

**The Continued Assessment and Management
of Cumulative Impacts on Kenai River Fish Habitat**

By
Glenn A. Seaman

Technical Report No. 95-6



**Alaska Department of Fish and Game
Habitat and Restoration Division**

August 1995

SH
157.8
.R66
no.95-6



**The Continued Assessment and Management
of Cumulative Impacts on Kenai River Fish Habitat**

By
Glenn A. Seaman

Technical Report No. 95-6

U. S. DEPARTMENT OF COMMERCE NOAA
COASTAL SERVICES CENTER
2234 SOUTH HOBSON AVENUE
CHARLESTON, SC 29405-2413

Property of CSC Library

Janet Kowalski
Director
Habitat and Restoration Division
Alaska Department of Fish and Game
P.O. Box 25526
Juneau, Alaska 99802-5526

August 1995

SH 157.8 .R66 no. 95-6

JUN 9 1997

TABLE OF CONTENTS

Acknowledgements	ii
Chapter 1: Introduction	1
Chapter 2: Agency Activities and Authorities	
A. Background	3
B. Purpose	4
C. Process	4
D. Results	5
E. Discussion/Recommendations	7
Chapter 3: Application of GIS/Database System	
A. Background	11
B. Purpose	11
C. Process	12
D. Results	12
E. Discussion/Recommendations	17
Chapter 4: Conclusion and Recommendations	24
Literature Cited	26
Appendices	
A: Summary of Agency Habitat-Related Authorities and Activities in the Kenai River Watershed, Alaska	
B: Distribution List for Summary of Agency Authorities and Activities	
C: Information on Planning and Public Involvement Process for the Florida Keys National Marine Sanctuary	
D: Executive Summary from Liepitz (1994), "An Assessment of the Cumulative Impacts of Development and Human Uses on Fish Habitat in the Kenai River"	
E: List of Tables and Figures from Liepitz (1994)	
F: May 5 Meeting Agenda on "Continued Use of ADF&G and KPB GIS/Database Systems in the Continued Assessment of Cumulative Impacts" and List of Meeting Participants	
G: Proposal/Work Plan Summary for National Marine Fisheries Service Grant	
H: "Upper Cook Inlet Fisheries and Habitat Plan," outline of Governor Knowles presentation at the April 1995 Anchorage Chamber of Commerce meeting	

ACKNOWLEDGEMENTS

This study was financed through the Alaska Coastal Management Program under a grant provided by Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce. Specific federal funding for this project was provided under the Section 309 (Enhancement Grant Program) of the federal Coastal Zone Management Act.

Several people played a key role in the completion of this project. Special thanks are extended to Alaska Department of Fish and Game (ADF&G) staff Frank Wallis (Analyst Programmer) and Gary Liepitz (Habitat Biologist) for their work in establishing the Kenai River GIS/database system, identification of system maintenance needs, assistance in setting the agenda for and running the May 1995 (meeting of potential database users), and their review of the draft products. Other ADF&G staff included Al Carson, who assisted in the compilation of information for the summary agency authorities and activities, and Ann Anderson, who assisted in the typing, formatting, and editing the summary table. I would also like to thank Lance Trasky and Betsy Parry for critical review the draft report.

This project was completed in cooperation with the Kenai Peninsula Borough (KPB). I would like to thank Jim Wadell (GIS Supervisor) and Dick Troeger (former Planning Director) for their assistance in identifying system maintenance needs, assistance in the May 1995 meeting, and their review and comments of draft products. I would also like to thank Lisa Parker (current Planning Director) for her review of draft report.

Lastly, I would like to thank all participants in the May 1995 meeting of potential users of the Kenai River GIS/database system. This includes representatives from several state and federal agencies and the KPB.



CHAPTER 1: INTRODUCTION

The Kenai River drainage supports the largest recreational fishery in Alaska and is the major contributor to the Cook Inlet commercial sockeye salmon fishery. In 1992, for example, the Kenai River recreational and commercial fisheries contributed over \$70 million to Alaska's economy. The nearshore waters of the Kenai River mainstem provides critical rearing habitat for over 80 percent of the Kenai River chinook salmon population. Much of these nearshore waters and associated shoreland habitats have been significantly altered by commercial, residential, and recreation uses and activities. Since the late 1970's, the public and state and federal management agencies have been concerned with the cumulative adverse effects of past and future uses and activities on fish habitat and ability of the Kenai River to produce salmon.

The State of Alaska initiated a study in July 1992 under the Section 309 Program as a Project of Special Merit to assess and control these impacts. During the first two years of this Section 309 project (July 92 to June 94), the Alaska Department of Fish and Game (ADF&G) and Kenai Peninsula Borough (KPB): 1) developed and implemented a cumulative impact assessment methodology to evaluate the cumulative impacts of development and other uses on fish habitat (Liepitz 1994), 2) produced a summary of potential non-regulatory mechanisms to control these impacts (Fink, Rozen, and Seaman 1993), and 3) developed an analysis of the socioeconomic value of Kenai River salmon fisheries to the local economy (Tremaine 1994). The KPB also initiated efforts to revise or develop new enforceable policies for the KPB Coastal Management Program to more effectively control cumulative impacts (Isaacs, Moore, and Wainwright 1994). Efforts to develop policies were put on hold, awaiting the outcome of a KPB initiative to establish zoning or other local land use controls for policy implementation on private lands.

The Kenai River cumulative impact project has completed its third and final year of study under the Section 309 Enhancement Grant Program of the federal Coastal Zone Management Act. Two tasks were identified to bring this study to conclusion under Section 309 funding. The first task was to conduct a hydrological evaluation of the effects of select structures, both upstream and downstream, on fish habitat. This evaluation was intended to confirm or revise the habitat evaluation models used in the initial cumulative impact assessment represented in Liepitz 1994¹ and further evaluate the hydrological effects of instream structures. The results of this effort are reported in Dorava (in press). The second task—the subject of this report—was to develop recommendations for an integrated approach to continue to assess and manage the cumulative impacts of development and other uses on fish habitat. This analysis is described in this report as follows:

- *Agency Authorities and Activities -- Chapter 2* Numerous federal, state, and local land managers and regulators are involved in the assessment and management of uses and

¹ Hereafter, the phrase "initial cumulative impact assessment" is used to mean the impact assessment approach and results as presented in Liepitz 1994, "An Assessment of the Cumulative Impacts of Development and Human Uses on Fish Habitat in the Kenai River."

activities on the Kenai River that may affect Kenai River fish habitat. A clear understanding of agency authorities and activities is an essential prerequisite to the formulation of recommendations for a program to continue to assess and manage cumulative impacts. This chapter briefly describes the process and format for identifying agency authorities and activities and describes an evaluation of this approach. An initial summary of agency authorities and activities is included in the appendix.

- *Application of GIS/Database System -- Chapter 3* A Geographical Information System (GIS)/database system—a type of information management system²—was developed as a tool to manage and evaluate information under this study, and is a critical component of Kenai River cumulative impact assessment methodology. While the initial purpose of the GIS/database system was to generate the 1994 cumulative impact assessment report, the intent was to develop a dynamic system that would be updated, responsive to user needs, and continue to assist in the ongoing assessment and management of cumulative impacts. This maintainable component of ADF&G's information management system, if implemented, will help ensure the continued assessment, management, and evaluation of cumulative impacts. The process and results of this evaluation are described in this chapter.
- *Conclusion and Recommendations -- Chapter 4* This chapter provides a conclusion and summary of recommendations for the development of an integrated program for the continued assessment and management of cumulative impacts.
- *Literature Cited* The section includes references for the literature cited in this report.
- *Appendices* A number of appendices are included as reference materials.

² A "GIS/database system" is a type of computer "information management system." These terms are used interchangeably in this document.

CHAPTER 2

Agency Activities and Authorities

CHAPTER 2: IDENTIFICATION OF AGENCY AUTHORITIES AND ACTIVITIES

A. BACKGROUND

Agency and public interest in the management of Kenai River fish habitat and the many uses of the river is very high. Numerous federal, state, and local agencies have regulatory and management authority, or otherwise participate in the review of development and other activities in or affecting the Kenai River fish habitat. Many non-governmental organizations, such as sport fishing, property owner, guiding, and commercial fishing organizations, have their own habitat-related programs and/or are active participants in other governmental regulatory or management programs. The large number of players, programs, and activities on can be overwhelming and form an institutional barriers in the assessment, management, and control of cumulative impacts. The potential for barriers and confusion was realized in the KPB's efforts in early 1994 to develop enforceable policies for the borough's coastal management plan to more effectively manage and control the cumulative impacts of development and other uses on fish habitat³. The Kenai River Policy Working Group (KRPWG)—composed of agencies, interest groups, and citizens at large—was established to guide this effort. Some of the more prevalent concerns regarding other agency authorities and activities and how these concerns created an impediment to policy development efforts are summarized below.

- *Agency Activities on Public Lands* Most of the KRPWG participants did not have a clear understanding of all activities of state, federal, and local governments and regulators on the Kenai River. Several KRPWG participants advocated that efforts to develop policies should be halted until we had a clear understanding of agency activities. Others indicated that the habitat impacts on public lands should be addressed before the activities on private lands should be regulated.
- *Agency Regulatory and Management Authorities for Activities on Public Lands* Many KRPWG participants did not have clear understanding of state, federal, and local agencies role in regulating uses and activities in and adjacent to the Kenai River. Others questioned the agencies' ability to implement coastal management policies on public lands and waters, and were reluctant to develop policies without an assurance that the policy could be implemented. The regulatory and management structure was too complex to explain in the meeting. A written summary was needed.
- *Authorities for Control of Activities on Private Lands?* Over 40 percent of the Kenai River mainstem is in private ownership. Most participants understood that agencies had very little regulatory authority over activities on private lands. Federal agencies have adequate control over federal lands and may control activities on private lands that involve the dredge and fill of wetlands. State regulatory authority is generally limited to state lands and to both private and public activities below the ordinary high water mark.

³ See Isaacs, Moore, and Wainwright (1994) for a description of the process used, membership of the policy working group, and a summary of other aspects of this effort.

The KPB currently regulates subdivision approvals and limited activities requiring a borough floodplain permit. The KPB, City of Soldotna, and City of Kenai have planning and zoning authority, but only the City of Soldotna has adopted ordinances to protect the river. Several participants felt that efforts to develop enforceable policies should cease until a more comprehensive implementation authority is developed by the KPB.

- *Kenai River Working Groups Authority, Mission, and Potential Duplication* Many participants raised concerns about role of the KRPWG group, and how this group relates to other federal, state, or borough working groups addressing Kenai River issues. Others questioned whether the various agency work groups complemented or duplicated the efforts of other groups. KRPWG participants inability to describe the function of all groups impeded progress of the group.
- *Institutional Coordination* Several participants expressed the desire for better coordination among federal, state, and local groups. The issue of agency coordination was not in the scope of this project. However, several participants indicated a difficulty in addressing this issue without a clear understanding of agency activities.

The KRPWG met six times, with the final meeting in June 1994. While the KRPWG did not complete the development of enforceable policies, all participants expressed an interest in continuing to meet to address this important issue.⁴ Furthermore, all participants agreed that a clearer understanding of agency authorities and activities, as well as non-governmental organizations, was needed. ADF&G prepared a summary of agency regulatory and management authorities and activities related to the protection of fish habitat to address this need. Due to lack of time, we did not attempt to summarize the activities of non-governmental groups because the task.

B. PURPOSE

The overall purpose of this effort is to: (1) summarize federal, state, and KPB management and regulatory authorities with respect to Kenai River fish habitat; and (2) summarize agency activities related to protection, management, and restoration of fish habitat in the Kenai River drainage. A secondary purpose was to facilitate agency and public participation in government regulatory and management programs and activities. Finally, we also intended to evaluate the effectiveness of this approach in summarizing agency authorities and activities, identify possible improvements to the table or alternative approaches, and assess public and agency interest in preparation of future updates.

C. PROCESS

The process used to develop the summary is outlined below.

1. *Develop Format/Request Information:* ADF&G project staff developed a format and

⁴ Efforts to develop enforceable policies were put on hold in FY95, with effort shifting to a KPB Assembly-led effort to develop an overlay district or zoning to regulate activities on private lands.

prepared sample entries describing ADF&G/Habitat and Restoration Division authorities and activities. Agency staff were then requested to comment on the format and provide the requested information (September 1994). WordPerfect 5.1 tables were used to document information.

2. *Complete Draft Table and Distribute to Agencies for Review:* ADF&G project staff completed and distributed a draft summary for agency review (December 1994). Reviewers were asked to verify accuracy and completeness.
3. *Summary Completed and Distributed to Interested Parties:* The first summary was completed and distributed in February 1995. Copies were sent to over 70 individuals from agencies and districts involved in Kenai River issues (see Appendix B for distribution). This includes all members of the KRPWG, the "contacts" in the summary (see Appendix A), and the participants in the Environmental Protection Agency's (EPA's) "Kenai River Watershed Interagency Coordination Group" (KRWICG).
4. *Request Comments on Summary:* Agencies were requested to update and comment on the table in May 1995. Project staff informally surveyed agencies and public recipients of the summary in person or by phone on the extent of use, utility of the table, what improvements could be made, and whether it should be updated. Project staff also sought agency input at the May 1995 meeting of the KRWICG sponsored by EPA.
5. *Complete Final Summary:* A final summary was prepared.

D. RESULTS

The final version of the summary table (July 27) for purposes of this report is included in Appendix A. A discussion of the process used to develop the summary, table contents, and the user survey is provided below.

Process

The table was an effective means to summarize agency authorities and activities. Agencies were cooperative and timely in providing assistance. However, the large quantity of information received and other tasks to complete this table required much more time than anticipated. Our goal was have the summary table be accurate and complete at the time of release. The level of agency interest in addressing Kenai River fish habitat issues is very high, which translates into a great deal of activity and change in agency activities. Schedules, contacts, project direction, or other aspects of ongoing projects changed frequently. New agency activities were added weekly. Activity changes and addition of many new projects made it very difficult to prepare an accurate, up-to-date summary. In addition, because of the dynamic nature of agency actions, the table was outdated soon after release. Any future efforts to update this summary, or some derivative thereof, on a routine basis should take these factors into account. Routine updates will require a significant commitment of staff time.

Summary Table Contents

A description of the contents of Appendix A is provided below.

Column 1: Agency and Division -- identifies the agency and division of that agency which has lead for the authority and activity descriptions that follow

Column 2: Authority or Activity Description -- brief description of authority or activity (limited to ongoing or imminent/funded projects)

Funding Source -- statement of primary funding source, not including the funding for in-kind services provided by cooperators or participating agencies

Cooperators -- listing of major cooperating entities, others may participate but these are the main participants

Contacts -- includes names and phone numbers of project leaders to provide a point of contact for additional information

Column 3: Milestones/Products/Dates -- includes a general description of project milestones, products that will result from the activity and the anticipated completion date

Column 4: Public/Agency Participation -- general description of opportunities for agency and public involvement

User Survey

The department surveyed over 20 individuals from the public and agencies to evaluate the utility of the summary table. We also polled the participants at a May 1995 meeting of the KRWICG. Agency and public response to this informal survey is summarized below.

1. Did you use the summary? If so, how? If not, why?

Most state, federal, and local indicated they used the summary. The summary table was used to identify state-funded agency activities and other agency grant projects, inform/educate new agency staff or policy makers on Kenai River projects and activities, and to assist in responding to questions from the public of what other agencies were doing and who to contact. The KPB provided copies of the summary to all members of the KPB Planning Commission and Assembly. One planning commissioner indicated he used the table extensively while another had not, but noted its usefulness in the future. The few agency staff who did not use the summary didn't use it because of the lack of time, familiarity with the document, or because they did not have the need to use the table because their responsibilities were narrow in focus. In all cases, agencies supported the concept and felt it was a worthwhile effort. While no one had a complete grasp of all agency activities, the table has greater utility for agency staff with limited responsibilities on the river. ADF&G Habitat and Restoration Division Kenai River permitting staff and

Alaska Department of Natural Resources (DNR), Department of Parks and Outdoor Recreation (DPOR) Kenai River Special Management Area had a better knowledge of the range of agency activities without the table.

Approximately two thirds of the interviewed public, including representatives of non-governmental organizations, had used the summary. The summary was used to identify and find phone numbers for agency contacts and to generally gain a better understanding of agency authorities and activities. Public users seemed to be more overwhelmed by the length of the summary and extent of activities. Since they did not have any specific authority or had limited time to be involved in the activities, the table included more information than they needed. Those not using the table had either lost it, did not have the time or interest to monitor or be involved in activities, and/or they were not familiar with its contents and potential utility. All favored the concept behind the summary and thought it was a worthwhile effort.

2. **Did you find the summary to be an effective and useful reference in describing agency authorities and activities? What changes, if any, should be made to the table?**

Both agencies and public users felt that the summary was an effective and useful reference source. A few agency contacts noted that it included the appropriate level of detail and information for the agencies, which either have specific authorities on the river or are involved in the Kenai River as part of their job. These agency contacts felt it contained too much detail for public users. However, the public users interviewed did not recommend substantive changes. Most users acknowledged the table as a reference document, and felt it addressed their basic information needs. Any modifications to the format should consider the target audience and purpose; however, specialized needs might be met through preparation of customized summaries to meet those needs.

3. **Do you think the table should be updated, and if so, how often?**

All individuals surveyed, including those which had not used the table, felt the summary table should be periodically updated. No one was aware of other vehicles to keep track of agency activities on the river. Recommendations for the update interval ranged from quarterly to annually, with most individuals indicating it should be updated semi-annually.

E. DISCUSSION/RECOMMENDATIONS

A clear understanding of agency authorities and activities is an essential prerequisite to development of an integrated program in the continuing assessment and management of cumulative impacts. Efforts of the KPB and the KRPWG to develop enforceable policies to protect the Kenai River illustrated how institutional barriers can frustrate efforts to manage and control cumulative impacts. This effort to summarize agency authorities and activities was undertaken in an attempt to provide some clarity. Concerns raised by public and agency participants of KRPWG was previously described in the preceding "Background" section of this chapter. The following discussion and recommendations are provided in the context of those concerns.

Agency Authorities: The summary helped many users gain a better understanding of agency regulatory and management authorities over activities in or adjacent to the Kenai River. The summary indicates that state and federal agencies have sufficiently broad and comprehensive authority to regulate and control activities on state and federal lands and waters that may affect Kenai River fish habitat. While state and federal agencies may not fully exercise their regulatory or management authorities, they could be invoked if there is enough public and agency interest and the funds to support it. A few KRPWG participants questioned whether enforceable policies of the KPB Coastal Management Plan would be implemented on public lands. We believe that state and federal agencies have the ability to implement the enforceable policies of a coastal plan on public lands and waters through existing management and regulatory authorities. The KPB has sufficient planning and zoning authority to regulate upland land use activities, but to date has not exercised that authority.

Agency Activities: The concern was raised at the KRPWG meetings that state and federal agencies need to "clean-up their act" and address habitat impacts on public lands before the impacts on private lands should be addressed. This concern was raised at numerous meetings, and acted as an impediment to policy discussions. Most recipients of the summary indicated the table helped clarify that agencies are undertaking substantial efforts beyond the issuance of permits to manage or control cumulative impacts on public lands.⁵ After reviewing the table, and learning more of these efforts through other means, most individuals surveyed were surprised by the number of activities and felt agencies were doing a good job with the means and resources available. A few others felt the agencies should be doing a lot more.⁶ In any event, the clarification of agency activities provided in this table should facilitate efforts in policy development.

Control of Activities on Private Lands: Efforts are underway by the KPB to develop an overlay district or zoning of activities on private lands (see Appendix A, KPB #3, page 30). Local review of activities on private lands, if developed and implemented by the borough, would play a critical role in a comprehensive approach to manage and control cumulative impacts. The outcome of this effort is in the hands of the borough.

Potential Overlap or Duplication of Effort: It was a challenging effort to understand and clearly document the authorities and activities of all agencies working for Kenai River fish habitat conservation and how they might interrelate. Based on our analysis, there is very little duplication of agency effort on the Kenai River. As previously described, the EPA organized the KRWICG with the intent of providing a forum for agencies to discuss and coordinate agency efforts on the Kenai River. The information exchange at this meeting may have helped to avoid agency duplication and enhance coordination.

⁵ Readers should note that the summary table does not identify all individual projects, but summarized the programs. For example, using EVOS settlement funds (see Appendix A, ADF&G/H&R #6, page 3), ADF&G has a program to purchase critical fish habitat and fund restoration projects. The summary describes this effort, but does not list the actual land purchase or demonstration projects.

⁶ This has lead to a state-federal summit meeting scheduled for November 1, 1995 (see Appendix A, FWS # 4, page 21).

Agency Coordination: There is general agreement among agencies, their staff, and the public that closer coordination is needed. However, there is little agreement on what form the additional coordination might take. Opinions range from development of a Kenai River interagency permit center to a recommendation that state and federal agencies relinquish their authority to a Kenai River "super agency" would have exclusive responsibility for the regulation and management of all Kenai River activities. The purpose of this study and report was not to reach consensus on this issue or even present an ADF&G position on this question. Instead, the purpose of this study provide is provide a better understanding of current government authorities and activities to provide a foundation for subsequent discussions on the issue of improved government management and regulatory actions on the Kenai River.

Several initiatives have been completed or are underway to improve agency permitting and coordination. To facilitate more timely approval of projects, state agencies developed several project descriptions with standard conditions to address Alaska Coastal Management Program (ACMP) consistency requirements.⁷ These "pre-ACMP approvals" have been established for certain bank restoration and protection projects, ladders and steps, floating docks, cantilevered walkways and platforms, and maintenance dredging. The state and KPB have also taken action to address these concerns through the establishment of a "Kenai River Center" (see Appendix A, KPB #4, page 31 and Appendix G, pages 4 and 5). The establishment of this public information and coordinated permit center is one of the avenues being discussed to facilitate coordination between the primary regulatory agencies on river.

To facilitate coordination and public involvement, a few KRPWG participants suggested that some form of Kenai River committee be established to provide some oversight to government agencies. Most of these KRPWG participants suggested a composition similar to the KRPWG (i.e., state, federal, and local government agencies with review, regulatory, or management authority; representatives from interest groups; and representatives from the public at large). The closest existing organization to this at present is the Kenai River Special Management Area (KRSMA) Advisory Board (see Appendix A, DNR/DPOR, page 11). This board has no directive authority over DNR or other agencies, and was established to *advise* to the DNR Commissioner on KRSMA plans and issues. Governor Knowles has proposed to "Revitalize [the] Kenai River Advisory Committee" to, in part, improve coordination among state resource agencies (see Appendix H).

⁷ Under the ACMP, these projects are referred to a "B List" or "general concurrence" projects. While the ACMP requirements for qualifying projects have been met, applicants still required to obtain permits from appropriate state and federal agencies.

The management structure, public-state-federal-local government-public process, and overall experiences of the Florida Keys National Marine Sanctuary (FKNMS) might be considered in discussions of coordination beyond the establishment of a Kenai River Center (see Appendix C). The FKNMS was established under federal statute to address many complex, multifaceted, and controversial water quality, fish and wildlife habitat, and other resource issues. A detailed state-federal-local-public coordination process was established through federal legislation to provide recommendations to state and federal agencies and establish a management plan. The process involves, in part, the establishment of: (1) an "Interagency Core Group," composed of federal, state, and local agencies with direct jurisdictional responsibility in the sanctuary was formed to direct and oversee the management plan process; (2) a "Strategy Identification Work Group," composed of local scientists and management experts, to generate initial strategies and implementation requirements; and (3) a "Sanctuary Advisory Council," composed public representatives, to ensure public input into the plan and advise and assist in implementation. Information of the FKNMS coordination and plan development processes is included in Appendix C. An independent, third-party evaluation of the operation and function of the "Sanctuary Advisory Council" is also included for reference. While the approach of the FKNMS may be too elaborate and costly for the Kenai River, the state may be able to learn from their experiences.

Summary Update/Maintenance: All individuals surveyed strongly supported the concept and purpose behind the summary table and felt it should continued to be updated. This summary was intended to be a reference document, addressing most of the agencies' and public's information needs. Most users suggested that the summary be updated and maintained in a similar form as an overall reference. Specialized needs could be met through preparation of customized summaries.



CHAPTER 3

Application of GIS/Database System

CHAPTER 3: APPLICATION OF GIS/DATABASE SYSTEMS

A. BACKGROUND

The methodology to assess the cumulative impacts of development and other uses on Kenai River fish habitat is described in detail in Liepitz (1994). The executive summary from that report is included in Appendix D. An ad hoc interagency group of fisheries scientists assisted in developing the methodology. Funding constraints forced the group to choose between (a) a broad-based/general cumulative impact assessment approach that would address the entire watershed and (b) a strategic/detail assessment approach that focuses on the core problem within a smaller geographic area. The group agreed that the core problem was the cumulative loss or degradation of critical chinook salmon rearing habitat on the mainstem of the Kenai River, and selected this as the focus of the cumulative impact assessment. Agencies felt that the assessment needed to be sufficiently detailed and comprehensive so as to: (1) clearly define the core problem and the causes and effects; (2) be persuasive to the public, agencies, and policy makers that the problem is significant and must be addressed; and (3) develop a tool that could be used in subsequent implementation and monitoring of cumulative impacts. The interagency group felt that a general assessment of the entire watershed or ecosystem would not accomplish this. The interagency group opted for the strategic/detailed approach.

The study area included all 67 linear miles of the Kenai River mainstem and the adjacent shorelands within approximately one-half mile of the river. It did not include the river's 37 major tributaries or the Trail Lake System. The impact assessment methodology incorporated a variety of assessment techniques including aerial photograph analysis, a field inventory and classification of habitat types and structures, and the development and use of GIS/database system. In cooperation with the KPB, a Kenai River GIS/database system was created for data management and analysis. This system is a central component of the impact assessment methodology, and enabled ADF&G to prepare extensive geographic and data analyses related to property ownership; habitat, vegetation, substrate, and cover types; habitat alterations from development and other uses; and habitat/impact modeling (e.g., see list of tables and figures from Liepitz 1994 in Appendix E). The GIS/database system was developed both to complete the initial cumulative impact assessment (as presented in Liepitz 1994), to function as a tool that could be used in evaluating the effects of projects, and to assist in the future assessment of cumulative impacts. While there was no funding commitment beyond the initial cumulative impact assessment, ADF&G developed a system that could be maintained and updated. Further evaluation indicated that additions to the system design would be necessary to make a fully functioning system to assess and manage cumulative impacts in the future.

B. PURPOSE

The overall purpose of this task is to explore the potential role of the Kenai River assessment approach and the corresponding GIS/database system in the long-term management of cumulative impacts. The goal is to recommend and outline the role to

this system to establish the needs and framework for implementation.

C. PROCESS

The process had four primary components:

1. *Conduct Preliminary Evaluation:* The first step was to review the assessment approach and GIS/database system from the perspective of system maintenance. It was anticipated that the this information management system would assist in future analysis and function as implementation tool for regulatory and management agencies. Project staff consulted with KPB staff, ADF&G permitting staff, and DNR/DPOR Kenai River Special Management Area staff to help clarify the issues, problems, and information management needs.
2. *Make Initial System Design Changes and Add Data/Geographic Information:* Based on the initial evaluation and discussions with agencies in 1 above, several information management needs and resulting changes to system design were identified. These system design changes were implemented in preparation for the interagency meeting with potential database users described in 3 below.
3. *Meet With Potential Database Users/Contributors and Identify General Approach* The department and KPB scheduled a meeting with all potential users of the database to assist in defining the applicability of the GIS/database system in the continued assessment of impacts and management of the river.
4. *Detail the Approach and Estimate Costs* Based on input from the May 5 interagency meeting, the ADF&G and the KPB outlined the steps to design and maintain a GIS/database system. However, funding is not currently available to fully implement the recommendations. This analysis represents a documentation of needs that could be used to secure funding and cooperation of other agencies to implement the recommendations.

D. RESULTS

This section outlines system development advisories (i.e., considerations that should be taken into account in developing a maintainable information management system) and the results of the preliminary system analysis, identification of initial system changes, and the meeting with potential database users and contributors.

System Development Advisories

ADF&G and KPB systems analysts provided several advisories or sideboards that should be considered in the design and development of a maintainable GIS/database system:

1. *Keep the System Small and Simple:* GIS/database systems should be kept small, simple, and manageable. Complex systems require additional staff and are difficult to maintain, costly to update, and eventually lose their effectiveness. With declining state and federal

revenues, it will be difficult to acquire long-term funding to keep complex systems current.

2. *System Must be Frequently Used:* Information management systems should address only priority information management needs to ensure the system will be frequently used. System design should be preceded with a clear definition of the problems and needs of users. The design should cater to the existing needs within the specified constraints and aimed at extending user acceptance.
3. *System Does Not Replicate Other Systems:* Information management systems should not replicate other local, state, federal agency information management systems. The design of GIS/database systems should be preceded by an evaluation of other agencies' information management systems. Duplication should be avoided and information sharing should be maximized. GIS/database systems should address unique needs that are not met by existing information management systems.
4. *Plan for System Maintenance:* The cost and commitment to maintain a system should be taken into consideration and planned for during system development or update. A system that is not periodically updated will fail to provide current information and consequently will not be used. The design of simple systems and establishment of funding and other agency commitments to update the system will provide a platform for continued use and long-term benefits.

The above criteria for system maintenance will provide for an effective, long-term information management system. ADF&G has considered these criteria in the evaluation of the use of Kenai River information management system in the continued assessment and management of cumulative impacts.

Preliminary Evaluation

The Kenai River GIS/database system is maintained on a SUN Workstation in the ADF&G Anchorage office. The department reviewed the assessment approach and GIS/database system from the perspective of system maintenance, future analysis, and implementation. The results of this initial review of the problems and information management needs is summarized below.

- *Data Collection and Analysis is Adequate* The initial cumulative impact assessment represented a comprehensive database and analysis. From ADF&G's perspective, future collection of this data and periodic analyses should provide an adequate indicator of overall success in controlling cumulative impacts. In addition, the impact analysis and associated modeling would provide a useful tool in project evaluation to determine the impact of one or more projects.
- *Design a System to Allow for Annual Reviews* The system should be designed to allow for annual reviews of changes to number of structures, habitat alterations, and changes in habitat units. Updates should be identified by year.

- *Remote Access to the Database* The primary users of the GIS/database system are expected to be ADF&G and DPOR. The KPB may also be a frequent user if they assert zoning and permitting authority through the development of a local ordinance. It was determined that a single, fixed location in Anchorage for GIS/database would not be adequate to meet the needs of permittees in the field or agency staff not located in Anchorage ADF&G office (e.g., both DPOR and KPB staff). Remote access to the database is needed to make full use of the information management system by agency staff. Notebook personal computers were identified at the appropriate means to provide remote access.
- *Photographs Should be Included in the Database* During the 1993/1994 Kenai River field surveys, one or more photographs were taken of each land parcel to complement the documentation of existing conditions and evaluation of changes over time. It was determined that the incorporation of digitized photographs in the database would be a valuable asset. Ready access to photographs, along with other information in the GIS/database would assist in future documentation of changes to parcels, reviews of proposed projects in the office, and the monitoring of permitted projects.
- *Minor Refinements to the GIS, Database, and System Design* In 1994, the GIS and associated databases were deemed adequate for purposes of initial cumulative impact assessment. Our review of the systems indicated that several minor refinements to geographic and database components are needed to address the primary needs of regulators and land managers. For example, modifications were needed to close polygons for all coverages, add new parcels, and add and verify parcel identifiers.
- *Permit Tracking System* A permit tracking system should be included as part of the Kenai River GIS/database system. At the onset, this should include permit tracking for the two principal permitting agencies, ADF&G and DPOR. If the KPB assumes permitting authority, this could be amended in the future to include KPB permits. More abbreviated information for required federal permits might also be included.

Initial Systems Design Changes/Add Data and Geographic Information

Efforts during first three quarters on this task were devoted primarily to making minor refinements to the Kenai River GIS/database system, scanning photographs, and transferring information to notebook personal computers. This involved the preparation of numerous programs for system maintenance, export of geographic and attribute data from the SUN workstation to a personal computer, and other needs to make the system fully operational and user friendly. This effort was necessary to prepare a framework and recommendations for discussion among potential database users and contributors.

Meeting with Database Users and Contributors

ADF&G met with potential users, contributors, and participants in maintaining the database on May 5, 1995. Representatives from the following agencies participated in the meeting: ADF&G, KPB, DNR/DPOR, U.S. Fish and Wildlife Service (FWS), U.S. Forest

Service/Chugach National Forest (FS), and the U.S. Environmental Protection Agency (EPA). The Nature Conservancy (TNC) and Natural Resource Conservation Service (NRCS) also participated in the meeting. A copy of the May 5 meeting agenda and list of participants are included in Appendix F.

The purpose of meeting was to: a) educate potential users on the Kenai River GIS/database system, b) verify the users/contributors of the database and the form of use/contribution, c) understand other agency information management systems, d) understand users data needs, and e) develop ideas or recommendations on changes or improvements to ADF&G's and KPB's GIS/database systems related to the Kenai River. ADF&G provided a brief overview and demonstration of the current system and how it could be used for the continued assessment and management of cumulative impacts. This presentation was followed by a discussion of user problems or issues, identification data and information management needs, expected and required system inputs and outputs, program implementation and feedback, and fiscal needs. A summary of the meeting and discussion is provided below.

Problem Definition The initial cumulative impact assessment addressed the alteration of chinook fish rearing habitat from shoreline development and other uses along the mainstem of the Kenai River. Meeting participants agreed that this remains the main problem affecting chinook salmon production in the Kenai River. However, several participants cautioned against the dangers of limiting the geographic coverage of impact assessment to a small portion of the Kenai River watershed. Some felt that key tributaries in the Kenai River watershed may also be experiencing stresses on fish habitat. A number of participants also noted that water quality degradation is a significant localized problem on the Kenai River; for example, water quality degradation has been documented below storm drains and the sewage outfall with the City of Soldotna.

Several other concerns were brought up under the topic of "problems" which actually represent information "needs." These are listed under the following section.

Data/Information Management Needs Numerous information management needs were identified that could potentially be incorporated into the Kenai River GIS/database system. These needs include:

- ***Increased Geographic Coverage*** The system should be expanded to include the Kenai River tributaries and associated wetlands. The type of information in the GIS/database (soils, vegetation, structures, habitat parameters, etc.) should be collected for the entire watershed. Expansion of the information management system should first address the more threatened tributaries. As appropriate, additional models would need to be developed for other salmonid species (i.e., sockeye, coho, and pink salmon; rainbow trout; Dolly Varden). There was group consensus that this is *the* top priority for expanding the database.
- ***Permit Monitoring System*** Several agencies expressed the need for a Kenai River permit monitoring system. ADF&G also believes this is important and has recommended it be developed.

- *Water Quality Information* There is very little water quality information available for the Kenai River system. Localized water quality problems have been identified where storm drains enter the river within the City of Soldotna. It was not felt that water quality information should be added the GIS/database system because so little data was available.
- *Better Information on Recreation Use* More information is needed on the effects of sockeye salmon bank fishing on chinook rearing habitat. A survey of bank fishing areas and numbers of bank fisherman during the sockeye fishery is currently underway (see Appendix A, ADF&G/SF #12, page 8). The GIS/database currently includes information on bank tramping. Modifications to the database would likely be made after completion of this study.
- *Wildlife Use of Riparian Habitats* A few participants felt that information on wildlife movement corridors (particularly brown bears, moose, and caribou) should be added to the database. While this information may be useful to some users, it is not directly related to fish habitat and was not prioritized for inclusion in the database.
- *Public Access Points, Septic System Location and Type, Location of Transportation and Utilities* The KPB indicated that this information is included in the borough's GIS/database system. Information could be obtained from the borough.
- *Fish Spawning and Rearing Areas* Several individuals indicated a need for site specific data. Very little site specific data is available on these subjects. Consequently, it was not felt that any modifications were needed.
- *Location of Core Timber Harvest and Spruce Beetle Affected Areas, Locations of Endangered Species* While this information is needed for some management and regulatory decisions, it was felt that other sources were adequate to obtain this information.

Most of the above information needs were related to the desire to develop a drainage-wide/more comprehensive cumulative impact assessment and information management system. Many other remaining information needs related more to the lack of information, rather than access to, or management of, the information. Group discussions also revealed that much of the information that is available and/or can be reasonably obtained through other sources is not directly related to protection of fish habitat, which is the focus of ADF&G's Kenai River GIS/database system. As the entity responsible for maintaining the system, ADF&G is concerned that the system would get too complex and expensive to maintain. With each added data comes an increase in time and expense to maintain the system. It also does not appear that this information would be used frequently.

System Design/Implementation/Feedback There was consensus within the group that ADF&G should continue to house and assume responsibility for maintaining the system. Few changes in system design were recommended. Most participants felt that the information in the system and outputs or analyses provided in Liepitz 1994 provided the essential information for the management of fish habitat. The few recommended changes

were related to the desire to better monitor and evaluate changes in fish habitat and uses and activities over time.

To update and maintain the system, ADF&G would need to undertake a cooperative effort with DPOR, KPB, and other agencies active on the river. The goal is to develop an efficient, cost effective approach to collect the needed data and update the system. Several agencies at the meeting indicated a willingness to assist in this effort. Some form of cooperative agreement and other formal documentation of the approach is needed for implementation. It is also likely that this approach would require additional funding.

Modifications to the existing program design would allow the preparation of annual and multiple year reports. To develop an integrated program, participants agreed that the problem statement, goals, models, and other analytical tools should be periodically revisited. No specific time period was agreed to but state, federal, and local agencies are undertaking a number of efforts to increase coordination.

Fiscal Needs No agencies had ready access to funding to assist in maintaining or otherwise revising the Kenai River GIS/database system. A few agencies had grant programs that might be used to support system maintenance. Agencies would have to apply on a competitive basis for these funds.

E. DISCUSSION/RECOMMENDATIONS

Based on the May 5 meeting and subsequent discussions with DPOR and KPB, it was concluded that the existing Kenai River database seems to satisfy the major user needs. Information on habitat types, structures, and other habitat alterations is sufficiently comprehensive to meet the primary regulatory, management, and other user needs. It appears that most other information needs are related more to the absence of information rather than to problems with information access and management. Other information is readily available through other sources, and several studies have been completed and others underway to synthesize available information and indicate where it can be obtained (see Appendix A, EPA #5, page 28). The benefits of expanding the database does not seem to outweigh the disadvantages associated with increased complexity and maintenance costs. Those desiring to expand the database were unable to guarantee long-term funding to revise the system or support system maintenance.

Maintenance of the current Kenai River GIS/database system is the top priority. The department has not yet secured funding to maintain the current system, and cannot entertain expanding the system until the existing system maintenance needs are met. With some modifications, the existing GIS/database system can play a very important role in the continued assessment and management of cumulative impacts. The department's analysis of role of the GIS/database is provided in Table 1. The summary has been divided into three sections: (1) *System Improvements*, which identifies the tasks or system changes desired to make a fully operational and maintainable GIS/database system; (2) *Routine System Maintenance*, which describes the recommended steps to update and maintain the system; and (3) *Priority For Future Expansion*, which describes the priority for future expansion once the maintenance needs of existing system for the Kenai River mainstem have been met.

The KPB, DPOR, and ADF&G are working together to establish a "Kenai River Center" (see Appendix A, KPB #4, page 31, and Appendix G, pages 4 and 5). As currently envisioned, the center would house ADF&G, KPB, and DPOR permitting staff in a central office in Soldotna. ADF&G's Kenai River GIS/database system would function as the primary information management system for this office. As needed, the KPB GIS/database system would assist in providing information included in that system but not included in the ADF&G system. As part of the NMFS grant, ADF&G has acquired funds to purchasing a notebook computer for field and office use and for making some of the system improvements (e.g., tasks A, B, part of C and D. Additional tasks may be addressed as the center is organized and if additional funds are acquired.

Table 1: Recommended tasks to update and maintain the Kenai River GIS/database system.

TASK	PROBLEM OR NEED/WORK DESCRIPTION	RESPONSIBILITIES/REQUIRED WORK	COST ESTIMATE
SYSTEM IMPROVEMENTS			
A. Permit Tracking System	A simple permit tracking system is needed to monitor activities requiring an ADF&G Fish Habitat, DNR/DPOR, KPB floodplain permit, and, if developed and approved by KPB, a borough KPB overlay/land use permit.	1. ADF&G Analyst Programmer - meet with permitting staff to finalize needs, write and test program. 2. ADF&G Habitat Biologist - assist programmer, participate in meetings and help design system	1. 5 wks/\$7.5K 2. 3 wks/\$1.5K
B. GIS/Database Cleanup	In FY95, several necessary operational enhancements to the system design need made to provide a fully operational or maintainable system (e.g., changes to get uniformity in parcel identifiers, add access information and information on federal lands and campsites, close all polygons, develop program to serialize parcel numbers by location, and develop a program to change parcel boundaries and ownership information).	1. ADF&G Analyst Programmer - programming 2. ADF&G Cartographer - serialize numbers and changes to parcels	1. 2 wks/\$3.0K 2. 3 wks/\$2.5K
C. Complete Photograph Inventory and Access System	Most photographs compiled as part of the initial cumulative impact assessment were scanned/digitized in FY95. Programs are needed establish photograph inventory tracking system by date, photographer, and other identifying criteria like storage location and subject matter. Additional programming is necessary to create instantaneous access to photographs in the GIS/database system using ArcInfo.	1. ADF&G Analyst Programmer - programming 2. ADF&G Cartographer or Technician - check photographs and data entry	1. 2 wks/\$3.0K 2. 8 wks/\$7.0 to \$10.0K

TASK	PROBLEM OR NEED/WORK DESCRIPTION	RESPONSIBILITIES/REQUIRED WORK	COST ESTIMATE
D. Develop System to Monitor Habitat and Structure Changes in Parcels	The system was initially designed to assess impacts for fixed point in time to complete the initial cumulative impact assessment (i.e., Liepitz 1994). System design changes are needed to monitor habitat and structure changes over time. Programs would be developed to automatically track additions, deletions, and other changes over time and produce annual reports. Data entry systems will be developed.	1. ADF&G Analyst Programmer - programming and meetings with GIS/database users to clearly establish needs 2. ADF&G Habitat Biologist - assist Analyst Programmer, establish data collection forms for updating the database	1. 5 wks/\$7.5K 2. 1 wk/\$1.5K
E. Staff Training	At present, only the ADF&G Analyst Programmer and the impact assessment project leader are the only staff fully trained on the use of the Kenai River GIS/database system. Other ADF&G permitting, DPOR Park Rangers, KPB planners, and other active GIS/database users will require training. ADF&G is often called upon to provide demonstrations and make presentations to various user groups and agencies. Training requests are likely to continue to pose significant demands on staff time.	1. ADF&G Analyst Programmer and/or Habitat Biologist - staff training and demonstrations (cost estimate for first year, costs should diminish in subsequent years after ADF&G and other database users are trained)	1. 4 wks/\$6.0K

TASK	PROBLEM OR NEED/WORK DESCRIPTION	RESPONSIBILITIES/REQUIRED WORK	COST ESTIMATE
ROUTINE SYSTEM MAINTENANCE NEEDS			
AA. <i>Update Database From Initial Cumulative Impact Assessment</i>	The survey data in the Kenai River GIS/database system is current to 1993 (end of field season for preparation of the initial cumulative impact assessment). The most cost effective means to do this would be review ADF&G and DPOR permits and work completed from 1993 to 1995 to determine changes in habitat and structures. Since not all habitat alterations documented in the Kenai River GIS/database system require a state permit, some alterations will not be detected by this approach. ADF&G permittees and DPOR park rangers familiar with the river would also attempt to identify habitat and structure changes for uses and activities which do not require a state permit. It was recommended the data be updated by early 1996.	1. ADF&G Habitat Biologist - review permit files and complete update forms 2. DPOR Park Ranger - review permit files and complete update forms 3. ADF&G Clerical or Technician - data entry	1. 6 wks/\$7.5K 2. no estimate available 3. 2 wks/\$1.5K
BB. <i>Subsequent/Annual Updates</i>	Once the GIS/database is updated in AA above, a routine system for updates should be implemented. Agencies recommended that permittees, park rangers, and other agency or local government staff active on the Kenai River should update forms when permitted projects are completed. Also, other habitat and structure changes not requiring a permit should be observed and documented. A memorandum of agreement, letter of agreement, or other less formal agreement among participants in this effort should be considered.	1. ADF&G Habitat Biologist - complete required forms to update database 2. DPOR Park Ranger - complete required forms to update database 3. KPB and Other Agency Staff - complete required forms to update database 4. ADF&G Clerical or Technician - data entry	1. 3 wks/\$3.0K 2. no estimate available 3. " 4. 2 wks/\$1.5K

TASK	PROBLEM OR NEED/WORK DESCRIPTION	RESPONSIBILITIES/REQUIRED WORK	COST ESTIMATE
CC. <i>Comprehensive Review and Field Surveys</i>	The efforts described in AA and BB above will help this review by updating the GIS/database system, but will not be comprehensive. Agencies suggest that comprehensive review be completed every five years. These efforts are not likely to be comprehensive (particularly for those uses or habitat alterations that do not require a state, federal, or local permit). Cost could be minimized the through use and development of new technologies using aerial photographs.	1. ADF&G and DPOR Staff and Support - a comprehensive review would likely be completed by ADF&G and DPOR	1. no cost estimate available
DD. <i>Respond to GIS/ Database Inquiries</i>	The ADF&G, DPOR, and KPB are the primary users of the database and will maintain a copy of the database on a notebook personal computer. Other state and federal agencies and interest groups indicated that they do not currently have a need to have GIS/database system but would like the opportunity to make periodic inquiries. Responding to inquiries requires significant ADF&G staff time and would be limited to allocated time.	1. ADF&G Analyst Programmer and/or Cartographer - respond to agency, legislative, local government, and interest group inquiries of the database	1. 4 wks/\$6.0K per year

TASK	PROBLEM OR NEED/WORK DESCRIPTION	RESPONSIBILITIES/REQUIRED WORK	COST ESTIMATE
PRIORITY FUTURE EXPANSION			
<i>Increase Geographic Coverage to Include Kenai River Watershed</i>	A strategic/detailed cumulative impact assessment approach to evaluate the cumulative impact of uses on the mainstem of Kenai River. At the May 1995 interagency meetings, the top priority for expanding the GIS/database system to evaluate fish habitat and document habitat alterations on the tributaries of the Kenai River watershed (these were not included in the initial cumulative impact assessment). If funding is not available to assess the entire watershed, priority should be given to those drainages with significant private ownership or public lands subject to adverse habitat alteration from development or other uses. Chinook salmon would not be a appropriate indicator species in the tributaries of the Kenai River, which are used more extensively for rearing by other salmonid species. HEP models would need to be developed for other key or indicator salmon species in the Kenai River tributaries.	1. ADF&G and DPOR Staff and Support - agency project staff and support for expanding the cumulative impact assessment to the Kenai River tributaries; field surveys would be complemented with aerial photography interpretive techniques to reduce cost	1. 150K to 300K depending of study design, number of tributaries included, and other factors



CHAPTER 4

Conclusion and Recommendations

CHAPTER 4: CONCLUSION AND RECOMMENDATIONS

The goal of the second task was to develop recommendations for an integrated approach to continue to assess, manage, and control cumulative impacts. Williamson (1993) recommended an approach to cumulative impacts assessment and management planning which includes integration among various interests. This approach includes four phases, summarized by Williamson as follows:

(1) in the scoping phase, define the ecological situation in specific terms of individual problem statement and select one strategy for each problem; (2) in the analysis phase, investigate and document the problems and their causes in detail using the best available data and analytical tools and then set several goals; (3) in the interpretation phase, develop and document options, estimate changes using mathematical models, and develop a plan; and (4) in the direction phase, implement and incrementally improve the management plan and systematically evaluate, improve, and update the problem statements, data, analytical tools, and mathematical models.

The cumulative impact assessment—steps 1 and 2—was addressed in the first two years of the project. The results of the assessment are documented in Liepitz (1994). Most aspects of step 3, the interpretation phase, have been completed (e.g., modeling) or are ongoing (e.g., developing solutions, or policies). This report deals more with step 4—the direction phase—to look at implementation and future efforts to evaluate, improve, and update the problem statements, data, analytical tools, and models. If we are to be effective in controlling cumulative impacts, we must have a good understanding of agency authorities and activities and then develop and implement a means for continuing assessment and reevaluation.

This project focused on (1) developing a clear understanding of federal, state, and local agency authorities and activities related to protection, maintenance, and restoration of fish habitat in the Kenai River watershed and (2) evaluating the role of the KPB and ADF&G GIS/database systems in the continued assessment and management of cumulative impacts. Our concluding recommendations regarding these two areas are outlined below.

Agency Authorities and Activities

Agency regulatory and management authorities over the Kenai River are fairly static, whereas the activities and projects to implement those authorities, due to great deal of interest in the Kenai River, changes frequently. An effort to periodically review, monitor, and summarize agency activities, for the benefit of both governmental agencies and the public, should be undertaken. We suggest a summary, similar to that provided in Appendix A, be updated and distributed at least semi-annually. This summary has been effective in both informing the agencies and public of agency activities, how they can be involved, and where they can go for additional information. A summary will also help ensure that agency activities complement, not duplicate one another.

A number of public and agency participants in the May 5 meeting on the Kenai River GIS/database system suggested that agency coordination and public communication on Kenai River issues could be improved. The large number of agency activities on the Kenai River supports the need to take a closer look at agency coordination. Additional coordination and integration of agency activities could direct limited funds to the best use for the benefit of fish habitat and production. Federal and state agencies and the KPB should collectively evaluate options regarding interagency coordination. ADF&G and KPB have allocated funds in FY96 toward the establishment of a "Kenai River Center" to provide information to the public and function as single point of contact for acquiring state and borough permits. The establishment of this office will likely address many of the coordination needs. However, it must be emphasized that establishment of this office and additional coordination efforts, if any, will require additional staff and funding beyond existing levels.

Kenai River GIS/Database System

ADF&G's Kenai River GIS/database system was established as the central information management system for the initial cumulative impact assessment. It was our intent that this be a dynamic system that would continue to be updated and respond to user needs, and assist in the ongoing assessment, management, and control of cumulative impacts. In cooperation with KPB and other potential users, the department conducted a thorough evaluation of the system and developed recommendations on how we could maintain and update the system. It was agreed that the ADF&G's Kenai River GIS/database system should function as the primary information management system for the future assessment and management of cumulative impacts from development and other uses affecting Kenai River fish habitat. This evaluation has identified potential changes to the system design and provided estimates of staff and associated costs to collect information and routinely update the system. The production of periodic progress reports assessing our progress on control of cumulative impacts would also be helpful to managers and the public.

The recommendations in Chapter 4, Table 1, should be considered a start in defining the maintenance needs of the Kenai River GIS/database system. We recommend ADF&G, DNR/DPOR, and KPB consider these recommendations in formation of the Kenai River Center and subsequent efforts to secure funding for long-term operation of the center and the maintenance of this Kenai River information management system. Agreements should be developed among the key agencies to assist in data collection and maintenance of the Kenai River GIS/database system.



LITERATURE CITED

Dorava, J. *In Press*. Hydraulic characteristics near streamside structures along the Kenai River, Alaska. Water-Resources Investigation Report. U.S. Geological Survey, Anchorage, Alaska

Fink, M., C. Rozen, and G.A. Seaman. 1994. Non-regulatory mechanisms for habitat protection. Alaska Department of Fish and Game, Anchorage, 27 pp plus appendices

Isaacs, J., L. Moore, N. Wainwright. 1994. Kenai River fish habitat cumulative impacts project: report to the Policy Working Group and the Kenai Peninsula Borough. Printed by Kenai Peninsula Borough, Soldotna, Alaska 28pp plus appendices

Liepitz, G.S. 1994. An assessment of the cumulative impacts of development and human uses fish habitat in the Kenai River. Tech. Rpt. 94-6, Alaska Department of Fish and Game, Anchorage, 63pp plus appendices

Tremaine, R. 1994. A socioeconomic assessment of Kenai River fish production on the regional economy. Printed by Kenai Peninsula Borough, Soldotna, Alaska. 24pp plus appendices

Williamson, S.C. 1993. Cumulative impact assessment and management planning: lessons learned to date. *In Environmental Analysis: The NEPA Experience*, pages 391-407, CRC Press, Inc., Boca Raton, Florida

APPENDIX A

SUMMARY OF AGENCY FISH HABITAT-RELATED AUTHORITIES AND ACTIVITIES IN THE KENAI RIVER WATERSHED, ALASKA

JULY 1995

LIST OF ACRONYMS

AS	Alaska Statute(s)		
ACMP	Alaska Coastal Management Program		
ADF&G	Alaska Department of Fish and Game		
Adv. Bd.	Kenai River Special Management Area Advisory Board		
ANCSA	Alaska Native Claims Settlement Act		
AS	Alaska Statute(s)		
BLM	Bureau of Land Management		
CFMD	Commercial Fisheries Management and Development Div.		
CFR	Code of Federal Regulations		
CIRI	Cook Inlet Region Incorporated		
Corps	U.S. Army Corps of Engineers		
CWA	Clean Water Act		
CZMA	Coastal Zone Management Act		
DCRA	Alaska Department of Community and Regional Affairs		
DEC	Alaska Department of Environmental Conservation		
DGC	Division of Governmental Coordination		
DJ/WB	Dingell-Johnson/Wallop-Breaux		
DM&W	Division of Mining and Water		
DNR	Alaska Department of Natural Resources		
DOF	Division of Forestry		
DO&G	Division of Oil and Gas		
DOI	U.S. Department of the Interior		
DOL	Division of Land		
DOT&PF	Alaska Department of Transportation and Public Facilities		
DPOR	Division of Parks and Outdoor Recreation		
EA	Environmental Assessment		
EIS	Environmental Impact Statement		
EPA	Environmental Protection Agency		
EVOS	Exxon Valdez oil spill		
FHA	Federal Highway Administration		
FMP	Fishery Management Plan or Forest Management Plan		
FS	U.S. Forest Service		
FWS	U.S. Fish and Wildlife Service		
GIS	Geographic Information System		
H&R	Habitat and Restoration Division		
HabPro	Kenai River Habitat Protection Program		
HB	House Bill		
HEP	Habitat Evaluation Procedure		
HWG	Habitat Working Group		
ISTEA	Intermodal Surface Transportation Efficiency Act		
KAP	Kenai Area Plan		
KPB	Kenai Peninsula Borough		
KRCAC	Kenai River Citizens Advisory Council		
KRSMA	Kenai River Special Management Area		
KRWG	Kenai River Working Group		
KRWICG	Kenai River Watershed Interagency Coordination Group		
KSWCD	Kenai Soil and Water Conservation District		
MOU	Memorandum of Understanding		
MRCRC	Marine Recreation Citizens Review Committee		
N/A	Not Applicable		
NBS	National Biological Survey		
NEPA	National Environmental Protection Act		
NMFS	National Marine Fisheries Service		
NOAA	National Oceanic and Atmospheric Administration		
NPDES	National Pollutant Discharge Elimination System		
NPS	National Park Service		
NRCS	Natural Resources Conservation Service (formerly the Soil Conservation Service)		
NWR	National Wildlife Refuge		
PL	Public Law		
PUMP	Public Use Management Plan		
R&H	River and Harbors		
RCD	Resource Conservation District		
ROW	Right(s)-of-Way		
SB	Senate Bill		
SCS	Soil Conservation Service		
SF	Sport Fish Division		
TNC	The Nature Conservancy		
USDA	U.S. Department of Agriculture		
UKRPT	Upper Kenai River Planning Team		
USGS	U.S. Geological Survey		

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
STATE GOVERNMENT			
ADF&G Habitat and Restoration Division	(1) <u>Regulatory Authority -- Title 16 Permitting.</u> - ADF&G issues Fish Habitat Permits that may prevent free and unobstructed movement of any fish species. For waters that support <u>anadromous</u> fish, the department must evaluate effects of projects on spawning, rearing, and migration habitats. Examples of projects requiring permits include stream bank protection and stabilization, dock construction, installation of bridges and culverts, crossing streams, and instream dredging and debris removal. - Monitor and enforce Title 16 permit requirements. Funding Source -- General funds Cooperators -- Other divisions in ADF&G Contacts -- Gay Muhlberg and Stewart Seaberg (ADF&G) @ 267-2284	Permits Issued as Required	(a) For projects on the ACMP A-list (categorically consistent) or B-list (general concurrence) there is no formal interagency/ public review process; for C-list (individual reviews) the 6 AAC 50 process applies (permits also public noticed)
	(2) <u>FY95 Kenai River 309/Task 1.</u> Evaluate the hydrological effects of man-made structures on Kenai River physical processes and fish habitat parameters (i.e., water velocity, substrate, cover) Funding Source -- Section 309 of the CZMA Cooperative -- USGS Contact -- Gary Liepitz (ADF&G) @ 267-2281	(a) <u>Conduct Research:</u> ADF&G Habitat Biologist and USGS Hydrologist; completed with exception of low water evaluation (b) <u>Draft Research Report:</u> estimated completion 5/95 (c) <u>Final Report:</u> estimated completion and availability (i.e., printed) 8/95	(a) N/A (b) N/A (c) Print and distribute to public and agencies
	(3) <u>FY95 Kenai River 309/Task 2.</u> Develop recommendations for the continued assessment and management of cumulative impacts (this table and report is a product of this task) Funding Source -- Section 309 of the CZMA/ADF&G Cooperators -- KPB, state and federal agencies Contacts -- Glenn Seaman (ADF&G) @ 267-2331; Harriet Wegner (KPB) @ 276-4441	(a) <u>Summarize Agency and Non-governmental Activities and Authorities:</u> preparation of this table, summary of current, scheduled, and proposed projects; updated periodically (b) <u>Evaluate Role of Kenai River GIS/database System on the Continued Assessment:</u> evaluate role in coordination with other agencies and KPB (c) <u>Report Available:</u> estimated completion and availability 8/95	(a) Available on request (b) Utilize existing groups for public review (c) Report available on request

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(4) Phase II--ADF&G-EPA Public Outreach Project/FY95. Goals of project are to: • To provide to watershed residents, business owners, and recreational users information on the watershed components' natural history and habitat values. • To familiarize watershed property owners and recreational users with the range of riparian and wetland habitat protection tools available to them. • To present feasible and cost effective methods to protect and /or restore riparian and wetlands habitat. • To provide hands-on demonstration materials , including plants, materials used for bioengineering projects, models of elevated walks, coir, earth anchoring devices, and associated hardware, as well as diagrams and photos. • To familiarize attendants with the permitting system required for many bank and wetlands projects. • To promote a sense of watershed stewardship and a willingness to actively participate in large and small watershed conservation activities. Funding Sources -- EPA Grant; SB 183 Cooperators -- State, local, and federal agencies, non-profit groups, landowners, business, and recreational users interested in Kenai River watershed conservation Contact -- Lance Trasky (ADF&G) @ 267-2342	(a) <i>Present wetland habitat protection methods and materials:</i> hold seven weekly evening presentations lasting from one to two hours, with course-specific demonstration materials, poster sessions, displays, and course-specific handouts (b) <i>Produce streambank habitat restoration/ protection manual and one-page diagram:</i> revise and expand the 1985 stream bank revegetation information by incorporating new bioengineering, revegetation, and plant handling and identification techniques by 1/96 (c) <i>Provide watershed conservation information through Public Service Announcements (PSA's) and a video:</i> products will include information on streambank restoration measures, bank angling and boating etiquette and examples of prime salmon rearing habitat (completed)	(a) N/A -- completed (b) Video will be available to libraries, schools, and will be used in public meetings (c) N/A

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(5) <u>SB183/3 Million Appropriated to ADF&G (also see 3 above).</u> - Funds for restoration and protection of services and species in the Kenai Watershed that were injured in EVOS (e.g., commercial and sportfishing, pink salmon, sockeye salmon, bald eagles). - Funds are used for purchase of Kenai River waterfront lands important for the production of the Kenai River, habitat protection/restoration demonstration projects, establishment of conservation easements and associated land trusts, preparation of education materials. Funding Source -- SB183 Cooperators -- FWS, DPOR, landowners Contacts -- Lance Trasky (ADF&G) @ 267-2342; Kathrin Sundet (ADF&G) @ 267-2295	(a) <i>Ranking of Lands for Purchase:</i> prepared by ADF&G with input from see 3(c) above, completed summer of 95 (b) <i>ADF&G Citizens Committee:</i> establish Kenai River Citizens Advisory Committee (KRCAC) of 11 citizens to provide public input in the land purchase selection process; meeting held as needed (c) <i>Initial Land Selection:</i> summer of 95 (d) <i>Negotiation:</i> fall of 95 (e) <i>Small Scale Public Demonstration Project Process:</i> projects selected to allow work to completed by fall 96 (f) <i>ADF&G Public/Leased Site Protection and Restoration:</i> plans in development to undertake habitat protection and restoration projects on ADF&G public and leased sites, completed summer 96	(a) available upon request (b) N/A (c) NA (d) N/A (e) In cooperation with DPOR, FWS, and landowners (f) In cooperation with DPOR and FWS
	(6) <u>EVOS Small Parcel Acquisition Program.</u> Purchase small land parcels (less than 1000 acres) important to the resources and the services that were injured in the EVOS. Focuses on key habitats (e.g., very important/critical fish and wildlife habitats) and strategic parcels (e.g., important access sites or enhancement opportunities). Funding Source -- EVOS Cooperative -- DOI Contact -- Mark Kuwada (ADF&G) @ 267-2277 or 278-8012	(a) <i>Accept Nominations:</i> nomination update process ongoing (a number of nominations received for Kenai River watershed) (b) <i>Evaluate and Score Nominations:</i> Habitat Work Group (HWG) evaluation ongoing (c) <i>Trustees to Review Nominations:</i> Trustees to decide which parcels to pursue, request appraisals, and negotiate; ongoing (d) <i>Initiate Appraisals:</i> through 95 (e) <i>Purchase Lands:</i> summer 95 through 96	(a) N/A (b) HWG includes ADF&G, DNR, FS, and DOI (c) Comments solicited, public hearing at Trustees' meeting (d) N/A (e) N/A

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(7) <u>HB306/Riparian Tax Incentive Program.</u> • Municipalities along the Kenai River may establish a tax incentive for: (1) protecting the Kenai River or a tributary from degradation of fish habitat due to public or private uses or (2) restoring riparian fish habitat along or in the Kenai River and tributaries that has been damaged by land use practices. • ADF&G must certify the project protects or restores habitat; criteria will be established in local ordinance. Funding Source -- None secured yet Cooperators -- KPB (see KPB #5) Contacts -- Bill Evans (KPB) @ 262-4441; Lance Trasky (ADF&G) @ 267-2342	To be Developed (ordinance to be developed by KPB)	To be Developed
	(8) <u>NMFS \$1 Million Grant.</u> • The state will receive \$926,000 NMFS grant for the Kenai River drainage to protect and restore fish habitat. Proposed projects include: (1) establishment of a Kenai River Center to provide information on the Kenai River, accept permit applications, help determine permit applications and provide technical assistance, and generally assist the public in designing means and methods to protect the watershed; (2) prioritize restoration projects on public lands; (3) fund fish habitat protection and restoration demonstration projects on private lands; (4) fund fish habitat restoration projects on public lands; (5) identify plant selection and harvest sites for restoration projects; and (6) study the mechanics of accelerated erosions from boat wakes and develop recommendations to protect fish habitat from such erosion.¹ Funding Source -- NMFS Cooperators -- ADF&G, federal agencies, local governments, interest groups Contact -- Lance Trasky (ADF&G) @ 267-2342	(a) <i>Work Plan Submitted to NMFS:</i> 6/95 (b) <i>Receipt of Funding:</i> 8/95 (c) <i>Initiate Planning for Habitat Protection and Restoration Projects:</i> fall 95	Appropriate agency and public involvement to be developed (too early in the process to determine public involvement opportunities.

¹ An abbreviated summary of the NMFS grant proposal/work program is included in Appendix G of this publication. Refer to Appendix G for a more detailed description of these tasks.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
BOARD OF FISHERIES	(1) <u>Board of Fisheries Authority to Allocate and Protect Kenai River Fish Stocks.</u> The Board members are appointed by the Governor for overlapping terms of three years. The Board of Fisheries has authority to conserve fish and allocate portions of fish stocks among users. The Board usually relies on methods, means, escapement, timing, and area rules and conditions to allocate and conserve fisheries. (See ADF&G SF and CFMD #15, page 8). Funding Source -- General funds Cooperators -- public, commercial and sport fishing interests, landowners, businesses, local governments, federal government, ADF&G, DPOR Contact -- Larry Engle, Chairman of the Board @ 745-4132.	(a) <i>Board of Fisheries Meeting:</i> Scheduled to address Kenai River issues during it's 1/96 meeting	(a) The Board of Fisheries holds public meetings and takes testimony from citizens and interest groups
ADF&G Sport Fish Division and Commercial Fisheries Management and Development Division	(1) <u>Management Authority - Opening and Closing Commercial and Sport Fishing Seasons.</u> SF and CFMD are delegated the Commissioner's authority to open and close fisheries as necessary to reach escapement goals established by the Board of Fisheries. Funding Sources -- General funds and DJ/WB funds Cooperators -- Board of Fisheries, commercial and sport fishing interests Contacts -- Dave Nelson and Paul Ruesch (ADF&G) @ 262-9368	(a) <i>Emergency Orders:</i> issued as necessary (b) <i>Annual Management Reports:</i> prepared by February 1 annually (c) <i>Board of Fisheries Meetings:</i> address Kenai River issues every third year	(a) Information made available on a daily basis by phone (b) Reports available upon request (c) The Board of Fisheries holds public meetings and takes testimony from citizens and interest groups
	(2) <u>Sockeye Enumeration Studies.</u> CFMD maintains a sonar to count red salmon adults entering the Kenai River. Funding Source -- General funds Cooperative -- SF Contact -- Ken Tarbox (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> during June-August (b) <i>Annual Report:</i> prepared six to eight months after field season	(a) Data available daily to public (b) Report available upon request

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(3) <u>Chinook Assessment Studies.</u> SF maintains a sonar to count king salmon entering the Kenai River, conducts a creel survey to estimate fishing effort and samples fish caught for age composition. Information is used to estimate total return by age and spawning escapement. Funding Source -- DJ/WB funds Cooperative -- CFMD Contact -- Steve Hammarstrom (ADF&G) @ 262-9368; Debby Burwen (ADF&G) @ 267-2218	(a) <i>Field Operations:</i> during May-August (b) <i>Annual Reports:</i> published in Fishery Data Series six to eight months after field season	(a) Data available daily to public by phone (b) Report available upon request
	(4) <u>Sockeye Age Composition Study.</u> CFMD conducts sampling studies of returning adult red salmon to determine the age structure, weight, and size of Kenai River red salmon. Funding Source -- General funds Cooperative -- SF Contact -- Ken Tarbox (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> Fishwheel used to capture salmon daily June-August (b) <i>Annual Report:</i> prepared six to eight months after field season	(a) Data available daily to public by phone (b) Report available upon request
	(5) <u>Investigations of Sockeye Rearing Conditions in the Kenai River.</u> CFMD conducts investigations of physical conditions and biological factors to determine the rearing conditions for sockeye in the Kenai River system. Funding Source -- EVOS Cooperative -- SF Contact -- Ken Tarbox (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> from April-November (b) <i>Annual Reports:</i> prepared six to eight months after field season (c) <i>Future Studies:</i> scheduled to continue through 1997	(a) N/A (b) Annual report prepared by March available upon request (c) N/A
	(6) <u>Coho Assessment Tagging Study.</u> SF tags juvenile coho to determine extent of commercial fish interception and enumeration of escapement of adults into the Kenai River. CFMD samples the commercial fishery. The information is used to estimate total harvest. Funding Source -- DJ/WB funds Cooperators -- SF, CFMD Contact -- Jay Carlon (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> from April-September (b) <i>Annual Report:</i> published in SF fishery Data Series six to eight months after field season	(a) N/A (b) Report available upon request

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(7) <u>Russian River Sockeye Weir Study.</u> SF operates a weir to enumerate adult sockeye returning to the Russian River, conducts a creel survey to estimate harvest and effort. Information is used to estimate total return by age and spawning escapement. Funding Source -- General funds Cooperative -- SF Contact -- Larry Marsh (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> from May-October (b) <i>Annual Report:</i> published in SF Fishery Data Series six to eight months after field season	(a) Data available on a daily basis by phone (b) Report available upon request
	(8) <u>Sockeye Limnology Studies.</u> CFMD conducts limnology studies in Skilak and Kenai lakes to determine rearing conditions for rearing red salmon. Funding Source -- General funds Cooperative -- SF Contact -- Dana Schmidt (ADF&G) @ 262-8369	(a) <i>Field Operations:</i> from April-November (b) <i>Annual Report:</i> prepared by March following year (c) <i>Future Studies:</i> scheduled to continue through 1997	(a) N/A (b) Report available upon request (c) N/A
	(9) <u>Russian River Sockeye Studies.</u> CFMD studies the limnology of the Russian River system and monitors the magnitude of sockeye fry out-migrating the Russian River. Funding Source -- General funds Cooperators -- SF Contact -- Bruce King (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> from May-September (b) <i>Annual Report:</i> prepared by March (c) <i>Future Studies:</i> scheduled to continue through 1997	(a) N/A (b) Report available upon request (c) N/A
	(10) <u>Sockeye Genetic Research.</u> CFMD investigates the genetic differences of returning adult red salmon. This information allows for more precise management of sockeye sub-populations. Funding Source -- General funds Cooperative -- SF Contact -- Ken Tarbox (ADF&G) @ 262-9368	(a) <i>Field Operations:</i> from July-October (b) <i>Annual Reports:</i> prepared by March (c) <i>Future Studies:</i> scheduled to continue through 1997	(a) N/A (b) Report available upon request (c) N/A

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(11) <u>Outreach Activities.</u> • SF and CFMD staff present programs on water quality, environmental protection, and fish harvest allocations in community schools. • CFMD participates in monitoring water quality and fish populations in Slikok Creek, a tributary to the Kenai River. Funding Source -- General funds, DJ/WB funds Cooperators -- ADF&G, DEC, FWS, local governments, KPB schools Contact -- Ken Tarbox, Dave Nelson, and Mary King (ADF&G) @ 262-9368	(a) <i>Community School Presenters:</i> ongoing (b) <i>Adopt-A-Stream Program:</i> Slikok Adopt-A-Stream program begins in 1990, receives FWS conservation award in 1993	(a) Staff available upon request as time permits (b) N/A
	(12) <u>Sockeye Sport and Personal Use Harvest Studies.</u> • SF conducts fishery surveys of sport fish and personal use fisheries to estimate harvest. Funding Source -- DJ/WB funds Cooperators -- personal use and sport fishers Contact -- Kevin Delaney (ADF&G) @ 267-2226	(a) <i>Annual Report:</i> published in SF Fishery Data Series	(a) Report available upon request
	(13) <u>Kenai River Access Program.</u> • Federal law mandates that 12.5% of DJ/WB funds be used to provide power boating access. The most current projects are acquisition of the Sportsman's Lodge, The Pillars, and the Cooper Landing launch. (also see DOT&PF project #3 on page 16) Funding Source -- DJ/WB and DOT&PF funds Cooperators -- FWS, FS, CIRI, DPOR, ADF&G Contact -- Kelly Hepler (ADF&G) @ 267-2195	(a) <i>Sportsman Lodge is Scheduled for:</i> design completion by fall 1995. Construction is tentatively scheduled for 1996. (b) <i>The Pillars is Scheduled for:</i> permitting in early 1995. Construction is slated for 1995. Open to the public in 1996. (c) <i>The Cooper Landing Launch is Scheduled for:</i> Land purchase is slated for early 1995. Design and construction tentatively slated for 1996.	All three projects are reviewed by the UKRPT (see DNR/DPOR #5, page 12). Public and agency review through public notice and state ACMP process.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(14) <u>Upper Kenai River Rainbow Trout Study.</u> Study will provide information on population size and age composition for rainbow trout harvested between Skilak and Kenai Lake. Funding Source -- General funds Cooperators -- CFMD, Board of Fisheries, sport fishing interest groups, and FWS Contact -- Susie McCarron (ADF&G) @ 267-2164	(a) <i>Field Operations:</i> during May-September (b) <i>Annual Report:</i> prepared by 12/15/95 (c) <i>Report Findings to Board of Fisheries:</i> to be presented at 1/96 meeting	(a) N/A (b) Report available upon request after 12/15/95 (c) The Board of Fisheries holds public meetings and takes testimony from citizens and interest groups
	(15) <u>Task Force to Study Angler Impacts on Fish Habitat.</u> The Board of Fisheries requested ADF&G to organize a technical task force to identify and review regulatory options to protect the Kenai River fish habitat while allowing a sustainable sockeye fishery in the Kenai River. The task force will have representatives from ADF&G, DPOR, and FWS. Funding Source -- General funds Cooperators -- KPB, Cities of Soldotna and Kenai, sport fish organizations, landowners, commercial fish organizations, ADF&G, FWS, FS, DPOR Contact -- Doug Vincent-Lang (ADF&G) @ 267-2353	(a) <i>Field Operations:</i> Identify Kenai River bank areas to identify areas impacted by 9/95 (b) <i>Identify, Review, and Select Management Options:</i> The task force will formulate a set of recommendations after consultation with Cooperators and landowners by 12/95 (c) <i>Present Report to Board of Fisheries:</i> ADF&G will present report to Board of Fisheries meeting during its 1/96 meeting.	(a) N/A (b) Report available upon request (c) The Board of Fisheries holds public meetings and takes testimony from citizens and interest groups

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
ADF&G Commissioners Office	(1) <u>Facilitated Discussions on Upper Cook Inlet Fisheries</u> ADF&G will contract with third-party facilitator to: (a) gather and analyze information and identify additional information needed to improve fisheries management in Cook Inlet and Kenai and Susitna drainages; (b) facilitate discussions with all user groups, citizens and local governments to develop ideas and options related to fish habitat, escapement, personal use, and fisheries maintenance; and (c) prepare recommendations for the boards.² Funding Source -- General funds Cooperators -- ADF&G Divisions Contact -- Rob Bosworth, Deputy Commissioner (ADF&G) @ 465-4100	This effort is still in the formative stages. Milestones, products, and schedules will be developed in the near future.	Public involvement process will be developed
DEC	(1) <u>Regulatory Authority - Waste Water Disposal and Water Quality.</u> - Enforces water quality laws and regulations for all discharges into the Kenai River. - DEC comments on water quality permits issued by the Corps under section 10 and section 404. Funding Source -- General funds Cooperators -- KPB, ADF&G, FWS, local governments Contact -- Scott Forgue (DEC) @ 262-5210	Ongoing	(a) Public comments and public hearings on proposed permits
	(2) <u>Public Outreach - Pollution Prevention.</u> DEC provides advisory information to private and government organizations to promote reduction of wastes and pollutants into the Kenai River and the watershed. Funding Sources -- State, federal, and private funds Cooperators -- KPB schools, KPB, local governments, local industries and businesses, local recycling organizations, Green Star program Contact -- Dave Wigglesworth (DEC) @ 563-6529	Ongoing	(a) Participation is available to interested parties upon request

² See Appendix H of this publication for Governor Knowles' "Upper Cook Inlet Fisheries & Habitat Plan," April 1995

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(3) <u>EVOS Marine Recreation Project.</u> These funds are to be used for restoration of recreational services or amenities affected by the EVOS. Three projects are proposed for the Kenai River: Bing's Landing State Recreation Site--install boardwalk and fisher's access ladder, Morgan's Landing--install boardwalk and fishing ladder and platform, Slicock Creek--replace boardwalk and install cantilevered walkways. Projects will improve public access and help prevent bank damage. Funding Source -- EVOS Cooperators -- State, federal, local governments, local interest groups, public Contact -- Chris Titus (DPOR) @ 262-5581	(a) <i>Preliminary Engineering Completed:</i> all three by 9/95 (b) <i>Projects Scheduled:</i> all completed by 9/96	(a) N/A (b) Public and agency involvement through public notice and state ACMP review process.
	(4) <u>Public Outreach Program Participation.</u> The DPOR participates in six programs as follows: Kenai River Sportfishing Inc's "HabPro" program, Kenai River Habitat Awareness Days, Kenai Riverfest, Kenai River Public Lands Cleanup, Volunteer Water Watch, and King Salmon Fund. Funding Source -- Program funds Cooperators -- Organizations listed above Contacts -- Chris Titus (DNR) @ 262-5581	(a) <i>Each Program Schedules Public Events:</i> (e.g., Kenai Riverfest occurs in second week of June). These events occur annually.	(a) Agencies cooperate with the six program sponsors to do these public events.
	(5) <u>Cooperative Land Management Plan for Upper Kenai River.</u> Planning among agencies and private landowners regarding land use plan goals, objectives, objectives, and future conditions for the waters and lands (within 1/4 mile from each bank) of the Kenai River between Skitak and Kenai Lakes and the Russian River up to lower Russian Lake. Project will result in recommended actions and items for landowners to address. Funding Source -- Program funds Cooperators -- FS, FWS, KPB, CIRI, ADF&G Contact -- Chris Titus (DNR) @ 262-5581	(a) <i>Prepare and Distribute Meeting Summary:</i> by 6/95 (b) <i>Determine Course of Action for Upper Kenai River:</i> by 10/95	(a) Report is available to the public upon request. (b) Future meetings of Upper Kenai River Planning Team will be public noticed.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
DNR DO&G	(1) <u>Management/Regulatory Authority--Oil and Gas Leases.</u> • The DO&G has authority under AS 35.05.180 to issue oil and gas leases on subsurface lands owned by the state. Most lands identified for leasing included on a five-year lease schedule. • The DO&G issues permits for seismic surveys and surface activities associated with oil and gas leases. DOL also shares some regulatory responsibility of some activities associated with development of a lease. Funding Source -- Program funds Cooperators -- Other state agencies Contacts -- Director (Vacant) (DNR) @ 762-2547	Ongoing	DNR has its own public review process under AS 38; leases and permits also reviewed for consistency with the ACMP.
DNR DM&W	(1) <u>Management/Regulatory Authority--Mining Claims and Water Rights.</u> • DM&W oversees state mineral exploration, development and leasing programs, excluding oil, gas, and geothermal energy on state land; maintains state records of mineral claims; administers the state's Surface Coal Mining Control and Reclamation Program; and provides mineral information to the public and technical assistance to the mining industry. • Manages, plans, and authorizes use of Alaska's water resource. Collects and provides information on quantity of water and issues permits and water rights. Funding Source -- Program funds Cooperators -- Other agencies Contact -- Jules Tileston, Director (DNR) @ 762-4225	Ongoing	Many permits and leases are public noticed. Agency and public involvement also provided through ACMP consistency review process.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
DNR DOA	(1) <u>Technical Assistance.</u> - Assist agency upon request in collecting, identifying, and evaluating plant materials (e.g., Deep Creek). - Assist agencies in bioengineering and streambank restoration (e.g., assisting DPOR in reviewing soils bioengineering design for Pillars Access Project and assist ADF&G for Kenai Riverbend Campground). Funding Sources -- DPOR RSA, general funds Cooperators -- DPOR, ADF&G, other agencies Contact -- Nancy Moore (DNR) @ 745-4469 (2) <u>Kenai Soil and Water Conservation District.</u> - The Kenai Soil and Water Conservation District consists of a local governmental subdivisions of the state responsible for the conservation, use, and development of natural resources within their boundaries. The Kenai district connects landowners with technical and financial assistance needed to solve resource development and conservation problems. Funding Sources -- Limited state funding, grants, income producing products Cooperators -- Federal, state, and local agencies, private landowners, Native organizations Contact -- Mike Swan (DNR) @ 262-1014	Ongoing Ongoing	N/A Involve agencies, public, and other interested individuals as appropriate for the cooperative efforts.
DNR DOL	(1) <u>Management/Regulatory Authority--State Lands.</u> Functions as the primary manager of state-owned lands in the Kenai River watershed that are outside the KRSMA boundary. Responsibilities include land classification, selling land, and leasing state lands for recreation, commercial, and industrial uses. Funding Source -- General funds Cooperators -- Other state agencies Contact -- DNR Public Information Center @ 762-2261	Ongoing	Many permits and leases public noticed. Agency and public involvement provided through ACMP consistency review process.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(2) <u>Kenai Area Plan (KAP)</u>. The DOL is in the process of formulating the KAP. The KAP will propose management recommendations for vacant, unappropriated, and unreserved state lands in the KPB. Funding Source -- Program funds Cooperators -- DEC, ADF&G, KPB, DCRA, NPS, FS, FWS, DOT&PF, other divisions of DNR Contact -- Bruce Talbot (DNR) @ 762-2253.	(a) <i>Revise Plan</i>: Existing KAP will be revised in response to comments received. Completed by fall 1995. (b) <i>Workshops and Public Meetings</i>: Once the KAP has been revised, DNR will hold public sessions in communities on the Kenai Peninsula. Completed by 1995. (c) <i>Plan Completion</i>: The KAP will be distributed for public review. The plan will be revised and adopted by DNR. Completed by 6/96.	(a) Plan will be distributed for public review (b) Agencies and districts invited to participate (c) Draft plans distributed for public review
DNR DOF	(1) <u>Moose Pass Cooperative Spruce Bark Beetle Project</u>. The FS and DNR/DOF have signed a cooperative agreement to coordinate planning on approximately 27,000 acres of state and federal lands in the upper Kenai River watershed. The four action alternatives developed calls for logging of 1,699 acres to 5,181 acres of bark beetle infested spruce trees. Most of the alternatives call for logging along the shore of Kenai Lake. Funding Source -- Forest Health Initiative Cooperators -- DNR, FS, ADF&G, KPB, DEC, interest groups, citizens Contact -- Jim Peterson (DNR) @ 262-4124; Duane Harp (FS) @ 224-3374	(a) <i>Draft EA</i>: by 1/95 (b) <i>Final EA</i>: by 5/95 (c) <i>Adopt Alternative</i>: for USFS lands by 7/95 (d) <i>Implement Alternative</i>: develop forest land use plans on state lands by 6/96.	(a) and (b) Distributed to interested parties and available for public review (c) Public and agency review of alternatives (d) Public and agency review of plans
	(2) <u>Moose Pass Small Tract Logging Offerings</u>. The DOF plans to offer three or four small timber sales on state lands in the Moose Pass area. These tracts are excluded from the Moose Pass project described above. Funding Source -- Program funds Cooperators -- ADF&G, KPB, interest groups, citizens Contact -- Jim Peterson (DNR) @ 262-4124	(a) <i>Sale Planned</i>: mid-1995 and late 1995	(a) The public and other interested parties will have opportunity to review logging plans in 1995.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
DGC	(1) <u>Administer ACMP</u> DGC has overall authority for the overseeing the development and implementation of the ACMP. We respect to the KPB and Kenai River, DGC is responsible for: (a) reviewing and preparing staff recommendations to the Alaska Coastal Policy Council for approval of coastal district plans and amendment; (b) coordinating the ACMP consistency review of projects in the coastal zone the require a permit from a federal agency and/or more than one state agency; and (c) update or revise the ACMP "Classification of Agency Approvals" or "ABC" list.³ Funding Source -- Program funds and NOAA coastal management funds Cooperators -- ADF&G, DNR, DEC, KPB Contact -- Maureen McCrea, Project Analyst (DGC) @ 269-7473	(a) <i>Review District Plans and Amendments</i>: as needed, no plan amendments submitted at this time. (b) <i>Coordinate Consistency Reviews</i>: as needed when a federal permit and/or more than one state agency permit required. (c) <i>Revise Classification of Agency Approvals</i>: every one or two years or as needed; the "ABC" list was recently revised including floating docks, bank restoration and enhancement projects, ladders and steps, cantilevered walkways and platforms, and maintenance dredging on the B-List/general concurrence projects (i.e., no further consistency review required if conditions met, allow for more timely issuance of agency permits).	(a) 60- and 45-day public reviews provided at various stages of the planning process per 6 AAC 85. (b) Detail agency public involvement process required through 6 AAC 50. (c) Same as (b) above.
DOT&PF	(1) <u>Move DOT&PF maintenance and operation facility in Soldotna.</u> The DOT&PF facility is currently located on land adjacent to the north bank of the Kenai River in Soldotna. This facility is used to store road de-icing chemicals in a manner that may result in inadvertent pollution of the river. The Legislature appropriated funds to plan and design a new facility during the 1995 session. Funding Source -- General funds Cooperators -- KPB, City of Soldotna, citizens Contact -- Roger Head (DOT&PF) @ 762-4275	(a) <i>Negotiations With City of Soldotna For New Site</i>: By 9/95. (b) <i>Plan and Design New Facility</i>: By 1/96.	(a) N/A (b) N/A

³ The "ABC" list under 6 AAC 50.050 is used to classify permits that are have no potential to adversely impact coastal resources and uses (no ACMP review required); *B List*, for routine projects that can be made consistent with ACMP with standard conditions (no further consistency reviews if the conditions are met); and *C List*, for non-routine projects that must be evaluated on a case-by-case basis to determine consistency with the ACMP (project the must undergo an individual project review).

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(2) <u>Sterling Highway Rehabilitation.</u> The DOT&PF proposes to rehabilitate the Sterling Highway from the Sterling Highway "Y" to Cooper Landing (milepost 36 to 60). Much of the route is adjacent to the Kenai River. Funding Sources -- ISTEAF funds Cooperators -- local businesses, citizens, ADF&G, and Corps Contact -- Steve Horn (DOT&PF) @ 266-1737	(a) <i>Public Review of EIS:</i> completed by 12/95 (b) <i>Preliminary Design:</i> completed by 12/97 (c) <i>Construction:</i> completed by 12/99	(a) EIS available for review upon request (b) N/A (c) Public and agency review through public notice and state ACMP process.
	(3) <u>Upper Kenai River Wayside.</u> The DOT&PF proposes to contract with DPOR to create a wayside area at the Kenai Lake bridge. Facilities include parking, interpretation area, rest area facilities and a boat launch ramp. (See ADF&G Sport Fish and Commercial Fisheries project #13 on page 8) Funding Source -- ISTEAF funds Cooperators -- local businesses, citizens, ADF&G, and Corps Contact -- Tom Young (DPOR) @ 762-2645	(a) <i>Final Design:</i> by 12/95 (b) <i>Complete Construction:</i> by 8/96	(a) N/A (b) Public and agency review through public notice and state ACMP process.
	(4) <u>Sterling Highway-Soldotna Urban.</u> The DOT&PF proposes to upgrade and rehabilitate the Sterling Highway through Soldotna. Project includes widening the street and the Kenai River bridge. Funding Source -- ISTEAF funds Cooperators -- City of Soldotna, businesses, citizens, ADF&G, and Corps Contact -- Vince Rhea (DOT&PF) @ 266-1583	(a) <i>Preliminary Design:</i> by 6/96 (b) <i>Construction:</i> to be determined	(a) N/A (b) Public and agency review through public notice and state ACMP process.
	(5) <u>Soldotna Water Quality Improvement.</u> The DOT&PF proposes to construct a storm water sedimentation basin at west end of Mary Dale Street in Soldotna. Funding Source -- ISTEAF funds Cooperators -- City of Soldotna, businesses, citizens, ADF&G, Corps Contact -- Jim Childers (DOT&PF) @ 266-1547	(a) <i>Construction Phase:</i> complete by 8/96	(a) Public and agency review through public notice and state ACMP process.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
FEDERAL AGENCIES			
CORPS	(1) <u>Regulatory Authority -- Clean Water Act and Rivers and Harbors Act.</u> The Corps administers federal wetlands laws and regulations on the Kenai River. Responsibilities include: wetlands determinations, individual permits, nationwide permits, and general permits for the KRSMA. Authorities are Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Funding Source -- Program funding Cooperators -- ADF&G, DEC, FWS, FS Contacts -- Hank Baij (Corps) @ 753-2724	(a) <i>Permits Issued as Required</i>	(a) All permits are public noticed. The public has opportunity to comment through the ACMP review process.
NRCS	(1) <u>NRCS Assistance to Private Landowners.</u> NRCS currently works with 50 private landowners within the Kenai River watershed. The conservation plans are developed for individual landowners to better manage their forestry and agricultural lands. NRCS has 50 land treatment practices which are recommended in these plans. NRCS assists the owner in implementing recommended practices by annually monitoring development of plans and in some cases cost share subsidies are available. Funding Source -- Ongoing funds Cooperators -- Private landowners Contact -- Deb Swanson (NRCS) @ 283-8732	(a) <i>Complete Requests for Conservation Plans:</i> ongoing (b) <i>Identify New Cooperators:</i> ongoing	(a) Conservation plans are reviewed and approved by KSWCD (b) Same as (a)
	(2) <u>Small Watershed Program (PL-566)</u> NRCS provides technical and financial assistance to develop and implement watershed plans that address watershed protection, flood control, recreation, wildlife, water supply, and groundwater recharge. Funding Source -- ongoing funds Cooperators -- private landowners, federal, state, and local governments, Native organizations Contact -- Terry Nelson (NRCS) @ 271-2424	(a) <i>Identify Watershed for Planning:</i> by 9/30/96	(a) Planning effort led by KSWCD with participation of Cooperators

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(3) <u>River Basins Surveys and Investigations.</u> - NRCS cooperates with other agencies in conducting river basin studies. For example, the Kenai River Basin Survey provides detailed soil and vegetation maps and interpretations useful to all landowners and managers along the Kenai River. Information in Kenai River Land Owners Guide, KPB GIS, and ADF&G GIS. - Other examples of products include City of Soldotna Kenai River Bank Inventory Report (1989) and Kenai River Cooperative Baseline Study (1994). Funding Source -- NRCS funding or contractual Cooperators -- Private landowners, federal, state, and local governments, Native organizations Contact -- Deb Swanson (NRCS) @ 262-9295	(a) <i>Publication Available:</i> by 10/95	(a) Report available upon request after 10/95.
	(4) <u>Data Gathered on Precipitation and Temperature.</u> The NRCS maintains nine automated sites where climatic data is gathered daily or hourly. Kenai River watershed snow pack is measured on a monthly basis. Funding Source -- Ongoing funds Cooperators -- Public and private landowners Contact -- Rick McClure (NRCS) @ 271-2424	(a) <i>Monitor Established Sites:</i> ongoing	(a) Snow survey report available upon request
	(5) <u>Soil Survey Program.</u> The NRCS will launch a new soil survey of the Kenai lowlands to update the existing 1962 information. The extent of the Kenai River watershed to be included in the survey depends on whether the FWS will pay for the survey on Kenai NWR lands. Funding Source -- Ongoing funds Cooperators -- state, federal, and local agencies, landowners, KSWCD Contact -- Doug Van Patten (NRCS) @ 235-8177	(a) <i>Initiate Kenai Lowlands Soil Survey:</i> 1995	(a) Soil survey report available upon request to KSWCD

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(6) <u>Kenai Peninsula Resource Conservation District.</u> The NRCS has sponsored formation of the RCD for the Kenai Peninsula communities. The coordinator's position is funded by the USDA. The RCD Board of Directors are volunteers from Kenai Peninsula communities. The Board of Directors will review and prioritize proposals submitted which use or assist in conservation of natural resources. RCD will assist in project development by linking proponents to agencies with expertise and to potential sources of financing. Funding Source -- USDA funds Cooperators -- private landowners, federal, state and local governments, interest groups Contact -- Al Poindexter (NRCS) @ 283-8732	(a) <i>Board of Directors Meeting:</i> Scheduled for 6/8/95. (b) <i>Board Reviews and Prioritizes Proposals:</i> By 8/95.	(a) Meetings are open to the public (b) Meetings are open to the public
FWS Ecological Services	(1) <u>Coordinate Kenai River Watershed Activities for FWS.</u> FWS uses Team (which includes Ecological Services, Kenai NWR, and Kenai Fisheries Resources Office) to unify FWS positions and to cooperate/solicit partnerships with other agencies and interest groups on Kenai River issues. Funding Source -- FWS base funds Cooperators -- Federal, state, and local governments, Native groups, interest groups Contacts -- Ann Rappoport (FWS) @ 271-2787	(a) <i>Draft Ecosystem Action Plan for Fiscal Years 1995-97 Prepared 11/95:</i> to be modified/augmented as partner contacts are made and formalized.	(a) FWS will use existing public and interagency forums and solicit partnerships to address ecosystem issues. Action Plan available upon request.
	(2) <u>Regulatory Activities - CWA and Corps Permits.</u> - Provides review comments on Clean Water Act Section 404 and Corps Section 10 permits. - Serve as technical advisors on Kenai River bank restoration projects. Funding Source -- Program funds Cooperators -- EPA, NMFS Contact -- Ann Rappoport (FWS) @ 271-2787	Ongoing	(a) Public and agency involvement through Corps public notices and state ACMP review process

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(3) <u>Update and Revise Text of Book entitled "Pacific Salmon from Alaska to California".</u> The FWS will propose revisions to text and new photos which will give the reader a more accurate impression of the Kenai River and the salmon living there. Funding Source -- FWS challenge cost share program, ADF&G match funds Cooperators -- FWS, ADF&G Contact -- Ann Rappoport (FWS) @ 271-2787	(a) <i>Provide Camera Ready Copy:</i> By 8/15/95. (b) <i>Final Publication:</i> By 11/95.	(a) Publication available for purchase by 12/95.
	(4) <u>State and Federal Agency Policy Makers to Meet.</u> The FWS is sponsoring a meeting, "Kenai River Summit," of the heads of ADF&G and agencies with management and regulatory authority of Kenai River lands to discuss management of public lands. Funding Source: no special funding Cooperators: ADF&G, DNR, FS Contact: Ann Rappoport (FWS) @ 271-2787	(a) <i>Develop Agenda:</i> By early September (b) <i>Kenai River Summit Meeting:</i> 11/1/95 in Anchorage	(a) FWS to coordination with participating agencies to develop agenda (b) Meeting results available on request
FWS Water Resources Branch	(1) <u>Quantification of Natural Water Supplies and Identification of Instream Flow Needs for Fish and Wildlife.</u> FWS, in cooperation with DNR, operated steam discharge gaging stations on the Russian River, Funny River, and Moose River from 1986 through 1988. In 10/94, new stream discharge gaging stations were initiated on the Russian River and Kelley River. The purpose is to quantify the annual water supplies within these watersheds. Information will be used to prepare an analysis of instream flow needs for fish and wildlife, and their habitats. Water rights will be filed through DNR. Funding Source -- General funds Cooperators -- DNR, ADF&G Contact -- Keith Bayha (FWS) @ 786-3537	(a) <i>Annual Reports:</i> reports containing information on daily and maximum/minimum discharge will be available by June with information from the previous calendar year. (b) <i>Final Report:</i> final report with all data will be available in the summer of 2000.	(a) Reports available upon request. (b) Reports available upon request.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
FWS Kenai NWR	(1) <u>Regulatory Authority -- Special Use Permits.</u> - FWS issues Special Use Permits for commercial and other activities as required under Part 50 Code of Federal Regulations. - FWS has a memorandum of understanding with DPOR and FS to cooperatively manage the Kenai River in areas where jurisdictions overlap. Funding Source -- Kenai NWR budget Cooperators -- DPOR, FS, ADF&G, KPB Contact-- Mark Chase, Acting Refuge Manager (Kenai NWR) @ 262-7021	(a) <i>Permits Issued and Renewed:</i> annually, generally by May 1 (b) <i>Permitting Coordination:</i> Kenai NWR regulations and KRSMA regulations are coordinated in upper river locations where jurisdictions overlap	(a) N/A (b) Ongoing: MOU calls for annual coordination meeting
	(2) <u>Management Authorities -- Public Uses on Kenai River within the Refuge.</u> Kenai NWR has lead responsibility for formulating the PUMP. Public uses are primarily related to sport fishing, river travel and access to shoreline activities. Facilities include boat launches, trails, educational information, river access and parking, a ferry crossing, and four campgrounds. Funding Source -- Kenai NWR budget Cooperators -- State, federal, and local governments, interest groups Contact -- Mark Chase, Acting Refuge Manager (Kenai NWR) @ 262-7021.	(a) <i>PUMP is in Progress:</i> Public meetings and review opportunities will be scheduled. (b) <i>Jim's Landing Rehabilitation:</i> Construction in progress. Completion by 10/95. (c) <i>Lower Skilak Campground Rehabilitation:</i> Access road and parking improvements scheduled for 1996.	(a) The PUMP will be available for review by all interested parties once it is drafted. (b) Public and agency involvement through public notice and state ACMP review process. (c) Same as b
	(3) <u>Kenai River Bank Restoration Between River Mile 71 and 73.</u> Restoration project will develop trails and fences to funnel anglers to low impact fishing areas. Funding Source -- To be determined Cooperators -- ADF&G, KPB, DPOR Contact -- Mark Chase, Acting Refuge Manager (Kenai NWR) @ 262-7021.	(a) <i>Completion:</i> Fence installed 5/95. Fisher access trail determined by 7/95.	(a) Public and agency involvement through public notice and state ACMP review process

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(4) <u>Resolution of Native Land Issues within Kenai NWR Adjacent to Kenai River.</u> The following are land ownership/entitlement responsibilities of the Kenai NWR: • CIRI application for ANCSA section 14(h)(1) historical sites at Kenai-Russian River confluence and other Kenai River locations. • Kenai Native Association lands conveyed via ANCSA Section 22(g) below Skilak Lake. • Salamatof Native Association lands and associated public use and nondevelopment easements, river miles 25-28. Funding Source -- FWS base funds Cooperators -- BLM, FWS, CIRI, Kenai Native Association, Salamatof Native Corporation Contact -- Mark Chase, Acting Refuge Manager (Kenai NWR) @ 262-7021	(a) <i>CIRI Applications Pending</i> (b) <i>Land Purchases and Negotiations:</i> in progress. Congressional legislation required. (c) <i>Transfer of Public Use Easement:</i> a 25-foot public use easement, Kenai River and river bed retained within refuge at time of conveyance. Variable non-development easement adjacent to Kenai River recorded in deeds and plats, transfer to U.S. Government pending.	(a) BLM Branch of Adjudications establishes 14(h)(1) sites. (b) Congressional deliberations allow for public comments. (c) NA
FWS Kenai Fishery Resources Office	(1) <u>Adopt-A-Stream Program.</u> • Monitor water quality and fish populations in Slikok Creek, a tributary to the Kenai River. This project is sponsored in cooperation with the K-Beach Elementary School under the Adopt-A-Stream program. Funding Source -- FWS base funds Cooperators -- Federal, state, and local governments, KPB schools Contact -- Gary Sonnevill (FWS) @ 262-9863	Ongoing	Schools and others groups actively involved
	(2) <u>Develop Fishery Management Plan for the Kenai NWR.</u> • The FMP is a document summarizing FWS fishery investigations on the Kenai NWR. Investigations deal with fish populations and their status (e.g., size, weight, and age). Funding Source -- FWS base funds Cooperative -- ADF&G Contact -- Gary Sonnevill (FWS) @ 262-9863	(a) <i>Completion of Fishery Management Plan:</i> Plan will be final by 7/95.	(a) Plan available upon request.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(3) <u>Bank Restoration Projects on the Kenai River and Soldotna Creek.</u> • <u>Soldotna Creek is an experimental bioengineering project.</u> Funding Sources -- Coastal America, Challenge Grant, Cooperators -- FWS/Ecological Services, City of Soldotna, Cook Inlet Aquaculture Association, Alaska Science and Technology Foundation, ADF&G, USGS, EPA, NMFS, NRCS, Corps, Coastal America Contact -- Gary Sonnevil (FWS) @ 262-9863; Lance Trasky (ADF&G) @ 267-2342	(a) <i>Project Completion:</i> both projects are scheduled for completion in 1995	(a) Established working groups provide a forum for agencies participation
NATIONAL BIOLOGICAL SERVICE Alaska Science Center	(1) <u>Analysis of Juvenile Chinook and Coho Rearing Requirements.</u> • Date collected in the early 1980's was analyzed for a fishery journal publication on salmonid rearing habitat. Funding Source -- NBS Cooperators -- ADF&G, FWS Contact -- Carl Burger (NBS) @ 786-3314 (2) <u>Summary of In-river Access-related Impacts to Salmonid Habitats.</u> • Preparation of a summary of in-river access structures and other access-related impacts to salmonids in the Kenai and other Pacific Northwest rivers. • Includes extensive literature search and production of matrices to illustrate the effects of different structures on salmonids. Funding Sources -- FWS, NBS Cooperators -- ADF&G, FWS Contact -- Carl Burger (NBS) @ 786-3314	(a) <i>Draft Manuscript</i> -- Completed and will be distributed for peer review soon. (a) <i>Report Completed:</i> Publication of report in progress.	(a) Journal article will be available for public and peer review in 1995. (a) Available upon request
FS	(1) <u>Russian River Angler Trail Project.</u> • The FS along with the <u>Russian River Working Group</u>, has developed six alternatives to protect or rehabilitate eroded stream banks along the lower Russian River. • The FS has implemented three stream bank restoration projects at the Russian River. Funding Source -- FS funds Cooperators -- Citizen, multi-agency working groups Contact -- Mark Wenger (FS) @ 224-3374	(a) <i>EA:</i> with preferred alternative completed by 7/95. (b) <i>Decision on Selected Alternative:</i> by 8/95 (c) <i>Implement Preferred Alternative:</i> initiate by 7/95 (d) <i>Construct Demonstration Project:</i> by 5/96	(a) EA available for public and agency review in 2/95. (b) N/A (c) and (d) Public and agency involvement through public notice and state ACMP review process.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(2) <u>Moose Pass Cooperative Spruce Bark Beetle Project.</u> The FS and DNR/DOF have signed a cooperative agreement to manage 27,000 acres of state and federal lands in the upper Kenai River watershed. The five alternatives developed calls for logging of 226 acres to 8,704 acres of bark beetle-infested spruce trees. (See DNR/DOF #1 for more details). Funding Source -- FS funds Cooperators -- Other agencies Contact -- Mark Wenger (FS) @ 224-3374	(a) <i>EA Issued:</i> by 6/95 (See DNR/DOF #1 for more details) (b) <i>Decision:</i> by 7/95	(a) EA available for public and agency review 6/95. (See DNR/DOF #1 for more details)
	(3) <u>Chugach National Forest Land Management Plan Revision</u> The FS is currently revising the FMP written in 1984. Will re-examine management direction for National Forest System lands within the Kenai River drainage, as well as other areas on the Chugach National Forest. Will also consider cumulative effects of all management activities on the resources of the Kenai River. Funding Source -- FS funds Cooperators -- State, federal, and local governments, interest groups, local citizens Contact -- Gary Lenhausen (FS) @ 271-2560	(a) <i>Preliminary Revision Topics:</i> completed by 3/95 (b) <i>Final Revision Topics:</i> completed by 9/95 (c) <i>Analysis of Management Situation:</i> summary completed by 5/96 (d) <i>Develop Alternatives:</i> by 6/96 (e) <i>Analyze Effects:</i> by 10/96 (f) <i>Draft EIS/Proposed FMP:</i> completed by 12/96 (g) <i>Public Comments Due on Draft EIS/Proposed FMP:</i> 9/97 (h) <i>Final EIS, Record of Decision, and Revised FMP:</i> 6/98	(a) Public and agency meetings (b) Public forum held to verify revision topics (c) Public comments to be summarized by FS (d) N/A (e) N/A (f) Formal public review initiated (g) Public review over (h) N/A
	(4) <u>Russian River Falls Viewing Platform.</u> The FS is constructing a wider platform overlooking the falls to provide better opportunities for viewing fish jumping the falls. Funding Source -- FS funds Cooperators -- FWS, DPOR, ADF&G Contact -- Karen O'Leary (FS) @ 224-3374	(a) <i>Complete Construction:</i> Summer, 1995	(a) Public and agency involvement through public and state ACMP review process.
	(5) <u>Lower Russian Lakes Trail.</u> Widen and improve trail to allow for use by people with mobility impairments. Funding Source -- FS funds Cooperators -- FWS, DPOR, ADF&G Contact -- Pat O'Leary (FS) @ 224-3374	(a) <i>Complete Construction:</i> Summer, 1995	(a) N/A

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(6) <u>Footprints Heritage Site.</u> - Construct parking for cultural heritage site access across from entrance to Russian River campground. Public will be able to view archeological features, talk with members of the Kenaizte Indian Tribe and view living history. Funding Source -- FS funds Cooperators -- Kenaizte Indian Tribe Contact -- Dredra St. Louis (FS) @ 224-3374 (7) <u>Streamwatch Volunteers.</u> - Volunteers from Anchorage and the Kenai Peninsula will be contacting visitors on the Kenai and Russian Rivers to educate them concerning damage caused to sensitive riparian areas, and what people can do to minimize their impacts. Funding Sources -- FS, FWS, DPOR, Kenai River Sportfishing Inc., Facility Management Inc., and Student Conservation Assoc. Cooperators -- FS, FWS, DPOR, sport fishing groups, local businesses Contacts -- Karen O'Leary (FS) @ 224-3374, Candance Ward (FWS) @ 262-7201	(a) <i>Complete Construction:</i> Summer, 1995 (a) <i>Training Session:</i> April, 1995 (b) <i>Initiate Program:</i> Summer, 1995	(a) N/A (a) N/A (b) N/A
EPA	(1) <u>Review Authority -- Comments on Federal Permits.</u> - Review and comment on Section 404 CWA and Section 10 R&H Act permits for activities requiring the discharge of dredged or fill material in waters of the United States, including wetlands. - Review and comment on EISs and EAs for compliance with NEPA. - Review and comment on DEC's proposed operating permits and conduct oversight inspections. Funding Source -- Program funds Cooperators -- FWS, NMFS Contacts -- Phil North (EPA) @ 271-3401; John Pavitt (EPA) @ 271-3688	Ongoing	Public and agency review comments through Corps public notice and state ACMP review process.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(2) Regulatory Authority -- Federal Regulations. - Issues NPDES permits pursuant to section 402 of CWA for large industrial facilities (e.g., seafood processors). Conduct inspections for permit compliance. Contact: Valerie Haney (EPA) @ 271-3651 - Inspect facilities with underground storage tanks for compliance with upgrade requirements per 40 CFR, Part 280. Contact: Jackie Poston (EPA) @ 271-3401 - Inspect facilities with above ground storage tanks for compliance with the Oil Pollution Prevention Regulations (40 CFR Part 112). Contact: Jackie Poston (EPA) @ 271-3541 - Review and approve oil spill prevention, control, and countermeasures for facilities with above ground storage tanks. Contact: Matt Carr (EPA) @ 271-3616 Funding Source -- Program funds Cooperators -- DEC, EPA Contacts -- See above	Ongoing	Public and agency comments on NPDES permits provided through EPA Public Notice and ACMP review process
	(3) Kenai River Watershed Conservation Project. EPA will fund a TNC staff position to work with the local residents of the Kenai River Watershed, and local, state, and federal agencies to foster conservation/non-regulatory methods of protecting fish habitat. The outcome of this project includes the creation of a Watershed Information Office, Watershed Land Trust, and sponsoring a conference entitled "A Gathering of the People". The goal is to encourage coordination and cooperation among landowners, agency land managers, borough planners, and Kenai River users. Funding Source -- 104(b)(3) Grant Cooperators -- Watershed residents, agencies Contact -- Phil North (EPA) @ 271-3401; Michelle Brown (TNC) @ 262-6377	(a) <i>Organize and Sponsor:</i> A conference entitled "A Gathering of the People", scheduled to occur at the Sports Center in Soldotna in March or April 96. (b) <i>Develop Kenai River Land Trust Group:</i> First meeting by 6/15/95, trust created by 9/95.	(a) Public are invited to attend and participate. (b) Public are invited to attend and participate.

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(4) Assist in Coordinating Agency Kenai River Activities. - Organize and hold meetings to assist in coordinating state, federal, and local agency activities on the Kenai River. Funding Source -- Program funds Cooperators -- State and federal agencies, KPB Contact -- Phil North (EPA) @ 271-3401 (5) <u>Synthesis of Kenai River Watershed Literature</u> - EPA has funded the Alaska Natural Heritage Program at the University of Alaska, Anchorage, to summarize and integrate the available scientific and cultural information for the Kenai River Watershed. The final product will make the volumes of information on the Kenai River Watershed more accessible to interested people. Funding Sources -- EPA Funds Cooperators -- other agencies Contact -- Phil North (EPA) @ 271-3401	(a) <i>Establish Working Group: Kenai River Watershed Interagency Coordination Group (KRWICG)</i> established 10/94 (b) <i>Hold Meetings:</i> as needed (about every one to two months) (a) <i>Complete Literature Search:</i> Will be completed and entered in an Alaska Natural Heritage Program's Biological Conservation Database by 11/95 (b) <i>Final Report:</i> 2/96	Agencies participate as members of the KRWICG Agencies and other groups will be contacted for information. Report will be available upon request. Agencies and public can also make queries of the database.
NMFS	(1) <u>Review Authority--Comments on Federal Permits.</u> - Advises the Corps on Section 404 and Section 10 permits for activities in and near the Kenai River. - NMFS reviews NPDES permits, EISs and Eas for activities in and near the Kenai River. Funding Source -- Program funding Cooperators -- FWS, EPA, ADF&G Contact -- Ron Morris (NMFS) @ 271-5006 (2) <u>Kenai River Habitat Restoration Funds.</u> - NMFS has received a one million dollar appropriation for Kenai River habitat restoration. These funds will be transferred to the state in 1995 (see ADF&G/H&R #8, page 4). Funding Source -- Program funding Cooperators -- State of Alaska Contact -- Ron Morris (NMFS) @ 271-5006	Ongoing See ADF&G #8, page 4	Public and agency comments provided through Corps Public Notice and ACMP review process. See ADF&G/H&R #8, page 4

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
USGS Water Resources Division	(1) <u>Long-Term Stream Flow Study.</u> - Collect and report stream flow data at Cooper Landing for period of 1949 to 1995. - Collect and report stream flow data at Soldotna for period of 1965 to 1995. Funding Source -- Program funds Cooperators -- ADF&G, FWS, DPOR, FS Contact -- Ken Thompson (USGS) @ 786-7100 (2) <u>Assess the Effects of Streamside Structures on Juvenile Chinook Salmon Habitat.</u> - The ADF&G 309 study showed some of the prime salmon rearing habitat in the Kenai river has been damaged by human activities. This study will assess the effects of man-made structures on prime salmon rearing habitat. Funding Source -- ADF&G 309 study funds Cooperators -- ADF&G, USGS, FWS, DPOR, FS, KPB, landowners, sportfishing interest groups Contact -- Joe Dorava (USGS) @ 786-7100	(a) <i>Produce a Report Summarizing Daily Discharge:</i> By 10/95 (a) <i>Collect Field Data:</i> By 6/95. (b) <i>Final Draft Report:</i> By 8/95.	(a) Report available upon request after 10/95. (a) N/A (b) Report available upon request by 10/95.
LOCAL GOVERNMENT			
KPB	(1) <u>Regulatory Authority -- Title 29.</u> - Subdivision Ordinance, KPB Title 20 -- To promote adequate and efficient street and road system, to provide minimum standards of survey accuracy and proper preparation of plats, and to protect and improve the health, safety, and general welfare of people. Contact -- Robbie Harris, Platting Officer (KPB) @ 262-4441 ext. 264 - Floodplain Management, KPB Title 21.6 -- To promote the public health, safety, and general welfare and to minimize public and private losses due to flood conditions in specific areas (permit required for any construction or development in the floodplain). Contact -- Jane Gabler, Program Administrator (KPB) @ 262-4441 ext. 265	(a) <i>Subdivision Ordinance:</i> ongoing, platting approvals/vacations issued by borough and planning commissions as needed (b) <i>Floodplain Management:</i> ongoing, permits issued as required	(a) Bi-monthly planning commissions meetings, public notices, agency and public reviews (b) N/A

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(2) <u>Review Activities/ACMP.</u> The KPB does coastal consistency reviews for permitted activities including activities on and near the Kenai River. Intended to provide local information and perspectives to implement the policies and objectives of the ACMP and KPB Coastal Management Program. Funding Sources -- State ACMP and borough appropriations Cooperators -- State and federal agencies Contact -- Margaret Spahn, Coastal Program Coordinator (KPB) @ 267-4441 ext. 298	Ongoing	Public involvement through bi-monthly planning commission meetings, public notices, and public and agency involvement through the ACMP consistency review process
	(3) <u>Land Use Planning.</u> - Funny River Community -- Public survey of community completed, now moving to next phase of developing a land use plan to establishing goals and objectives (plan will include portions of Kenai River between Skilak Lake and Salamantoff property boundary). Planning process was initiated by FHA. Contact -- Deborah Gilcrest, Planner (KPB) @ 262-4441 ext. 266 - Ordinance 94-52, Kenai River Overlay District -- Ordinance would have established a Kenai River Overlay District with conditional use permit requirements and setting forth conditional use permit approval criteria. Contact -- Lisa Parker, Director (KPB) @ 262-4441 ext. 305 The Assembly initiated a separate effort to attempt to reach consensus on the substantive issues related to the Kenai River Overlay District. A Kenai River Working Group (KRWG) with public representatives was established (agencies participate as advisors). The Assembly hired a facilitator (Kathy Scott & Associates) to assist in the effort. - Ordinance 94-56, Utility Use of ROW -- Establishes a permit system for regulation or construction activities by public utilities within KPB ROW and establishes regulations for use and control of ROW. Contact -- Lisa Parker, Director (KPB) @ 262-4441 ext. 305	(a) <i>Public Survey</i> (b) <i>Ordinance 94-52: Ordinance voted down in May.</i> The first meeting was held on June 9, 1995, to establish rules, goals, objectives, etc. A field trip was made on June 12. A three-day work session was held on July 18 to 20. Followup draft report to be completed by 10/95 (c) <i>Ordinance 94-56: Enacted spring 1995.</i> Permit is now required to construct utilities in public right-of-ways.	Public notices, public and agency involvement through KPB Planning Commission and Assembly

AGENCY OR ORGANIZATION	ACTIVITY DESCRIPTION/FUNDING SOURCE/COOPERATORS/CONTACT PERSON	MILESTONES/ PRODUCTS/DATES	PUBLIC/AGENCY PARTICIPATION
	(3) <u>Land Use Planning (cont.)</u> Ordinance 94-57, Protection of Public Roads and Road ROW -- Establishes regulations governing and limiting activities within dedicated ROW in the KPB Contact -- Lisa Parker, Director (KPB) @ 262-4441 ext. 305	(cont.) (d) <i>Ordinance 94-57</i>: Enacted spring 1995.	(cont.) same as above
	(4) <u>Kenai River Center</u> The KPB Assembly has approved funds (124.8K) to establish a "Kenai River Center." The objective as stated in the Borough budget documents is: "To provide staff and support facilities to implement a Kenai River Corridor Management Plan in concert with other state and federal agencies under their terms of agreements to be developed." Funds included for the establishment of new KPB code compliance officer and permit technician. Limited funds also included for building rent, supplies, and other associated expenses. Funding Source: KPB general funds Cooperators: other state and federal agencies Contact: Lisa Parker, Director (KPB) @ 262-4441	(a) Schedule and milestones to be set.	The KPB will work with the appropriate state and federal agencies who will participate in the establishment of the Kenai River Center.
	(5) <u>Kenai River Tax Credit Program</u> The KPB may establish a tax credit incentive for (1) protecting the Kenai River or a tributary from degradation of fish habitat due to public or private uses or (2) restore riparian fish habitat along the Kenai River and tributaries that has been damaged by land use practices. Funding Sources: KPB general funds Cooperators: ADF&G and other interested agencies Contact: Bill Evans, Legal Dept. (KPB) @ 262-8609	(a) <i>Letter to Landowners</i>: Governor Knowles sent letter notify all Kenai River landowners of the legislation. (b) <i>Borough Drafting Ordinance</i>: KPB legal department is currently developing a draft ordinance. A draft will be released to the cities of Kenai and Soldota and ADF&G for preliminary review by August or September. The goal is to have an approved ordinance approved by the beginning of the 1996 tax year (January 1, 1996)	There will be public notices, public and agency involvement through the Assembly approval process.



APPENDIX B

Distribution List for Summary of Agency Authorities and Activities

KENAI RIVER ACTIVITIES DISTRIBUTION LIST

Ms. Dinah Abood
KR Property Owners Assoc.
3102 Northwood Drive
Anchorage, Alaska 99517
(907) 248-3102

Mr. Walter Arthur, Jr.
KR Property Owners Assoc.
9521 Emerald Street
Anchorage, Alaska 99515
(907) 243-8088

Mr. David Athons
AK Dept. of Fish & Game
Sport Fish Division
34828 Kalifornsky Bch Rd, Ste B
Soldotna, Alaska 99669
(907) 262-9368

U.S. Army Corp of Engineers
Attention: Mr. Hank Baij
Post Office Box 898
Anchorage, Alaska 99506-0898
(907) 753-2724 or 2712
(FAX) 753-5567

Kenaitze Indian Tribe, I.R.A.
Attn: Mr. Albert Baktuit
Post Office Box 762
Kenai, AK 99611
(907) 283-3633

Ms. Candace Beery
Cook Inlet Region, Inc.
2525 C Street
Anchorage, AK 99509-3330
(907) 274-8638

Dale Bondurant
HC 1, Box 1197
Soldotna, AK 99669
(907) 262-1691

Ms. Patricia Bower
Post Office Box 3662
Soldotna, Alaska 99508

Mr. Richard Bower, Jr.
Public-At-Large Member
Post Office Box 2241
Soldotna, Alaska 99669
(907) 262-8332

Kenai National Wildlife Refuge
Attention: Mr. Mark Chase
Post Office Box 2139
Soldotna, Alaska 99669-2139
(907) 262-7021
(FAX) 262-3599

Mr. Lenny Corin, Deputy Asst.
Regional Director
Ecological Services
U.S. Fish and Wildlife Services
1011 East Tudor Road
Anchorage, Alaska 99503-6199
(907) 786-3544
(FAX) 786-3640

Mr. Paul Dale
Snug Harbor Seafoods
King Salmon Trust Fund
Post Office Box 2725
Kenai, Alaska 99611
(907) 776-5342

Mr. Tony DeGange
U.S. Fish and Wildlife Service
1011 East Tudor Road
Anchorage, Alaska 99503-6199
(907) 786-3492
(FAX) 786-3350

Mr. Joseph Dorava
U.S. Geological Survey
Water Resources Division
4230 University Dr, Ste 201
Anchorage, Alaska 99508-4664
(907) 786-7104
(FAX) 786-7150

Mr. Daniel Doshier, Refuge Mgr.
Kenai National Wildlife Refuge
Post Office Box 2139
Soldotna, Alaska 99669-2139
(907) 262-7021
(FAX) 262-3599

Mr. Lawrence Dugan
U.S. Fish and Wildlife Service
Western AK Ecological Services
605 West 4th Ave., Rm G-62
Anchorage, Alaska 99501
(907) 271-2797
(FAX) 271-2786

Mr. Ben Ellis, Exec. Dir.
Post Office Box 1228
Soldotna, Alaska 99669
(907) 262-6602 (H)
(907) 262-8588 (W)
(FAX) 262-8582
Toll: 800-478-0724 (W)

Mr. Al Ewing, Asst. Regl. Adm.
Environmental Protection Agency
AK Operations Office, Region 10
222 West 7th Avenue, No. 19
Anchorage, Alaska 99513-7588
(907) 271-3422
(FAX) 271-3424

Ms. Suzanne Fisler
AK Dept. of Natural Resources
Div. of Parks & Outdoor Rec.
Post Office Box 1247
Soldotna, Alaska 99669
(907) 262-5581
(FAX) 262-3717

Kenai Pen. Fishermen's Assoc.
Attention: Loren Flagg
34824 K. Beach Road, Suite E
Soldotna, Alaska 99669
(907) 262-2492

Mayor Don Gilman
Kenai Peninsula Borough
144 N. Binkley Street
Soldotna, Alaska 99669
(907) 242-4441
(FAX) 262-8618

Mr. Jeffrey Graham
AK Dept. of Natural Resources
Division of Forestry
HC 1, Box 107
Soldotna, Alaska 99669
(907) 262-4124
(FAX) 262-6390

Mr. Duane Harp
U.S. Forest Service
Post Office Box 390
Seward, Alaska 99664
(907) 224-3374

Mr. Gary Hinkle
Public-At-Large Member
Post Office Box 322
Soldotna, Alaska 99669
(907) 283-9231

Mr. Warren Hoflich
HC1, Box 1478
Soldotna, Alaska 99669
(907) 262-1871

Ms. Debra H. Horne
Public-At-Large Member
Post Office Box 592
Kasilof, Alaska 99610
(907) 262-4551

Mr. Kent Hueser
HC 3, Box 4871
Soldotna, AK 99669
(907) 262-5561

Environmental Protection Agency
Attention: ~~Mr. Mark Jen~~
Region 10, AK Operations Office
222 West 7th Avenue, No. 19
Anchorage, Alaska 99513-7588
(907) 271-3413
(FAX) 271-3424

Mr. Will Josey
KR Property Owners Assoc.
Post Office Box 881
Sterling, Alaska 99672
(907) 262-2305

Office of Management and Budget
Division of Governmental Coord.
Attention: Ms. Gretchen Keiser
Coastal Program Coordinator
Post Office Box 110020
Juneau, AK 99811-0020

Ms. Claudette Knickerbocker
Hwy Contract 1, Box 1272
Soldotna, Alaska 99669
(907) 262-3265 (H)
(907) 262-1089 (W)

Mr. Thomas Knock
KPB Planning Commissioner
Post Office Box 519
Cooper Landing, AK 99572
(907) 595-1431

Mr. Eric Knudsen
National Biological Survey
Alaska Science Center
1011 East Tudor Road
Anchorage, Alaska 99503-6199
(907) 786-3842
(FAX) 786-3636

Hr. Kenneth Lancaster, Mayor
City of Soldotna
177 N. Birch Street
Soldotna, Alaska 99669
(907) 262-9107
(FAX) 262-1245

Ms. Lori Landstrom
Alaska State Parks
Post Office Box 1247
Soldotna, Alaska 99669
(907) 262-5581

Mr. Jack La Shot, City Engr.
City of Kenai
210 Fidalgo, Ave., Ste 200
Kenai, Alaska 99611
(907) 283-7535
(FAX) 283-3014

Mr. Rhon Lyons
Trout Unlimited
Post Office Box 731
Sterling, Alaska 99672
(907) 262-3732

Mr. Theo Matthews
United C/I Drift Assn.
Post Office Box 69
Kasilof, Alaska 99610
(907) 283-3600

Mr. William McDermid
Kenai-Kasilof Soil & Water
Conservation District
HC #1, Box 1416
Soldotna, Alaska 99669
(907) 262-9670 (H)
(907) 262-6135 (W)

Mr. Samuel McLane
Post Office Box 468
Soldotna, Alaska 99669
(907) 262-4441
(907) 283-4218

Cook Inlet Aquaculture Assn.
Attention: Mr. Thomas Mears
Highway Contract 2, Box 849
Soldotna, Alaska 99669
(907) 283-5761

AK Dept. of Natural Resources
Attention: Ms. Nancy Moore
Division of Agriculture
AK Plant Material Ctr.
HC 02, Box 7440
Palmer, AK 99645
(907) 745-4469
(FAX) 746-1568

Mr. Ronald Morris
Field Office Supervisor
Natl Marine Fisheries Service
222 West 7th Avenue, No. 43
Anchorage, Alaska 99513-7577
(907) 271-5006
(FAX) 349-3030

Ms. Peggy Mullen
355 Lingonberry Lane
Soldotna, Alaska 99669
(907) 262-9225

AK Dept. of Natural Resources
Attention: Mr. Jim Peterson
Division of Forestry
HC 1, Box 107
Soldotna, Alaska 99669
(907) 262-4124
(FAX) 262-6390

Mr. Charles Quarre
KR Property Owners Assoc.
HC 01, Box 3336
Sterling, Alaska 99672
(907) 262-2115

Mr. Ronald Rainey
KR Sport Fishing Assn.
Post Office Box 2004
Kenai, Alaska 99611
(907) 283-4333

Mr. Dennis H. Randa
Post Office Box 3055
Soldotna, Alaska 99669
(FAX) 262-9494

Ms. Ann Rappoport, Field Spvsr.
U.S. Fish and Wildlife Service
Western AK Ecological Services
605 West 4th Avenue, Room 62
Anchorage, Alaska 99501
(907) 271-2787
(FAX) 271-2786

Mr. Jim Richardson
AK Flyfishers Assn.
Post Office Box 757
Cooper Landing, AK 99572

Mr. Jim Richardson
1543 East 26th Ave.
Anchorage, AK 99508
(907) 274-6385 (H)
(907) 279-2883 (W)
(FAX) 276-0830

Mr. Glenn Seaman
AK Dept. of Fish and Game
Habitat & Restoration Div.
333 Raspberry Road
Anchorage, Alaska 99518-1599
(907) 267-2331
(FAX) 349-1723

Kenaitze Indian Tribe, I.R.A.
Attn: Mr. James Showalter
Post Office Box 352
Soldotna, Alaska 99669
(907) 283-3633

Mr. Gary Sonnevill, Proj. Ldr.
Kenai Fishery Resource Office
Post Office Box 1670
Kenai, Alaska 99611
(907) 262-9863
(FAX) 262-7145

Mr. William Stockwell
Alaska Flyfishers Assn.
Post Office Box 240925
Anchorage, Alaska 99524
(907) 274-1288
(907) 595-1540

Mr. Michael A. Swan
Kenai Soil and Water
Conservation District
Post Office Box 987
Soldotna, Alaska 99669
(907) 262-9295

Natural Resources Conserv. Srv.
Attn: Ms. Deborah Swanson
Post Office Box 944
Soldotna, Alaska 99669
(907) 262-9295 (also FAX No.)

T. A. Thompson
City of Kenai
111 Paula Street
Kenai, AK 99611
(907) 283-4358

Mr. Richard Underkofler
City of Soldotna
177 North Birch Street
Soldotna, Alaska 99669
(907) 262-9107

Mr. Mark Wenger
U.S. Forest Service
Chugach National Forest
Seward District
Post Office Box 390
Seward, Alaska 99664
(907) 224-3374
(907) 224-3268

Mr. Al White
KR Property Owners Assn.
Post Office Box 762
Sterling, Alaska 99672
(907) 262-9176

Mr. Steven Zemke
Chugach National Forest
3301 C Street, Suite 300
Anchorage, Alaska 99508
(907) 271-2521
(FAX) 271-3992

KENAI RIVER WATERSHED INTERAGENCY COORDINATION GROUP

DISTRIBUTION LIST

May 1995

Kenai Peninsula Borough
(KPB)

Richard Troeger
144 N. Binkley
Soldotna, AK 99669-7599
(907) 262-4441
(907) 262-8614 Fax

Debra Gilcrest
144 N. Binkley
Soldotna, AK 99669-7599
(907) 262-4441
(907) 262-8614 Fax

Harriet Wagner
144 N. Binkley
Soldotna, AK 99669-7599
(907) 262-4441
(907) 262-8614 Fax

City of Soldotna

Honorable Ken Lancaster
Mayor of Soldotna
177 N. Birch Street
Soldotna, AK 99669
(907) 262-9107
(907) 262-1245 Fax

City of Kenai

Jim Lachot
Planning Dept.
210 Fidalgo Avenue, Suite 200
Kenai, AK 99611-7794
(907) 283-7535
(907) 283-3014 Fax

Kenai Soil and Water
Conservation District
(KSWCD)

Mike Swan, Chair
P.O. Box 987
Soldotna, AK 99669
(907) 262-1014
(907) 262-1014 Fax

AK Dept. of Community and
Regional Affairs

Christy L. Miller
333 W. 4th Avenue, Ste. 220
Anchorage, AK 99501-2341
269-4567
269-4520 Fax

AK Dept. of Fish and Game
(ADFG)

Division of Habitat and
Restoration

Lance Trasky, Regional Super.
333 Raspberry Road
Anchorage, AK 99518
267-2342
349-1723 Fax

Gay Muhlberg
333 Raspberry Road
Anchorage, AK 99518
267-2284
349-1723 Fax

AK Dept. of Fish and Game
(ADFG)

**Division of Habitat and
Restoration**

Glenn Seaman
333 Raspberry Road
Anchorage, AK 99518
267-2331
349-1723 Fax

Kathrin Sundet
333 Raspberry Road
Anchorage, AK 99518
267-2295
349-7302 Fax

AK Dept. of Natural Resources
(ADNR)

**Division of Parks & Outdoor
Recreation**

Suzanne Fisler
P.O. Box 1247
Soldotna, AK 99669
(907) 262-5581
(907) 262-3717 Fax

Division of Forestry

Jim Peterson
Soldotna Office
HC 1 Box 107
Soldotna, AK 99669
(907) 262-4124
(907) 262-6390 Fax

Jeff Graham
Soldotna Office
HC 1 Box 107
Soldotna, AK 99669
(907) 262-4124
(907) 262-6390 Fax

AK Dept. of Natural Resources
Division of Agriculture

Nancy Moore
AK Plant Material Center
HC 02 Box 7440
Palmer, AK 99645
(907) 745-4469
(907) 746-1568 Fax

**AK Dept. of Transportation
and Public Facilities**

Pat Beckly
P. O. Box 196900
4111 Aviation Avenue
Anchorage, AK 99519-6900
266-1675
243-6927 Fax

AK District
Army Corps of Engineers
(ACOE)

Robert K. Oja, Chief
Regulatory Branch (1145b)
P.O. Box 898
Anchorage, AK 99506-0898
753-2712
753-5567 Fax

Georgie Akers
Regulatory Branch (1145b)
P.O. Box 898
Anchorage, AK 99506-0898
753-2712
753-5567 Fax

Hank Baij
Regulatory Branch (1145b)
P.O. Box 898
Anchorage, AK 99506-0898
753-2712
753-5567 Fax

National Biological Service
(NBS)

Eric Knudsen
National Biological Service
AK Science Center
1011 East Tudor Road
Anchorage, AK 99503-6199
786-3842
786-3636 Fax

Carl Burger
National Biological Service
AK Science Center
1011 East Tudor Road
Anchorage, AK 99503-6199
786-3316
786-3636 Fax

National Marine Fisheries Service
(NMFS)

Ron Morris
Field Office Supervisor
Natl Marine Fisheries Service
222 W. 7th Avenue, #43
Anchorage, AK 99513-7577
271-5006
271-3030 Fax

Barbara Mahoney
National Marine Fisheries Service
222 W. 7th Avenue, #43
Anchorage, AK 99513-7577
271-5006
271-3030 Fax

Natural Resources Conservation Service
(NRCS)

Tom Ward
Anchorage State Office
949 E. 36th, Suite 400
Anchorage, AK 99508-4362
271-2424
271-3951 Fax

Natural Resources Conservation Service
(NRCS)

Terry Nelson
Anchorage State Office
949 E. 36th, Suite 400
Anchorage, AK 99508-4362
271-2424
271-3951 Fax

Deborah Swanson
Soldotna Office
P.O. Box 944
Soldotna, AK 99669
(907) 262-9295
(907) 262-9295 Fax

The Nature Conservancy

Michelle Brown
P.O. Box 1868
Soldotna, AK 99669
262-9295
262-9295 Fax

U.S. Environmental Protection Agency
(EPA)

Al Ewing
Asst. Regional Administrator
U.S. Environmental Protection Agency - Region 10
AK Operations Office
222 West 7th Avenue, #19
Anchorage, AK 99513-7588
271-3422
271-3424 Fax

Mark Jen
AK Operations Office
222 West 7th Avenue, #19
Anchorage, AK 99513-7588
271-3413
271-3424 Fax

U.S. Fish and Wildlife Service
(USFWS)

Lenny Corin
Deputy Asst. Regional Dir.
Ecological Services
1011 E. Tudor Road
Anchorage, AK 99503-6199
786-3544
786-3640 Fax

U.S. Fish and Wildlife Service
(USFWS)

Tony DeGange
1011 E. Tudor Road
Anchorage, AK 99503-6199
786-3492
786-3350 Fax

Ann Rappoport
Field Supervisor
Western AK Ecological Services
605 West 4th Avenue, Room 62
Anchorage, AK 99501
271-2787
271-2786 Fax

Larry Dugan
Western AK Ecological Services
605 West 4th Avenue, Room 62
Anchorage, AK 99501
271-2797
271-2786 Fax

Kenai National Wildlife Refuge

Dan Doshier
Refuge Manager
P.O. Box 2139
Soldotna, AK 99669-2139
(907) 262-7021
(907) 262-3599 Fax

Mark Chase
P.O. Box 2139
Soldotna, AK 99669-2139
(907) 262-7021 (FAX) 262-3599

Kenai Fishery Resource Office

Gary Sonnevil, Project Leader
P.O. Box 1670
Kenai, AK 99611
(907) 262-9863
(907) 262-7145 Fax

U.S. Forest Service
(USFS)

Chuck Frey, Act. Forest Supr.
Chugach National Forest
3301 C Street, Suite 300
Anchorage, AK 99508
271-2500
271-3992 Fax

Steve Zemke
Chugach National Forest
3301 C Street, Suite 300
Anchorage, AK 99508
271-2521
271-3992 Fax

Mark Wenger
Chugach National Forest
Seward District
P.O. Box 390
Seward, AK 99664
(907) 224-3374
(907) 224-3268

U.S. Geological Survey
(USGS)

Joseph Dorava
Water Resources Division
4230 University Dr., Suite 201
Anchorage, AK 99508-4664
786-7104
786-7150 Fax

APPENDIX C

Information on Planning and Public Process for Florida Keys National Marine Sanctuary

- A. NOAA. 1995. Florida Keys National Marine Sanctuary: Draft Management Plan/Environmental Impact Statement. Vol. III, Appendices, March 1995

Key sections related to planning and public process:

1. "Overview of the Planning Process" -- General Introduction, pages 3 and 4
 2. "National Marine Sanctuaries Act" -- Sec. 304(d), Interagency Cooperation, page A-5
 3. "Florida Keys National Marine Sanctuary and Protection Act" -- Sec. 7(a), Preparation of Plan, pages A-13 and -14; Advisory Council, Sec. 9, page A-16
 4. Group Membership, pages B-1 to B-7
- B. "Charter of the Florida Keys National Marine Sanctuary Advisory Council"
- C. Eichbaum, W., W. Hoeft, R. Schecter, and J. Schubel. 1994. A Report to W. Stanley Wilson, Asst. Admin. for NOS on *The Process Used in Developing the Florida Keys National Marine Sanctuary Management Plan*. 25pp.

General Introduction

This is the third of three volumes describing the Draft Management Plan/Environmental Impact Statement (EIS) for the Florida Keys National Marine Sanctuary. Volume I contains the Draft Management Plan, including detailed action plans. Volume II describes the Draft Management Plan/EIS development process, and Volume III contains the appendices referenced in Volumes I and II.

Authority for Designation

National marine sanctuaries are routinely designated by the Secretary of Commerce through an administrative process established by the National Marine Sanctuaries Act (NMSA) of 1972, 16 U.S.C. 1431 et seq., as amended, including activation of candidate sites selected from the National Marine Sanctuary Program Site Evaluation List. Sanctuaries also have been designated by an Act of Congress. The Florida Keys National Marine Sanctuary was designated when the President signed the Florida Keys National Marine Sanctuary and Protection Act. Appendix A in this volume contains a copy of this Act.

Terms of Statutory Designation

Section 304(a)(4) of the NMSA requires that the terms of designation set forth the geographic area included within the Sanctuary; the characteristics of the area that give it conservation, recreational, ecological, historical, research, educational, or aesthetic value; and the types of activities that will be subject to regulation by the Secretary of Commerce to protect those characteristics. This section also specifies that the terms of designation may be modified only through the same procedures by which the original designation was made. Thus, the terms of designation serve as a charter for the Sanctuary.

Mission and Goals of the National Marine Sanctuary Program

The purpose of a sanctuary is to protect resources and their conservation, recreational, ecological, historical, research, educational, or aesthetic values through comprehensive long-term management. National marine sanctuaries may be designated in coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which

the United States exercises jurisdiction, consistent with international law. They are built around distinctive natural and historical resources whose protection and beneficial use require comprehensive planning and management.

The National Oceanic and Atmospheric Administration (NOAA) administers the National Marine Sanctuary Program through the Sanctuaries and Reserves Division (SRD) of the Office of Ocean and Coastal Resource Management (OCRM).

In accordance with the NMSA, the mission of the National Marine Sanctuary Program is to identify, designate, and comprehensively manage marine areas of national significance. National marine sanctuaries are established for the public's long-term benefit, use, and enjoyment. To meet these objectives, the following National Marine Sanctuary Program goals have been established (15 CFR, Part 922.1(b)):

- Enhance resource protection through comprehensive and coordinated conservation and ecosystem management that complements existing regulatory authorities.
- Support, promote, and coordinate scientific research on, and monitoring of, the site-specific marine resources to improve management decisionmaking in national marine sanctuaries.
- Enhance public awareness, understanding, and the wise use of the marine environment through public interpretive, educational, and recreational programs.
- Facilitate, to the extent compatible with the primary objective of resource protection, multiple uses of national marine sanctuaries.

The Florida Keys National Marine Sanctuary is one of a system of national marine sanctuaries that has been established since the Program's inception in 1972. Sanctuaries are not new to the Florida Keys—the Key Largo National Marine Sanctuary was designated in 1975 and the Looe Key National Marine Sanctuary was designated in 1981.

Florida Keys Environmental Setting. The Florida Keys National Marine Sanctuary extends approximately 220 miles southwest from the southern tip of

General Introduction

the Florida peninsula. Located adjacent to the Keys' land mass are spectacular, unique, and nationally significant marine environments, including seagrass meadows, mangrove islands, and extensive living coral reefs. These support rich biological communities possessing extensive conservation, recreational, commercial, ecological, historical, research, educational, and aesthetic values that give this area special national significance. They are the marine equivalent of tropical rain forests in that they support high levels of biological diversity, are fragile and easily susceptible to damage from human activities, and possess high value to humans if properly conserved.

The marine environment of the Florida Keys supports over 6,000 species of plants, fishes, and invertebrates, including the Nation's only coral reef that lies adjacent to the continent and one of the largest seagrass communities in this hemisphere. Attracted by this natural diversity and tropical climate, nearly four million tourists visit the Keys annually, where they participate primarily in water-related sports such as fishing, diving, boating, and other tourist activities.

Management Plan Requirements

After three devastating ship groundings on the Keys' reef tract in 1989, outbreaks of serious coral disease, and the general recognition of a pattern of environmental decline, Florida Representative Dante Fascell and Senator Bob Graham introduced legislation to provide comprehensive protection to the Keys' marine environment. In November 1990, the President signed the Florida Keys National Marine Sanctuary and Protection Act (FKNMSPA) (Appendix A in this volume).

The FKNMSPA directs the Secretary of Commerce to develop a comprehensive management plan and implement regulations to protect Sanctuary resources. The Act requires that the plan:

- facilitate all public and private uses of the Sanctuary consistent with the primary objective of resource protection;
- consider temporal and geographic zoning to ensure protection of Sanctuary resources;
- incorporate the regulations necessary to enforce the comprehensive water quality protection program developed under Section 8 of the FKNMSPA;

- identify needs for research, and establish a long-term ecological monitoring program;
- identify alternative sources of funding needed to fully implement the Plan's provisions and supplement appropriations authorized under Section 10 (16 U.S.C., §1444) of the FKNMSPA and Section 313 of the NMSA;
- ensure coordination and cooperation between Sanctuary managers and other Federal, State, and local authorities with jurisdiction within or adjacent to the Sanctuary;
- promote education among users of the Sanctuary about coral reef conservation and navigational safety; and
- incorporate the existing Looe Key and Key Largo national marine sanctuaries into the Florida Keys National Marine Sanctuary.

All of these requirements have been addressed in the Management Plan.

In addition to the above statutory objectives, the Sanctuary Advisory Council, early on in the planning process in 1992, developed a set of goals and objectives for the Sanctuary that NOAA later adopted. The goal is:

"To preserve and protect the physical and biological components of the South Florida estuarine and marine ecosystem to ensure its viability for the use and enjoyment of present and future generations."

The objectives include:

- Encouraging all agencies and institutions to adopt an ecosystem and cooperative approach to accomplish the following objectives, including the provision of mechanisms to address impacts affecting Sanctuary resources but originating outside the boundaries of the Sanctuary;
- Providing a management system which is in harmony with an environment whose long-term ecological, economic, and sociological principles are understood, and which will allow appropriate sustainable uses;
- Managing the Florida Keys National Marine Sanctuary for the natural diversity of healthy species, populations, and communities;

- Reaching every single user and visitor to the FKNMS with information appropriate to their activities; and
- Recognizing the importance of cultural and historic resources, and managing these resources for reasonable, appropriate use and enjoyment.

Overview of the Planning Process

The size of the Sanctuary and the diversity of its users required that NOAA adopt a holistic, ecosystem-based management approach to address the problems facing the Sanctuary. This meant using a problem-driven focus, relying on partnerships, and building consensus around the identification of issues and their short- and long-term solutions.

A Comprehensive Approach. The FKNMSPA requires NOAA to develop a comprehensive management plan. To meet this mandate, NOAA has addressed many problems and issues, such as water quality and land use, that are outside the "traditional" scope of Sanctuary management. The process involved unprecedented participation by the general public, user groups, and Federal, State, and local governments.

Because of the size of the Sanctuary and the variety of resources it contains, many problems never before encountered by Sanctuary management had to be addressed. For example, significant declines in water quality and habitat conditions in Florida Bay are threatening the health of Sanctuary resources. These conditions are thought to be the result of water quality and quantity management in the South Florida region. Such problems must be addressed by management to ensure adequate protection of Sanctuary resources. There is a need, therefore, to explicitly include the agencies with responsibilities in these areas in the continuous management process.

Knowledge-based Consensus Building. A series of workshops followed a set of public scoping meetings, and laid the foundation for building this Plan. At these work sessions, NOAA used a systematic process for obtaining relevant information from experts with knowledge of Sanctuary problems.

NOAA recognized that a useful management plan could not be developed and implemented without forging working teams to help provide the vision and knowledge necessary to accomplish the goals set forth in the FKNMSPA. Four teams were formed to

ensure that input was provided by major Federal, State, and local interests in the Sanctuary and to see that a plan was produced that met the goals and objectives set forth by the FKNMSPA and NOAA. There was considerable interaction, and some overlap in membership and function, among these teams.

- In July 1991, the Interagency Core Group, composed of Federal, State, and local agencies with direct jurisdictional responsibility in the Sanctuary, was formed to develop policies and direct and oversee the management plan development process (Appendix B in this volume lists the members of this Core Group).
- A Strategy Identification Work Group, composed of 49 local scientists and management experts, generated the initial set of strategies and details on implementation requirements.
- The Sanctuary Advisory Council (SAC) was established by the FKNMSPA to ensure public input into the Plan and to advise and assist NOAA in its development and implementation. The SAC first met in February 1992, and has conducted over 15 meetings that have each been open to the public (Appendix B in this volume contains a list of SAC members). The SAC became an integral part of the Sanctuary planning process by serving as a direct link to the Keys' user communities such as the dive industry, environmental groups, and commercial and recreational fishermen. In addition, the SAC has been instrumental in helping NOAA to formulate policy, particularly with regard to: 1) the marine zoning plan; 2) activities needing regulation; and 3) recommending a preferred alternative for the Management Plan.
- A NOAA team composed of the Sanctuaries and Reserves Division, the Strategic Environmental Assessments Division, and the Office of the Assistant General Counsel for Ocean Services was responsible for developing and implementing the process to produce the Plan. The Sanctuaries and Reserves Division is responsible for producing the printed document in final form.

Focus on Management and Action. From the beginning of the Plan development process, it has been recognized that management is a continuous activity that must involve those responsible for implementing actions. The process has made maximum use of existing knowledge and experience

General Introduction

to identify, characterize, and assess alternative management actions. Much of the planning process was devoted to identifying short- and long-term management actions or strategies, including their operational requirements. These management actions can be found in the detailed action plans in Volume I. These plans address management issues ranging from channel marking to volunteer programs to regulations. They provide details on institutional needs, personnel, time requirements, and implementation costs. These details are necessary for the decisions that will have to be made upon Plan implementation by the managers in the region.

Toward Integrated, Continuous Management. A central purpose of the Management Plan is to take the disparate threads of protection and regulation that currently apply to the Florida Keys ecosystem and weave them into a fabric of integrated coastal management (ICM). ICM is not a new idea or concept; what is new is the notion of applying it in a comprehensive and continuous manner. ICM is a process that begins with direct participation of managers, planners, analysts, scientists, and a concerned public. Developing an integrated management approach does not take place quickly; it evolves over time, based on incremental gains that build upon one another.

A major component of the Management Plan is the consideration of water quality issues and problems. The FKNMSPA called upon the U.S. Environmental Protection Agency and the State of Florida to develop a comprehensive water quality protection program for the Sanctuary. NOAA has incorporated this proposed program plan into the Management Plan as the Water Quality Action Plan found in Volume I.

The Environmental Impact Statement Process

The National Environmental Policy Act of 1969 (NEPA) requires any Federal agency proposing a major action that significantly affects the quality of the human environment to develop an environmental impact statement that describes both the positive and negative impacts that may result from implementation. Accordingly, an EIS has been drafted to accompany the Management Plan, and both will go through a public review and comment process prior to adoption of the Final Plan. The EIS evaluates a range of reasonable alternative approaches to Sanctuary management. The alternatives are presented in comparative form to facilitate analysis of

their effects. The Preferred Alternative for Sanctuary management is presented based on NOAA's analysis of its impacts.

Contents of Volume III

This volume contains the 10 appendices referred to in Volumes I and II. They are organized alphabetically (A through J), and the pages within each appendix are listed numerically.

- Appendix A includes the full texts of both the National Marine Sanctuary Act and the Florida Keys National Marine Sanctuary and Protection Act.
- Appendix B lists the members of the Interagency Core Group, Sanctuary Advisory Council, and Strategy Working Group.
- Appendix C lists the existing legislative authorities within the Keys.
- Appendix D provides additional information about Federal fishery management.
- Appendix E gives a sample strategy description sheet.
- Appendix F gives a sample strategy characterization sheet.
- Appendix G lists the strategies in each of the mid-range management alternatives.
- Appendix H lists the strategies in the Preferred Alternative.
- Appendix I is a tracking table that details the evolution of strategy development.
- Appendix J is a complete list of all terrestrial and marine animals and algae within the Keys.
- Appendix K is the Sanctuary Designation Document, which details the effect of designation, describes the Sanctuary area, outlines the scope of applicable Sanctuary regulations, and specifically defines the Sanctuary's boundaries.

NOTE: The terms "Management Plan" and "Environmental Impact Statement (EIS)" used throughout this document refer to the **Draft Management Plan and Draft EIS.**

The National Marine Sanctuaries Act

The National Marine Sanctuaries Act, as amended

Sec. 301. FINDINGS, PURPOSES, AND POLICIES.

(a) Findings.—The Congress finds that—

(1) this nation historically has recognized the importance of protecting special areas of its public domain, but these efforts have been directed almost exclusively to land areas above the high-water mark;

(2) certain areas of the marine environment possess conservation, recreational, ecological, historical, research, educational, or esthetic qualities which give them special national and, in some instances, international significance;

(3) while the need to control the effects of particular activities has led to enactment of resource-specific legislation, these laws cannot in all cases provide a coordinated and comprehensive approach to the conservation and management of special areas of the marine environment;

(4) a Federal program which identifies special areas of the marine environment will contribute positively to marine resources conservation, research, and management;

(5) such a Federal program will also serve to enhance public awareness, understanding, appreciation, and wise use of the marine environment; and

(6) protection of these special areas can contribute to maintaining a natural assemblage of living resources for future generations.

(b) Purposes and Policies.—The purposes and policies of this title are—

(1) to identify and designate as national marine sanctuaries areas of the marine environment which are of special national significance;

(2) to provide authority for comprehensive and coordinated conservation and management of these marine areas, and activities affecting them, in a manner which complements existing regulatory authorities;

(3) to support, promote, and coordinate scientific research on, and monitoring of, the resources of these marine areas, especially long-term monitoring and research of these areas;

(4) to enhance public awareness, understanding, appreciation, and wise use of the marine environment;

(5) to facilitate to the extent compatible with the primary objective of resource protection, all public and private uses of the resources of these marine areas not prohibited pursuant to other authorities;

(6) to develop and implement coordinated plans for the protection and management of these areas with appropriate Federal agencies, State and local governments, Native American tribes and organizations, international organizations, and other public and private interests concerned with the continuing health and resilience of these marine areas;

(7) to create models of, and incentives for, ways to conserve and manage these areas;

(8) to cooperate with global programs encouraging conservation of marine resources; and

(9) to maintain, restore, and enhance living resources by providing places for species that depend upon these marine areas to survive and propagate.

Sec. 302. Definitions.

As used in this title, the term—

(1) "draft management plan" means the plan described in section 304(a)(1)(C)(v);

(2) "Magnuson Act" means the Magnuson Fishery Conservation and Management Act (16 U.S.C. 1801 et seq.);

(3) "marine environment" means those areas of coastal and ocean waters, the Great Lakes and their connecting waters, and submerged lands over which the United States exercises jurisdiction, including the exclusive economic zone, consistent with international law;

(4) "Secretary" means the Secretary of Commerce;

(5) "State" means each of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, American Samoa, the Virgin Islands, Guam, and any other commonwealth, territory, or possession of the United States;

(6) "damages" includes—

(A) compensation for—

(i)(I) the cost of replacing, restoring, or acquiring the equivalent of a Sanctuary resource; and

(II) the value of the lost use of a sanctuary resource pending its restoration;

tion or replacement or the acquisition of an equivalent sanctuary resource; or

(ii) the value of a sanctuary resource if the sanctuary resource cannot be restored or replaced or if the equivalent of such resource cannot be acquired;

(B) the cost of damage assessments under section 312(b)(2); and

(C) the reasonable cost of monitoring appropriate to the injured, restored, or replaced resources;

(7) "response costs" means the costs of actions taken or authorized by the Secretary to minimize destruction or loss of, or injury to, sanctuary resources, or to minimize the imminent risks of such destruction, loss, or injury;

(8) "sanctuary resource" means any living or nonliving resource of a national marine sanctuary that contributes to the conservation, recreational, ecological, historical, research, educational, or aesthetic value of the sanctuary; and

(9) "exclusive economic zone" means the exclusive economic zone as defined in the Magnuson Fishery and Conservation Act.

Sec. 303. Sanctuary Designation Standards

(a) Standards.—The Secretary may designate any discrete area of the marine environment as a national marine sanctuary and promulgate regulations implementing the designation if the Secretary—

(1) determines that the designation will fulfill the purposes and policies of this title; and

(2) finds that—

(A) the area is of special national significance due to its resource or human-use values;

(B) existing State and Federal authorities are inadequate or should be supplemented to ensure coordinated and comprehensive conservation and management of the area, including resource protection, scientific research, and public education;

(C) designation of the area as a national marine sanctuary will facilitate the objectives in subparagraph (B); and

(D) the area is of a size and nature that will permit comprehensive and coordinated conservation and management.

(b) Factors and Consultations Required in Making Determinations and Findings.—

(1) Factors.—For purposes of determining if an area of the marine environment meets the standards set forth in subsection (a), the Secretary shall consider—

(A) the area's natural resource and ecological qualities, including its contribution to biological productivity, maintenance of ecosystem structure, maintenance of ecologically or commercially important or threatened species or species assemblages, maintenance of critical habitat of endangered species, and the biogeographic representation of the site;

(B) the area's historical, cultural, archaeological, or paleontological significance;

(C) the present and potential uses of the area that depend on maintenance of the area's resources, including commercial and recreational fishing, subsistence uses, other commercial and recreational activities, and research and education;

(D) the present and potential activities that may adversely affect the factors identified in subparagraphs (A), (B), (C);

(E) the existing State and Federal regulatory and management authorities applicable to the area and the adequacy of those authorities to fulfill the purposes and policies of this title;

(F) the manageability of the area, including such factors as its size, its ability to be identified as a discrete ecological unit with definable boundaries, its accessibility, and its suitability for monitoring and enforcement activities;

(G) the public benefits to be derived from sanctuary status, with emphasis on the benefits of long-term protection of nationally significant resources, vital habitats, and resources which generate tourism;

(H) the negative impacts produced by management restrictions on income-generating activities such as living and nonliving resources development; and

(I) the socioeconomic effects of sanctuary designation.

(2) Consultation.—In making determinations and findings, the Secretary shall consult with—

(A) the Committee on Merchant Marine and Fisheries of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate;

(B) the Secretaries of State, Defense, Transportation, and the Interior, the Administrator, and the heads of other interested Federal agencies;

(C) the responsible officials or relevant agency heads of the appropriate State and local

government entities, including coastal zone management agencies, that will, or are likely to be, affected by the establishment of the area as a national marine sanctuary;

(D) the appropriate officials of any Regional Fishery Management Council established by section 302 of the Magnuson Act (16 U.S.C. 1852) that may be affected by the proposed designation; and

(E) other interested persons.

(3) **Resource Assessment Report.**—In making determinations and findings, the Secretary shall draft, as part of the environmental impact statement referred to in section 304(a)(2), a resource assessment report documenting present and potential uses of the area, including commercial and recreational fishing, research and education, minerals and energy development, subsistence uses, and other commercial, governmental, or recreational uses. The Secretary, in consultation with the Secretary of the Interior, shall draft a resource assessment section for the report regarding any commercial, governmental or recreational resource uses in the area under consideration that are subject to the primary jurisdiction of the Department of the Interior. The Secretary, in consultation with the Secretary of Defense, the Secretary of Energy, and the Administrator, shall draft a resource assessment section for the report including information on any past, present, or proposed future disposal or discharge of materials in the vicinity of the proposed sanctuary. Public disclosure by the Secretary of such information shall be consistent with national security regulations.

Sec. 304. Procedures for Designation and Implementation.

(a) **Sanctuary Proposal.**—

(1) **Notice.**—In proposing to designate a national marine sanctuary, the Secretary shall—

(A) issue, in the Federal Register, a notice of the proposal, proposed regulations that may be necessary and reasonable to implement the proposal, and a summary of the draft management plan;

(B) provide notice of the proposal in newspapers of general circulation or electronic media in the communities that may be affected by the proposal; and

(C) on the same day the notice required by subparagraph (A) is issued, the Secretary shall submit to the Committee on Merchant Marine and Fisheries of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate documents including an executive summary consisting of—

(i) the terms of the proposed designation;

(ii) the basis of the findings made under section 303(a) with respect to the area;

(iii) an assessment of the considerations under section 303(b)(1);

(iv) proposed mechanisms to coordinate existing regulatory and management authorities within the area;

(v) the draft management plan detailing the proposed goals and objectives, management responsibilities, resource studies, interpretive and educational programs, and enforcement, including surveillance activities for the area;

(vi) an estimate of the annual cost of the proposed designation, including costs of personnel, equipment and facilities, enforcement, research, and public education;

(vii) the draft environmental impact statement;

(viii) an evaluation of the advantages of cooperative State and Federal management if all or part of a proposed marine sanctuary is within the territorial limits of any state or is superjacent to the subsoil and seabed within the seaward boundary of a State, as that boundary is established under the Submerged Lands Act (43 U.S.C. 1301 et seq.); and

(ix) the proposed regulations referred to in subparagraph (A).

(2) **Environmental Impact Statement.**—The Secretary shall—

(A) prepare a draft environmental impact statement, as provided by the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), on the proposal that includes the resource assessment report required under section 303(b)(3), maps depicting the boundaries of the proposed designated area, and the existing and potential uses and resources of the area; and

(B) make copies of the draft environmental impact statement available to the public.

(3) **Public Hearing.**—No sooner than thirty days after issuing a notice under this subsection, the Secretary shall hold at least one public hearing in the coastal area or areas that will be most affected by the proposed designation of the area as a national marine sanctuary for the purpose of receiving the views of interested parties.

(4) **Terms of Designation.**—The terms of designation of a sanctuary shall include the geographic area proposed to be included within the sanctuary, the characteristics of the area that give it conserva-

Appendix A. Sanctuary Legislation

tion, recreational, ecological, historical, research, educational, or esthetic value, and the types of activities that will be subject to regulation by the Secretary to protect those characteristics. The terms of designation may be modified only by the same procedures by which the original designation is made.

(5) Fishing Regulations.—The Secretary shall provide the appropriate Regional Fishery Management Council with the opportunity to prepare draft regulations for fishing within the exclusive economic zone as the Council may deem necessary to implement the proposed designation. Draft regulations prepared by the Council, or a Council determination that regulations are not necessary pursuant to this paragraph, shall be accepted and issued as proposed regulations by the Secretary unless the Secretary finds that the Council's action fails to fulfill the purposes and policies of this title and the goals and objectives of the proposed designation. In preparing the draft regulations, a Regional Fishery Management Council shall use as guidance the national standards of section 301(a) of the Magnuson Act (16 U.S.C. 1851) to the extent that the standards are consistent and compatible with the goals and objectives of the proposed designation. The Secretary shall prepare the fishing regulations, if the Council declines to make a determination with respect to the need for regulations, makes a determination which is rejected by the Secretary, or fails to prepare the draft regulations in a timely manner. Any amendments to the fishing regulations shall be drafted, approved, and issued in the same manner as the original regulations. The Secretary shall also cooperate with other appropriate fishery management authorities with rights or responsibilities within a proposed sanctuary at the earliest practicable stage in drafting any sanctuary fishing regulations.

(6) Committee Action.—After receiving the documents under subsection (a)(1)(C), the Committee on Merchant Marine and Fisheries of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate may each hold hearings on the proposed designation and on the matters set forth in the documents. If within the forty-five day period of continuous session of Congress beginning on the date of submission of the documents either Committee issues a report concerning matters addressed in the documents, the Secretary shall consider this report before publishing a notice to designate the national marine sanctuary.

(b) Taking Effect of Designations.—

(1) Notice.—In designating a national marine sanctuary, the Secretary shall publish in the Federal Register notice of the designation together with

final regulations to implement the designation and any other matters required by law, and submit such notice to the Congress. The Secretary shall advise the public of the availability of the final management plan and the final environmental impact statement with respect to such sanctuary. The Secretary shall issue a notice of designation with respect to a proposed national marine sanctuary site not later than 30 months after the date a notice declaring the site to be an active candidate for sanctuary designation is published in the Federal Register under regulations issued under this Act, or shall publish not later than such date in the Federal Register findings regarding why such notice has not been published. No notice of designation may occur until the expiration of the period for Committee action under subsection (a)(6). The designation (and any of its terms not disapproved under this subsection) and regulations shall take effect and become final after the close of a review period of forty-five days of continuous session of Congress beginning on the day on which such notice is published, unless in the case of a natural marine sanctuary that is located partially or entirely within the seaward boundary of any State, the Governor affected certifies to the Secretary that the designation or any of its terms is unacceptable, in which case the designation or the unacceptable term shall not take effect in the area of the sanctuary lying within the seaward boundary of the State.

(2) Withdrawal of Designation.—If the Secretary considers that actions taken under paragraph (1) will affect the designation of a national marine sanctuary in a manner that the goals and objectives of the sanctuary cannot be fulfilled, the Secretary may withdraw the entire designation. If the Secretary does not withdraw the designation, only those terms of the designation or not certified under paragraph (1) shall take effect.

(3) Procedures.—

(A) In computing the forty-five-day periods of continuous session of Congress pursuant to subsection (a)(6) and paragraph (1) of this subsection—

(i) continuity of session is broken only by an adjournment of Congress sine die; and

(ii) the days on which either House of Congress is not in session because of an adjournment of more than three days to a day certain are excluded.

(B) When the committee to which a joint resolution has been referred has reported such a resolution, it shall at any time thereafter be in order to move to proceed to the consideration of the resolution. The motion shall be privileged

and shall not be debatable. An amendment to the motion shall not be in order, and it shall not be in order to move to reconsider the vote by which the motion was agreed to or disagreed to.

(C) This subsection is enacted by Congress as an exercise of the rulemaking power of each House of Congress, respectively, and as such is deemed a part of the rules of each House, respectively, but applicable only with respect to the procedure to be followed in the case of resolutions described in this subsection. This subsection supersedes other rules only to the extent that they are inconsistent therewith, and is enacted with full recognition of the constitutional right of either House to change the rules (so far as those relate to the procedure of that House) at any time, in the same manner, and to the same extent as in the case of any other rule of such House.

(c) Access and Valid Rights.—

(1) Nothing in this title shall be construed as terminating or granting to the Secretary the right to terminate any valid lease, permit, license, or right of subsistence use or of access that is in existence on the date of designation of any national marine sanctuary.

(2) The exercise of a lease, permit, license, or right is subject to regulation by the Secretary consistent with the purposes for which the sanctuary is designated.

(d) INTERAGENCY COOPERATION.—

(1) REVIEW OF AGENCY ACTIONS.—

(A) IN GENERAL.—Federal agency actions internal or external to a national marine sanctuary, including private activities authorized by licenses, leases, or permits, that are likely to destroy, cause the loss of, or injure any sanctuary resource are subject to consultation with the Secretary.

(B) AGENCY STATEMENTS REQUIRED.—Subject to any regulations the Secretary may establish, each Federal agency proposing an action described in subparagraph (A) shall provide the Secretary with a written statement describing the action and its potential effects on sanctuary resources at the earliest practicable time, but in no case later than 45 days before the final approval of the action unless such Federal agency and the Secretary agree to a different schedule.

(2) SECRETARY'S RECOMMENDED ALTERNATIVES.—If the Secretary finds that a Federal agency action is likely to destroy, cause the loss of, or injure a sanctuary resource, the Secretary shall (within 45 days of receipt of

complete information on the proposed agency action) recommend reasonable and prudent alternatives, which may include conduct of the action elsewhere, which can be taken by the Federal agency in implementing the agency action that will protect sanctuary resources.

(3) RESPONSE TO RECOMMENDATIONS.—The agency head who receives the Secretary's recommended alternatives under paragraph (2) shall promptly consult with the Secretary on the alternatives. If the agency head decides not to follow the alternatives, the agency head shall provide the Secretary with a written statement explaining the reasons for that decision.

(e) REVIEW OF MANAGEMENT PLANS.—

Not more than five years after the date of designation of any national marine sanctuary, and thereafter at intervals not exceeding five years, the Secretary shall evaluate the substantive progress toward implementing the management plan and goals for the sanctuary, especially the effectiveness of site-specific management techniques, and shall revise the management plan and regulations as necessary to fulfill the purposes and policies of this title.

Sec. 305. Application of Regulations and International Negotiations.

(a) Regulations.—This title and the regulations issued under section 304 shall be applied in accordance with generally recognized principles of international law, and in accordance with the treaties, conventions, and other agreements to which the United States is a party. No regulation shall apply to or be enforced against a person who is not a citizen, national, or resident alien of the United States, unless in accordance with—

(1) generally recognized principles of international law;

(2) an agreement between the United States and the foreign state of which the person is a citizen; or

(3) an agreement between the United States and the flag state of a foreign vessel, if the person is a crewmember of the vessel.

(b) Negotiations.—The Secretary of State, in consultation with the Secretary, shall take appropriate action to enter into negotiations with other governments to make necessary arrangements for the protection of any national marine sanctuary and to promote the purposes for which the sanctuary is established.

(c) INTERNATIONAL COOPERATION.—The Secretary, in consultation with the Secretary of State and other appropriate Federal agencies, shall cooper-

Appendix A. Sanctuary Legislation

ate with other governments and international organizations in the furtherance of the purposes and policies of this title and consistent with applicable regional and multilateral arrangements for the protection and management of special marine areas.

Sec. 306. Prohibited Activities.

It is unlawful to—

- (1) destroy, cause the loss of, or injure any sanctuary resource managed under law or regulations for that sanctuary;
- (2) possess, sell, deliver, carry, transport, or ship by any means any sanctuary resource taken in violation of this section;
- (3) interfere with the enforcement of this title; or
- (4) violate any provision of this title or any regulation or permit issued pursuant to this title.

Sec. 307. Enforcement.

(a) *In General.*—The Secretary shall conduct such enforcement activities as are necessary and reasonable to carry out this title.

(b) *Powers of Authorized Officers.*—Any person who is authorized to enforce this title may—

(1) board, search, inspect, and seize any vessel suspected of being used to violate this title or any regulation or permit issued under this title and any equipment, stores, and cargo of such vessel;

(2) seize, wherever found, any sanctuary resource taken or retained in violation of this title or any regulation or permit issued under this title;

(3) seize any evidence of a violation of this title or of any regulation or permit issued under this title;

(4) execute any warrant or other process issued by any court of competent jurisdiction; and

(5) exercise any other lawful authority.

(c) *Civil Penalties.*—

(1) *Civil penalty.*—Any person subject to the jurisdiction of the United States who violates this title or any regulation or permit issued under this title shall be liable to the United States for a civil penalty of not more than \$100,000 for each such violation, to be assessed by the Secretary. Each day of a continuing violation shall constitute a separate violation.

(2) *Notice.*—No penalty shall be assessed under this subsection until after the person charged has been given notice and an opportunity for a hearing.

(3) *In Rem Jurisdiction.*—A vessel used

in violating this title or any regulation or permit issued under this title shall be liable in rem for any civil penalty assessed for such violation. Such penalty shall constitute a maritime lien on the vessel and may be recovered in an action in rem in the district court of the United States having jurisdiction over the vessel.

(4) *Review of Civil Penalty.*—Any person against whom a civil penalty is assessed under this subsection may obtain review in the United States district court for the appropriate district by filing a complaint in such court not later than 30 days after the date of such order.

(5) *Collection of Penalties.*—If any person fails to pay an assessment of a civil penalty under this section after it has become a final and unappealable order, or after the appropriate court has entered final judgment in favor of the Secretary, the Secretary shall refer the matter to the Attorney General, who shall recover the amount assessed in any appropriate district court of the United States. In such action, the validity and appropriateness of the final order imposing the civil penalty shall not be subject to review.

(6) *Compromise or Other Action by Secretary.*—The Secretary may compromise, modify, or remit, with or without conditions, any civil penalty which is, or may be, imposed under this section.

(d) *Forfeiture.*—

(1) *In General.*—Any vessel (including the vessel's equipment, stores, and cargo) and other item used, and any sanctuary resource taken or retained, in any manner, in connection with, or as a result of, any violation of this title or of any regulation or permit issued under this title shall be subject to forfeiture to the United States pursuant to a civil proceeding under this subsection. The proceeds from forfeiture actions under this subsection shall constitute a separate recovery in addition to any amounts recovered as civil penalties under this section or as civil damages under section 312. None of those proceeds shall be subject to set-off.

(2) *Application of the Customs Laws.*—The Secretary may exercise the authority of any United States official granted by any relevant customs law relating to the seizure, forfeiture, condemnation, disposition, remission, and mitigation of property in enforcing this title.

(3) Disposal of Sanctuary Resources.—Any sanctuary resource seized pursuant to this title may be disposed of pursuant to an order of the appropriate court or, if perishable, in a manner prescribed by regulations promulgated by the Secretary. Any proceeds from the sale of such sanctuary resource shall for all purposes represent the sanctuary resource so disposed of in any subsequent legal proceedings.

(4) Presumption.—For the purposes of this section there is a rebuttable presumption that all sanctuary resources found onboard a vessel that is used or seized in connection with a violation of this title or of any regulation or permit issued under this title were taken or retained in violation of this title or of a regulation or permit issued under this title.

(e) Payment of Storage, Care, and Other Costs.—

(1) EXPENDITURES.—

(A) Notwithstanding any other law, amounts received by the United States as civil penalties, forfeitures of property, and costs imposed under paragraph (2) shall be retained by the Secretary in the manner provided for in section 107(f)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act.

(B) Amounts received under this section for forfeitures and costs imposed under paragraph (2) shall be used to pay the reasonable and necessary costs incurred by the Secretary to provide temporary storage, care, maintenance, and disposal of any sanctuary resource or other property seized in connection with a violation of this title or any regulation or permit issued under this title.

(C) Amounts received under this section as civil penalties and any amounts remaining after the operation of subparagraph (B) shall be used, in order of priority, to—

(i) manage and improve the national marine sanctuary with respect to which the violation occurred that resulted in the penalty or forfeiture;

(ii) pay a reward to any person who furnishes information leading to an assessment of a civil penalty, or to a forfeiture of property, for a violation of this title or any regulation or permit issued under this title; and

(iii) manage and improve any other national marine sanctuary.

(2) Liability for Costs.—Any person assessed a civil penalty for a violation of this title or of any regulation or permit issued under this title, and any claimant in a forfeiture action brought for such a violation, shall be liable for the reasonable costs incurred by the Secretary in storage, care, and maintenance of any sanctuary resource or other property seized in connection with the violation.

(f) Subpoenas.—In the case of any hearing under this section which is determined on the record in accordance with the procedures provided for under section 554 of title 5, United States Code, the Secretary may issue subpoenas for the attendance and testimony of witnesses and the production of relevant papers, books, and documents, and may administer oaths.

(g) Use of Resources of State and Other Federal Agencies.—The Secretary shall, whenever appropriate, use by agreement the personnel, services, and facilities of State and other Federal departments, agencies, and instrumentalities, on a reimbursable or nonreimbursable basis, to carry out the Secretary's responsibilities under this section.

(h) Coast Guard Authority Not Limited.—Nothing in this section shall be considered to limit the authority of the Coast Guard to enforce this or any other Federal law under section 89 of title 14, United States Code.

(i) Injunctive Relief.—If the Secretary determines that there is an imminent risk of destruction or loss of or injury to a sanctuary resource, or that there has been actual destruction or loss of, or injury to, a sanctuary resource which may give rise to liability under section 312, the Attorney General, upon request of the Secretary, shall seek to obtain such relief as may be necessary to abate such risk or actual destruction, loss, or injury, or to restore or replace the sanctuary resource, or both. The district courts of the United States shall have jurisdiction in such a case to order such relief as the public interest and the equities of the case may require.

(j) Area of Application and Enforceability.—The area of application and enforceability of this title includes the territorial sea of the United States, as described in Presidential Proclamation 5928 of December 27, 1988, which is subject to the sovereignty of the United States, and the United States' exclusive economic zone, consistent with international law.

Sec. 308. Severability.

If any provision of this Act or the application thereof to any person or circumstances is held

Appendix A. Sanctuary Legislation

invalid, the validity of the remainder of this Act and of the application of such provision to other persons and circumstances shall not be affected thereby.

SEC. 309. Research, Monitoring, and Education.

(a) **IN GENERAL.**—The Secretary shall conduct research, monitoring, evaluation, and education programs as are necessary and reasonable to carry out the purposes and policies of this title.

(b) **PROMOTION AND COORDINATION OF SANCTUARY USE.**—The Secretary shall take such action as is necessary and reasonable to promote and coordinate the use of national marine sanctuaries for research, monitoring, and education purposes. Such action may include consulting with Federal agencies, States, local governments, regional agencies, interstate agencies, or other persons to promote use of one or more sanctuaries for research, monitoring, and education, including coordination with the National Estuarine Research Reserve System.

Sec. 310. Special Use Permits.

(a) **Issuance of Permits.**—The Secretary may issue special use permits which authorize the conduct of specific activities in a national marine sanctuary if the Secretary determines such authorization is necessary—

(1) to establish conditions of access to and use of any sanctuary resource; or

(2) to promote public use and understanding of a sanctuary resource.

(b) **Permit Terms.**—A permit issued under this section—

(1) shall authorize the conduct of an activity only if that activity is compatible with the purposes for which the sanctuary is designated and with protection of sanctuary resources;

(2) shall not authorize the conduct of any activity for a period of more than five years unless renewed by the Secretary;

(3) shall require that activities carried out under the permit be conducted in a manner that does not destroy, cause the loss of, or injure sanctuary resources; and

(4) shall require the permittee to purchase and maintain comprehensive general liability insurance against claims arising out of activities conducted under the permit, and to agree to hold the United States harmless against such claims.

(c) **Fees.**—

(1) **Assessment and Collection.**—The Secretary may assess and collect fees for the conduct of any activity under a permit issued under this section.

(2) **Amount.**—The amount of a fee under this subsection shall be equal to the sum of—

(A) costs incurred, or expected to be incurred, by the Secretary in issuing the permit;

(B) costs incurred, or expected to be incurred, by the Secretary as a direct result of the conduct of the activity for which the permit is issued, including costs of monitoring the conduct of the activity; and

(C) an amount which represents the fair market value of the use of the sanctuary resource and a reasonable return to the United States government.

(3) **Use of Fees.**—Amounts collected by the Secretary in the form of fees under this section may be used by the Secretary—

(A) for issuing and administering permits under this section; and

(B) for expenses of designating and managing national marine sanctuaries.

(d) **Violations.**—Upon violation of a term or condition of a permit issued under this section, the Secretary may—

(1) suspend or revoke the permit without compensation to the permittee and without liability to the United States;

(2) assess a civil penalty in accordance with section 307; or

(3) both.

(e) **Reports.**—Each person issued a permit under this section shall submit an annual report to the Secretary not later than December 31 of each year which describes activities conducted under that permit and revenues derived from such activities during the year.

(f) **Fishing.**—Nothing in this section shall be considered to require a person to obtain a permit under this section for the conduct of any fishing activities in a national marine sanctuary.

SEC. 311. Cooperative Agreements, Donations, And Acquisitions.

(a) **COOPERATIVE AGREEMENTS, GRANTS, AND OTHER AGREEMENTS.**—The Secretary may enter into cooperative agreements, financial agreements, grants, contracts, or other agreements with States, local governments, regional agencies, interstate agencies, or other persons to carry out the purposes and policies of this title.

(b) **AUTHORIZATION TO SOLICIT DONATIONS.**—The Secretary may enter into such agreements with any nonprofit organization authorizing the organization to solicit private donations to carry out the purposes and policies of this title.

(c) **DONATIONS.**—The Secretary may accept donations of funds, property, and services for use in designating and administering national marine

sanctuaries under this title. Donations accepted under this section shall be considered as a gift or bequest to or for the use of the United States.

(d) ACQUISITIONS.—The Secretary may acquire by purchase, lease, or exchange, any land, facilities, or other property necessary and appropriate to carry out the purposes and policies of this title

SEC. 312. Destruction Or Loss Of, Or Injury To, Sanctuary Resources.

(a) Liability for Interest.—

(1) Liability to the United States.—

(A) IN GENERAL.—Any person who destroys, causes the loss of, or injures any sanctuary resource is liable to the United States for an amount equal to the sum of—

(i) the amount of response costs and damages resulting from the destruction, loss, or injury; and

(ii) interests on that amount calculated in the manner described under section 1005 of the Oil Pollution Act of 1990.

(2) Liability In Rem.—Any vessel used to destroy, cause the loss of, or injure any sanctuary resource shall be liable in rem to the United States for response costs and damages resulting from such destruction, loss, or injury. The amount of that liability shall constitute a maritime lien on the vessel, and may be recovered in an action in rem in the district court of the United States having jurisdiction over the vessel.

(3) Defenses.—A person is not liable under this subsection if that person establishes that—

(A) the destruction or loss of, or injury to, the sanctuary resource was caused solely by an act of God, an act of war, or an act or omission of a third party, and the person acted with due care;

(B) the destruction, loss, or injury was caused by an activity authorized by Federal or State law; or

(C) the destruction, loss, or injury was negligible.

(4) Limits to Liability.—Nothing in sections 4281–4289 of the Revised Statutes of the United States or section 3 of the Act of February 13, 1893 shall limit the liability of any person under this title.

(b) Response Actions And Damage Assessment.—

(1) Response Actions.—The Secretary may undertake or authorize all necessary actions to prevent or minimize the destruction or loss of, or injury to, sanctuary resources, or to minimize the imminent risk of such destruction, loss, or injury.

(2) Damage Assessment.—The Secretary shall assess damages to sanctuary resources in accordance with section 302(6).

(c) Civil Actions For Response Costs And Damages.—The Attorney General, upon request of the Secretary, may commence a civil action in the United States district court for the appropriate district against any person or vessel who may be liable under subsection (a) for response costs and damages. The Secretary, acting as trustee for sanctuary resources for the United States, shall submit a request for such an action to the Attorney General whenever a person may be liable for such costs or damages.

(d) Use Of Recovered Amounts.—Response costs and damages recovered by the Secretary under this section shall be retained by the Secretary in the manner provided for in section 107(f)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9607(f)(1)), and used as follows:

(1) Response Costs And Damage Assessments.—Twenty percent of amounts recovered under this section, up to a maximum balance of \$750,000, shall be used to finance response actions and damage assessments by the Secretary.

(2) Restoration, Replacement, Management, And Improvement.—Amounts remaining after the operation of paragraph (1) shall be used, in order of priority—

(A) to restore, replace, or acquire the equivalent of the sanctuary resources which were the subject of the action;

(B) to manage and improve the national marine sanctuary within which are located the sanctuary resources which were the subject of the action; and

(C) to manage and improve any other national marine sanctuary.

(3) Federal-State Coordination.—Amounts recovered under this section with respect to sanctuary resources lying within the jurisdiction of a State shall be used under paragraphs (2)(A) and (B) in accordance with the court decree or settlement agreement and an agreement entered into by the Secretary and the Governor of that State.

Sec. 313. Authorization Of Appropriations.

There are authorized to be appropriated to the Secretary to carry out this title the following:

(A) \$8,000,000 for fiscal year 1993;

Appendix A. Sanctuary Legislation

- (B) \$12,500,000 for fiscal year 1994;
- (C) \$15,000,000 for fiscal year 1995; and
- (D) \$20,000,000 for fiscal year 1996.

Sec. 314. U.S.S. Monitor Artifacts and Materials.

(a) **Congressional Policy.** — In recognition of the historical significance of the wreck of the United States ship Monitor to coastal North Carolina and to the area off the coast of North Carolina known as the Graveyard of the Atlantic, the Congress directs that a suitable display of artifacts and materials from the United States ship Monitor be maintained permanently at an appropriate site in coastal North Carolina. [P.L. 102-587 designated Hatteras Village, NC, as this site.]

(b) Interpretation And Display Of Artifacts.—

(1) **Submission Of Plan.** — The Secretary shall, within six months after the date of the enactment of this section, submit to the Committee on Merchant Marine and Fisheries of the House of Representatives a plan for a suitable display in coastal North Carolina of artifacts and materials of the United States ship Monitor.

(2) **Contents Of Plan.**—The plan submitted under subsection (a) shall, at a minimum, contain—

(A) an identification of appropriate sites in coastal North Carolina, either existing or proposed, for display of artifacts and materials of the United States ship Monitor;

(B) an identification of suitable artifacts and materials, including artifacts recovered or proposed for recovery, for display in coastal North Carolina;

(C) an interpretive plan for the artifacts and materials which focuses on the sinking, discovery, and subsequent management of the wreck of the United States ship Monitor; and

(D) a draft cooperative agreement with the State of North Carolina to implement the plan.

(c) **Disclaimer.** —This section shall not affect the following:

(1) **Responsibilities Of Secretary.**—The responsibilities of the Secretary to provide for the protection, conservation, and display of artifacts and materials from the United States ship Monitor.

(2) **Authority Of Secretary.**—The authority of the Secretary to designate the Mariner's Museum, located at Newport News, Virginia, as the principal museum for coordination of activities referred to in paragraph (1).

Sec. 315. Advisory Councils.

(a) **ESTABLISHMENT.**—The Secretary may establish one or more advisory councils (in this section referred to as an "Advisory Council") to provide assistance to the Secretary regarding the designation and management of national marine sanctuaries. The Advisory Councils shall be exempt from the Federal Advisory Committee Act.

(b) **MEMBERSHIP.**—Members of the Advisory Councils may be appointed from among—

(1) persons employed by Federal or State agencies with expertise in management of natural resources;

(2) members of relevant Regional Fishery Management Councils established under section 302 of the Magnuson Fishery Conservation and Management Act; and

(3) representatives of local user groups, conservation and other public interest organizations, scientific organizations, educational organizations, or others interested in the protection and multiple use management of sanctuary resources.

(c) **LIMITS ON MEMBERSHIP.**—For sanctuaries designated after the date of enactment of the National Marine Sanctuaries Program Amendments Act of 1992, the membership of Advisory Councils shall be limited to no more than 15 members.

(d) **STAFFING AND ASSISTANCE.**—The Secretary may make available to an Advisory Council any staff, information, administrative services, or assistance the Secretary determines are reasonably required to enable the Advisory Council to carry out its functions.

(e) **PUBLIC PARTICIPATION AND PROCEDURAL MATTERS.**—The following guidelines apply with respect to the conduct of business meetings of an Advisory Council:

(1) Each meeting shall be open to the public, and interested persons shall be permitted to present oral or written statements on items on the agenda.

(2) Emergency meetings may be held at the call of the chairman or presiding officer.

(3) Timely notice of each meeting, including the time, place, and agenda of the meeting, shall be published locally and in the Federal Register.

(4) Minutes of each meeting shall be kept and contain a summary of the attendees and matters discussed.

The Florida Keys National Marine Sanctuary and Protection Act

Public Law 101-605 (H.R. 5909)

SECTION 1. SHORT TITLE. This Act may be cited as the "Florida Keys National Marine Sanctuary and Protection Act."

SEC. 2. FINDINGS. The Congress finds and declares the following:

(1) The Florida Keys extend approximately 220 miles southwest from the southern tip of the Florida peninsula.

(2) Adjacent to the Florida Keys land mass are located spectacular, unique, and nationally significant marine environments, including seagrass meadows, mangrove islands, and extensive living coral reefs.

(3) These marine environments support rich biological communities possessing extensive conservation, recreational, commercial, ecological, historical, research, educational, and esthetic values which give this area special national significance.

(4) These environments are the marine equivalent of tropical rain forests in that they support high levels of biological diversity, are fragile and easily susceptible to damage from human activities, and possess high value to human beings if properly conserved.

(5) These marine environments are subject to damage and loss of their ecological integrity from a variety of sources of disturbance.

(6) Vessel groundings along the reefs of the Florida Keys represent one of many serious threats to the continued vitality of the marine environments of the Florida Keys which must be addressed in order to protect their values.

(7) Action is necessary to provide comprehensive protection for these marine environments by establishing a Florida Keys National Marine Sanctuary, by restricting vessel traffic within such Sanctuary, and by requiring promulgation of a management plan and regulations to protect sanctuary resources.

(8) The agencies of the United States must cooperate fully to achieve the necessary protection of sanctuary resources.

(9) The Federal Government and the State of Florida should jointly develop and implement a comprehensive program to reduce pollution in the waters offshore the Florida Keys to protect and restore the water quality, coral reefs, and other living marine resources of the Florida Keys environment.

POLICY AND PURPOSE

SEC. 3.(a) POLICY.—It is the policy of the United States to protect and preserve living and other resources of the Florida Keys marine environment.

(b) PURPOSE.—The purpose of this Act is to protect the resources of the area described in section 5(b), to educate and interpret for the public regarding the Florida Keys marine environment, and to manage such human uses of the Sanctuary consistent with this Act. Nothing in this Act is intended to restrict activities that do not cause an adverse effect to the resources or property of the Sanctuary or that do not pose harm to users of the Sanctuary.

DEFINITION

SEC. 4. As used in this Act, the term "adverse effect" means any factor, force, or action that would independently or cumulatively damage, diminish, degrade, impair, destroy, or otherwise harm—

(1) any sanctuary resource, as defined in section 302(8) of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1432(8)); or

(2) any of those qualities, values, or purposes for which the Sanctuary is designated.

SANCTUARY DESIGNATION

SEC. 5.(a) DESIGNATION.—The area described in subsection (b) is designated as the Florida Keys National Marine Sanctuary (in this Act referred to as the "Sanctuary") under title III of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1431 et seq.). The Sanctuary shall be managed and regulations enforced under all applicable provisions of such title III as if the Sanctuary had been designated under such title.

Appendix A. Sanctuary Legislation

(b) AREA INCLUDED.—(1) Subject to subsections (c) and (d), the area referred to in subsection (a) consists of all submerged lands and waters, including living marine and other resources within and on those lands and waters, from the mean high water mark to the boundary described under paragraph (2), with the exception of areas within the Fort Jefferson National Monument. The Sanctuary shall be generally identified and depicted on National Oceanic and Atmospheric Administration charts FKNMS 1 and 2, which shall be maintained on file and kept available for public examination during regular business hours at the Office of Ocean and Coastal Resource Management of the National Oceanic and Atmospheric Administration and which shall be updated to reflect boundary modifications under this section.

(2) The boundary referred to in paragraph (1)—

(A) begins at the northeasternmost point of Biscayne National Park located at approximately 25 degrees 39 minutes north latitude, 80 degrees 5 minutes west longitude, then runs eastward to the 300-foot isobath located at approximately 25 degrees 39 minutes north latitude, 80 degrees 4 minutes west longitude;

(B) then runs southward and connects in succession the points at the following coordinates:

(i) 25 degrees 34 minutes north latitude, 80 degrees 4 minutes west longitude,

(ii) 25 degrees 28 minutes north latitude, 80 degrees 5 minutes west longitude, and

(iii) 25 degrees 21 minutes north latitude, 80 degrees 7 minutes west longitude;

(C) then runs southward to the northeastern corner of the existing Key Largo National Marine Sanctuary located at 25 degrees 16 minutes north latitude, 80 degrees 8 minutes west longitude;

(D) then runs southwesterly approximating the 300-foot isobath and connects in succession the points at the following coordinates:

(i) 25 degrees 7 minutes north latitude, 80 degrees 13 minutes west longitude,

(ii) 24 degrees 57 minutes north latitude, 80 degrees 21 minutes west longitude,

(iii) 24 degrees 39 minutes

north latitude, 80 degrees 52 minutes west longitude,

(iv) 24 degrees 30 minutes north latitude, 81 degrees 23 minutes west longitude,

(v) 24 degrees 25 minutes north latitude, 81 degrees 50 minutes west longitude,

(vi) 24 degrees 22 minutes north latitude, 82 degrees 48 minutes west longitude,

(vii) 24 degrees 37 minutes north latitude, 83 degrees 6 minutes west longitude,

(viii) 24 degrees 40 minutes north latitude, 83 degrees 6 minutes west longitude,

(ix) 24 degrees 46 minutes north latitude, 82 degrees 54 minutes west longitude,

(x) 24 degrees 44 minutes north latitude, 81 degrees 55 minutes west longitude,

(xi) 24 degrees 51 minutes north latitude, 81 degrees 26 minutes west longitude, and

(xii) 24 degrees 55 minutes north latitude, 80 degrees 56 minutes west longitude;

(E) then follows the boundary of Everglades National Park in a southerly then northeasterly direction through Florida Bay, Buttonwood Sound, Tarpon Basin, and Blackwater Sound;

(F) after Division Point, then departs from the boundary of Everglades National Park and follows the western shoreline of Manatee Bay, Barnes Sound, and Card Sound;

(G) then follows the southern boundary of Biscayne National Park and the northern boundary of Key Largo National Marine Sanctuary to the southeasternmost point of Biscayne National Park; and

(H) then follows the eastern boundary of the Biscayne National Park to the beginning point specified in subparagraph (A).

(c) AREAS WITHIN STATE OF FLORIDA.—The designation under subsection (a) shall not take effect for any area located within the waters of the State of Florida if, not later than 45 days after the date of enactment of this Act, the Governor of the State of Florida objects in writing to the Secretary of Commerce.

(d) BOUNDARY MODIFICATIONS.—No later than the issuance of the draft environmental impact statement for the Sanctuary under section 304(a) (1) (C) (vii) of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1434(a) (1) (C) (vii)), in consultation with the Governor of the State of Florida, if appropriate, the Secretary of Commerce may make minor modifications to the boundaries of the Sanctuary as necessary to properly protect sanctuary resources. The Secretary of Commerce shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives a written notification of such modifications. Any boundary modification made under this subsection shall be reflected on the charts referred to in subsection (b) (1).

PROHIBITION OF CERTAIN USES

SEC. 6.(a) VESSEL TRAFFIC.—(1) Consistent with generally recognized principles of international law, a person may not operate a tank vessel (as that term is defined in section 2101 of title 46, United States Code) or a vessel greater than 50 meters in length in the Area to Be Avoided described in the Federal Register notice of May 9, 1990 (55 Fed. Reg. 19418-19419).

(2) The prohibition in paragraph (1) shall not apply to necessary operations of public vessels. For the purposes of this paragraph, necessary operations of public vessels shall include operations essential for national defense, law enforcement, and responses to emergencies that threaten life, property, or the environment.

(3) The provisions of paragraphs (1) and (2), including the area in which vessel operations are prohibited under paragraph (1), may be modified by regulations issued jointly by the Secretary of the department in which the Coast guard is operating and the Secretary of Commerce.

(4) This subsection shall be effective on the earliest of the following:

(A) the date that is six months after the date of enactment of this Act,

(B) the date of publication of a notice to mariners consistent with this section, or

(C) the date of publication of new nautical charts consistent with this section.

(b) MINERAL AND HYDROCARBON LEASING, EXPLORATION, DEVELOPMENT, AND PRODUCTION.—No leasing, exploration, development, or production of minerals or hydrocarbons shall be permitted within the Sanctuary.

COMPREHENSIVE MANAGEMENT PLAN

SEC. 7.(a) PREPARATION OF PLAN.—The Secretary of Commerce, in consultation with appropriate Federal, State, and local government authorities and with the Advisory Council established under section 208, shall develop a comprehensive management plan and implementing regulations to achieve the policy and purpose of this Act. The Secretary of Commerce shall complete such comprehensive management plan and final regulations for the Sanctuary not later than 30 months after the date of enactment of this Act. In developing the plan and regulations, the Secretary of Commerce shall follow the procedures specified in sections 303 and 304 of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1433 and 1434), except those procedures requiring the delineation of Sanctuary boundaries and development of a resource assessment report. Such comprehensive management plan shall—

(1) facilitate all public and private uses of the Sanctuary consistent with the primary objective of Sanctuary resource protection;

(2) consider temporal and geographical zoning, to ensure protection of sanctuary resources;

(3) incorporate regulations necessary to enforce the elements of the comprehensive water quality protection program developed under section 8 unless the Secretary of Commerce determines that such program does not meet the purpose for which the Sanctuary is designated or is otherwise inconsistent or incompatible with the comprehensive management plan developed under this section;

(4) identify priority needs for research and amounts needed to—

(A) improve management of the Sanctuary, and in particular, the coral reef ecosystem within the Sanctuary; and

Appendix A. Sanctuary Legislation

(B) identify clearly the cause and effect relationships between factors threatening the health of the coral reef ecosystem in the Sanctuary;

(5) establish a long-term ecological monitoring program and database, including methods to disseminate information on the management of the coral reef ecosystem.

(6) identify alternative sources of funding needed to fully implement the plan's provisions and supplement appropriations under section 9 of this Act and section 313 of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 1444).

(7) ensure coordination and cooperation between Sanctuary managers and other Federal, State, and local authorities with jurisdiction within or adjacent to the Sanctuary;

(8) promote education, among users of the Sanctuary, about coral reef conservation and navigational safety; and

(9) incorporate the existing Looe Key and Key Largo National Marine Sanctuaries into the Florida Keys National Marine Sanctuary except that Looe Key and Key Largo Sanctuaries shall continue to be operated until completion of the comprehensive management plan for the Florida Keys Sanctuary.

(b) **PUBLIC PARTICIPATION.**—The Secretary of Commerce shall provide for participation by the general public in development of the comprehensive management plan.

(c) **TERMINATION OF STUDIES.**—On the date of enactment of this Act, all congressionally mandated studies of existing areas in the Florida Keys for designation as National Marine Sanctuaries shall be terminated.

FLORIDA KEYS WATER QUALITY

SEC. 8.(a) WATER QUALITY PROTECTION PROGRAM.—(1) Not later than 18 months after the date of enactment of this Act, the Administrator of the Environmental Protection Agency and the Governor of the State of Florida, in consultation with the Secretary of Commerce, shall develop a compre-

hensive water quality protection program for the Sanctuary. If the Secretary of Commerce determines that such comprehensive water quality protection program does not meet the purpose for which the Sanctuary is designated or is otherwise inconsistent or incompatible with the comprehensive management plan prepared under section 7, such water quality program shall not be included in the comprehensive management plan. The purposes of such water quality program shall be to—

(A) recommend priority corrective actions and compliance schedules addressing point and nonpoint sources of pollution to restore and maintain the chemical, physical, and biological integrity of the Sanctuary, including restoration and maintenance of a balanced, indigenous population of corals, shellfish, fish and wildlife, and recreational activities in and on the water; and

(B) assign responsibilities for the implementation of the program among the Governor, the Secretary of Commerce, and the Administrator in accordance with applicable Federal and State laws.

(2) The program required by paragraph (1) shall, under applicable Federal and State laws, provide for measures to achieve the purposes described under paragraph (1), including—

(A) adoption or revision, under applicable Federal and State laws, by the State and the Administrator of applicable water quality standards for the Sanctuary, based on water quality criteria which may utilize biological monitoring or assessment methods, to assure protection and restoration of the water quality, coral reefs, and other living marine resources of the Sanctuary;

(B) adoption under applicable Federal and State laws of enforceable pollution control measures (including water quality-based effluent limitations and best management practices) and methods to eliminate or reduce pollution from point and nonpoint sources;

(C) establishment of a comprehensive water quality monitoring program to (i) determine the sources of pollution causing or contributing to existing or anticipated pollution problems in the Sanctuary, (ii)

evaluate the effectiveness of efforts to reduce or eliminate those sources of pollution, and (iii) evaluate progress toward achieving and maintaining water quality standards and toward protecting and restoring the coral reefs and other living marine resources of the Sanctuary;

(D) provision of adequate opportunity for public participation in all aspects of developing and implementing the program; and

(E) identification of funding for implementation of the program, including appropriate Federal and State cost sharing arrangements.

(b) COMPLIANCE AND ENFORCEMENT.—The Administrator of the Environmental Protection Agency, the Secretary of Commerce, and the Governor of the State of Florida shall ensure compliance with the program required by this section, consistent with applicable Federal and State laws.

(c) CONSULTATION.—In the development and implementation of the program required by paragraph (1), appropriate State and local government officials shall be consulted.

(d) IMPLEMENTATION.—

(1) The Administrator of the Environmental Protection Agency and the Governor of the State of Florida shall implement the program required by this section, in cooperation with the Secretary of Commerce.

(2)(A) The Regional Administrator of the Environmental Protection Agency shall with the Governor of the State of Florida establish a Steering Committee to set guidance and policy for the development and implementation of such program. Membership shall include representatives of the Environmental Protection Agency, the National Park Service, the United States Fish and Wildlife Service, the Army Corps of Engineers, the National Oceanic and Atmospheric Administration, the Florida Department of Community Affairs, the Florida Department of Environmental Regulation, the South Florida Water Management District, and the Florida Keys Aqueduct Authority; three individuals in local government in the Florida Keys; and three citizens knowledgeable about such program.

(B) The Steering Committee shall, on a biennial basis, issue a report to Congress that—

- (i) summarizes the progress of the program;
- (ii) summarizes any modifications to the

program and its recommended actions and plans; and (iii) incorporates specific recommendations concerning the implementation of the program.

(C) The Administrator of the Environmental Protection Agency and the Administrator of the National Oceanic and Atmospheric Administration shall cooperate with the Florida Department of Environmental Regulation to establish a Technical Advisory Committee to advise the Steering Committee and to assist in the design and prioritization of programs for scientific research and monitoring. The Technical Advisory Committee shall be composed of scientists from federal agencies, State agencies, academic institutions, private non-profit organizations, and knowledgeable citizens.

(3)(A) The Regional Administrator of the Environmental Protection Agency shall appoint a Florida Keys Liaison Officer. The Liaison Officer, who shall be located within the State of Florida, shall have the authority and staff to—

(i) assist and support the implementation of the program required by this section, including administrative and technical support for the Steering Committee and Technical Advisory Committee;

(ii) assist and support local, State, and Federal agencies in developing and implementing specific action plans designed to carry out such program;

(iii) coordinate the actions of the Environmental Protection Agency with other Federal agencies, including the National Oceanic and Atmospheric Administration and the National Park Service, and State and local authorities, in developing strategies to maintain, protect, and improve water quality in the Florida Keys;

(iv) collect and make available to the public publications, and other forms of information that the Steering Committee determines to be appropriate, related to the water quality in the vicinity of the Florida Keys; and

(v) provide for public review and comment on the program and implementing actions.

(4)(A) There are authorized to be appropriated to the Administrator of the Environmental Protection Agency \$2,000,000 for fiscal year 1993, \$3,000,000 for fiscal year 1994, and \$4,000,000 for fiscal year 1995, for the purpose of carrying out this section.

(B) There are authorized to be appropriated to the Secretary of Commerce \$300,000 for fiscal year 1993, \$400,000 for fiscal year 1994, and \$500,000 for fiscal year 1995, for the purpose of enabling the

Appendix A. Sanctuary Legislation

National Oceanic and Atmospheric Administration to carry out this section.

(C) Amounts appropriated under this paragraph shall remain available until expended.

(D) No more than 15 percent of the amount authorized to be appropriated under subparagraph (A) for any fiscal year may be expended in that fiscal year on administrative expense.

ADVISORY COUNCIL

SEC. 9.(a) ESTABLISHMENT.—The Secretary of Commerce, in consultation with the Governor of the State of Florida and the Board of County Commissioners of Monroe County, Florida, shall establish an Advisory Council to assist the Secretary in the development and implementation of the comprehensive management plan for the Sanctuary.

(b) MEMBERSHIP.—Members of the Advisory Council may be appointed from among (1) Sanctuary managers, (2) members of other government agencies with overlapping management responsibilities for the Florida Keys marine environment, and (3) representatives of local industries, commercial users, conservation groups, the marine scientific and educational community, recreational user groups, or the general public.

(c) EXPENSES.—Members of the Advisory Council shall not be paid compensation for their service as members and shall not be reimbursed for actual and necessary traveling and subsistence expenses incurred by them in the performance of their duties as such members.

(d) ADMINISTRATION.—The Advisory Council shall elect a chairperson and may establish subcommittees, and adopt bylaws, rules, and such other administrative requirements and procedures as are necessary for the administration of its functions.

(e) STAFFING AND OTHER ASSISTANCE.—The Secretary of Commerce shall make available to the Advisory Council such staff, information, and administrative services and assistance as the Secretary of Commerce determines are reasonably required to enable the Advisory Council to carry out its functions.

AUTHORIZATION OF APPROPRIATIONS

SEC. 10.(a) AUTHORIZATION FOR SECRETARY OF COMMERCE.—Section 313(2) (C) of the Marine Protection, Research, and Sanctuaries Act of

1972 (16 U.S.C. 1444(2) (C)) is amended by striking "\$3,000,000" and inserting in lieu thereof "\$4,000,000."

(b) AUTHORIZATION FOR EPA ADMINISTRATOR.—There are authorized to be appropriated to the Administrator of the Environmental Protection Agency \$750,000 for each of the fiscal years 1991 and 1992.

(c) REPORT.—The Secretary of Commerce shall, not later than March 1, 1991, submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Merchant Marine and Fisheries of the House of Representatives a report on the future requirements for funding the Sanctuary through fiscal year 1999 under title III of the Marine Protection, Research, and Sanctuaries Act of 1972 (16 U.S.C. 14321 et seq.).

Approved November 16, 1990.

Core Group

Federal

U.S. Department of Commerce

**National Oceanic and Atmospheric
Administration**

Daniel J. Basta
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD

James A. Bohnsack
National Marine Fisheries Service
Southeast Fisheries Center
Miami, FL

Billy D. Causey
National Ocean Service
Office of Ocean and Coastal Resource Management
Florida Keys National Marine Sanctuary
Marathon, FL

Brett Joseph
Office of the General Counsel for Ocean Services
Silver Spring, MD

C. John Klein
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD

Edward H. Lindelof
National Ocean Service
Office of Ocean and Coastal Resource Management
Sanctuaries and Reserves Division
Silver Spring, MD

Maureen A. Warren
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD

U.S. Environmental Protection Agency

Fred McManus
Water Management Division
Wetlands, Oceans and Watersheds Branch
Coastal Programs Section
Atlanta, GA

U.S. Department of Interior

National Park Service

Skip Snow
Everglades National Park
South Florida Research Center
Homestead, FL

U.S. Fish and Wildlife Service

Jon Andrew
U.S. Fish & Wildlife Service
National Key Deer Refuge
Big Pine Key, FL

State of Florida

Executive Office of the Governor

Paula Allen
Office of Environmental Affairs
Tallahassee, FL

Debbie Tucker
Office of Environmental Affairs
Tallahassee, FL

Department of Community Affairs

Ralph Cantral
Coastal Zone Management Program
Tallahassee, FL

Toy Livingston
Bureau of State Planning
Tallahassee, FL

Appendix B. Core Group /Sanctuary Advisory Council/Strategy Working Group Members

Department of Environmental Protection

Dana Bryan
Division of Recreation and Parks
Tallahassee, FL

Ken Haddad
Florida Marine Research Institute
St. Petersburg, FL

Peggy Mathews
Coastal Management Program
Tallahassee, FL

Danny Riley
Bureau of Sanctuaries & Research Reserves
Tallahassee, FL

South Florida Water Management District

Jim Smith
South Florida Water Management District
Marathon, FL

Monroe County

Growth Management Division

George Garrett
Marine Resources Department
Key West, FL

Sanctuary Advisory Council

Jon Andrew
Big Pine Key, FL

George M. Barley, Jr. (Chairman)
Orlando, FL

Bonnie Beall
Islamorada, FL

Mike Collins
Islamorada, FL

J. Allison DeFoor
Tavernier, FL

Harold Drake
West Palm Beach, FL

Bruce A. Etshman
Key West, FL

Alison Fahrer
Islamorada, FL

Robert W. Holston
Key West, FL

Irene U. Hooper
Big Pine Key, FL

Paul Johnson
St. Petersburg, FL

Michael Laudicina
Big Pine Key, FL

Karl Lessard
Marathon, FL

Jack London
Summerland Key, FL

James W. Miller (Vice Chairman)
Big Pine Key, FL

John Ogden
St. Petersburg, FL

William Parks
Boynton Beach, FL

Mark L. Robertson
Key West, FL

Spencer C. Slate
Key Largo, FL

Alexander Sprunt IV
Tavernier, FL

John F. Stewart
West Palm Beach, FL

Debbie Tucker
Tallahassee, FL

William Wickers, Jr.
Key West, FL

Harry Wooley
Key West, FL

Strategy Working Group

Federal

U.S. Department of Commerce

**National Oceanic and Atmospheric
Administration**

Daniel J. Basta
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD 20910

Jim Bohnsak
National Marine Fisheries Service
Southeast Fisheries Center
75 Virginia Beach Drive
Miami, FL 33149

Billy Causey, Manager
Florida Keys National Marine Sanctuary
9499 Overseas Highway
Marathon, FL 33050

Robert Finegold
Florida Keys National Marine Sanctuary
9499 Overseas Highway
Marathon, FL 33050

Timothy Goodspeed
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD 20910

John Halas
Key Largo National Marine Sanctuary
P.O. Box 1083
Key Largo, FL 33037

Douglas Harper
National Marine Fisheries Service
Southeast Fisheries Center
75 Virginia Beach Drive
Miami, FL 33149

Harold Hudson
Key Largo National Marine Sanctuary
P.O. Box 1083
Key Largo, FL 33037

Pamela James
Florida Keys National Marine Sanctuary
9499 Overseas Highway
Marathon, FL 33050

Brett Joseph
Office of the General Counsel for Ocean Services
1305 East-West Highway
Silver Spring, MD 20910

C. John Klein
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD 20910

Steven Miller
Florida Program Manager
NOAA/NURC
514 Caribbean Drive
Key Largo, FL 33037

George P. Schmahl
Manager
Looe Key National Marine Sanctuary
Route 1, Box 782
Big Pine Key, FL 33043

Maureen A. Warren
National Ocean Service
Office of Ocean Resources Conservation and
Assessment
Strategic Environmental Assessments Division
Silver Spring, MD 20910

LTJG Richard Wingrove
Looe Key National Marine Sanctuary
Route 1, Box 782
Big Pine Key, FL 33043

U.S. Environmental Protection Agency

Tom Cavinder
U.S. Environmental Protection Agency
960 College Station Road
Athens, GA 30613

Fred McManus
U.S. Environmental Protection Agency
345 Courtland Street, NE
Atlanta, GA 30365

U.S. Department of Interior

National Park Service

Richard Curry
Biscayne National Park
P.O. Box 1369
Homestead, FL 33030

Michael Eng
South Florida Research Center
Everglades National Park
P.O. Box 279
Homestead, FL 33030

Mike Roblee
South Florida Research Center
Everglades National Park
P.O. Box 279
Homestead, FL 33030

U.S. Fish and Wildlife Service

Jon Andrew
National Key Deer Refuge
U.S. Fish & Wildlife Service
P.O. Box 510
Big Pine Key, FL 33043

U.S. Department of Transportation

U.S. Coast Guard

LCDR Howard Van Houten
U.S. Coast Guard, Seventh District
909 SE First Avenue
Miami, FL 33131

U.S. Department of Defense

U.S. Army Corps of Engineers

Mr. Chuck Schnepal
U.S. Army Corps of Engineers
8410 NW 83rd Terrace, Suite 225
Miami, FL 33166

State of Florida

Executive Office of the Governor

Paul Johnson
Executive Office of the Governor
421 Carlton Bldg.
The Capitol
Tallahassee, FL 32399

Department of Commerce

Rod Peterson
Bureau of Economic Analysis
Department of Commerce
Rm. 323C - Collins Bldg.
107 W. Gaines Street
Tallahassee, FL 32303

Department of Community Affairs

Toy Livingston
Department of Community Affairs
2740 Centerview Drive
Tallahassee, FL 32399

Ken Metcalf
Department of Community Affairs
P.O. Box 990
Key West, FL 33041

Department of Environmental Protection

Ed (Edwin) Conklin
3900 Commonwealth Blvd.
Tallahassee, FL 32399

Bruce DeGrove
Twin Towers Building
2600 Blair Stone Road
Tallahassee, FL 32399

Ken Haddad
Marine Research Institute
100 Eighth Avenue, SE
St. Petersburg, Florida 33701

R.J. Hebling
11400 Overseas Highway, Suite 123
Marathon, FL 33050

John Hunt
Marine Research Institute
13365 Overseas Highway
Marathon, FL 33050

Appendix B. Core Group /Sanctuary Advisory Council/Strategy Working Group Members

Walter Jaap
Marine Resources Institute
100 Eighth Avenue, SE
St. Petersburg, FL 33701

George Jones
John Pennekamp Coral Reef State Park
P.O. Box 2660
Key Largo, FL 33037

Ann Lazar
11400 Overseas Highway, Suite 123
Marathon, FL 33050

Peggy Mathews
Twin Towers Building
2600 Blair Stone Road
Tallahassee, FL 32399

R.H. McCullars
Florida Marine Patrol
2835 Overseas Highway
Marathon, FL 33050

Russ Nelson
Florida Marine Fisheries Commission
2540 Executive Center Circle West, Suite 106
Tallahassee, FL 32301

Danny Riley
Woodcrest Office Park
Bldg. 500, Suite 501EC
325 John Knox Road
Tallahassee, FL 32303

Department of Health and Rehabilitative Services

Homer J. Rhode
Department of Health and Rehabilitative Services
Monroe County Public Health Unit
Public Service Building
5100 Junior College Road
Key West, FL 33040

Department of State

James Miller
Chief, Bureau of Archaeological Research
Division of Historical Resources
Department of State
500 South Bronough St.
Tallahassee, FL 32399-0250

Game and Freshwater Fish Commission

Pete Kalla
Florida Game & Fish Commission
11400 Overseas Highway
Marathon, FL 33050

Monroe County

Growth Management Division

George Garrett
Marine Resources Department
5100 Junior College Road
Wing III, Stock Island
Key West, FL 33040-4399

Pat McNeese
Environmental Resources Department
5100 Junior College Road
Wing III, Stock Island
Key West, FL 33040-4399

Other Organizations

Douglas Gregory
Monroe County/Sea Grant
Cooperative Extension Service, P.O. Box 2545
Key West, FL 33045-2545

Terrance Leary
Gulf of Mexico Fishery Management Council
Lincoln Center, Suite 331
5401 West Kennedy
Tampa, FL 33609

Richard Ogburn
South Florida Regional Planning Council
3440 Hollywood Blvd, Suite 140
Hollywood, FL 33021

Roger Pugliese
South Atlantic Fishery Management Council
1 Southpark Circle, Suite 306
Charleston, SC 29407

Appendix B. Core Group /Sanctuary Advisory Council/Strategy Working Group Members

Jim Smith
South Florida Water Management District
5800 Overseas Highway, Suite 4-103
Marathon, FL 33050

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
U. S. DEPARTMENT OF COMMERCE

CHARTER OF THE

FLORIDA KEYS NATIONAL MARINE SANCTUARY ADVISORY COUNCIL

ESTABLISHMENT

The Director of the Office of Ocean and Coastal Resource Management, National Ocean Service, NOAA (the "Director"), hereby establishes the Florida Keys National Marine Sanctuary Advisory Council ("Council") pursuant to Section 315 of the National Marine Sanctuaries Act ("Act"), 16 U.S.C. 1446.

OBJECTIVES AND DUTIES

1. The Council, in accordance with the provisions of the Act, shall provide assistance to NOAA regarding the designation and management of the Florida Keys National Marine Sanctuary.
2. The Council shall function solely as an advisory body, and in the performance of its functions, the Council and its individual members shall comply fully with the provisions of the National Marine Sanctuaries Act, the terms of this Charter, and all applicable policies and procedures of NOAA governing the establishment and functioning of Sanctuary advisory councils.
3. The Council shall draw on the expertise of its members and other sources in order to provide advice, recommendations and other forms of assistance to the NOAA.
4. The Council shall serve as a forum for consultation and deliberation between its members and as a source of consensus advice to the Director. Such consensus advice shall fairly represent the collective and individual views of the Council members.

MEMBERS AND CHAIRPERSONS

1. The Council shall consist of no more than twenty-five (25) members to be appointed by the Director from among:
 - a. Persons employed by Federal or State agencies with expertise in management of natural resources;

b. Members of the relevant Regional Fishery Management Councils established under section 302 of the Magnuson Fishery Conservation and Management Act; and

c. Representatives of local user groups, conservation and other public interest organizations, scientific organizations, educational organizations, or others interested in the protection and multiple use management of the sanctuary resources.

2. The membership of the Council shall be balanced in terms of points of view represented and in terms of the functions the Council will perform.

3. Members shall be appointed for a two-year term and such service shall be at the discretion of the Director. Vacancy appointments shall be for the remainder of the unexpired term of the vacancy.

4. The Council shall elect, by a two-thirds majority vote, one member to serve as Chairperson and one member to serve as Vice-Chairperson. Each shall serve a period no longer than one year, and no member may be elected to serve consecutive terms as Chairperson or Vice-Chairperson. The Vice-Chairperson shall act as Chairperson in the absence of the Chairperson.

SCOPE OF COUNCIL FUNCTIONS

Pursuant to the above-stated objectives and duties, the Council may serve any or all of the following functions:

1. Management plan implementation: The Council may evaluate management plan implementation and advise NOAA on the implementation process and ways to more effectively accomplish the goals and objectives of the Sanctuary.

2. Resource protection: The Council may advise NOAA on the effectiveness of interagency agreements for surveillance and enforcement, and on the effectiveness of the Sanctuary regulations in providing adequate resource protection.

3. Research: The Council may advise NOAA on priority research and monitoring needs, proposals and reports.

4. Education and Outreach: The Council may advise and assist NOAA on programs and activities to enhance public awareness, understanding and wise use of the Sanctuary, including efforts to enhance general public understanding and appreciation of the Sanctuary resources and qualities, and to enhance awareness of the goals and objectives of the Sanctuary designation.

5. Public Input: The Council may receive and report opinions from user groups and the public relevant to the development and implementation of the Sanctuary management plan and regulations.

6. Coordinated Management: The Council may serve as a forum to enhance communication and cooperation among Federal and state agencies, as well as non-governmental entities, in furtherance of coordinated, effective and efficient management of the Sanctuary.

ADMINISTRATIVE PROVISIONS

1. The Council shall advise and assist NOAA through the Sanctuary Superintendent. All advice, information or other communications by, or on behalf of, the Council as a body shall be addressed to NOAA through the Sanctuary Superintendent.

2. The Director, acting through the Sanctuary Superintendent, shall convene meetings of the Council a minimum of four (4) times a year. Additional meetings may be convened at the discretion of the Director, acting through the Sanctuary Superintendent, and upon recommendation of the Chairperson. A minimum of two (2) Council meetings per year shall be convened in combination with a public meeting of the Sanctuary Core Group and staff. In addition, emergency meetings may be held at the call of the Chairperson, with the approval of the Director or designee.

a. Notice of each meeting shall be published in the Federal Register no later than fifteen (15) days prior to the date of the meeting unless exceptional circumstances exist, which said circumstances shall be stated in the meeting notice. Notice shall also be provided in at least one local publication of general circulation among the interested public. The notice shall include the time, place and a summary of the agenda for the meeting, together with a statement that the meeting is open to the public and that interested persons shall be permitted to present oral or written statements on items on the agenda:

b. The location of each Council meeting shall be at a place reasonably accessible to the Council members and to the interested public.

c. The agenda for each meeting shall be determined in advance by the Director, acting through the Sanctuary Superintendent, in consultation with the Chairperson.

d. Each meeting shall be open to the public, and interested persons shall be permitted to present oral or written

statements on items on the agenda.

e. Detailed minutes shall be kept for each meeting and contain a summary of the attendees and matters discussed. The record of each meeting shall be made available to the public.

4. The Council may establish, subject to approval by the Director or designee, such subcommittees or working groups of its membership as may be necessary to fulfill its duties. All information, reports, recommendations or other communications by, or on behalf of, any such subcommittee or working group shall be addressed to the full Council for its consideration in the performance of its functions. All such communications shall be submitted on the record at the next meeting of the full Council following adoption by the subcommittee or working group.

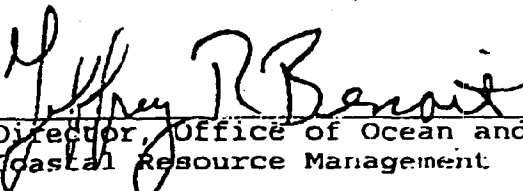
5. The Director, acting through the Sanctuary Superintendent, shall make available to the Council such staff, information, administrative services or assistance as the Director determines are reasonably required to enable the Council to carry out its functions.

6. Members of the Council shall not be compensated for their services and shall not be reimbursed for actual and necessary traveling and subsistence expenses incurred by them in the performance of their duties as such members.

DURATION

The Council shall terminate two years from the date of the Charter unless terminated earlier or renewed by proper authority.

Date June 7, 1995



Director, Office of Ocean and
Coastal Resource Management

A REPORT

to

W. Stanley Wilson, Assistant Administrator for NOS

on

THE PROCESS USED IN DEVELOPING THE FLORIDA KEYS NATIONAL MARINE SANCTUARY MANAGEMENT PLAN

15 January 1994

The first version of this report was submitted to you on September 1993. It was anticipated that it was to be the first in a series of reports we would prepare as we observed the evolving FKNMS planning process. In view of the time that has elapsed and the developments that have taken place in the FKNMS planning process which we have not had an opportunity to observe, we think the best strategy for us is to wrap-up this report and move on to other ways of working with you and your colleagues on integrated coastal management.

INTRODUCTION

The team of W. Eichbaum, W. Hoeft, R. Schecter and J. Schubel attended a meeting of the FKNMS Advisory Council at Hawk's Cay Resort and Marina on 29-30 July 1993. We sat in on most of the 2 days of deliberation and over the course of the 2 days interviewed nearly 20 people. The individuals interviewed are listed in Exhibit A. Most of the individuals were selected by Ed Lindelof.

On 5 July 1993, Schubel met with four members of the Core Group at NOS headquarters in Silver Spring, Maryland. The

individuals interviewed are listed in Exhibit B.

In preparing for the interviews we developed a list of questions (Exhibit C). Most, but not all, of these were used in one form, or another, in each interview with members of the Advisory Council. An abbreviated version was used in interviews with members of the Core Group. At the beginning of each interview we explained our assignment; the major points we made are listed in Exhibit D.

This report summarizes these interviews. We believe they contain a number of valuable lessons for NOAA to consider in applying the planning "process" used in the FKNMS in other settings. All observations came from one, or more, interviewees and were confirmed by others. Each represents a consensus perception of those we interviewed.

It should be remembered that these are perceptions of the status of process as of July 1993 as seen by those we interviewed.

We have not translated these interview comments into recommendations. We think that is best done by you and your staff. The comments need to be calibrated: to what extent are they only perceptions; to what extent do they reflect reality? However, whether perception or reality they were widely held by the people we interviewed and should not be ignored by

NOAA.

If you think it would be helpful, three of us (Eichbaum, Schecter and Schubel) would be willing to prepare a white paper which explores some of the different approaches and interpretations of ICM, and offer some suggestions as to how NOS might exploit ICM in its activities. We believe this would be a good topic for a workshop with key NOS administrators. We would be willing to facilitate that workshop. Some aspects of this are already being done by the ICM committee which Roger Schecter chairs.

OBSERVATIONS AND CONCLUSIONS

The planning process used for the FKNMS was not designed from the outset to produce an integrated coastal management plan for the Florida Keys National Marine Sanctuary. It has many elements of integrated coastal management, but it should not be surprising that it is not consistent with the ICM paradigm described in the NRC report "Wastewater Management in Urban Coastal Areas." Nor should it be surprising that it is not consistent with all aspects of the ICM paradigm two of us (Eichbaum and Schubel) have heard Blair Bower describe. The FKNMS planning pre-dates these initiatives and the FKNMS planning process represents application in the real world and not a theoretical discussion.

The FKNMS planning process started before the elements of ICM were codified and even today there is debate as to what constitutes ICM. The FKNMS planning process has some elements of ICM, but a number of the most important elements are missing. Since NOS has expressed interest in using ICM in future applications in other sanctuaries and perhaps in collaborative efforts outside of sanctuaries, the leadership of NOS and we believed that it might be valuable to compare the FKNMS process with the ICM process; not to criticize the process that was used, but to gain new insights.

In preparing for the review, we developed the ICM checklist shown in Exhibit E.

Missing Elements

Among the most important elements of the ICM process that were perceived as being deficient or missing altogether from the FKNMS process are:

- a clear identification of goals and objectives at the beginning of the process.

[These were specified in the Act that created the FKNMS, but members of the Advisory Council were unaware of them.]

- Many of those interviewed felt the process suffered from the lack of a shared vision. A number expressed the opinion that the process was more reactionary than visionary. Nearly all felt that

the process would have benefitted from taking time at the outset to formulate a shared vision of what they wanted the FKNMS to be like in the future, say the year 2020. They felt that if NOAA had this vision, it was not communicated to them.

- According to the majority of the people we interviewed, the NOS process for the FKNMS had not resulted in an explicit statement of goals and objectives at the time of our interviews; an identification of major threats to priority values and uses, research and monitoring programs in the plan -- all integral elements of ICM.

- There was a widespread feeling among members of the Advisory Council and the Core Group we interviewed that the "stage" for the process was not set initially and that this led to confusion that has persisted. They were quick to point out that the reason for this was that the FKNMS process was unique and that for NOAA it was a learning process.

- delimiting the geographic area of concern -- in ICM this would be the FKNMS plus the zone of influence on the FKNMS. (Not the boundaries of the FKNMS which were specified in the Act, but the zone of influence on the FKNMS).

- The lack of priorities troubles most of the people we interviewed. They cited a long list of objections, but no attempt to rank them. They attribute it to the failure to formulate goals and

objectives to serve as a template in setting priorities. "Water quality" was the only priority they could identify and even that they were unable to quantify.

- comparative assessment of risks and management options
- a carefully crafted research and monitoring program designed to generate the data and information needed to assess the effectiveness of management actions taken, and to provide the knowledge needed to better manage the FKNMS in the future.

Collaboration/Consultation

There was general agreement that NOAA was very skillful in meshing the missions of the various Monroe County, state and federal agencies in the FKNMS into a cooperative and collaborative venture. This is a critical element of ICM and NOAA gets high marks.

Familiarity with ICM Concept

- Most interviewees were not familiar with the term Integrated Coastal Management. Those that were thought it referred only to the integration of institutional roles and responsibilities. One individual said the FKNMS process was an integrated management approach, not integrated coastal management. The distinction to him was quite clear: the emphasis was on integrating the roles of

existing management agencies, not on developing a comprehensive and coherent integrated coastal management plan for the FKNMS. [Note: There was no reason for members of the Advisory Council and Core Group to have been familiar with ICM -- certainly not at the beginning of the process, since the term was not in popular use until about 1991-92.

- Many interviewees believed that NOS put too much attention on using them in the "process" and not enough attention on using them in producing and reviewing the products.

Roles

- The respective roles of the Advisory Council and the Core Group are obscure to many of the individuals we interviewed from both groups. This has been the case throughout the process.
- Those we interviewed believe that because the Core Group was created a number of months before the Advisory Council, there was a disconnect between the two from the "get-go" and the connection has never been made. (We recognize that the delays in securing approvals of appointments to the Advisory Council is a result of the political process, and not a problem with NOAA. However, it caused a problem for the FKNMS program).
- Members of the Advisory Council felt they should be "full partners" in the process and that they are not. They said they

were told -- literally -- by NOAA "We'll listen to you, but we don't have to do what you say." They agreed with the conclusion, but thought the message was delivered inappropriately.

- The roles of ORCA and SEA throughout the FKNMS process were not clear to most members of the Advisory Council and the Core Group we interviewed.
- There was confusion among some members of the Advisory Council we interviewed as to whom the Advisory Council is advisory to. Everyone agreed it was NOAA, but that was all they agreed upon. Some said the Secretary of Commerce; others Billy Causey; still others, Ed Lindelof. One member of the Core Group believed the Advisory Council was advisory to them -- the Core Group.
- The roles of the Advisory Council are still ambiguous, even to NOS. This was obvious in the discussion by NOAA personnel on how the Council would be involved in the formulation of the plan, in the review of the plan, and in the revision of the plan in response to public comments. The same confusion was expressed by members of the Core Group. They pointed out, for example, that they did not know what responsibilities, if any, the Advisory Council would have after the draft plan was released. (Some members of the Core Group were unsure about their own roles.)
- NOAA has already made some "first cuts" at the management

plan, but the Council has not seen them. They think they should -- if they are really partners in the process.

- Members of the Advisory Council we interviewed believe there have been recent signs of intrusion by NOAA into Council Activities. They cite as an example that they no longer control the agenda for their meetings.

- Members of the Advisory Council and Core Group we interviewed did not believe that explicit goals and objectives were formulated early on in the planning process for the FKNMS, for the Core Group or for the Advisory Council. The absence of shared goals and objectives has contributed to confusion, at least for those members of the Advisory Council we met with. They said they crafted their own and passed them on, but that they never resurfaced. The lack of shared goals and objectives also caused confusion for some members of the Core Group.

- Nearly all members of the Advisory Council and the Core Group we interviewed believe that there should have been a discussion in which NOAA defined the roles of the Core Group and the Advisory Council in a joint meeting. This might have prevented the sense of alienation that developed, particularly by members of the Council. A couple said the separation was good, but that roles did need to be clarified.

NOS - Advisory Council - Core Group Interactions

- Early encounters of the Advisory Council with NOAA were intimidating. Most got the feeling that NOAA was "big brother," that NOAA was tolerating the Council because it had no choice because of the legislation, but in the end that the NOAA would do what they wanted. This same feeling was shared by members of the Core Group. Both groups said they sensed a change in NOAA attitudes when they (NOAA) realized that they needed these two groups to succeed.
- Interviewees of the Advisory Council felt this attitude changed about the third meeting of the Council; that, at that point, NOAA began to realize that the Council members had good ideas and that their linkages to the local community were crucial to the success of the process.
- Most of the people we interviewed feel that the rules being transmitted by NOAA governing the process are "fluid" and that they "shift" without explanation. The perceived "changing of signals" by NOAA troubles them. They felt this happened with the protocol for defining and selecting among management alternatives. They asserted that originally they were told that the Council could mix and match strategies for different alternatives and come up with a new alternative. Later they were told they couldn't. This eroded their trust in NOAA and in the process. They also expressed concern that it diminished the public's trust in

all parties.

- They also expressed concern about staffing for the FKNMS Office. They felt Billy Causey had accumulated new responsibilities without additional staff. He not only had a planning function, but a PR function and an operational function.

- Perhaps the most problematic set of relationships are those between the Advisory Council and the Core Group. To say that the Advisory Council resents the Core Group is not too strong. They object to the characterization that the Core Group is the "group of experts." They believe they (the Council) have far more expertise relevant to the FKNMS. They believe the Core Group is isolated from the users and from the real issues.

- Members of the Council believe there should have been more interaction with the Core Group; that there should have been a few joint meetings and that one joint meeting early on to develop mutual goals and objectives would have been very helpful. Several members of the Core Group agreed.

NOAA and Public Relations

- In future situations NOAA should have more effective mechanisms for public relations and outreach to keep the public informed. Nearly everyone expressed disappointment and concern about this failure. Several stated that there should have been a

newsletter from the outset (apparently one has recently been started). [This, of course, requires support for staff.]

- There was general agreement that NOAA is not very skillful at dealing with the public. They cited examples of presentations at a Key Largo meeting in which the public was "baffled" by the terminology and the complex graphics material. Too many "buzz words"; too much jargon; too complicated flow charts.
- They recommended that in the future NOS should listen more intently to the "locals"; don't surprise them. Exploit their expertise, their concern and their commitment. This was not done as well as it might have been.

Identification of Important Ecosystem Values and Functions and Human Uses -- Allocated in Time and Space as Appropriate

- The feeling is that coupling of NOAA to EPA on the water quality issue has been weak. Failure to make a request for funding in the FY '94 request was viewed as a major failure.
- Many of those we interviewed felt that to this point the single largest contributor to stress on the ecosystem -- activities of individual tourists, particularly recreational boats -- had been neglected. In the aggregate the effects of these activities are believed to be enormous. One key to controlling their adverse impacts is public education. Many acknowledged it may be

necessary to control their numbers and their activities. A couple said that this problem was addressed in the zoning plan, but acknowledged that it had not been explicitly considered.

Balancing of Biases on Council

- The diversity of interests represented on the Advisory Council and the choices of individuals to represent those interests have been major factors in the success of the process to this point.
- All of those we interviewed from the Advisory Council felt that members of the Advisory Council have risen above parochial interests and have formed an effective team in pursuit of a strategic plan both to restore ecosystem integrity to the sanctuary and to accommodate high priority uses.

Consultation

- The process has provided extensive opportunities for input by everyone. That quality should be replicated in future settings.

Identification, Assessment and Selection of the Various Management Strategies -- Individually and in Different Combinations -- to Eliminate or Reduce the Threats

- Many members of the Council believe that the process of selecting management alternatives and strategies has been too

restrictive.

- They believe feedback from NOAA is selective. A couple believe they have been "kept in the dark." This lack of "consistency" led two people to remark that they "didn't trust NOAA."
- The process that led to zoning was rewarding. The consensus building that resulted formed a cohesiveness among members of the Council who represent different constituencies with conflicting interests.

A Research Program to Provide Information Needed for Management

- Nearly everyone we spoke to felt that although the existing body of scientific knowledge is limited, it has not been adequately exploited in the planning process. Indeed, most felt that science has been largely absent from the process up to this point and as of now it is scheduled to play only a "bit part" over the next 5 years. Many feel this is appropriate. They are more interested in action. A few others agreed with the need for action, but wanted to be sure that an appropriate research program would provide the scientific information needed to fill critical information gaps. All expressed the opinion that regardless of how one feels about science, actions have not been taken and believed it was because of uncertainty about where authority rested. One person expressed the opinion

that "science" was used as often to obfuscate an issue as to clarify one.

- A few expressed a dissenting opinion. They felt that good use had been made of existing science. They referred to science briefings of the Core Group by consultants and their identification of the status of existing knowledge and of areas that needed attention.

- Two individuals felt that carefully-crafted and targeted scientific papers could have been helpful in de-politicizing important issues so they could be dealt with. Mosquito spraying was cited as an example of an important problem that has been avoidable.

Some Unanticipated Events

- The legislation outlawing treasure salvaging early in the process without involving the Advisory Council caused major problems for them with their relationships with their constituencies. The Advisory Council felt betrayed and believes that it took many months to regain the confidence of the public that their (the Advisory Council's) opinion really did matter. Several believe there are still lingering problems from this action. It sent a signal to them and to those they represent that they were not full partners in the process. Most of the Council members we spoke with felt that the process could not have survived this

incident if there had not been such widespread respect for Billy Causey and for members of the Council.

- The law prohibiting treasure salvage went into effect before the establishment of the FKNMS.

Administration of the Council

- Most members had high praise for the Chair of the Council and gave him a great deal of credit for the effectiveness of the Council. Most also pointed out, however, that they would like to have seen more structure in the meetings and better facilitation. Lack of punctuality in starting meetings and failure to keep to the posted schedule were cited as examples of poor meeting management by the Chair.
- There was widespread agreement that staffing of the Council was inadequate. This is manifested in poor communication with members about meetings and Council activities; sketchy agendas, often arriving too close to the meeting date, etc. We also observed that the arrangements for the meeting we attended were not impressive and that the facilities resulted in problems. There were only two microphones; feedback between them; no flip charts; and an inadequate agenda, etc.
- They also expressed concern about staffing for the new FKNMS Office. They felt Billy Causey had accumulated new

responsibilities without additional staff. He not only had a planning function, but a PR function and an operational function.

EXHIBIT A

LIST OF INDIVIDUALS INTERVIEWED AT HAWKS CAY

George Bailey
Mike Collins
Allison DeFoor, Jr.
Bruce Etshman
Allison Fahrer
George Garrett
Debbie Harrison
Paul Johnson
Karl Lessard
Jim Miller
John Ogden
DeeVon Quirolo
Danny Riley
Mark Robertson
Spencer Slate
Sandy Sprunt
John Stewart
Terry Sullivan

EXHIBIT B

INDIVIDUALS INTERVIEWED IN SILVER SPRING

Dana Bryan

Ed Lindelof

Toy Livingston

Jim Smith

(Two others whose names I've lost)

EXHIBIT C
QUESTIONS USED IN INTERVIEWS

- Were the goals and objectives of the National Marine Sanctuary PROGRAM stated explicitly at the outset of the process?
- What are the goals and objectives of the process you are involved in? Were they stated explicitly at the outset? By whom?
- What were your expectations for the process when you started out? Have they changed? How?
- What are the expected outcomes (yours) for the FKNMS management plan?
- Was the stage set properly at the outset?
- What are the good points about the process you've been involved in? ... the characteristics you'd recommend be followed in other National Marine Sanctuaries? What would you change? Why?
- Is the Council the primary source of advice in the process?
- Have the right people been involved? ... the right agencies? ... organizations?
- Has the level of involvement been about right relative to anticipated

payoffs?

- Was there ample opportunity for participation? Was your voice heard?
- Was the process for setting priority uses and values appropriate? What changes would you suggest?
- What is the process for resolving conflicts? How would you change it?
- What are your thoughts on Integrated Coastal Management? ... Is the process you've followed an ICM process?
- Do you think the plan will be implemented? Will it change things? How?
- Did the process identify early on those strategies for which there is enough information to take action now? ... actions consistent with the goals and objectives of the Program?
- To what extent have lack of scientific data and information limited your ability to formulate appropriate strategies to deal with specific issues?
- Should there have been an extended (multi-year) research program first -- before formulating a management plan? ... as in the

National Estuary Programs where a 2-3 year research program precedes development of CCMP?

- To what extent has the process you've been involved in looked beyond the sanctuary boundaries for threats to values and uses within the sanctuary?
- Would you like to comment on the zoning PROCESS that was used?
... selection of criteria for setting boundaries?
- Is an ongoing program of research and monitoring an integral part of the plan?
- How will the results of the research and monitoring be used to evaluate the effectiveness of the management plan in achieving goals and objectives and as a basis for making appropriate changes to the plan?
- WHO evaluates the comments received during the public comment process?
- What's the future of the Council? Duration? Roles? etc.

EXHIBIT D

WHY WE ARE HERE AND WHY WE ARE NOT

- We are NOT here to review, to evaluate, the PLAN.
- We are here to review the process that was used to develop the plan ... so that we can help NOAA improve the process when it is applied in other National Marine Sanctuaries.
- All comments will be held in confidence ... i.e. anonymity will be preserved.
- We are on a search for “lessons learned” about the process of developing integrated coastal management plans for national marine sanctuaries (and other waterbodies).

EXHIBIT E
ICM CHECKLIST

An ICM Program should include the following:

- Identification of specific goals and objectives.
- Identification of important ecosystem values and functions and human uses -- allocated in time and space as appropriate.
- Identification of the boundaries of the "Zone of Influence."
- Identification and ranking of the locations and relative magnitudes throughout the Zone of Influence of the threats to important ecosystem values and functions and human uses of the coastal water body.
- Identification and assessment of the various management strategies -- individually and in different combinations -- to eliminate or reduce the threats.
- Selection of the best -- most appropriate -- combination of management strategies.
- A monitoring program to evaluate the effectiveness of management strategies and to track progress toward important goals.

- A research program to provide information needed for management.
- GIS or other system(s) to tailor data and information to the needs of different user groups.
- Institutional mechanisms to ensure continuity of management and the funds required.
- An educational program to keep everyone “in the boat and rowing in the same direction.”





APPENDIX D

Executive Summary from Liepitz 1994

EXECUTIVE SUMMARY

The Kenai River Cumulative Impacts Assessment of Development Impacts on Fish Habitat, was funded in part by the Alaska Coastal Management Program's (ACMP) Section 309 Enhancement Grant Program. This study was designed to identify and evaluate the cumulative impacts of development actions including public and private land use impacts on Kenai River fish habitat. The Alaska Department of Fish and Game (ADF&G) established a Technical Advisory Group (TAG) to help define the issues and identify an acceptable methodology to be used for the assessment. The TAG was composed of representatives from all state and federal resource agencies with regulatory and management responsibilities on the Kenai River. The TAG was provided a summary of the results of the ADF&G's literature search of cumulative impact methodologies. The ADF&G also recommended the TAG consider the use of the U.S. Fish and Wildlife Service's (FWS) developed Habitat Evaluation Procedures (HEP) as the process to be used for the impacts analysis portion of this study. The group concurred with this recommendation. They concurred with the ADF&G recommendation for the development of a habitat classification process for the Kenai River's fish habitats that incorporates a combination of assessment techniques including aerial photograph assessment, field inventory, and the use of a Geographic Information System (GIS) for data compilation and analysis.

Existing mapped and/or digitized data for land ownership, soils and vegetation types were obtained through the Soil Conservation Service (SCS) and the Kenai Peninsula Borough (KPB). This information was edited and stored for use in our assessment efforts on the GIS at the ADF&G's regional office in Anchorage. Information from this data set was edited and provided to the SCS for inclusion in their technical report.

Field data compilation and ground truthing of aerial photograph interpretation data was initiated during the fall 1992 low water period and was completed during the summer and fall of 1993. The field survey resulted in an inventory of existing bank and fish habitat conditions occurring along the entire 67 miles of Kenai River mainstem from the outlet of Kenai Lake to the Skilak Lake inlet and from Skilak Lake's outlet downstream to its confluence with Upper Cook Inlet near the City of Kenai. All natural and disturbed bank habitat conditions were inventoried using a field data inventory form and color photo documentation. Data collected included vegetation type and coverage at both the river's ordinary high water (OHW) mark and the top of bank, nearshore substrate composition, fish cover characteristics, and documentation (description and measurement) of all structures and bank alterations observed. Positions were confirmed using Global Position Satellite (GPS) receivers that were differentially corrected to a resolution of 10.0 feet.

The diverse habitat types occurring along the river's 67 mile length (approximately 166 miles of water frontage) provide a varying degree of habitat value to juvenile salmon. The nearshore waters of the Kenai River provide critical early life stage rearing habitat for juvenile chinook salmon during that period of the year when these fish are using this important part of the river

(this included the late spring, summer and early fall period). Mainstem rearing habitat within the Kenai River, which occurs primarily in a very narrow (6.0 foot wide) corridor adjacent to the river's banks, has been described in previous studies by the ADF&G and FWS. ADF&G surveys of fish rearing habitat indicates that over 80 percent of all rearing juvenile chinook are found within this corridor. The total area within this narrow corridor including both the river's upland and island shorelines amounts to a mere 121 acres. It should be noted, however, that much of this 121 acres does not constitute preferred juvenile chinook salmon rearing habitat because: a) it is a tidally influenced reach with brackish water conditions and no cover habitat or lacks an adequate food source; b) it is naturally unsuitable to rearing juvenile salmon due to high water velocities and/or a lack of cover habitat; c) alteration of natural conditions by man associated with river access have led to vegetation loss and/or bank erosion; or d) the nearshore fish habitat has been degraded as a result of bank stabilization and property protection efforts.

The field inventory and fish habitat classification analysis completed in this study has documented that 11.1 percent to 12.4 percent (18.4 to 20.6 miles) of the river's 134 miles of upland and 32 miles of island shoreline and nearshore habitats have been impacted by bank trampling, vegetation denuding, and structural development along the river's banks. The two different lengths or percentages cited above relate to the habitat impacts measured at either the OHW line or at the top of the bank. Optimum fish rearing conditions (i.e., water velocities less than 1.0 foot per second, undercut banks with overhanging vegetation, and gravel/cobble substrates) occur on only 80,440 feet (15.2 miles or 9.2 percent) of this important fish rearing corridor along the entire river length. Study results indicate that 63,299.0 feet (12.0 miles) of this corridor is currently in the developed/impacted category, amounting to approximately 8.7 acres of the total 121 acres of available juvenile rearing habitat. The sum of the impacted or altered habitats (8.7 acres) plus the lower quality habitat for rearing fish (which includes all of the Kenai River 309 Study's Reach 1 or lower 10 miles of river nearshore habitat)(15.7 acres) and the heavily trampled/denuded areas documented on the river (5.1 acres) equals 29.5 acres or 24.4 percent of the river's total nearshore habitat. This leaves a total of 91.5 acres (75.6 percent) of mainstem nearshore rearing habitat for juvenile fish of which only 11.0 acres (9.2 percent) provide their ideal rearing conditions.

The field inventory data was entered into the GIS database for tabulation and graphical analysis. The tabulated data was then used to complete a Habitat Evaluation Procedure (HEP) analysis. HEP converts both the natural and developed habitat areas into a relative value for fish habitat. HEP was developed as a tool to document the quantity and quality of available habitat for a selected fish and/or wildlife species in a given area and uses a species/habitat relationship approach to impact assessment. HEP identifies key habitat components for a species of interest (e.g., an indicator species) which are used for a comparison of existing or future habitat conditions to the optimum habitat conditions for that species.

The HEP assessment approach is based on the fundamental assumption that certain specified habitat parameters can be described numerically and ranked. This ranking allows for the comparative analysis of habitat change over time resulting from individual or multiple development projects or other habitat altering activities (e.g., public and private access, recreational uses, etc.). Comparative analysis determines the overall impact of habitat change

within a system in terms of net gain or loss of habitat units (HU's) associated with these activities.

HEP characterizes habitat quality using a Habitat Suitability Index (HSI) value. HSI's are derived from established or project-developed Suitability Indices (SI) or Curves. The HSI is a numerical value ranging from 0.0 to 1.0 and is generated from an analysis of the ability of key habitat components to supply the life requisites of the indicator species. HSI's assign a value to a species' key habitat component(s) or variables. This value represents that habitat component's relative importance to the evaluation species and is based upon what is considered optimum habitat for that species.

Overall habitat impact can be assessed by calculating the gain or loss of Habitat Units (HU's) associated with a land use or development action affecting fish habitat. Mean HSI values (the sum of all the suitability index values identified for a species' individual habitat components divided by the total number of habitat component SI's defined) are used to calculate the HU's available for the species of concern. The mean HSI values, which are calculated for the habitat conditions occurring as a result of a project or use that has changed the naturally occurring habitat characteristics, are multiplied by the area affected by the habitat altering activity. The product of this calculation defines the HU's available to the indicator species as a result of the activity. The HU's can be used for comparative analysis or an assessment of the amount of habitat gained or lost to the overall system resulting from an action or group of actions which has or will likely affect the system.

Study results indicate that there are 1,482,790 HU's currently available to juvenile chinook salmon in the Kenai River mainstem (see Table 14). These units are distributed throughout six different undeveloped shoreline habitat categories and another six developed shoreline or structures categories. These fish habitat classification categories include: ideal rearing habitat, vegetated undeveloped habitat, vegetated slightly degraded habitat, heavily degraded habitat, non-eroding gravel banks, and erosional gravel banks. The developed categories include: boat launches and access; docks, decks, and other structures; bank protection measures; bulkheads; jetties and groins; and "other development".

Of the total 877,070 feet (166.1 miles) of waterfront on the river, 813,775 feet (154.1 miles) is in a natural state and provides 1,416,783 HU's for rearing chinook salmon. There is currently another 63,299.0 feet (12.0 miles) of water frontage in some form of developed status which, while providing less favorable conditions for rearing fish than that of the natural bank, comprises another 73,189 HU's for these fish. Together they amount to 1,489,972 HU's in the Kenai River currently available for rearing juvenile chinook salmon.

By defining the area of habitat within the river's 6.0 foot corridor along the banks that is either currently developed or altered by man-made structures or that which has been severely impacted by access resulting in heavy trampling, vegetation loss, and bank instability, we have estimated that prior to the presence of these impacts, there was originally 1,523,144 HU's available to rearing juvenile chinook salmon in the Kenai River mainstem (see Table 15). The difference between this figure and the 1,489,972 HU's which currently exist is the amount of habitat lost or gained (lost in this case) to rearing fish. This amounts to 33,172 HU's or 2.2 percent of the

total Habitat Units originally available to rearing juvenile chinook salmon prior to any man induced alteration of the river's shoreline habitat.

A Development Trends Analysis was completed to provide important insight into the rate at which this habitat loss has been occurring on the Kenai River. This analysis used aerial photograph interpretation of development conditions that existed within and adjacent to the river in 1963/64 and compares those conditions to the documented development scenario observed during the 1993 Kenai River 309 field surveys. Such an analysis can be used not only to determine how much development has taken place over the last 30 years, but can also be used as an interpretive tool to extrapolate future development scenarios and estimate the level of additional impact and habitat change (loss or gain) that can be anticipated in the future.

Using the GIS system, the ADF&G developed mylar overlays of the property ownership land use patterns that correlated to the varying scales of the 1963 and 1964 aerial photo coverage of the Kenai River mainstem. This allowed for a direct visual comparison of the amount of development affecting the river shoreline and nearshore habitat over a 30 year time period. The ADF&G, with assistance from the FWS used stereo scopes to interpret the photos which allowed for a resolution of up to two feet. All manmade alterations observed through the scopes were identified and measured.

The final results indicate that over 76 percent of the modified banks and structures that were observed in the field surveys in 1993 and 94 have been introduced since 1963/64. The vast majority of these changes include the large increase in bank stabilization efforts and the construction of boat docks and groins or jetties.

All future development projects, maintenance projects, and land uses that affect the river and its shoreline will have to consider the limits of available habitat within this system, which is critical to the continued production of the Kenai's world class chinook salmon population. If we are to continue to be afforded the opportunity to harvest these fish either commercially, recreationally, or for personal use, we must avoid the continued cumulative loss of their nursery habitat.

The results of this analysis are intended to provide a basic understanding of the current condition of the nearshore fish habitat occurring on the Kenai River mainstem. This information is intended to help educate the general public of the effects of development and access-related habitat impacts that potentially affect the river's ability to continue to produce healthy runs of chinook salmon. The data will provide a basis for the ADF&G to draft Alaska Coastal Management Program project descriptions that result in the approval of sound development projects while promoting efficiency in the application of the coastal review process.

One of the primary objectives for the use of the Kenai River 309 project results has been to assist the local coastal district (KPB) in the review of their existing coastal management plan's policies. The study results are intended to be used as a tool in the district's effort to develop revised or new enforceable policies that can be implemented by the KPB as well as the existing state and federal regulatory agencies charged with Kenai River management responsibilities.

The developed database and analysis process will be used by the ADF&G and hopefully other management agencies to evaluate all future development actions using a cumulative impacts assessment approach which considers the entire Kenai River watershed rather than just the individual project and its immediate and/or local effects.

The application of the type of cumulative impact analysis completed during this study not only allows for the natural resource managers to make a decision to approve or deny an activity based upon the level of impact that would occur as a result of action, it would also allow for an comparison evaluation of alternatives to the proposed action and for the identification of mitigative measures necessary to offset or compensate for the unavoidable losses associated with the activity.

An important strength of this type of impact analysis is the ability for non-technical persons to better grasp the big picture of what an individual project or activity can do to the river system as a whole. By comparing HU changes that result from a proposed project, the degree of habitat impact can be defined. This should be a significant aid in helping individuals that proposing a certain project or activity to understand why that activity is denied or modified during the permitting process. It will also help explain to project proponents how to avoid or minimize project related impacts with a project redesign or the use of an alternative that reduces the identified impact. This assessment process can also be used as a tool to define those actions that improve the habitat quality or availability.

The Kenai River Cumulative Impact Assessment process can be readily used by inexperienced personnel with a minimum of training in the application of the HEP procedures and the existing software systems developed by the FWS.

With regard to the application of this cumulative impact assessment process to other similar riverine systems, it is extremely applicable. Other drainages would likely be less time consuming to evaluate in as much as the development pressure in these drainages is much less than that which has already occurred in the Kenai River and they have not been subdivided into as many small (100 foot) parcels as the Kenai River's riparian areas. Even so, the ability of aerial photograph and videography resolution can allow for detailed habitat classification of these small parcel sizes.

One of the benefits to the impact assessment approach used in this study is that it is a habitat based assessment which evaluates the actual or potential end result of an action as it affects the pre-existing habitat condition(s) which can occur as the result of the initial or primary activity or a spin-off effect such as a secondary impact affect. It can also effectively quantify the cumulative impact of multiple actions affecting a specific system. For example, this methodology can be used to quantify the effects of the construction of a boat launch at a given site based upon pre-project conditions. It can also quantify the effects of secondary uses such as habitat alterations in the vicinity of the project associated with the other uses that may occur as result of the initial project or action such as bank trampling associated with fisherman access provided by the launch installation. It can also assess habitat change related to bank scour or erosion (or lack thereof) associated with mooring boats either temporarily or long term and

depending on the measures taken to either protect or not protect the bank associated with the launch and the effects of accessing the moored boats.

The HEP analysis, which is a substantial part of this cumulative impact assessment methodology, has been developed with a variety of species specific suitability curves including avian, mammal and fish species, that can be used to quantify habitat loss related, not only to aquatic habitats but to wetland habitats as well. The Kenai River Cumulative Impact Assessment approach would certainly be applicable to evaluating the effects of cumulative impacts on wetland habitats within and outside of Alaska.

In reviewing the development and application of this impact assessment methodology, I would recommend that, for large scale drainage basin applications at least, a joint agency approach be used especially to accomplish the field survey and ground-truthing portion of this assessment process. This can help reduce costs to any one agency or group completing the assessment and lends credibility to the overall study results through the benefits of interagency cooperation and the sharing of technical and local biological expertise.

APPENDIX E

List of Tables and Figures from Liepitz 1994

LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
1 Kenai River Location Map	7
2 Study Area Boundary	8
3 Study Reach 3 Map	13
4 Kenai Riverfront Property Development	14
5 Summary of Kenai River Waterfront Lengths and Structures	17
6 Kenai River Ownership By Parcel	27
7 Kenai River Ownership Categories - All Five Reaches Combined	27
8 Kenai River Ownership Categories - Reaches 1 - 4	29
9 Kenai River Ownership Categories - Reach 5	29
10 Kenai River Water Frontage Alterations For Each Reach At Ordinary High Water	33
11 Kenai River Water Frontage Alterations For Combined Reaches At Ordinary High Water	35
12 Water Level And Bank Location Definitions	35
13 Kenai River Bank Vegetation Types At Ordinary High Water	39
14 Kenai River Bank Vegetation Types At Top Of Bank	39
15 Kenai River Bank Vegetation - All Reaches Combined	41
16 Kenai River Bank Vegetation For All Reaches At Ordinary High Water	43
17 Kenai River Bank Vegetation For All Reaches At Top Of Bank	43
18 Kenai River Nearshore Substrates By Reach	47
19 Kenai River Nearshore Substrates All Reaches Combined	47
20 Kenai River Fish Cover - By Reach	51
21 Kenai River Fish Cover - All Reaches Combined	51

LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
1 Fish Cover Types And Substrate Categories	A-1
2 Land Ownership, Development Status, And Water Frontages By Study Reach	A-2
3 Development/Access Structures Inventory By Study Reach - Reach 1	A-5
4 Development/Access Structures Inventory By Study Reach - Reach 2	A-8
5 Development/Access Structures Inventory By Study Reach - Reach 3	A-10
6 Development/Access Structures Inventory By Study Reach - Reach 4	A-12
7 Development/Access Structures Inventory By Study Reach - Reach 5	A-14
8 Development/Access Structures Inventory By Study Reach - Total For All 5 Reaches	A-16
9 Percentage Of Total Waterfront Affected By Structures And/Or Bank Trampling	A-17
10 Trampled Versus Naturally Non-Vegetated Riverbank At Ordinary High Water And Top Of River Bank	A-18
11 Vegetation Types By Study Reach At Ordinary High Water And Top Of River Bank	A-19
12 Substrate Types Listed By Study Reach	A-20
13 Available Fish Habitat Cover Types At Or Below Ordinary High Water Line By Study Reach	A-21
14 Habitat Suitability Indices And Available Habitat Units For Juvenile Chinook Salmon	A-22

TABLE

PAGE

15	Habitat Suitability Indices And Available Habitat Units For Juvenile Chinook Salmon Without Structures	A-23
16	Habitat Suitability Index Formula	A-24



APPENDIX F

May 5 Meeting Agenda and

List of Meeting Participants

Use of ADF&G and KPB GIS/Database Systems in
the Continued Assessment of Cumulative Impacts

May 5, 1995 -- Final Agenda

- 9:30 1. **Purpose of Meeting**
- ☐ purpose of this meeting relative to previous EPA meeting
 - ☐ FY95 309 study/Task 2, funding situation
 - ☐ consider alternatives/feasibility/fiscal constraints
 - ☐ determine who will use/contribute to the information management system
 - ☐ comments/suggestions on agenda
- 9:45 2. **Description of Existing ADF&G and KPB Information Management Systems**
- ☐ assumptions, focus, and limitations of 1994 309 cumulative impact study
 - ☐ demonstration
- 12:00 - 1:00 Lunch
- 1:00 3. **Definition of Problem**
- ☐ definition of Kenai River cumulative impact issues
 - habitat, water quality, access, recreation, other??
 - geographic scope of problem (e.g., Kenai River mainstem, tributaries?)
 - ☐ permitting issues
 - ☐ which problems/issues are the priority
4. **Establish Data/Information Management Needs**
- ☐ baseline and future structural/habitat alteration conditions
 - ☐ modeling (HEP or other techniques)
 - ☐ trend analyses
 - ☐ permit tracking
 - ☐ monitoring and compliance
 - ☐ geographic scope/data needs (e.g., expand to side channels/tributaries?)
 - ☐ cumulative impact evaluations
 - ☐ public information needs
 - ☐ others???
5. **Define the System**
- ☐ what are the desired outputs
 - e.g., maps, computer generated reports, statistical analysis, information queries, modeling, trend analysis, others?
 - ☐ who should have access to database and what form of access?
 - ☐ distribution of outputs
 - ☐ data collection, system maintenance, and update responsibilities
 - e.g., who will be maintaining the system, who will collect data and enter into system, how often will the system be updated, where will the system(s) be housed?

- ☐ software/hardware needs
- ☐ others???

6. **Design Input and Processing**

- ☐ establish data to be input
- ☐ system design (e.g., how should existing systems be expanded/modified?)

7. **Program Implementation/Feedback**

- ☐ implement the program through permitting and other actions
- ☐ field evaluation
- ☐ prepare periodic reports and evaluations
- ☐ re-evaluate problem statements, goals, analytical tools, models
- ☐ evaluate if the information system(s) are working and identify improvements
- ☐ are MOUs, MOAs, or other agreements necessary to carry out recommendations?

8. **Fiscal Needs**

- ☐ what can be done at existing funding levels
- ☐ what are the short and long-term fiscal needs to implement the program?

9. **Where From Here/Assignments**

- ☐ product I will produce
- ☐ who will be interested in reviewing draft product(s)
- ☐ assignments and schedule

May 5, 1995 Meeting Participants

<u>NAME</u>	<u>AGENCY/ORGANIZATION</u>	<u>PHONE NO.</u>
Jim Wadell Harriet Wegner Dick Troeger Debra Gilcrest	Kenai Peninsula Borough Planning Department Soldotna	(907)262-4441
Margaret Spain Deb Swanson	U.S. Dept. of Agriculture Natural Resource Conservation Service Kenai	(907)283-8732
Ted Cox	U.S. Dept. of Agriculture Natural Resource Conservation Service	(907)745-4274
Glenn Seaman Gary Liepitz Frank Wallis	Alaska Department of Fish and Game Habitat and Restoration Division Anchorage	(907)267-2342
Michele Brown	The Nature Conservancy Soldotna	(907)262-3377
Keith Boggs	Alaska Natural Heritage Program University of Alaska Anchorage	
Phillip North	Environmental Protection Agency Anchorage	(907)271-3401
Steve Zemke	Chugach National Forest Anchorage	(907)271-2521
Rick Ernst	U.S. Fish and Wildlife Service Kenai National Wildlife Refuge	(907)262-7021
Doug Palmer	U.S. Fish and Wildlife Service Kenai Fishery Resource Office	(907)262-9863
Suzanne Fisler	Alaska Dept. of Natural Resources Division of Parks and Outdoor Recreation Kenai River Special Management Area Soldotna	(907)262-5581



APPENDIX G

Proposal/Work Plan for
National Marine Fisheries Service Grant

NATIONAL MARINE FISHERIES SERVICE
KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION
GRANT FUND PROPOSAL

Objectives

The overall objective for the use of the \$926,000 National Marine Fisheries Service (NMFS) grant for the Kenai River drainage is to protect and restore fish habitat. There is general agreement among fisheries scientists and state and federal agencies that land development and recreational activities in and along the Kenai River have impacted streambank fish habitat and water quality in the Kenai River. There is general concern amongst scientists and the public that the Kenai River salmon runs will decline unless there are some changes to how the Kenai River and its riparian habitat are used and developed. Degradation of fish habitat in the Kenai River is the result of private and public property development, urbanization, and intense recreational use of the river's riparian area. The Alaska Department of Fish and Game's (ADF&G) Kenai River 309 Project¹ found that 12 percent of the available Kenai River chinook salmon rearing habitat has been altered to various degrees by shoreline development and recreational activities; and that 2 percent of the available chinook salmon rearing habitat has been lost to these activities. Fisheries biologists² who have studied the Kenai River believe that production of chinook salmon is limited by available rearing habitat. The 309 study did not evaluate the status of rearing habitat for other salmon species, but because these species may be equally or more sensitive to loss of cover and water velocity increases, it is believed that a similar degree of habitat degradation may have occurred. Water quality studies have revealed that many naturally occurring benthic organisms have disappeared below the City of Soldotna storm drain outfalls. It is believed that this is the result of hydrocarbons and other pollutants in stormwater discharges.

ADF&G is proposing to use the NMFS grant to improve the process for evaluating and regulating development along the Kenai River, and for projects to protect and restore fish habitat. The department and the Kenai Peninsula Borough (KPB) agree that public awareness, coordinated permitting, and bank restoration/protection projects are a high priority for funding under the NMFS grant. The success of any long-term habitat protection and restoration program for the Kenai River watershed is dependent upon general public awareness of the source and extent of threats to the ecosystem and support for measures to halt and reverse those threats. The perceived complexity of the permitting process for activities on the Kenai River has frustrated many property owners and undermined support for a comprehensive habitat conservation program for the Kenai River drainage. The river would also benefit greatly from

¹ Liepitz, Gary S. 1994. An Assessment of the Cumulative Impacts of Development and Human Uses on Fish Habitat in the Kenai River Technical Report No. 94-6. Alaska Department of Fish and Game, Habitat and Restoration Division.

² Terry Bendock (ADF&G) and Carl Burger (USFWS); pers. comm.

implementation of the recently enacted Kenai River tax credit program for fish habitat restoration and protection projects. This proposal contains the means to initiate these programs, which would be further supported by contributions from the KPB. There is an urgent need: to halt the accelerating fish habitat damage on the Kenai River from bank trampling, land development, boat wakes, and associated bank erosion; prevent pollution; protect undamaged areas; and restore damaged fish habitat to its former level of productivity on private and public lands. Grant funds would be used for fish habitat protection and to restore damaged fish habitat on public and private lands.

ALASKA DEPARTMENT OF FISH AND GAME

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

FEDERAL FISCAL YEARS 95 - 97 PROGRAM BUDGETS
(STATE FISCAL YEARS 96 - 98)

<u>Program</u>	<u>Cost³</u>
1. Kenai River Center	
Subtotal	<u>\$100,000</u>
2. Habitat Protection and Restoration Demonstration Projects:	
A. Restoration Identification Prioritization	\$ 30,000
B. Fish Habitat Protection and Restoration Demonstration Projects on Private Land	200,000
C. Fish Habitat Protection and Restoration Projects on Public Land	396,000
D. Riparian Plant Selection and Harvest Sites	30,000
E. Bank Protection and Restoration in Boat Wake Areas	<u>70,000</u>
Subtotal	\$726,000
3. Project Management and Administration	
Subtotal	<u>\$100,000</u>
<u>Total Cost</u>	<u>\$926,000</u>

³ Costs and project descriptions are conceptual and are subject to discussions with cooperators and negotiations with potential contractors. The department will solicit and participate in these proposals with state, federal, and local agencies as well as appropriate contractors and private organizations. ADF&G will also actively seek potential cooperators that can provide matching funds or services to enhance these projects.

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

**FEDERAL FISCAL YEAR 95
(STATE FISCAL YEAR 96)**

AGENCY: Alaska Department of Fish and Game

CATEGORY: Kenai River Center

TOTAL COST: \$100,000 plus Kenai Peninsula Borough funding

JUSTIFICATION:

This project would help establish a Kenai River Center located in Soldotna, Alaska in conjunction with the Kenai Peninsula Borough. The Center would offer information on the Kenai River and identify permits required for activities in the Kenai River drainage. When fully operational, the facility would house one staff member each from the Alaska Department of Fish and Game's Habitat and Restoration Division, the Alaska Department of Natural Resources' Division of Parks and Outdoor Recreation (DNR/DPOR), and the Kenai Peninsula Borough Planning Department, as well as a Kenai watershed information repository. The personnel would provide information, accept permit applications, help determine permit requirements, provide technical assistance, and generally assist the public in designing means and methods to accomplish their projects while protecting the watershed.

Information provided at the center would include displays on subjects related to the Kenai River ecosystem, information on salmon life history and fish habitat, information for sport fishermen on how to use the river without damaging it, and information for property owners on techniques for protecting and restoring riverbanks. This information would be presented through a number of venues including videotapes, pamphlets, documents, photographs, and computer programs. Staff would be available to provide assistance.

For most projects on the Kenai River, only three authorizations are needed: an ADF&G Anadromous Fish Act Permit; a DNR/DPOR KRSMA permit, and a Coastal Consistency Determination. Most Corps of Engineers projects are covered by General or Nationwide permits. The most efficient way to handle Kenai River permitting, coastal reviews, and tax incentive approvals without substantial changes in state and federal statutes is by collocating staff from the ADF&G, DNR/DPOR, and KPB in an office at a central location on the Kenai River. Coastal consistency determinations, ADF&G, DNR, and KPB permits for Kenai River projects would all be issued based upon a single application. General permits for standardized projects such as approved floating docks, boardwalks, and bank protection could be issued based upon a simplified application and subject to standardized stipulations. For more complex projects, agency staff would be available for site inspections, technical assistance, and coordinated review of projects. An ADF&G Habitat Biologist, DNR/DPOR Park Ranger, and KPB representative, and a Clerk Typist would provide permit assistance.

The Kenai Project Office would also provide more uniform efficient and effective monitoring and enforcement of state and borough statutes. The goal would be to provide local one-stop-shopping for all but the most complex projects. The office would be connected to other ADF&G, DNR, and KPB offices through an E-Mail computer network. This would provide for rapid file searches, and a similar application process for the large percentage of riparian property owners who do not live on the Kenai Peninsula. The office would be provided with the computers and the Kenai River 309 geographical information system (GIS) containing land status, shoreline development, ratings, soils, vegetation, and 1993 photographs of each Kenai River parcel. Portable computers containing these data would be provided for field inspections.

Potential Cooperators: Kenai Peninsula Borough, Alaska Department of Fish and Game, Alaska Department of Natural Resources.

COST BREAKDOWN:

Salaries and Benefits	\$ 34,565
Travel	2,435
Equipment and Supplies	17,200
Contractual Services	45,800
Publishing and Communications	<u>0</u>
<i>Total</i>	<i>\$100,000</i>

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

**FEDERAL FISCAL YEAR 96
(STATE FISCAL YEAR 96)**

AGENCY: Alaska Department of Fish and Game

CATEGORY: Habitat Protection and Restoration
Demonstration Projects

SUBCATEGORY: Restoration Identification Prioritization

TOTAL COST: \$ 30,000

JUSTIFICATION:

Habitat damage in the Kenai River has occurred on all land ownership categories and within a wide variety of habitat types. The level of documented damage ranges from light (i.e., loss of some riparian vegetation and initial deterioration of banks) to heavy (i.e., complete loss of vegetation and bank structure). At some heavily used access sites, banks have laterally eroded up to 30 feet from their historic location. The sources of bank damage range from intensive trampling by bank fishermen in popular fishing areas to land development for boat launches, campgrounds, and access. Bank damage appears to be cumulative and spreading. Heavily damaged banks do not naturally recover. Sixty percent of the land on the Kenai River, including the riverbed below ordinary high water, is in public ownership, while 40 percent of the riparian lands are privately owned. Most damage on public land is related to bank-trampling and access from recreational use. Public lands along the Kenai River and its tributaries are managed by the U.S. Forest Service, U.S. Fish and Wildlife Service, Alaska Division of Parks and Outdoor Recreation, Alaska Department of Fish and Game, Kenai Peninsula Borough, Alaska Department of Transportation and Public Facilities, City of Kenai, and City of Soldotna. All of the state and federal land managers have a statutory responsibility to manage their land to conserve fish and wildlife resources in the river. The public also expects governmental agencies to take the lead in protecting the habitat and maintaining its fish runs. There is an urgent need on public lands to halt ongoing damage of streambanks and water quality, protect undamaged habitat, and restore areas that have been damaged. Because bank protection and restoration is potentially costly, it is important to identify and prioritize the most important areas in need of attention. This prioritization will be used for directly funding restoration to areas of greatest need. Criteria would include degree of damage, potential for additional damage, value of fish habitat, potential for protection and rehabilitation, and level of public use.

This project will develop a list of restoration and protection projects on public lands in cooperation with state, federal, and local government land managers. The product will be a list of damaged sites with short descriptions, prioritized for restoration.

Potential Cooperators: U.S. Fish and Wildlife Service, U.S. Forest Service, Alaska Department of Natural Resources/Division of Parks and Outdoor Recreation, Alaska Department of Transportation and Public Facilities, Alaska Department of Fish and Game, City of Kenai, and City of Soldotna.

COST BREAKDOWN:

Salaries and Benefits	\$ 27,180
Travel	2,120
Equipment and Supplies	0
Contractual Services	0
Publishing and Communications	<u>700</u>
Total	\$ 30,000

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

**FEDERAL FISCAL YEARS 96 - 97
(STATE FISCAL YEARS 96 - 98)**

AGENCY: Alaska Department of Fish and Game

CATEGORY: Habitat Protection and Restoration Demonstration Projects

SUBCATEGORY: Fish Habitat Protection and Restoration Demonstration Projects on Private Lands

TOTAL COST: \$200,000

JUSTIFICATION:

Forty percent of the streambanks of the Kenai River are privately owned, but over one-half of all damage to the fish habitat on the Kenai River has occurred on private land. Less than one-half of the private property on the river has been developed; remaining private land is likely to be subdivided and developed in the future. Most streambank damage on private property has resulted from alteration of the streambanks, removal of bank vegetation, and construction of structures such as docks, stairs, boat ramps, or groins to provide access to the river. Because habitat loss affects all Kenai River stakeholders, there is a need to assist landowners to: (1) prevent habitat loss, and (2) undertake projects to restore damaged habitat. This project would provide a portion of the cost of protecting and restoring streambanks on commercial and residential properties that have suffered habitat damage.

Demonstration projects would provide a percentage of project cost for development and testing of fish habitat restoration and protection technology, on lands with particular types of streambank habitat damage and loss of fish habitat. This could include the removal and restoration of existing structures such as groins and bulkheads, the reconstruction and revegetation of eroding banks, and the protection of as yet undamaged fish habitat. For demonstration purposes, sites would be selected where specific restoration techniques could be used to restore similar damage on other sites along the river. Rather than spending all funds on one project, several projects with differing bank, hydrologic, and human use conditions would be selected to maximize diversity and demonstration value. The cost of individual projects is expected to range from \$2,000 to \$50,000. Property owners would be expected to provide matching funds. Between 20 and 30 projects would be sponsored. Alaska Department of Fish and Game staff would provide technical assistance to project applicants on fish habitat restoration techniques and assistance in obtaining necessary project permits. Fish habitat use at demonstration project sites would be monitored before and after restoration by Alaska Department of Fish and Game staff. The durability and effectiveness of restoration techniques would be evaluated throughout a three to five-year monitoring program. The product would be a site-specific report with photo documentation that would also evaluate cost, site conditions, techniques, and gains in habitat and fish usage. The Alaska Department of Fish and Game has

requested grant authority from the Legislature to directly sponsor projects with private landowners. Until that authority is granted, the department would continue to provide demonstration grants through the U.S. Fish and Wildlife Service Private Lands Grant Program.

Potential Cooperators: U.S. Fish and Wildlife Service, private conservation groups, and Alaska Department of Fish and Game.

COST BREAKDOWN:

Salaries and Benefits	\$ 43,327
Travel	3,673
Equipment and Supplies	0
Contractual Services	151,000
Publishing and Communications	<u>2,000</u>
<i>Total</i>	<i>\$200,000</i>

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

FEDERAL FISCAL YEARS 95 - 97
(STATE FISCAL YEARS 96 - 98)

AGENCY: Alaska Department of Fish and Game

CATEGORY: Habitat Protection and Restoration Demonstration Projects

SUBCATEGORY: Fish Habitat Protection and Restoration Projects on Public Land

TOTAL COST: \$396,000

JUSTIFICATION:

This project would provide funding for fish habitat protection and restoration projects on public lands on the Kenai River. Projects would include restoration of damaged habitat, improvements to existing access to the river to reduce damage to fish habitat (i.e., boardwalks, stairs, floating docks), and protection of currently undamaged areas. Funding could also be provided for the removal and restoration of illegal or abandoned structures such as groins and bulkheads on public lands which are detrimental to fish habitat or to prevent pollution. Projects would be selected based on priorities identified in the previously described Restoration Identification Prioritization Project (2A). Up to four large projects may be funded depending upon cost. A project report and matching support would be sought from land managers. Department staff would provide technical assistance in project design and in obtaining permits.

Potential Cooperators: Alaska Department of Natural Resources, Alaska Department of Fish and Game, Alaska Department of Transportation and Public Facilities, U.S. Fish and Wildlife Service, Kenai Peninsula Borough, City of Soldotna, and City of Kenai.

COST BREAKDOWN:

Salaries and Benefits	\$ 22,845
Travel	1,555
Equipment and Supplies	0
Contractual Services	371,100
Publishing and Communications	<u>500</u>
Total	\$396,000

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

FEDERAL FISCAL YEARS 96 - 97
(STATE FISCAL YEARS 96 - 97)

AGENCY: Alaska Department of Fish and Game

CATEGORY: Habitat Protection and Restoration
Demonstration Projects

SUBCATEGORY: Riparian Plant Selection and Harvest Sites

TOTAL COST: \$ 30,000

JUSTIFICATION:

Water tolerant woody and herbaceous plants provide effective low cost bank protection and fish habitat restoration. Most habitat and streambank restoration projects require plant materials that are currently not available commercially and therefore require harvest from native plant communities. The success of these projects is dependent on availability of willow and other species which root readily and tolerate periodic flooding. Although the interest in soil bioengineering projects and revegetation with willow and other native plant species is increasing, land owners and public land managers often do not know where to obtain these materials. Known sources of native willows and other plants suitable for use is severely limited, plant identification is difficult, and competition for the few known harvest sites is increasing.

This project would identify areas containing appropriate species (i.e., Feltleaf-, Barclay-, and Pacific-willow; beach rye) for potential plant material harvest; coordinate plant collection efforts with state, federal, municipal and Native land managers to avoid impacts resulting from harvest; optimize harvest for sustained yield; and investigate opportunities for cultivation of target species. The product would be a document listing plant materials and sites where plants can be obtained for restoration harvest by private citizens and government agencies. This information could be made available to the public, where appropriate. This project is very important for the success of the restoration projects which would be undertaken on the Kenai River.

Potential Cooperators: Alaska Department of Natural Resources/Plant Materials Center and Division of Parks and Outdoor Recreation, Kenai Peninsula Borough, U.S. Fish and Wildlife Service, U.S. Forest Service, municipalities, and Native corporations.

COST BREAKDOWN:

Salaries and Benefits	\$ 2,362
Travel	0
Equipment and Supplies	38
Contractual Services	27,600
Publishing and Communications	<u>0</u>
<i>Total</i>	<i>\$ 30,000</i>

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

**FEDERAL FISCAL YEARS 96 - 97
(STATE FISCAL YEAR 97)**

AGENCY: Alaska Department of Fish and Game

CATEGORY: Habitat Protection and Demonstration Projects

SUBCATEGORY: Bank Protection and Restoration in Boat Wake Areas

TOTAL COST: \$ 70,000

JUSTIFICATION:

Boat wakes were identified as a major cause of streambank erosion on the Kenai River in the 1980s. Outboard motor size was reduced in 1986 to reduce streambank erosion and damage. In spite of the horsepower reduction, the effects of boat wakes on streambank habitat remains a concern because of the vary large number of boats using the Kenai River. Boat wakes present a different problem than natural down-stream erosional forces because wakes run up the streambanks lifting and dislodging material that would not be affected by normal downstream currents and water level fluctuations. During a single day, wakes repeatedly raise water levels to heights that would normally only be reached once or twice during a normal hydrological season. Wakes from boats traveling upstream strike the bank in a manner that does not occur naturally. This may dislodge material that resists normal downstream water movement.

These characteristics of boat wakes present unique problems for land managers trying to protect streambanks and fish habitat from accelerated erosion. Boat wakes are also a serious challenge to land managers who are attempting to restore fish habitat because wakes wash away soil and plant materials before they can become established. This project will determine the mechanics of streambank erosion at several sites and provide a report on the findings with recommendations for techniques to protect fish habitat and restoration activities from boat-wake-caused bank erosion.

Potential Cooperators: U.S. Geological Survey, University of Alaska, Alaska Department of Fish and Game.

COST BREAKDOWN:

Salaries and Benefits	\$ 8,402
Travel	0
Equipment and Supplies	38
Contractual Services	61,560
Publishing and Communications	<u>0</u>
<i>Total</i>	<i>\$ 70,000</i>

KENAI RIVER SALMON HABITAT PROTECTION AND RESTORATION

PROGRAM JUSTIFICATION

FEDERAL FISCAL YEARS 95 - 97
(STATE FISCAL YEARS 96 - 98)

AGENCY: Alaska Department of Fish and Game

CATEGORY: Project Management and Administration

TOTAL COST: \$ 100,000

JUSTIFICATION:

A Project Manager is essential to the efficient and effective use of this grant for the three year period from federal fiscal years 95 to 97. Duties include: solicitation of proposals; development and approval of individual project work plans; preparation of contracts and reimbursable services agreements; project tracking and performance monitoring; and report editing and approval.

COST BREAKDOWN:

Salaries and Benefits	\$ 97,564
Travel	2,436
Equipment and Supplies	0
Contractual Services	0
Publishing and Communications	<u>0</u>
<i>Total</i>	<i>\$100,000</i>



APPENDIX H

"Upper Cook Inlet Fisheries and Habitat Plan"

Outline of Governor Knowles April 1995 Presentation to

Anchorage Chamber of Commerce

Upper Cook Inlet Fisheries & Habitat Plan

"The most important fish is the one on Alaska's dinner table."

1

ENSURE THAT COOK INLET REACHES ITS POTENTIAL AS THE WORLD'S FINEST SPORT FISHERY FOR ALASKA FAMILIES.

- While maintaining healthy subsistence, personal use, commercial, and commercial sport fisheries.
- Governor initiates process for analysis, input and development of recommendations; management roles of Department and Board of Fisheries are maintained and protected.

2

REVITALIZE UPPER COOK INLET RIVERWAYS.

- \$20 million to provide habitat protection along the Upper Cook Inlet Riverways (Kenai River, Anchorage, Susitna Drainage).
 - Expand and improve responsible recreational access.
 - Acquire critical lands on the Kenai River.
 - Clean up our own house.

3

PROTECT OUR RIVERWAYS AND FISH STOCKS THROUGH PARTNERSHIPS WITH KENAI & MAT-SU BOROUGHES AND ANCHORAGE, PROVIDE EDUCATION AND PROMOTE COORDINATION OF LOCAL, STATE AND FEDERAL AGENCIES.

EDUCATION

- Schools
- Stream Watch

COORDINATION

- River Advisory Committees
- Kenai River Center
- Community action to protect rivers



WORLD'S FINEST SPORT FISHERY

Direct the Department of Fish & Game to contract with a third-party facilitator to:

- Gather and analyze scientific, socio-economic, demographic and management information, and identify additional information needed to improve fisheries management for Cook Inlet and the Kenai and Susitna River drainages.
- Facilitate discussion with all user groups, citizens and local governments to develop ideas and options for achieving the following goals:
 - *Protect important fisheries habitat.*
 - *Ensure necessary escapement to build and protect wild fish stocks.*
 - *Provide for personal needs of Alaska families.*
 - *Maintain viable and prosperous commercial and commercial sports fishing industries.*
- Prepare recommendations for consideration by the Board of Fisheries.

2

PROJECTS FOR REVITALIZING UPPER COOK INLET RIVERWAYS

Total Expenditures - more than \$20 Million

- Kenai River \$6.72 Million
- Rest of Kenai Peninsula \$3.2 Million
- Anchorage & Susitna Drainage \$8 Million
- Commitment of money to purchase acreage along Kenai River at fair market value

Sources of Money

- Exxon Criminal Funds
- Exxon Civil Funds
- Dingell - Johnson Sport Fish Restoration
- ISTEPA Enhancement Funds
- Scenic Byway Funds
- NMFS - Senator Stevens special appropriation

- **Expand and improve responsible recreational access in Upper Cook Inlet while protecting habitat.** (*Parks, boardwalks, interpretive displays, boat launches, camping, balanced with habitat protection.*)

Susitna

- Talkeetna River boating access \$400,000
- Susitna River landing improvement \$90,000
- Bradley Kepler lakes \$300,000
- Lake Louise State Recreation Area \$340,000

Kenai

- Pillars \$1.8 Million
- Cooper Landing scenic overlook \$600,000
- Bings Landing \$200,000
- Acquisition for habitat protection

Anchorage

- Fort Richardson Fish Hatchery \$4 Million
- Chugach State Park \$2.9 Million

- **Acquisition of critical lands on Kenai River and enhancement of greenways**

- Cove Parcel - 100 acres near the mouth of Kenai River at Kenai River Flats
- Kobylarz Subdivision Parcel - 20 acres at Big Eddy
- River Ranch Parcel - 146 acres near mile 32
- Salamatof Parcel - 1260 acres between miles 26 and 28
- Stephanka Tract - 803 acres southeast of Sterling
- Public Use Cabins in Kachemak Bay - acquire existing private cabins for public use at Bear Cove, Halibut Cove, Eldred Passage, Sadie Cove and Tutka Bay

- **Cleaning up our own house**

- Move DOT site in Soldotna
- Pollution prevention

3

EDUCATION & AGENCY COORDINATION

- Education
 - *Educational programs in Cook Inlet area schools*
 - *Volunteer program "Stream Watch"*
- Create partnerships with Kenai & Mat-Su Boroughs and Anchorage to protect our riverways and fish stocks.
- Revitalize Kenai River Advisory Committee
 - *Resource agencies to work in a coordinated manner.*
 - *Update Kenai River Management Plan (including long-range acquisition goals & habitat protection).*
 - *Streamline the permitting process.*
- Create Susitna Drainage River Advisory Committee
- Establish Kenai River Center
 - *Provide interpretive and educational information on the river.*
 - *Act as a clearinghouse for the permitting process.*
- Support the Kenai Peninsula Borough in enacting a zoning ordinance and community action to protect other Cook Inlet rivers.

NOAA COASTAL SERVICES CENTER LIBRARY



3 6668 00003 1171