drivers have to keep those trucks rolling – they have to take care of their family, and sooner or later truck maintenance begins to suffer as they're waiting an extra month for new tires or something. A lot of times they just sell the truck or it's repossessed" [I-768].

As the truckers seek to make ends meet, many have doubled the amount of time they spend on the road. Not only does this mean more time away from family and home, but also means that nationally regulated allowances on driving time are cast to the wayside:

> "You've got to go … you have to get on to the next load, and you end up on the road, crazy from lack of sleep, and you've just got to keep going just to make the money you need to keep the truck. I know that my future in that truck is wrapped around a telephone pole somewhere out there on the road" [I-732].

While the individual owner/operators bear most of the burden from the reconfigured trucking sector, the economic impact of the changes have resonated within the industry, resulting in other, secondary impacts. Many of the truckers note that the trucks on the road are poorly maintained, resulting in decreased safety on the roads. Furthermore, the low level of pay has discouraged entry into the trucking industry – many truckers noted that the quality of incoming labor has decreased drastically as young men and women seek more lucrative employment elsewhere. Families with two or three generations of truckers in their history now actively discourage their children from following in their footsteps. Not only does this affect the labor pool at large, but it also has resulted in increased safety concerns as many incoming drivers drawn from outside Acadiana have little or no knowledge of the oilpatch equipment they haul.

While the economic impacts of deregulation are foremost in the minds of most participants of this study, the disintegration of the role of familial and social networks in the occupational sphere also merits attention. As described in the previous sections, the entrepreneurial role of the pre-deregulation trucker relied upon social and familial connections as the template for a

successful trucking business. By forcing company dispatchers to utilize contractual partners, the alliance system destroyed the utility of these social and familial networks.

In the pre-deregulation oilpatch, strong families with extensive social networks conferred an advantage upon members; a family friend employed as a dispatcher at one of the service companies, an uncle with a couple of hotshot trucks, or a high school buddy working at the docks might provide enough work to support an entire trucking company.

With deregulation, not only were these connections rendered useless, but the importance of family and friends diminished. Kin, in the Acadian sense, traditionally functioned as the basis of occupational relationships in the trucking sector (as well as other sectors of the oil industry); the policy change stemming from deregulation not only interrupted this process, but, in voiding the role of family in the occupational sphere, it changed the function and importance of the family itself. Within the trucking sector, connections between generations, traditionally reinforced in the occupational realm by hiring practices and entrepreneurial activity among relatives and family friends, lost their utility. Overall, because family matters less, the changes wrought by deregulation can be viewed as one component contributing to the loss of functionality of the Cajun family in contemporary southern Louisiana.

3.7. Discussion

Despite the generally uniform treatment of "offshore workers" in agency and academic publications, OCS activity is the source of a wide variety of work and establishes the parameters within which many different lifestyles develop. Workers and their families have indicated that the nature and extent of OCS-related impacts are governed by four primary factors: (1) stability and vulnerability of employment in the sector; (2) wages; (3) patterns of work scheduling; and (4) safety. Among sectors, responses to industry cycles, restructuring, and other changes in the oil and gas industry discussed in Chapter 1 differ considerably, and these responses in turn contribute to the impacts felt by workers and families within these sectors.

In an industry widely recognized as unpredictable, some sectors such as drilling are especially volatile and subject both companies and the labor they employ to the dramatic tides of the industry. For much of the history of the industry, this volatility was largely chalked up as the nature of business – something to be endured as best as possible. During the long recession of the industry in the 1980's, however, companies began to look for new strategies by which they might persevere in such conditions. These strategies were spurred on by the increasing pressure of the financial markets located outside the region. Together these strategies were manifest in the series of mergers and acquisitions that swept across the industry.

The mergers and acquisitions had tangible consequences for the laborers in the industry; for example, more formalized hiring policies brought new ethnic groups to the offshore rigs, and women began moving offshore in larger numbers as well. At the same time, companies began to pursue cost-cutting measures that severely impacted the terms of labor, the foremost of which was the widespread shift to contract or contingent labor. From the perspective of the families and communities of southern Louisiana, the shift meant an increase in the insecurity of an already insecure job market.

If the arrival of the oil industry enmeshed the communities of southern Louisiana in the tide of the global economy, these more recent changes in the structure and face of the industry – and particularly the labor-intensive sectors – initiated a gradual but widespread series of changes to the social fabric of southern Louisiana, changing the role of social and familial networks in securing employment, and the relationship of workers, families, and communities to the industry.

The Acadian population conceives of itself as a part of the oil industry – many of those currently at work are the third generation of oilfield workers. The oilfield carried their fathers and grandfathers into the modern era, providing a mechanism for many of the local families to abandon their previous livelihoods in favor of the lucrative salaries offered by oilfield employment. The bonds between companies and communities, formed over decades, have been severely strained in the past ten years.

Today, a career in the oil and gas industry means something much different than it did in the past. Many of the young men and women of the communities of southern Louisiana are looking elsewhere for work. Work in much of the industry offers little guarantee of employment, more difficult terms of advancement, and, in general, an uncertain future. As the local labor sources vanish, companies seek out new labor supplies, including workers from outside that region and, with increasing frequency, from other parts of the world.

3.7.1. Responding to Fluctuations

The 1970's-1980's cycle is recognized as the "big event" in the Gulf of Mexico, but long-term industry participants note that fluctuations are the norm. Typically, companies expand and contract their operations and workforce in response to demands for their services. The late 1990's downturn began with lots of talk of avoiding layoffs because of their negative consequences to the industry and labor pool. Nevertheless, some companies moved quickly to layoffs to avoid the problems associated with indecision that they had experienced or observed in the 1980's. Even among those who did not act quickly, as the "dip" turned into a downturn and stretched out over several years, companies used layoffs to reduce overhead and trim their workforce. According to one human resources manager,

> "The biggest and easiest way to save a big chunk of cash for everybody is to lay off people. It immediately affects your bottom line the next day. We laid off 42 people from offshore. We didn't hire any of them back. Not only did we save money, but we cleaned house. Some of them were supervisors who had been with us ten years" [I-260].

Eliminating supervisory positions saves companies in direct costs and also future retirement packages. It further reduces the opportunities of lower level workers to advance in the industry hierarchy.

Local workers have responded to these changes in different ways. Many workers chose to leave the industry. Consequently, the uncertainty and changing circumstances that characterize the offshore oil and gas industry of the late 20th Century also translated for companies into problems finding workers. This has led to further changes. A common response for companies is to do

more with less; companies hire fewer workers and expect more from the ones they have. On drill rigs and vessels, some companies have dropped from four crews to three by shifting from even on/off work schedules to patterns of 14-and-7 and 28-and-14. Others reduce the number of workers on any single crew and increase the job responsibilities of those who remain. Others shift from scheduled shifts to on-call work to eliminate paying workers for down time. Some do all three. Workers who are glad to hold onto their jobs are reluctant to complain. Those who believe they can find work elsewhere begin looking, and worker shortages are exacerbated.

Meanwhile, the largest companies continue to make a profit, and workers and their families follow the earnings on the internet. Many parents are discouraging their children from entering the industry, so the worker shortages may be long lived.

One of the most widely discussed topics within the Gulf of Mexico oilpatch at the start of the 21st Century is the declining ability of the oil and gas industry to capture and rely upon a stable and loyal workforce. As illustrated in this chapter, labor needs vary by sector and over time. Most sectors once utilized mostly local, inexperienced workers who were trained "on-the-job" according to the interests and demands of the employer. Two factors have changed this pattern: (1) changing job requirements that make it cost ineffective for employers to provide the training; and (2) the lack of a ready and willing workforce.

Companies have reorganized, downsized, adopted computer technologies, hired management and legal specialists, and otherwise changed both who they hire and how they hire them. Jobs at almost all levels require formal education, ongoing certification, and specialized training. Workers can no longer rely only their knowledge of the oilpatch, equipment, and social networks of Acadiana to get ahead. Advancement is restricted as managers and corporate executives are recruited from schools of business and law rather than from among experienced and motivated workers. Changing demands combine with awareness that future options are limited to exacerbate labor shortages, especially for entry-level and skilled workers.

Options for obtaining laborers for offshore work vary by sector. Southerners, with their low mobility and strong work ethic, once formed the backbone of the unskilled and skilled labor force for the Gulf of Mexico's offshore oil and gas industry. Much of the workforce that powered the industry through the 1970's and 1980's had experience in either the military or an industrial sector against which oilfield work appeared to be a good option, both in terms of pay and of safety. Oil and service companies benefitted from a large pool of workers who had the attitudes and basic skills they desired. Workers expected to work hard in exchange for good pay. Their families and communities expected them to work hard, bring home paychecks, and keep food on the table. Enterprising workers and those around them also expected that people with initiative, enthusiasm, and strong social networks could create their own occupational niches within the industry. They offered their support: family members helped run the offices, took care of the children, and maintained households while workers were away. These circumstances and patterns no longer hold for most people.

Many companies now rely on a mostly-transient contingent labor force. The costs of high turnover and continually seeking individuals who can and will work for low wages are great. Some companies, particularly fabricators, have been successful in convincing the U.S.

immigration service to issue special work visas. Still, they face problems. Unions challenge arguments that workers are unavailable, citing low wages as the cause of worker shortages. Immigrants may not offer the same loyalty, commitment, and longevity southern workers once did.

Mariners and maritime companies must adhere to laws, specifically the Passenger Vessel Act of 1886 (19CFR4.80a), and the Merchant Marine Act of 1920 (19 CFR 4.80 and 4.80b; commonly known as the Jones Act) and its 1958 amendment, the Bowaters Act, that prohibit companies from hiring foreign mariners and thus limit the pool of available labor to U.S. citizens. The Passenger Vessel Act restricts the transport of passengers to U.S. vessels. The Jones Act requires "that merchandise being transported entirely or partly by water between U.S. points – either directly or via a foreign port – travel on U.S.-built, U.S.-flagged, U.S.-manned, and U.S.-citizen owned vessels that are documented by the Coast Guard for such carriage" (Jones Act Reform Coalition, web page http://www.jonesactreform.org/faq.htm, accessed 6/1/99). The Bowaters Act allows foreign-owned U.S. corporations engaged in the mineral and manufacturing industries to transport their proprietary cargo on their own or chartered barges. Changes in these laws would require Congressional action.

3.7.2. Shifting Liabilities and Costs

A significant labor pattern across sectors, which has implications for attracting workers and the impacts of OCS-related work on the workers, families, and communities, is the restriction of some individuals to certain tiers within sector hierarchies. This is occurring at the lowest level where workers have little hope of advancement. Labor camps and contracting arrangements that provide unskilled laborers to drilling rigs, fabrication yards, and tank cleaning operations operate within this model. So, too, do immigrant workers on temporary visas. Management and human resource personnel, who are hired for their educational degrees and experience dealing with general business arrangements or personnel laws rather than knowledge of the particular sector into which they are hired, illustrate this pattern. As some tiers are removed from the sector hierarchy, the mobility of those in the remaining tiers is also reduced.

Regulations have changed, largely in response to mishaps and lawsuits. The nature of the regulations depends to a large extent on the history of accidents and the attribution of blame when these occur. In commercial oilfield diving, for example, there have been numerous accidents, many of which have caused harm to people and property. However, the damage from such accidents has been fairly localized, or at least not publicized. Divers shoulder tremendous responsibility in performing their work, but there have been no major incidents that have resulted in lawsuits and questions about the competence of commercial divers. Regulations focus on standards for companies and specify the training a diver must receive. Divers are subject to rigorous training and can become certified, but they do not require licenses to work. In the offshore vessel sector, in contrast, accidents such as the *Exxon Valdez* disaster have caused visible and extensive damage and have been widely publicized, and the individual vessel operators have been held responsible and their competence questioned. The consequences for mariners have been increasing exams and licensing requirements. In all sectors the regulatory and licensing regime within which companies and workers operate is dictated to a large extent by accidents and the perception that risk can be minimized through increasing regulation.

Two examples illustrate the impacts of the shift to workers of the risks and liabilities once shouldered by companies. First, high day rates for equipment such as rigs and offshore vessels drive many industry decisions. Time is money, and the entire system is organized to reduce downtime. One of the most effective means to accomplish this is to have people standing by to respond to breakdowns, supply shortages, and the emergencies. However, labor costs can drive up prices and have come under close scrutiny. These costs can be reduced by shifting the burden of staying prepared to the workers. On-call and other arrangements require workers to absorb the costs of waiting at the expense of other economic household and community activities. Because the workers cannot fulfill roles within their homes and neighborhoods, these costs are passed on to their families and communities as well.

A second example involves the devolution of responsibility and financial risk to the lowest level possible, often to the worker. Welders and mariners must carry expensive insurance policies to cover the costs of potential accidents; in addition, they risk losing their licenses and ability to work in the future. Among companies, responsibility is passed down the chain as well. For example, when a drill bit malfunctions on a rig, the bit manufacturer is held responsible, even if the problem resulted from improper installation of the bit. Consequently, service companies have begun to provide both manufacture and installation. Reversing the trend at the level of the oil companies to spin off all activities and minimize liabilities, some of the service companies are finding that they must maintain equipment and personnel to handle manufacture, installation and maintenance.

The offshore oil and gas industry has always been one of innovation and change, and, in an era of rapid communication and high specialization, the speed of change is tremendous. Problems occur when new needs and expectations outpace the ability of individuals, companies, families, and communities to adapt. It is impossible to predict what lies ahead. The problems identified in this report serve as the challenges for the next generation of workers, families, communities, and companies.

4.0. Study Methodology

This study utilized an approach to team ethnography organized by applied anthropologists, and integrating community members and ethnographers, in which more than 25 people helped explore and analyze the impacts of offshore oil and gas activities on individuals and families in southern Louisiana. The resulting community-based collaborative research process emerged as an amalgam of team ethnography (see Erickson and Stull, 1998), rapid ethnographic assessment (NPS, 1999; http://www.cr.nps.gov/aad/studies.htm), community-based ethnography (see Stringer, 1997), and funds of knowledge research (see Moll et al, 1992; González et al., 1995). All these approaches incorporate multiple perspectives into a systematic learning process driven by group inquiry in a specific context (see IIED, 1994). The resulting community-based collaborative ethnography provides the multilevel, multisite, and multitime perspectives required in situations of mobility, diversity, and volatility (Colson and Kottak, 1996).

4.1. Project Planning and Design

We designed our study to include industry and non-industry workers and their families,[13] civic leaders, and business and industry representatives. In earlier research, we confirmed that southern Louisiana society is organized around extended family networks. Our approach explicitly recognized that individuals are part of families that are embedded in communities, and impacts on families are tied to impacts on communities. Therefore, we elected to propose a comparative community study, including one community that is dependent on the offshore oil and gas industry and one that is somewhat less involved.

However, offshore workers commute from dispersed communities, work offshore for weeks to even months at a time, and quickly enter and exit the staging areas from which they catch helicopters and boats, these workers and their families can be difficult to find. We proposed to identify families through schools, senior centers, and local organizations and then identify and locate workers through their families. To capture patterns as well as the diversity of worker and family situations, we created a two-dimensional matrix of job type (e.g., offshore, onshore) and category (e.g, laborer, craftsperson, professional). We chose to examine occupational, educational, and family histories within an intergenerational domestic living cycle. Our approach included a series of guided discussions[14] with families as well as construction of family trees and occupational timelines, participant observation, and community mapping.

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[13] "Family" is a sociocultural construct; local definitions of family can be invoked selectively and strategically and are embedded in organizational cultures such as social service definitions of who should be consulted in decisions about care. We allowed study participants to define their families in the process of sharing a "family tree" encompassing three generations.

[14] We were restricted to open-ended methods of data collection because our proposal was not subjected to review by the White House Office of Management and Budget (OMB). Under the Paperwork Reduction Act, U.S. federal agencies must obtain approval from the OMB for each collection of information they sponsor. According to OMB regulations, a collection of information is "*the obtaining, causing to be obtained*, soliciting, or requiring the disclosure to an agency, third parties or the public of *information by or for an agency by means of identical questions posed to*, or identical reporting, recordkeeping, or disclosure requirements imposed on, *ten or more persons*, whether such collection of information is *mandatory, voluntary, or required to obtain or retain a benefit*" (5 CFR part 1320.3, italics added). All surveys, questionnaires, and structured interviews fall within this definition.

We also were dedicated to a team approach through which we could involve multiple ethnographers with diverse backgrounds, strengths, and personalities and benefit from their interaction in the field. Our commitment to collaborative research led us to include community research partners in the project design and budget. Our design combined: (1) resident ethnography, conducted by full-time ethnographers and teacher-researchers; (2) concentrated site visits; and (3) roving ethnography. Our resident ethnographers lived in southern Louisiana for ten months and focused on getting to know and following several families during that time, tracking local social and economic trends, and identifying and talking with workers and their families from as many different situations (e.g., job, age, stage in the family cycle, ethnicity) as possible. They worked closely with the resident teacher-researchers who followed several families, usually of their students, and tracked the changes and responses in their own families and in their students throughout the study period. During concentrated site visits, as many as five additional researchers would spend from two to four weeks in the communities talking with civic leaders and business and industry representatives, facilitating the teacher-researcher group meetings, conducting focus groups, and helping to identify and talk with workers and families. The roving ethnographers were assigned the task of traveling outside the immediate study area to track workers who had moved away and learn more about their circumstances and decisions to move.

4.2. The Team and Its Evolution

The proposal process began, as many do, with a capability statement. As is required of such a statement, ours included the names of Ph.D. anthropologists affiliated with the university and our qualifications. Neither the students nor the community partners who made major contributions to the project were included. During the project proposal phase, we expanded the university-based team to name five senior anthropologists, two research specialists, and an unspecified number of graduate students. We described how we would identify and involve community researchers. We recruited a graduate student with experience with funds of knowledge research to become the team leader for the teacher-researcher component of the project. We then recruited two masters-level anthropologists to be the resident ethnographers.

We were notified we had received funding for the project in July 1998, and the principal investigators met with the contracting officers at the MMS offices in Washington, D.C. in mid-August. We finalized plans for the study and shared the packet of materials, including a project description, project summary for the schools, and letters to the school superintendents and principals, that we planned to take to the communities. We traveled to southern Louisiana immediately after the Washington meeting and were joined by two of the team members.

During the next three days, we visited city and school officials, economic development specialists, newspaper editors, and personnel of senior centers. In each community, we met with the mayor or assistant to the mayor, the contact individuals designated by the parish school superintendent, and the newspaper editors and selected staff members. In each meeting, we were impressed by the local community interest in the study and willingness to work with our research team. We confirmed that Morgan City and New Iberia would be suitable research sites at which community leaders were receptive to the study, and we were able to arrange meetings for teachers interested in participating in the study. The personnel director for the St. Mary Parish

Schools was especially cooperative and sent an email message to all teachers in the district informing them of the study and our interest in finding local partners.

In September, the resident ethnographers traveled to southern Louisiana to set up housekeeping. Two team leaders joined them and found a house in New Iberia large enough to accommodate three or four researchers at a time during the periods when the resident researchers would be joined by other team members. We began following up on contacts with the schools and recruiting teacher-researchers. Most families in southern Louisiana have been affected by the offshore oil and gas activity, so teachers had both personal and professional reasons for having an interest in our study. The St. Mary Parish email message drew more than 30 teachers to our information session. We had project funds for less than half that number, so we stressed the commitment that would be required by project participants. By late October, we had settled down to an enthusiastic group of 14 teacher-researchers. Two university researchers joined us in Louisiana for an all-day ethnographic training workshop and to begin the first site visit. The teacher-researchers accompanied the resident ethnographers during discussions with families. They began study group meetings to continue their training and start identifying and contacting families (see Brenden, 2000).

4.3. Gathering Data

Our research team was organized out of one university, included community partners who were in the field all the time, and incorporated site visits organized around student and faculty class schedules, but getting everyone to the field was nevertheless a challenge. Two of the senior anthropologists who were included in the initial proposal withdrew from the project because of scheduling conflicts with departmental and other project responsibilities. We ended up creating complex scheduling charts to track each team member's availability and commitments.

Once in the field, issues of how to collect, record, transcribe, and manage the data had to be faced. The project would have experienced far greater problems were it not for laptop computers, email, and electronic databases. On one unforgettable evening, four of us sat elbow-to-elbow around the small table in the resident ethnographer's efficiency apartment in Morgan City, each typing field notes into a laptop. Electronic communication became critical for organizing visits, sharing data, and circulating draft documents. Two of the teacher-researchers had no experience with computers when they began the project and one of the school districts allowed teachers and students only limited access to the internet and email, so we devised schemes that combined electronic transmittal to people with internet access and then phone calls, meetings, and drop-offs to get the information to everyone. After the residential ethnographers left the field, full-time presence was maintained by the teacher-researchers, and their role in the communication networks increased.

The study was designed to include resident and short-term ethnographers to accommodate funding limits and university schedules. By the end of the year, the benefits and costs of the approach were evident.

4.3.1. Resident Ethnography

The resident ethnographers were charged with balancing coverage and depth, following some families throughout their entire stay and identifying and talking with as many people as possible working in various aspects of the industry. We placed our resident ethnographers in two communities that were sixty miles apart, far enough to have distinct histories and responses and to prevent the researchers from running into each other too often yet close enough to allow collaboration.

The teacher-researchers were a vital component of the resident ethnography, especially in southern Louisiana communities of 15,000 to 30,000 residents and tight social networks. Beginning with the initial presentations to the school district superintendents, we delineated specific responsibilities for university and teacher-researchers. In addition to their roles as project ethnographers, university-affiliated researchers were responsible for: (1) providing ethnographic training; (2) facilitating study group meetings; (3) providing materials needed for discussions and study group sessions; (4) providing guidance throughout the study; (5) analyzing and writing up the study results; and (6) assisting teachers in identifying classroom and curriculum applications from research findings. Teacher-researchers agreed to (1) attend ethnographic training; (2) participate in study group sessions to discuss and analyze findings; (3) conduct six family interviews, transcribe tapes of those interviews, and write fieldnotes describing the interviews; and (4) make at least one presentation to a community group to share results, in exchange for monetary compensation and/or university credit.

An unanticipated benefit of the study groups was that they generated many potential contacts. Due to the vast differences in impacts according to job type and position, we sought study participants with particular characteristics. We could bring specific requests to the study groups, and the team would brainstorm about where and how to find the people we sought. On one occasion, one of the ethnographers had a particularly frustrating week and made few contacts. When she told the group how she was unable to find any workers, one of the teacher-researchers got up, went to the phone, dialed, spoke a few words, and then called her to the phone to set up a meeting with a production operator.

The teacher-researchers were part-time ethnographers. This was advantageous in that they stayed fully engaged in community life and its rhythms throughout the study, but it limited the time they could devote to the project. A critical aspect of the study design was that it allowed the teacher-researchers to contribute ideas and contacts to the research team while maintaining boundaries around their involvement in the study. The clear description of teacher and university responsibilities was critical to the success of the teachers' participation because they were not faced with a situation where they would feel they were letting the project down when they could not follow up on new leads or take on new tasks. When new opportunities arose during the study, we discussed them in the team meetings, what they would require, and what if any compensation we could offer.

For example, as the study progressed so, too, did the downturn in oil and gas prices. The original study design implicitly assumed that a discussion held in the early part of the study would be equivalent to one conducted later. With massive layoffs and cutbacks occurring, that was clearly not the case. We talked in our team and study group meetings about how to capture the impacts we were seeing and decided that we should try to visit all our families at least once or twice more, in three or four month intervals. The optimum strategy was to have each ethnographer follow up with his or her families, so we offered the teacher-researchers additional compensation for new interviews. Though the amount of money was small, it signaled that we meant to adhere to our original agreement. Teachers who were unable to take on more work could pass the names of their families along to the resident researchers for follow up. None of them opted to do that.

4.3.2. Concentrated Site Visits

The scope and complexity of the research required more than the residential ethnographers and teachers could accomplish in the allotted time. Workers' and families' stories required a context, especially as oil and gas prices turned down and companies began laying off workers, cutting pay, and reducing work hours. Several team members took responsibility for following industry journals and researching various industry sectors between concentrated site visits and then talking with company executives, human resources personnel, civic leaders, and others during their time in the field. During team meetings, these individuals would provide an industry context for what was happening and listen to how those events were being played out at the local level. The concentrated site visits provided a series of snapshots of local conditions and the perspectives of business and community leaders that helped contextualize our findings.

The regular infusion of new ideas and energies helped keep the resident ethnographers focused and enthusiastic about the project. For example, when one female ethnographer was having trouble penetrating the community of mostly single males who lived out of low-budget motels between their stints offshore, a senior male graduate student was assigned the task during a four-week field visit. He was able to gain access to and information from the target groups. In his case, rather than staying at the project house, he found it necessary to move into one of the motels and work from there. Coupled with the resident ethnographer's longer experience with labor camps in Morgan City, even this brief period of time was valuable for helping us understand the role of that group of laborers in the community and industry picture. When one of the male ethnographers found it inappropriate to meet with workers' wives in their homes, the females stepped in to help.

After hearing much about parental attitudes toward their children's future involvement in the oilfield, we recruited a graduate student with interest in adolescent issues to work with our resident ethnographers and several teacher-researchers to set up a series of focus groups with more than 60 high school students to get their perspectives on the industry, their communities, and their future plans. The new student took charge of analyzing the focus group data and provided a much-needed counterpoint to what parents were telling us.

Despite the value of the concentrated site visits, it is important to note that they disrupted the resident ethnographers' plans and schedules and changed the nature of their work. The resident ethnographers helped set up meetings so that the arriving researchers could make the most of

their time in the field. Again, electronic communications helped out in this regard; especially after an initial visit it was possible for researchers to schedule their own follow-up meetings with company personnel and some civic leaders via email. As the non-resident ethnographers established their own relationships, they kept in touch from our offices and received updates on various happenings and events.[15]

4.3.3. Roving Ethnography

A major change in our project design was the redefinition of roving ethnography. Originally conceived as a mechanism for identifying workers who had moved away from the target communities, it proved more critical as a means of putting our communities in the larger oil and gas industry context. The roving ethnographers focused on cities such as New Orleans and Houston, to which most management-level employees were transferred following the 1980's bust and industry restructuring. They had little success finding and meeting with workers in those cities, despite having phone numbers and referrals from relatives and friends left behind in southern Louisiana. They were more successful talking with human resources personnel and corporate executives, attending industry meetings, and gathering publications to track industry trends.

4.4. Behind the Scenes: Managing Data

Project size and complexity made the office component of the project critical to its success. Facilitated by email and a couple of graduate students and staff members, field data were entered into an electronic database, printed material ranging from maps to newspaper articles was organized and filed, and receipts and travel vouchers were processed.

Research notes were typed and recorded discussions transcribed using word processing software (Microsoft Word). The electronic text was then imported into a database using software designed for qualitative analysis (QSR Nudist). A codebook (see Appendix) was created in a relational database (Microsoft Access) and applied to the text in Nudist. An electronic bibliography was created using bibliographic software (ISI ResearchSoft EndNote) to manage references and newspaper articles gathered in the field.

[15] The impact of email on fieldwork is a topic that requires more attention. Only some participants use email, so it is necessary to find ways to supplement the views and perceptions of those who stay in regular contact.

4.5. Beyond the Project

We anticipated that our study would profit from the community-based collaborative ethnographic approach. However, we initially were unsure whether the teacher-researchers would benefit as much professionally from their participation in this study as in traditional funds of knowledge projects that are focused primarily at school improvement. We learned that most of our teachers incorporated their new knowledge and research skills into improving their teaching (see Brenden, nd). In some ways, because the project had a broader focus and aim than just the school, the participating teachers, their students, and their communities received greater benefits.

> "I don't think I will ever not do the family tree and timeline. There is value in what it gives to my class" [DA phone notes, 11/1/00].

Both teachers and college students benefit from participating in a project with audiences beyond the classroom or academy. Our work aimed at more than professional development or academic credit, so the incentives to persist and see the project through remained strong. Of the fourteen teacher-researchers who began the project, only two did not complete all their interviews and left the project at the end of the ten-month field season. Of the university-affiliated researchers, all but two senior anthropologists who left the project after one field session produced at least a conference paper from their experiences. Though they are the most tangible, the written products and classroom lessons cannot measure the value of the project. According to one teacher,

> "… this was touching all of our lives in some way. This helps me in the past, is helping [my daughter] now. There's a value to us in our culture… What are we looking at through the process? What are you asking us to do? There's a closeness, a bond that has surfaced" [DA phone notes, 11/1/00].

The community-based collaborative ethnographic approach combines elements of traditional and rapid ethnographic methods. When balanced carefully, the long-term resident and short-term ethnographers complement one another. Nevertheless, due to the potential for conflict between the resident and short-term ethnographers that arises from disrupting the resident ethnographers' schedules and momentum, it is necessary to limit concentrated site visits to four or five per year. The balance between professional and community researchers also requires care. This approach provides a mechanism for integrating community partners at a level busy people can manage, establishing clear expectations and leaving room for modifications as the project progresses.

A tradition of anthropology has been the relationships that develop between individual anthropologists and the communities within which they work. Team ethnography can shift the relationship from the individuals to their communities, agencies, and institutions. Individual researchers still develop partners, but the institutional relationships become the foundation for future endeavors. In our project, relationships have been established among the federal bureau, the university, and various community institutions, including the school districts, local technical colleges, and chambers of commerce. Though the university has initially served as a liaison between the community and the government, the teacher-researchers are looking for ways to continue their efforts beyond university participation.

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APPENDIX: CODEBOOK

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
1	4.1.1	Experiences as Child	4 Family	4.1 Parenting		Experiences of parents or potential parents-to-be (as children) with family members in oil and/or the oil lifestyle that affect past/current decisions as a parent	Code for parents or potential parents-to-be			OBS: The comment "My dad still works in the oil field" was immediately followed by "I don't want to miss out on my daughter growing up." It sounded like he felt that his father missed out on his childhood, something he doesn't want to repeat with his child. TS: That part of it, as far as involvement in the community, we
2	4.1.2	Activities/ Interactions with Children	4 Family	4.1 Parenting		Parent's activities or interactions with his/her children	Code for parents or potential parents-to-be		4.2.1.2.1/4.2.1.2.2 and 4.2.2.2.1/4.2.2.2.2 Father's and Mother's Roles - in cases where activities include caregiving or playmate roles	SUM: When he is home he helps with Little League. He likes to fish, but doesn't get to do much of it. Jack and Dan like to ride ATV's. John brings Kristin to dance lessons when he is home. SUM: She was quick to point out that her husband is a very loving and caring father. When he is home, he gives a lot of attention to the kids
3	4.1.3	Expectations for Children	4 Family	4.1 Parenting		Parent's (or potential parents-to-be's) expectations of his/her children in terms of education, jobs, careers, family, where live, etc.	Code for parents or potential parents-to-be			SUM: She talked some about Harry's lack of formal education, and that he is a self made man. Same with her, she did not go to college, but she taught herself to do things and was always provided for. She does not see that option with her children and emphasizes the need for higher education.
4	4.1.3.1	Parent's View of Children in Oil	4 Family	4.1 Parenting	4.1.3 Expectations for Children	Parent's views about their children working in the oil industry, either currently or in the hypothetical future	Code for parents or potential parents-to-be			SUM: The oldest son, Dan, followed in his Dad's footsteps. Leah said that she did not want her children to go into the oil industry because of the instability of the work. She tried to discourage Dan from the oil field, and Mike too tried to dissuade him saying "Son, don't do as I do, do as I say you ought to do." But, in the end, they said the money was too good for Dan to resist

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
5	4.1.3.2	Children Working in Oil	4 Family	4.1 Parenting	4.1.3 Expectations for Children	Examples of adult children of oil workers working in the oil industry			4.9.5 Why Oil/Why not Oil - if also discuss reasons for wanting or not wanting to work in oil	DA: Do you have any children yourself? JC: I have six boys and two girls. Three of the boys worked off shore, but they didn't like it, so they left and went to other endeavors and I don't blame them. DA: How did you get your boys on the boats? C: I didn't tell them to go on the boats or not to go on the boats. The older boy just took into it. I don't think he's ever done
6	4.1.4	Discipline	4 Family	4.1 Parenting		Disciplining of children (including who is the disciplinarian), as well as issues regarding appropriate discipline and agreements/ disagreements as to appropriate discipline or who should be the disciplinarian	Code for parents or potential parents-to-be			CB: What would have been different if you would not have worked offshore? DR: I would have headed off the problem areas before. I'm a strict disciplinarian. I feel I wouldn't have disciplined him as much because she didn't take the initiative on her own. BR: He thinks David was spoiled! I didn't discipline as hard. I let him get by with more. I thought Alan WAS TOO STRICT! David
7	4.1.5	Single Parent Effect	4 Family	4.1 Parenting		The feeling/experience of being a single parent created by spouse's concentrated work scheduling	Code for parents or potential parents-to-be			SUM: When he first started working offshore it was difficult for her, and she said she never grew entirely accustomed to it. On his week off, she wanted to spend time with her, but she often felt he was out with his friends too much. He also would work on his car, do the house maintenance, some cleaning and cooking, never laundry. But largely, his time was spent with his friends
8	4.1.6	Workplace Policies Toward Parenting	4 Family	4.1 Parenting		Workplace policies positively or negatively affecting parenting (e.g. time off for births, flexible scheduling, etc.)	Code for parents or potential parents-to-be		4.7.3 Benefits - in cases where the workplace policy is considered a formal benefit, such as maternity/paternity leave	DA: So when Alec was actually born were you able to come in? JC: Yeah, I... 6 months earlier, we set it up. I wrote a letter, I asked in the office what do I have to do, my wife's gonna be due in November. I need to be put on a boat behind the office or in the shipyard where I don't, I'm not stuck out on a boat when she's in labor. So they put me behind the ... they lost the letter

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
9	4.1.7	Missed Childhood	4 Family	4.1 Parenting		Parent's disussions /laments of missing out on children's growing up, their childhood years, developmental milestones, important events, etc., because of work scheduling	Code for parents or potential parents-to-be			JJ: How old was your daughter when you started going offshore? MA: Lisa? She was two, two and a half (...) She was two, so I missed half of her, from two to she was about six I guess. But that was the hardest part, to leave, you know? To leave at night. Most of the time you had to leave at midnight or at night, in the middle of the night. You had to get up at 2 o'clock in the morning to be
10	4.1.8	Single Fathering	4 Family	4.1 Parenting		Examples of fathers in oil that are single parents; issues and situations created by single fathering	Code for parents or potential parents-to-be			SUM: Hank relates how he got custody of his three kids and raised them for 15 years. That was tough. Kids need stuff - most of these truckers' kids don't even have health insurance. Our country's future is in these young people and our future is limited. Hank notes that his school bill is $5800 a year for private school - he sends his kids to private school so they can get a decent education. Trucker
11	4.2.1.1.1	Agree on Fathering Role	4 Family	4.2 Gender Roles	4.2.1 Male/ Fathering Role	Interviewee and partner agree on the fathering role played by the husband/father	Coding for agreement about role only, not the actual role of the father	If disagree on role, code 4.2.1.1.2 instead; If discussing the role of the father (but not whether agree on role), code under 4.2.1.2.1-4.2.1.2.4 instead	4.2.1.2.1-4.2.1.2.4 Fathering Role - if also discussing the role the father plays	KC: But in our household, though, it's an old fashioned situation in a sense. It works for us, and its what I wanted so I could be a mom. But I'm also aggressive. If I don't like anything Kent could tell by that look on my face and if it's an issue, we deal with it. Responsibility, it pretty much stays the same. He just gets treated like a king when he's home. But then again, my baby looks nice today or those little things, it evens
12	4.2.1.1.2	Disagree on Fathering Role	4 Family	4.2 Gender Roles	4.2.1 Male/ Fathering Role	Interviewee and partner disagree on the fathering role played by the husband/father	Coding for disagreement about role only, not the actual role of the father	If agree on role, code 4.2.1.1.1 instead; If discussing the role of the father (but not whether disagree on role), code under 4.2.1.2.1-4.2.1.2.4 instead	4.2.1.2.1-4.2.1.2.4 Fathering Role - if also discussing the role the father plays	SUM: He finally came home to work as Port Captain in 1982. Being a Port Captain meant he was home on most nights save those that he was required to fill in for other captains. When he came home, his home life exploded, it was too stressful for both he and his wife. She was used to operating without him, yet it sounded as if she was resentful for

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13	4.2.1.2.1	Father in Caregiving Role	4 Family	4.2 Gender Roles	4.2.1 Male/ Fathering Role	Father serves as a caregiver for the children in the household and is an involved father	Use when discussing father's actual role with children and/or in the household	If only talking about whether agree/disagree on role of father, but don't discuss the specific role, code 4.2.1.1.1 or 4.2.1.1.2 instead	4.2.1.1.1/4.2.1.1.2 Agreement/ Disagreement on Fathering Role - if also discussing whether agree on the father's role	SUM: The Broussards split the responsibilities of the children in half. When James worked offshore, Lili was responsible for the children while he was offshore. When he came home, then he was responsible and she was off. The children never really had any adjustment problems when their father was offshore, because that is how they grew up and that was really all they knew
14	4.2.1.2.2	Father in Playmate Role	4 Family	4.2 Gender Roles	4.2.1 Male/ Fathering Role	Father serves as a playmate for the children in the household, but provides little or no caregiving	Use when discussing father's actual role with children and/or in the household	If only talking about whether agree/disagree on role of father, but don't discuss the specific role, code 4.2.1.1.1 or 4.2.1.1.2 instead	4.2.1.1.1/4.2.1.1.2 Agreement/ Disagreement on Fathering Role - if also discussing whether agree on the father's role	JG: What about when you're here? TV: When I'm here, I spoil them, and she corrects us. MB: So you think having your dad gone and having kind of more of a friend than a dad (...), made you really want something different? LC: I wasn't getting married for sure, if I was going to have to be the one to clean the house and cook. Like Jack (her father) would
15	4.2.1.2.3	Father in Breadwinner Role	4 Family	4.2 Gender Roles	4.2.1 Male/ Fathering Role	Male/father serves as a breadwinner only, providing income or subsistence but nor providing caregiving or performing domestic tasks	Use when discussing father's actual role with children and/or in the household	If only talking about whether agree/disagree on role of father, but don't discuss the specific role, code 4.2.1.1.1 or 4.2.1.1.2 instead	4.2.1.1.1/4.2.1.1.2 Agreement/ Disagreement on Fathering Role - if also discussing whether agree on the father's role	KC: I feel very thankful for my husband that's he's able to, not that we're living lavishly, that's he's able to work, like he does. Provide for Alan and I. We're paycheck to paycheck right now but I do not have to work and I can't imagine anyone else tending to my child but me. SUM: Vicki has a very traditional view of familial roles; David brought
16	4.2.1.2.4	Father in Domestic Role	4 Family	4.2 Gender Roles	4.2.1 Male/ Fathering Role	Male/father performs domestic tasks, including household chores, finances, fixing the house or car, keeping the household running, etc.	Use when discussing father's actual role with children and/or in the household	If only talking about whether agree/disagree on role of father, but don't discuss the specific role, code 4.2.1.1.1 or 4.2.1.1.2 instead	4.2.1.1.1/4.2.1.1.2 Agreement/ Disagreement on Fathering Role - if also discussing whether agree on the father's role	JB: And how about the majority of the cooking? MB: Yeah, I cook. Now, Kevin helps clean, you don't even have to ask him, especially when he's home like this. He's cleaned the kitchen for two weeks. I haven't cooked much, but I can't eat, but chicken and broccoli. But he'll clean up. But I do the clothes, I wouldn't let him do the clothes. JB: Kind of scares you to think about it, doesn't it? CB: My white shirts

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17	4.2.2.1.1	Agree on Mothering Role	4 Family	4.2 Gender Roles	4.2.2 Female/ Mothering Role	Interviewee and partner agree on the mothering role played by the wife/mother	Coding for agreement about role only, not the actual role of the mother	If disagree on role, code 4.2.2.1.2 instead; If discussing the role of the mother (but not whether agree on role), code under 4.2.2.2.1-4.2.2.2.4 instead	4.2.2.2.1-4.2.2.2.4 Mothering Role - if also discussing the role the mother plays	CB: How did you divide child care? Responsibilities? BR: I took care of getting him to school and back, and homework. DR: If a problem came up about discipline I would have to handle it when I got back from work. SUM: Dana made sure that when he came in everything was done, the house keeping and everything else so they could spend time
18	4.2.2.1.2	Disagree on Mothering Role	4 Family	4.2 Gender Roles	4.2.2 Female/ Mothering Role	Interviewee and partner disagree on the mothering role played by the wife/ mother	Coding for disagreement about role only, not the actual role of the mother	If agree on role, code 4.2.2.1.1 instead; If discussing the role of the mother (but not whether disagree on role), code under 4.2.2.2.1-4.2.2.2.4 instead	4.2.2.2.1-4.2.2.2.4 Mothering Role - if also discussing the role the mother plays	SUM: He spoiled his children. He really spoiled the oldest girl. She was the disciplinarian, he wanted to be Mr. Fun. When a friend asked how they dealt with discipline with him gone he responded "Discipline is for Pauline. Because I'm gone so much with the 7-7 with different training programs, hunting and all that, I just think it's easier for them to have one person to set down the rules
19	4.2.2.2.1	Mother in Caregiving Role	4 Family	4.2 Gender Roles	4.2.2 Female/ Mothering Role	Mother serves as a caregiver for the children in the household and is an involved mother	Use when discussing mother's actual role with children and/or in the household	If only talking about whether agree/disagree on role of mother, but don't discuss the specific role, code 4.2.2.1.1 or 4.2.2.1.2 instead	4.2.2.1.1/4.2.2.1.2 Agreement/ Disagreement on Mothering Role - if also discussing whether agree on the mother's role	E: My wife took care of my kids. She raised my kids. I didn't raise my kids. She did. All four kids can tell you the same thing. She ran this house from the day I build this house. I didn't write a check till after she died. She took responsibility. JT: OK, let me explain this to you here. Jeral more or less lets me raise the kids because I was here most of
20	4.2.2.2.2	Mother In Playmate Role	4 Family	4.2 Gender Roles	4.2.2 Female/ Mothering Role	Mother serves as a playmate for the children in the household, but provides little or no caregiving	Use when discussing mother's actual role with children and/or in the household	If only talking about whether agree/disagree on role of mother, but don't discuss the specific role, code 4.2.2.1.1 or 4.2.2.1.2 instead	4.2.2.1.1/4.2.2.1.2 Agreement/ Disagreement on Mothering Role - if also discussing whether agree on the mother's role	[no examples]

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21	4.2.2.2.3	Mother in Breadwinner Role	4 Family	4.2 Gender Roles	4.2.2 Female/ Mothering Role	Female/mother serves as a breadwinner only, providing income or subsistence but nor providing caregiving or performing domestic tasks	Use when discussing mother's actual role with children and/or in the household	If only talking about whether agree/disagree on role of mother, but don't discuss the specific role, code 4.2.2.1.1 or 4.2.2.1.2 instead	4.2.2.1.1/4.2.2.1.2 Agreement/ Disagreement on Mothering Role - if also discussing whether agree on the mother's role	SUM: Shelly has a female friend, Deonn, who lives in Morgan City and is a captain. Her daughter was raised by Deonn's grandmother, and mother. She says it was easier for Deonn because she did not have the day-to-day relationship with her daughter like Shelly has with her kids. She and her new husband both work on the boats and she is gone a lot. Her daughter is about ten years old
22	4.2.2.2.4	Mother in Domestic Role	4 Family	4.2 Gender Roles	4.2.2 Female/ Mothering Role	Female/mother performs domestic tasks, including household chores, finances, fixing the house or car, keeping the household running, etc.	Use when discussing mother's actual role with children and/or in the household	If only talking about whether agree/disagree on role of mother, but don't discuss the specific role, code 4.2.2.1.1 or 4.2.2.1.2 instead	4.2.2.1.1/4.2.2.1.2 Agreement/ Disagreement on Mothering Role - if also discussing whether agree on the mother's role	DL: I still handle everything now that he's onshore. I run the house and everything else. I have the checkbook, if he needs some money he'll say "Can I?" And I'll say "Can you? Well it's your money" "Well yeah, but I want to ask you first" I like it that way, I know everything's paid on time, uh, I know what I can put in a savings account.
23	4.3.1	Communication	4 Family	4.3 Coupling		Issues regarding communication between partners, roommates, or other family members		For discussions of issues of communication (or lack of) with individuals when they are offshore, code as 4.6.1 instead		SD: He said the oil industry is hard on families. He knows guys in Schlumberger who have been married four times. His partner just got divorced. According to Steve, the wives just can't put up with the scheduling and end up finding their love and companionship elsewhere. But he and Deana have worked hard on their relationships. "I talk to her a lot about the oil industry, and
24	4.3.2.1	Effective Coping	4 Family	4.3 Coupling	4.3.2 Coping Strategies	Examples of successful or effective coping strategies used by couples or family members		For examples of unsuccessful coping, code as 4.3.2.2 instead		KC: So, at least once every 2 weeks, we make a point when he's gone, I go down at least twice in that 28 day period, so that we can see him. If it's once a week, depending on his schedule, and it's only when he does the grocery shopping cause I'm, I've gone down there, and only been able to spend 15 minutes with him, and turn around.

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25	4.3.2.2	Lack of Coping	4 Family	4.3 Coupling	4.3.2 Coping Strategies	Examples of failures to effectively cope with problems by family members		For examples of successful coping, code as 4.3.2.1 instead		SUM: When he first went offshore she found herself very depressed. She would come home from work, expecting him to come home at his regular time, and realize that he was gone for the week. It took her a full two years to get used to the idea of scheduling. During those two years, she hardly ever cooked, taking the kids to Burger King every night. She said
26	4.3.3	Time at Home vs. Work	4 Family	4.3 Coupling		Time at home versus time at work, including transitions, and any issues/problems created by this dichotomy				PB: She expressed some frustration with how much time the company expects him to work. They want him to work seven days a week, and she would like to spend more time with him. She said with the downturn, he is only able to work five days a week. That was good for her, because now they spend more time together. He came with her to where she plays pool, and although he finally went
27	4.3.4	Trust	4 Family	4.3 Coupling		Issues of trust between partners or other family members, including issues of infidelity				SUM: M told me he had to come back to work because he was flat broke. He said he had to sell his little boat to buy cigarettes to come back on board. When I told him he should have given up smoking so he could keep his boat, he laughed and said he also had to pay bills. I asked him if he was still with his girlfriend, he said yes but he was sure they would not still be together in another month
28	4.3.5	Wife's View of Oil Industry	4 Family	4.3 Coupling		Wife's (or partner's) view (positive or negative) of any aspect of the oil industry and the offshore lifestyle				SUM: I asked her about how she felt about her husband's involvement in the offshore oil industry and the first words out of her mouth were "I hate it. I despise the seven and seven lifestyle." She went on to say that when she met Jim, he had just gotten out of the oil industry and it's crazy scheduling. She never intended to be party to the scheduling of oil, and

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29	4.4.1	Impact of Oil Lifestyle on Children	4 Family	4.4 Children (pre-adult)		Impact (positive or negative) of the oil lifestyle on children, including emptional well-being, school performance, behavior, etc.				DA: When your children were young, were there any particular issues with working off, being down on the deck? JC: I think so. I'm not sure how if affected them. One of them does have, says that he has problems now because of my absence. My fourth child, Dan, sometimes shows a bit of resentment because I was not there. He seems to be the one who needed the most reassuring
30	4.4.2	Child's Impression of Oil Industry	4 Family	4.4 Children (pre-adult)		Children's impressions of the oil industry, a parent working in oil, concentrated work scheduling, or any issues/problems created by this lifestyle				SUM: His daughter is now 16, she doesn't care one way or another if he is not home. He just recently bought her a new car so she's happy. He feels that she doesn't like to deal with him because he is straight forward. His son Andre, who is four years old, knows his dad needs to work even though he would rather he be home.
31	4.5.1	Caregiving of the Elderly	4 Family	4.5 Non-Parental Caregiving		Examples of caregiving of the elderly by family members or other non-family sources				AG: Even though you were with her, you still basically raised yourselves? AP: Yes, I raised myself and a brother and a sister. I was the oldest. I was twelve. From twelve to twenty-one, when I graduated from high school, I raised them. I then moved away for a year. Then I moved back to take care of my mother because she had cancer. I took care
32	4.5.2.1	Grandparent as Child Caregiver	4 Family	4.5 Non-Parental Caregiving	4.5.2 Child Caregiving	Examples of child caregiving by the grandmother or grandfather				ML: So, at any point my supervisor would come in and say you need to go to New Orleans. How long to I need to go? Bring clothes for a weak. When do I need to leave? Today at noon or tomorrow or two days from now. So I had a husband sometime, at one point, and then at one point I didn't. My kids were used to having to go to grandmothers at the drop of a hat.

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33	4.5.2.2	Other Family as Child Caregiver	4 Family	4.5 Non-Parental Caregiving	4.5.2 Child Caregiving	Examples of child caregiving by family members other than the mother, father, or grandparents			4.8.1 Informal Support	VB: After the spleenectomy it didn't work so the next step was chemotherapy. This was the last treatment that they could use to make the platelet count go back up. If not, then that was it. They didn't' know what they would do. So in between all of this he was still working. He hadn't taken off any time. All of that was strenuous and very stressful. My sister came down and she
34	4.5.2.4	Daycare as Child Caregiver	4 Family	4.5 Non-Parental Caregiving	4.5.2 Child Caregiving	Examples of child caregiving by daycare facilities				SUM: Most of the time while he was working, she was working. She only recently decided to stop working and stay home. Now she spends most of her time running around her kids and taking care of the house. While she was working, she sent the kids to daycare. She has family in town that could watch them, but she did not give a reason why she decided to use daycare
35	4.5.2.5	Non-Relative as Child Caregiver	4 Family	4.5 Non-Parental Caregiving	4.5.2 Child Caregiving	Examples of child caregiving by individuals who are not relatives		Use 4.5.2.4 if non-relative caregiving is taking place in the context of a daycare facility	4.8.1 Informal Support	SUM: "When he was offshore he missed some holidays, and I usually spent those with my family...I don't have any family here and that's been difficult with him working, traveling so much, and me in the position that I'm in because there are night time meetings, weekend events and I have no one that I would truly feel comfortable leaving my child with." She had to ask her
36	4.6.1	Communication while Offshore	4 Family	4.6 Offshore Lifestyle		Communication (or lack of) between workers and families while offshore (phone calls, e-mail, etc.)		For general isues of communication between partners, roommates, or other family members, code as 4.3.1 instead		SUM: Dana did not like it when Stan was off-shore. He often would be unable to call, and sometimes the days she expected him back would be pushed back because he had to stay on the rig longer than expected. He had managers that would not let him call home but one time in 21 days. JJ: But everybody else has to worry about a phone bill except for these

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37	4.6.2	Predictability of Scheduling	4 Family	4.6 Offshore Lifestyle		Predictability of work schedules and issues/problems created by unpredictable schedules	Use both in cases of consistently unpredictable schedules (such as on call) and when normally set schedules become unpredictable			SUM: Sometimes he'll go 3 days without sleep. Then again, he might sit at the house for three days with no work. Also, there's hurricane season. If there's a hurricane, there's not much work at all. Everybody is pulled in from offshore, everything shuts down. That last from July to October. When they have to evacuate, the trucking just shuts down.
38	4.6.3	Transitions	4 Family	4.6 Offshore Lifestyle		Transitions from onshore to offshore (and visa versa)				JJ: Sometimes, it's "oh my God, I have to go out tomorrow" and sometimes I hear him say "It's time to go out and I'm ready." SUM: He says when he comes home from offshore, he has to hit the ground running. His children are involved in everything and he has to keep up with them. His wife wants things to be done around the home as far
39	4.6.4	Tradeoffs	4 Family	4.6 Offshore Lifestyle		Tradeoffs (actual or perceived) made by either working in the oil industry or getting out of the oil industry, or tradeoffs between onshore and offshore work				SUM: When asked about his job security, he matter of factly stated that there is little job security because of the instability of the industry. So I asked why stay with it? He said the benefits are still good with this company. Ensco offers medical insurance at affordable rates, dental, and a 401K plan. When I asked if the salary and benefits are worth the worry about instability. Alan and
40	4.6.5	Danger of the Work	4 Family	4.6 Offshore Lifestyle		Issues or concerns related to the danger of offshore work				SUM: When asked if this is dangerous, he says, yes, but tells me a story about a recent accident that happened entirely because of human error. A valve was not closed properly after a job. The next person to come to that valve was supposed to check it before opening it, he didn't. So now two people didn't do what they were supposed to. When the second person opened it, the pressure that

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41	4.6.6	Special Occassions	4 Family	4.6 Offshore Lifestyle		Examples of missed special occassions or holidays as a result of concentrated work schedule, and ways families deal with this issue				AG: You do a lot of family things together? WM: We always eat out, go to the park, walk around USL. LM: I didn't have a problem missing holidays. I had a problem with missing my kids. I was caught offshore Christmas morning twice. That's not good, especially when you have small children. WM: He missed Ben's birthday once. It totally broke Ben's heart
42	4.7.1	Decisions about Money	4 Family	4.7 Household Economy and Basic Needs		Decisions about financial resources and their allocation and use within the household including spending, saving, etc.				SUM: B's father lives with him when he is home and lives with his younger brother when he is not. He stays on the boats for five weeks and takes one week off. He likes to be on the boats because otherwise he is home with the responsibility for his father. He says he spends his money the first day he gets off the boat. When I asked him if he saved for the future, he said he puts a little aside, but not much. He
43	4.7.2	Responses to Industry Flux	4 Family	4.7 Household Economy and Basic Needs		Responses and adaptation to the flux in the oil industry at the household and individual levels; includes physical/practical as well as psychological/emotional reactions				SUM: Tobias started driving when he was 21, and he's 39 now. When he started, he was working for his cousin as a butcher as well. He drove on the weekends, sometimes through Monday. Then he'd go into the butcher shop for the remainder of the time. That was during the bust - that's how he got through - he had two things going. He drove for a couple of different people
44	4.7.3	Benefits	4 Family	4.7 Household Economy and Basic Needs		Benefits, including health care, provided (or not provided) by companies				SUM: The drivers begin to talk about the costs of health insurance. Most of them buy their own health insurance on the side. Broussard offers the drivers some but the costs are really high. All the drivers are paying 400 - 600 a month for themselves and a wife. SUM: Anthony feels like he has generally had good benefits. His retirement is a 401K and he used

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45	4.7.4	Education	4 Family	4.7 Household Economy and Basic Needs		Decisions about education for household members related to financial isues of distribution of resources within the household		If discussions of education center more on the role of education in the family and/or its impact on employability, code as 4.9.6 instead	4.1.3 Expectations for Children - if discussions of financial allocations for education include indications of educational expectations for children	SUM: Lin talks about his sons. He has one that is a blood technician and goes to school by night. Another one went to the Assembly of God school here in town and then on to LSU. College is very expensive. He will have to put off his retirement a couple more years to pay for the kid's school. RJ: You know I want to one day have a home. I want to buy a
46	4.8.1	Informal Support	4 Family	4.8 Community and Social Support		Informal community resources and support mechanisms available to and/or used by informants (or needed), including family, friends, neighbors, social groups, work acquanitances, etc.				BD: I think that people do what they have to do but the oil business was tough because of this, because of the husband being gone and not having family, but people don't realize the overseas thing that you have to. That time when Johnny was so sick, I had him in the hospital and he was in a coma. I walked out into the hall and everybody was sitting there. That was wonderful. You didn't
47	4.8.2	Institutional Support	4 Family	4.8 Community and Social Support		Institutional sources of support within the community (or needed), including social services, schools, churches, etc.				MB: When he was off of work, we got food stamps one time. And I know that sounds so trashy. JB: Yeah, but that's what it's for. Once in a while, when you are having problems and you make ends meet, or you are between jobs. It's not there for people to be on it for five or six or seven years. MB: It helped us, and it helped my mother too. She's on a fixed income and she hardly eats. Like our church
48	4.8.3	Feel of Community	4 Family	4.8 Community and Social Support		The nature, image, feel, and/or identity of the community(ies)				SUM: There's also a lot of good ol' boy networks. Everyone is related and that's how they got to where they were. She had a hard time finding a job at first because she didn't know anybody. She called her dad in New Orleans, and he came up with a name in the area that helped her find a job. "You had to know someone to get anywhere....It doesn't matter if you have a degree. It

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49	4.8.4	People in southern Louisiana	4 Family	4.8 Community and Social Support		Portrayals/characterizations of the people of southern Louisiana				TT: So we stayed over here. Even when I worked away from home, we felt that we needed to stay here, so we stayed. And a lot of people, it's hard to just get up and leave your family. Cajun people are family oriented people. You being from another state, Arizona, you can meet up with some Cajun families, like the small town I'm from, have your ever been to Delcombre? Those are the type of
50	4.9.1	Family Origin	4 Family	4.9 Family History/Identity		Place of origin of the family, discussions of where the interviewee(s) came from; discussions of wanting to visit home				AG: Jennie, what about your family? WM: It's difficult. My mom's from Georgia. She was an army brat. She met her beau in France and when they moved back here, she got married and she lived in Massachusetts. She came home visiting my grandma who married a coon-*** (Cajun). She divorced my real father and married a cajun guy which is my stepfather whose family is from here. And then I
51	4.9.2	Family in Oil	4 Family	4.9 Family History/Identity		Examples of other family members of the worker or spouse/partner involved in the oil industry	Use for both older and parallel generation's involvement, as well as for children's involvement in oil	Do not code interviewee's or spouse/partner's involvement in oil here	4.1.1 Experiences as Child - if talking about childhood experiences with other family members working in oil	CB: My father was an oilfield roustabout, a derrick man, then he became a rig superintendent. But I believe the rig superintendent now and then are very different. Back then the superintendent stayed up (awake) for 3 or 4 days, maybe even a week! Now they have a night and a day pusher and even assistants! Back then you had to do it all yourself! My Father had two
52	4.9.3	Move/Work History	4 Family	4.9 Family History/Identity		The work and move history of the worker; discussions of jobs; transitions between jobs or careers, and the reasons for these transitions	Code all discussions by worker about past jobs and careers			SUM: I ask Jim how he got started in the business. Jim replies that he really got his start through his father who worked at Kerr-McGee/Transworld Drilling. He worked summers during college as a roughneck. There were a lot of other college guys out there at the time. He went to graduate school and continued working offshore, and once he graduated he began

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54	4.9.3.2	Forced Choice	4 Family	4.9 Family History/Identity	4.9.3 Move/Work History	Anecdotes of being stuck in the oil industry; of employment in the oil industry as a forced versus a free choice				SUM: Ron said he hates to use the word "trapped" in the oil field, but he guesses he was. His dad called the oil field the "golden handcuffs" the money is too good to leave behind and binds you to the industry, it's pros and cons. Ron said there are pros and cons to the oil field, just like any other job. He said for the hard core drillers, like his dad, they're happy they have the job and are able to provide for
55	4.9.4	Why in Southern Louisiana	4 Family	4.9 Family History/Identity		Why the worker's family is now located in southern Louisiana, what brought them to southern Louisiana; why don't want to leave southern Louisiana or why want to stay in area when older (if currently a teenager/youth)				GW: My father was originally from Kansas, there were eight of us children, he started taking care of some oil wells, pumper type up there. Little by little got more engrossed and was transfered around in Kansas. He got involved with the south Louisiana wells, flowing wells. The company then transfered our family to Morgan City. That was in 1958.
56	4.9.4.1	Why Want to Leave Southern Louisiana	4 Family	4.9 Family History/Identity	4.9.4 Why in Southern Louisiana	Discussions of wanting to leave the community or southern Louisiana in general and reasons why (not necessarily an oil issue - may want to live in different community or state, but retain same oil job)				SUM: Tina added that her and her husband did not plan to stay in the area. They are going to move. Tom can work for Oceaneering and live somewhere other that Morgan City. His work schedule would permit long commutes. Tina said that he worked 320 days last year, and that they could have lived anywhere. They have a goal. They want to buy land in Mississippi and build a home, and get it paid off as soon
57	4.9.5	Why Oil/Why not Oil	4 Family	4.9 Family History/Identity		Why the worker is (or is not) involved in the oil industry, including discussions of oil as an appropriate (or inappropriate) industry for family men; why workers are involved (or want to be working) onshore vs. offshore work			4.1.1 Experiences as Child - if reason tied to experiences as a child with family members in oil 4.6.4 Tradeoffs - if discussions of reasons in/not in oil include mention of tradeoffs between oil/not oil or	SUM: Stu unequivocally prefers to work on shore. To reiterate, he was moved to on shore when the bust hit, and he was luckily offered a transfer to Houma instead of being laid off. After some time, he was given the option of going off shore, but "Being that I didn't like offshore, I stuck with on-land." He said this allowed him to spend more time with his family and gave him the opportunity to be outdoors, both in

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58	4.9.6	Role of Education	4 Family	4.9 Family History/Identity		Role of education in the family and its impact on employment/ employability; views on education and its importance; how lack of education does/does not affect workers, their employability, and job choices		For discussions of financial aspects of education, use 4.7.4 instead		CB: Looking back at your time line would you change anything if you could? DR: Yes, I would have finished college. (Serious facial expression) Not finishing college was a mistake. I was playing around and I didn't apply myself. CB: What would you have majored in? DR: I wanted to be a petroleum engineer but I didn't have the math background so I majored in psychology. I would still have liked
59	4.9.7	Retirement	4 Family	4.9 Family History/Identity		Issues relating to retirement (or future retirement)		For discussions of retirement simply as an employee benefit, code as 4.7.3 instead		SUM: The downside of getting out of oil and being involved with drilling is now they are not prepared for retirement. When he was in oil, he jumped from rig to rig, wherever the money was. Because he was jumping jobs, he did not gain seniority or have a company plan to put away for retirement. They were young and weren't thinking about the future, so they didn't save either. Now, they
60	4.10.1.1	Single	4 Family	4.10 Life-Stage	4.10.1 Marital Status	Interviewee is single (never married)		Do not use if interviewee has been married in the past, and is now divorced or widowed - use 4.10.1.3 instead		[Interview level code]
61	4.10.1.2	Married/Coupled	4 Family	4.10 Life-Stage	4.10.1 Marital Status	Interviewee is married (first or later marriages) or is in a long-term domestic partnership				[Interview level code]

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
62	4.10.1.3	Separated/ Divorced/ Widowed	4 Family	4.10 Life-Stage	4.10.1 Marital Status	Interviewee is currently separated, divorced, or widowed		Do not use if interviewee is remarried or involved in another relationship - use 4.10.1.2		[Interview level code]
63	4.10.1.4	Marital Status Unknown	4 Family	4.10 Life-Stage	4.10.1 Marital Status	Marital status is indeterminable from the interview, or more than one person was included in the interview and the information is not the same for all individuals				[Interview level code]
64	4.10.2.1	No Children	4 Family	4.10 Life-Stage	4.10.2 Children	Interviewee has no children				[Interview level code]
65	4.10.2.2	Preschool-age Children	4 Family	4.10 Life-Stage	4.10.2 Children	Interviewee has preschool-aged children				[Interview level code]

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66	4.10.2.3	School-age Children	4 Family	4.10 Life-Stage	4.10.2 Children	Interviewee has school-aged children and/or adolescents				[Interview level code]
67	4.10.2.4	Grown Children	4 Family	4.10 Life-Stage	4.10.2 Children	Interviewee has grown children				[Interview level code]
68	4.10.2.5	Children Unknown	4 Family	4.10 Life-Stage	4.10.2 Children	It is indeterminable from the interview whether the interviewee has children, or more than one person was included in the interview and the information is not the same for all these individuals				[Interview level code]
69	4.11.1	Have Children	4 Family	4.11 Have Children?		The interviewee has children	Code at interview level			[Interview level code]

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
70	4.11.2	Have no Children	4 Family	4.11 Have Children?		The interviewee has no children	Code at interview level			[Interview level code]
71	4.11.3	Unknown if Children	4 Family	4.11 Have Children?		It is indeterminable from the interview whether the interviewee has children, or more than one person included in interview and information is not the same for all individuals	Code at interview level			[Interview level code]
72	4.12.1	Divorced/ Separated	4 Family	4.12 Divorced/ Separated ?		Interviewee (or partner) has been divorced or separated at least once at some point during his/her lifetime	Code at interview level			[Interview level code]
73	4.12.2	Never Divorced /Separated	4 Family	4.12 Divorced /Separated ?		Neither the interviewee nor partner/spouse has been divorced or separated at any point in his/her lifetime	Code at interview level			[Interview level code]

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
74	4.12.3	Unknown if Divorced/ Separated	4 Family	4.12 Divorced/ Separated ?		It is indeterminable from the interview whether the interviewee or spouse/partner has ever been divorced or separated, or more than one person in the interview and information is not the same for all individuals	Code at interview level			[Interview level code]
75	4.13.1	Family in Oil	4 Family	4.13 Family in Oil?		The interviewee or spouse/ partner has other family members in oil	Code at interview level			[Interview level code]
76	4.13.2	No Family in Oil	4 Family	4.13 Family in Oil?		Neither the interviewee nor spouse/partner has any other family members in oil	Code at interview level			[Interview level code]
77	4.13.3	Unknown if Family in Oil	4 Family	4.13 Family in Oil?		It is indeterminable from the interview if the interviewee or partner/spouse has any family members in oil, or more than one person in interview and information not the same for all individuals	Code at interview level			[Interview level code]

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
78	4.14.1	Family in Boats	4 Family	4.14 Family in Boats?		The interviewee or spouse/ partner has family in the boating sector	Code at interview level			[Interview level code]
79	4.14.2	No Family in Boats	4 Family	4.14 Family in Boats?		Neither the interviewee or spouse/partner has any family in the boating sector	Code at interview level			[Interview level code]
80	4.14.3	Unknown if Family in Boats	4 Family	4.14 Family in Boats?		It is indeterminable from the interview whether the interviewee or spouse/partner has any family in the boating sector, or more than one person in interview and the information is not the same for all individuals	Code at interview level			[Interview level code]
81	6.1.1.1	7/7 Onshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.1 Onshore	Worker has a 7/7 onshore schedule				SUM: Sherman works 7/7. He works 8-5 and returns home every night. He likes being home every night. He likes the benefits that he has such as insurance, pension, etc. He does NOT want to be away from home again and would not want to have to go back to offshore. He feels his job is as secure as it can be in the oil industry. He has experience and he has 1 1/2 years with this company

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82	6.1.1.2	14/14 Onshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.1 Onshore	Worker has a 14/14 onshore schedule				[no examples]
83	6.1.1.3	5/2 Onshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.1 Onshore	Worker has a 5/2 onshore schedule				SUM: As water plant manager, Roy's position is salaried. He has full benefits which include medical and dental insurance and a 401K plan. He had the same benefits as a roustabout for Newpark, and similar benefits with PMI as a tank cleaner. He is supposed to work a 7-and-7 schedule, but they are short handed right now, so he works a 5-and-2. He works onshore, and usually go home at
84	6.1.1.4	On Call Onshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.1 Onshore	Worker has an on call onshore schedule				SUM: In 1980, after working at Schlumberger for five years, he was moved to the office. He had the hands on experience and the salesman know how to be moved here. He was still 24 hour call, but he was not going offshore any longer. He stayed in the office until 1989, when Schlumberger sold out a portion of their action to Cardinal. MB: So when he was working
85	6.1.1.5	Other Onshore Schedule	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.1 Onshore	Worker has some onshore schedule other than 7/7, 14/14, 5/2, or on call				SUM: William went was hired on by Kerr McGee in 1951 with the help of his friend. He worked land rigs with a 8 hours on 16 hours off schedule, until they decided to take it offshore. After only a couple months working onshore, he we informed he would be working offshore, and a tug hooked up the rig and towed it offshore. LB: I was working on land rigs then

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86	6.1.2.1	7/7 Offshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.2 Offshore	Worker has a 7/7 offshore schedule				SUM: In 1962, Duke got a job offshore working 7-7 with Movable Offshore. Although he worked 7-7, and later was salaried, he often went into the office on his days off to help out. He constantly called the rig to check up on it's functioning. SUM: He made these job changes because of money. The Pennzoil job was a 7-7 job, and the time off
87	6.1.2.2	14/14 Offshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.2 Offshore	Worker has a 14/14 offshore schedule				SUM: When Lili and her husband were married, he worked 14 and 14. When he'd come back, their world would revolve around him. They would go where he wanted to eat, etc. Lili and her daughter hung around together when he was gone. SUM: He left Rowan to take a job in 1997 with ENSCO that offered more money. He worked with them
88	6.1.2.3	28/28 Offshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.2 Offshore	Worker has a 28/28 offshore schedule				Sum: I ask Missy about the impact of having Michael away on 28/28. She says that, in a way, it wasn't so bad. While it did seem that emergencies always happened when he was gone, it was nice having him home for 28 days. Michael notes that he once went one and a half years without a day off. Missy continues by noting that at least the Nigeria job included time off, which is a
89	6.1.2.4	On Call Offshore	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.2 Offshore	Worker has an on call offshore schedule				LF: What is your work schedule? KV: It is 24 hour call, I have 35 days on call and 5 days off call. The 5 days off call, I am not guaranteed if they need me for work. SUM: Directing the question to both Peter and Elissa, I asked what it was like to work offshore. PM: I enjoyed it. The work was easy. There are times when you lose

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90	6.1.2.5	Other Offshore Schedule	6 Scheduling/ Job Sector	6.1 Work Schedules	6.1.2 Offshore	Worker has an offshore schedule other than 7/7, 14/14, 28/28, or on call				SUM: Manny likes to do 8 weeks on and 2 or 3 off, while Ken just got back from 23 days out. They work offshore putting up the rigs and maintaining them. SUM: BG speaks of coming back from Alaska and he continues to change companies due to sellouts of companies and/or falling out with a company. He went back to Nicor
91	6.2.1	Preferred Schedules	6 Scheduling/ Job Sector	6.2 Preferred Work Scheduling		Discussions of schedules preferred or liked by workers and/or their families				JJ: What do you think about the different schedules? CM: Well it all depends on the stage of your life you are in. I always did say 7 and 7 was the best job you could have. But after being married with kids and wanting to be around home more, I prefer a 5 and 2 job at this point in my life. Being off on the weekends you know. It is nice to be off every weekend, because the kids always have something going
92	6.2.2	Disliked Schedules	6 Scheduling/ Job Sector	6.2 Preferred Work Scheduling		Discussions of schedules disliked by workers and/or their families				SUM: I asked her about how she felt about her husband's involvement in the offshore oil industry and the first words out of her mouth were "I hate it. I despise the seven and seven lifestyle" She went on to say that when she met Eddie, he had just gotten out of the oil industry and it's crazy scheduling. She never intended to be party to the scheduling of oil and
93	6.3.1	Scheduling - Chaos	6 Scheduling/ Job Sector	6.3 Career Scheduling		Workers career is not dominated by any schedule - numerous scheduling changes throughout oil career	Code at interview level			[Interview level code]

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
94	6.3.2	Scheduling - Mostly 7/7	6 Scheduling/ Job Sector	6.3 Career Scheduling		Worker's oil career dominated by a 7/7 schedule	Code at interview level			[Interview level code]
95	6.3.3	Scheduling - Mostly 14/14	6 Scheduling/ Job Sector	6.3 Career Scheduling		Worker's oil career dominated by a 14/14 schedule	Code at interview level			[Interview level code]
96	6.3.4	Scheduling - Mostly 28/28	6 Scheduling/ Job Sector	6.3 Career Scheduling		Worker's oil career dominated by a 28/28 schedule	Code at interview level			[Interview level code]
97	6.3.5	Scheduling - Mostly 5/2	6 Scheduling/ Job Sector	6.3 Career Scheduling		Worker's oil career dominated by a 5/2 schedule	Code at interview level			[Interview level code]

ID	Nudist Code #	Code	Code-book	Branch	Sub-branch	Definition	When to Use	When not to Use	Code concurrently with	Examples
98	6.3.6	Scheduling - Mostly Other	6 Scheduling/ Job Sector	6.3 Career Scheduling		Worker's oil career dominated by some schedule other than 7/7, 14/14, 28/28, 5/2, or on call, and is not characterized by chaos	Code at interview level			[Interview level code]
99	6.3.7	Scheduling - Unknown	6 Scheduling/ Job Sector	6.3 Career Scheduling		The schedule that dominates the worker's oil career is indeterminable from the interview data, or more than one person in interview and the information is not the same for all individuals	Code at interview level			[Interview level code]
100	6.4.1	Production	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by production jobs	Code at interview level			[Interview level code]
101	6.4.2	Drilling	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's career dominated by drilling jobs	Code at interview level			[Interview level code]

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102	6.4.3	Boats	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by boat jobs	Code at interview level			[Interview level code]
103	6.4.4	Trucks	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by trucking jobs	Code at interview level			[Interview level code]
104	6.4.5	Other Transportation	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by transportation jobs other than boats or trucks	Code at interview level			[Interview level code]
105	6.4.6	Diving	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by diving jobs	Code at interview level			[Interview level code]

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106	6.4.7	Fabrication	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by fabrication jobs	Code at interview level			[Interview level code]
107	6.4.8	Service	6 Scheduling/ Job Sector	6.4 Job Sector/ Work History		Worker's oil career dominated by service jobs (e.g. Halliburton)	Code at interview level			[Interview level code]

The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.