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NEPA and the Environmental Movement: A Brief History

Lynn G. Llewellyn and Clare Peiser

Technical Analysis Division
Institute for Applied Technology
National Bureau of Standards
Washington, D. C. 20234

July 1973

Final Report

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U. S. DEPARTMENT OF COMMERCE, Frederick B. Dent, Secretary

NATIONAL BUREAU OF STANDARDS, Richard W. Roberts, Director

PREFACE

In June 1972 the Technical Analysis Division of the National Bureau of Standards was asked to take part in a Summer Fellows Program sponsored by the Environmental Protection Agency. TAD was assigned the role of monitoring the research activities of the twenty-five outstanding college students who were investigating the impact of the environment on society. At the request of EPA, TAD also undertook the separate task of preparing a history of the National Environmental Policy Act (NEPA), which was signed into law in January 1970. While performing the background research for this study (along the guidelines suggested by the Environmental Studies Division of EPA) it quickly became clear that the issues involved were quite complex. In order to set NEPA in the proper context it was useful to describe (1) the rapid growth of an environmental ethic in this country, (2) the impact of some highly visible ecological disasters which captured national attention, and (3) the traditional maneuvering and in-fighting so characteristic of the American political system. It should be noted that there was absolutely no intention to take sides on the issues or to portray any of the adversaries unfavorably. Rather, an attempt was made to underscore the fact that there were honest differences of opinion among key decision-makers concerning the proper direction of environmental programs and policies. NEPA remains a controversial Act, particularly its requirement for environmental impact statements. The chronology of events and subsequent effects constitute the central focus of our research.

The authors would like to take this opportunity to thank Mr. Walter Leight, Dr. Richard Mach, Dr. Ralph Swisher, and Ms. Marilyn Westfall for reviewing the manuscript. Their many helpful comments are deeply appreciated. We are also indebted to Ms. Marilyn Taylor and Mrs. Mary Abbott for their excellent secretarial assistance in the preparation of the manuscript.

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P. Clare Peiser

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1.0 INTRODUCTION

The purpose of this paper is threefold: (1) to trace a few of the critical events which led up to the environmental crusade of the past few years; (2) to review the Federal Government's response to public pressure on behalf of the environment, particularly from mid-1968 to mid-1970; and (3) to examine the environmental movement today -- what the critics think of it and some of the obstacles it must overcome.

The opening section is an attempt to identify some of the forces at work during the 60's which helped to mold the environmental policies of the current decade. Clearly, this is not a simple task. The environmental movement evolved from a complex interplay of decision makers, institutions, critical events, mass media coverage and heightened public awareness of ecological problems. A definitive discussion of these factors is far beyond the scope of the opening section; it does, however, touch upon three key elements in the equation: some highly visible environmental mishaps, changing priorities as reflected in public opinion polls on environmental issues, and the influence exerted by prominent conservationists and the mass media.

In many ways the second section is a continuation of the opening theme. It charts the activities of Congress and the Administration from the 1968 Presidential election until the 1970 Congressional elections, a critical period in the development of environmental policy. As this section suggests, many of the laws now on the books are as much the result of political image-building and jurisdictional disputes as they are of more altruistic motives. The primary focus of attention -- here, and in the final section -- is the National Environmental Policy Act (NEPA), surely one of the most controversial pieces of legislation passed in recent years.

The paper concludes with a critique of NEPA's first one thousand days. In particular it examines the requirement for environmental impact statements which has created a furor in the courts, and some of the challenges facing the environmental movement today.

2.0 THE WELLSPRINGS OF ENVIRONMENTALISM

2.1 Some Critical Incidents

Generally speaking, a political issue becomes salient if (a) it is highly visible, (b) the general public is aware of the problem, and (c) the issue arouses emotion among an influential segment of the populace (e.g., the mass media, opinion leaders, pressure groups, the political elite, etc.). Thus, with the exception of localized concern about smog, and the activities of conservation groups, the environment was not a major focus of attention until the last decade. During the early and mid-60's Americans were primarily concerned about the threat of nuclear war with the Soviet Union (viz., the Cuban missile crisis), the Indo-China war, communism, inflation and unemployment, racial tensions and crime-in-the-streets.[1] Exactly what happened to change the public's sense of national priorities is not entirely clear, but two events -- the Torrey Canyon episode and the Santa Barbara oil spill -- were probably instrumental in drawing attention to the fragile nature of our environment.

In March, 1967, the tanker Torrey Canyon, carrying 119,000 tons of crude oil, broke apart in rough seas off Land's End, England. Frantic efforts to prevent the spill from doing extensive damage only underscored the relatively unsophisticated techniques available to cope with oil pollution of this magnitude. Television audiences throughout the United States witnessed the use of everything from detergents to napalm, all of which proved unsuccessful. Ultimately, great quantities of oil enveloped wide expanses of English beaches, killing countless shore birds and crippling the coastal tourist trade.[2] The testimony of British investigators was illustrative of the worldwide concern about the high probability of future disasters:

> The risk of accident is a very real one. In the three years preceding the wreck of the Torrey Canyon, 91 tankers were stranded in various parts of the world, while 238 were involved in collisions either with tankers or other vessels. Over the world at large, tankers thus have been involved in potentially serious accidents on an average of about twice a week for the past three years (prior to 1967). Sixteen of the 329 ships which were concerned became total losses; in nine of the collisions fires broke out in one or both ships; and in 39 cases cargo spillage or leakage occurred.[3]

Another type of oil spill probably did more to shake the American public out of its complacency than any other event in recent history. In January, 1969, an off-shore drilling rig in the Santa Barbara Channel struck a large oil deposit but, in so doing, set off a catastrophic chain of events. The resultant blow-out cracked the ocean floor, allowing several million gallons of oil to escape. Santa Barbara, an erstwhile garden spot, became, at least temporarily, a massive ecological problem area. Despite round-the-clock efforts to contain the slick, miles of coastal waterways and beaches bacame coated with crude oil. Untold numbers of waterfowl and other aquatic life were killed.[4]

Intensive coverage by the mass media attracted wide-spread attention to the plight of Santa Barbara. Television, in particular, was responsible for arousing public indignation over the incident as it depicted the sight of youthful volunteers trying valiantly to remove oil from dying shore birds.

Also contributing to the high level of public interest in the Santa Barbara incident was the fact that the Secretary of the Interior, Walter Hickel, had only recently been the object of a bitter controversy over his confirmation. Faced with some difficult choices, Secretary Hickel ordered the drilling shut down. In his words "the behind-the-scenes battle ... became a turning point in the relationship between government and industry".[5] Hickel also makes the interesting observation that the authority to call a halt to off-shore drilling in the Santa Barbara Channel was not derived from any statute governing pollution damage; rather, it was because valuable oil was being wasted. Clearly, the Department of the Interior needed a better mechanism for responding quickly to oil spills.

> Cleaning up a spill cannot wait for a court judge to decide who is liable. It has to be done before the pollution kills the wildlife and ruins the beaches. For this reason I demanded that all companies who hold drilling leases on the outer Continental Shelf accept liability for cleanup even before the cause of a spill is determined. This became known in short as "absolute liability without cause". It also became one of the most controversial topics in both the executive and legislative branches of the federal government.[6]

There were other occasions on which Mr. Hickel crossed swords with the oil industry during his tenure as Secretary of the Interior, including a landmark court battle with the

Chevron Oil Company. In February, 1970, oil spilled into the Gulf of Mexico when a Chevron drilling rig caught fire. A subsequent investigation revealed that a storm choke had not been installed, a serious violation of safety regulations. After closing down the oil field, safety inspectors found similar violations in a significant proportion of the Chevron rigs. The court fined the company one million dollars but, more important (according to Mr. Hickel) was the amount of publicity the case received from the newspapers.[7]

Although the discussion of critical incidents has been confined to oil spills, it should not be construed that oil poses a greater threat to the environment than other forms of pollution: from the standpoint of the effect on human populations, toxic substances such as lead and mercury may constitute a greater hazard. However, oil slicks generally are more easily perceived than is the presence of toxic substances and visibility precipitates and intensifies public indignation. In the final analysis, the loss of the Torrey Canyon, the Santa Barbara spill, and other subsequent incidents appeared to have considerable impact on public opinion. Data reflecting public awareness are reported in the next section.

2.2 Changes in Public Opinion (1960-1970)

There was little public commitment on a national scale to ecological problem solving during the early stages of the last decade. Despite the activities of various conservation groups (e.g., the Izaak Walton League sponsored a "Clean Air Week" in 1960) few Americans recognized the magnitude of environmental degradation.[8] As late as the Fall of 1964, a list of "concerns" of the American public compiled by the Gallup organization (from open-ended questions) contained no reference to the environment.[9] Within less than a year, however, this picture began to change.

Political influence is a two-way street: public opinion has an effect on the decisions made by government officials, and the reverse is also true. Each stimulates the other. As an example (although a cause-effect relationship cannot be established), President Johnson spoke about the importance of beautifying America in 1965, and marked changes in public attitude subsequently occurred. Late that year 43 percent of a Harris poll sample expressed concern about the pollution of rivers and streams.[10] Another index of increasing public interest was the publication of 350 articles on pollution by the New York Times, more than twice the number published in 1964. It is not surprising that four important pieces of environmental legislation -- the Water Quality Act, the Water Resources Act, the Rural Water Sewage Act, and the Highway Beautification Act -- were also passed in 1965.

From 1965 through 1968, polls conducted by the Opinion Research Corporation continued to reflect increasing awareness of pollution. For example, the percentage of individuals who thought that water pollution was a "serious" problem increased from 35 to 58 in approximately three years. Similarly, concern over air pollution climbed from 28 percent to 55 percent.[11] Comparable data were not available after 1968; however, a 1969 poll conducted on behalf of the National Wildlife Federation showed that more than eight out of every ten individuals surveyed were at least "somewhat concerned" about environmental deterioration. Another poll conducted in 1970 indicated that 90 percent of those sampled were concerned about water pollution.[12]

While it is dangerous to generalize from several different polls which varied in terms of sample size and question content, at least one conclusion appears justified. The general public was becoming increasingly adamant in its demand for more positive action in the fight against pollution.

Another measure of public interest in the environment was the accelerated growth of conservation and related pressure groups during the last decade. The size of the Sierra Club increased from 15,000 to more than 85,000; more dramatically, its Eastern membership went from 750 to 19,000 according to Trop and Roos.[13] The collective political "clout" of other similar organizations (such as Friends of the Earth, the Conservation Foundation, the National Wildlife Federation, the Nature Conservancy, and the National Audubon Society) can be directly attributed to more members, larger financial contributions and a receptive public.

2.3 Opinion Leaders and the Mass Media

In its own way, Rachel Carson's Silent Spring was as critical a contributor to the growth of an environmental ethic as the Santa Barbara incident. Frank Egler, a noted plant ecologist went so far as to say that

> The years 1962 and 1963 are so completely dominated by one person and one book that historians of the future may well refer to this period as the Carsonian Era...[14].

A best seller for many months, Silent Spring succeeded in acquainting the public with the dangers of pesticides -- something that a number of concerned scientists had been unable to do. As Egler states, there was increasing apprehension

> ...as to the side effects, the indirect effects, and the long term effects of...pesticides, not only on the target organisms themselves, but on other organisms, as the pesticides moved through the environment interacting among themselves, following food chains as predator ate predator, and acting upon man himself, as in cancer-producing substances, in ways most difficult to document in a factual manner.[15]

Government policies governing the use of pesticides did not change significantly for almost another decade; however, the fact that change occurred at all is due at least in part to Silent Spring.

The popular appeal of Silent Spring marked the beginning of an informal alliance between leading conservationists and the mass media. From 1965 to 1970 the reading public was bombarded with environmental literature, whose basic theme was a dying plant. Commoner's Science and Survival, Ehrlich's Population Bomb, Ewald's Environment for Man, and the Rienows' Moment in the Sun were among the most influential books of that period.

As time passed, there were predictable reactions to the constant litany of "doomsday" predictions. For some individuals, fears of a nuclear Armageddon were replaced by anxiety about "killer smogs" (T. S. Eliot's version of a world ending "not with a bang, but a whimper" seemed suddenly prophetic). Others became confused by both the quantity and the ambiguity of available information (e.g., the debate over phosphate detergents) which, in turn, resulted in loss of interest, apathy, disbelief, and occasionally, denunciation of environmental spokesmen.

Unfortunately, the proportion of the general public for or against sweeping changes in environmental policies could not be ascertained. In the absence of rigorous, in-depth national attitude surveys, the size of these groups, their composition, and intensity of feeling (or degree of commitment) was subject to misinterpretation. As noted in the previous section, the polls reflected growing concern over pollution, but not how much people were willing to sacrifice (i.e., increased taxes, rising costs associated with anti-pollution devices, etc.) for clean air and water. Other indices were equally unreliable. For example, letters to newspapers and to politicians are often written by a disproportionately small segment of the ideological spectrum.[16] In particular, published letters have already been screened, hence, a frequency count of such letters might well reflect the philosophy of the newspaper more than public sentiment.

The last point relates to another potentially dangerous measure of attitudinal climate-that of media coverage. At the close of the last decade most television and newspaper accounts of environmental controversies appeared to support conservationists.[17] Both media devoted extensive coverage to local confrontations between ecologists and developers, citizen groups and highway officials, wilderness advocates and mining interests, and so on. The coverage problem was mentioned in a recent interview with an official of the American Petroleum Institute.

> "It sometimes seems that I see David Brower (president of ... Friends of the Earth) every other time I turn on my TV set", she says. (The personable and articulate Brower has, in fact, appeared frequently in such forums as The Dick Cavett Show and in news broadcasts). "But it's very seldom that I see an oil company or electric utility executive."[18]

At the same time it may be noted that large sums are spent on institutional advertising for the purpose of image building with respect to environmental affairs.

Some observations may be made without taking sides in the dispute over media coverage. As Joseph Klapper, Director of Social Research for the Columbia Broadcasting System has pointed out, although most research indicates that the mass media are not very effective at changing existing attitudes, they can stimulate the formation of new attitudes by conveying information to an uncommitted or dissatisfied audience -- one "predisposed" to change.[19] Clearly, an audience receptive to ecological appeals coalesced during the period under discussion although we don't know its size. Indeed, if media coverage was as biased as environmental critics contend, then the environmental movement might have appeared more pervasive than it was. This point will be addressed in a later section.

In summary, the environmental Zeitgeist of the late 1960's was not the result of any single factor; rather it was the interaction of multiple factors. Time magazine, for example suggested that the environment represented a new challenge, a problem which American skills and "know-how" might be capable of solving. By the same token, however, the environmental movement" ... represented a creeping disillusionment with technology, an attempt by individuals to reassert control over machine civilization."[20] Thus far, the present discussion has touched briefly on the impact of certain critical events and the influence exerted by conservationists, public opinion, and the mass media. In the next section, attention is focused on the role played by the Federal Government -- specifically, two years of environmental legislation and what influenced it.

3.0 THE GOVERNMENT RESPONDS: A TWO-YEAR CHRONOLOGY

3.1 The Quest for Environmental Supremacy

As public pressure on behalf of the environment continued to mount during the late 60's, a number of Senators and Congressmen contended for leadership of the environmental crusade. The competition became even more keen in the wake of the 1968 elections when the White House entered this arena. None the less, neither party's 1968 platform had devoted much space to ecological problems. The Democrats outlined the need for clean air, clean water, and improved methods of waste disposal in a brief section which also contained references to agriculture and recreation; the Republicans covered pollution in one sentence.[21]

Given the increasing public concern it is somewhat surprising that neither party's platform paid much attention to the environment. Clearly, greater importance was attached to other issues such as "law and order" and Vietnam. Another factor is mentioned in Scammon and Wattenberg's analysis of the 1968 elections: in terms of national politics, ecology is akin to "motherhood", and nobody is going to campaign against it.[22]

If Scammon and Wattenberg are correct, then the competition for political dominance in environmental affairs might have been motivated somewhat by the desire to be perceived as the champion of "motherhood." Thus, Republicans and Democrats alike were casting about for issues which might be important not only in the 1970 Congressional elections, but in 1972 as well, and environmental quality appeared to be a relatively "safe", yet attractive issue. This factor, together with traditional rivalries between Congressional Committees and between high ranking Administration officials, furnishes the background for much of the environmental legislation of the last few years. As political scientist J. Clarence Davies has noted:

> One can search the Congressional Record in vain for a defense of foul air or dirty water. One can similarly search in vain for a metropolitan area which does not suffer from the fumes of automobiles, from belching smokestacks, or from untreated sewage flowing into its lakes and streams. The explanation for the gap between intention and reality lies to a great extent in the realm of politics.[23]

In the remainder of this section an attempt will be made to review the anti-pollution measures initiated by members of the 91st Congress and the Nixon Administration. This discussion is essentially limited to the period separating the 1968 and 1970 elections, primarily to highlight proximate events leading to the National Environmental Policy Act. The sequence of events can also be followed in Figure 1 which provides a month-by-month picture of environmental initiatives taken by Federal policy makers.

3.2 Fall 1968

3.2.1 Introduction. John Steinhart, the Associate Director of the Marine Studies Center at the University of Wisconsin, has emphasized that jurisdiction over environmental legislation is somewhat confused in the House of Representatives.[24] Part of this problem is definitional in nature: "environment" is a catch-all concept with ill-defined boundaries. Responsibility for environmental quality could equally well be placed in any one of several standing committees (e.g., Agriculture, Commerce, Interior and Insular Affairs, Merchant Marine and Fisheries, and possibly others) depending on what facet of the environment was under consideration. The guidelines governing committee jurisdiction are sometimes fuzzy, and overlapping responsibilities frequently result. The situation is also affected by the activities of powerful pressure groups, and the need to insure that constituents are not adversely affected. The important role played by committees was stressed in the recently published Almanac of American Politics:

> Lawyers and pollsters know that the power to shape the question is, by and large, the power to determine the answer. Congressional committees, by hammering out the legislation which the Congress at large passes or rejects, do just that ... Committee chambers ... are literally the back rooms where the decisions of Congress are shaped.[25]

3.2.2 Reuss investigations. In September 1968, Congressman Henry Reuss, from Wisconsin's fifth district, conducted a hearing on research findings related to sulfur oxide pollution. Reuss, like many others, was disenchanted with jurisdictional squabbles, duplication of effort, and lack of coordination within the Federal bureaucracy.[26] Later, as Chairman of the Government Operations' Subcommittee on Conservation and Natural Resources, he became known as a staunch ally of conservationists.[27] Furthermore, the Subcommittee's unique "watchdog" status allowed Reuss to challenge other Congressmen (such as Wayne Aspinall, Chairman of the powerful Committee on Interior and Insular Affairs) for preeminence in environmental matters.

ENVIRONMENTAL POLICY - MAKING (1968-1970)

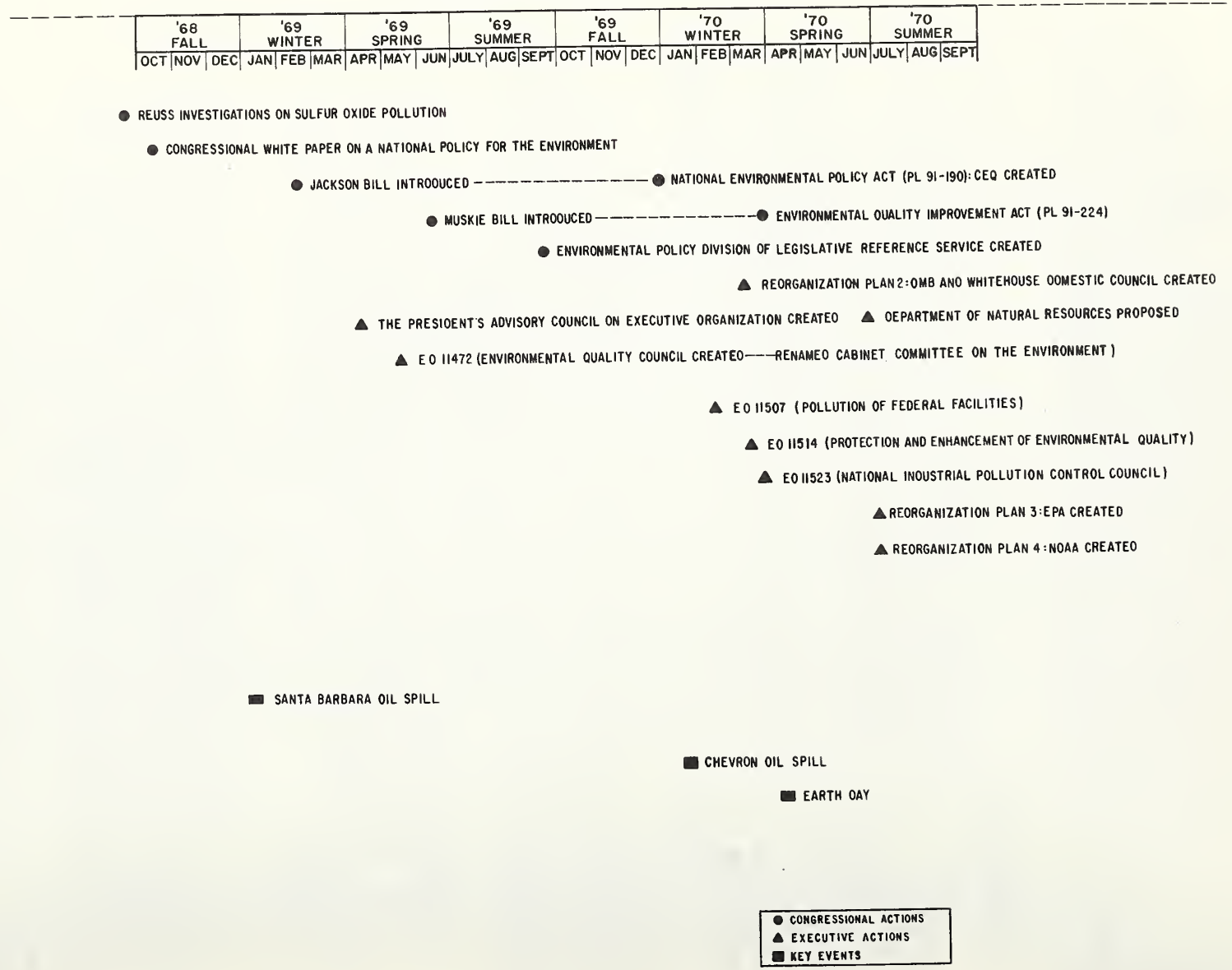

FIGURE 1

3.2.3 White Paper on the Environment. Another important figure in the House of Representatives was Congressman Emilio Daddario. During the mid-60's, his Subcommittee on Science, Research, and Development focused attention on the problem of enviornmental quality. Of particular interest is the Subcommittee's 1968 report which called for a systems approach to pollution problems. Daddario wanted the Department of Interior to assume responsibility for the coordination of Federal environmental programs. He also emphasized the need for an "Environmental Cabinet" chaired by the Secretary of the Interior and comprised of designated officials from other Federal agencies. For the first time a key phrase -- "national policy for the environment" -- appeared, one with far reaching implications for the nation's future.[28]

In October 1968, Congressman Daddario joined forces with Senator Henry Jackson to develop the "Congressional White Paper on a National Policy for the Environment." Davies suggests that, by calling for the establishment of a joint Congressional committee on environmental management, Jackson was trying to preempt Senator Edmund Muskie who had for some time been seeking the creation of a Select Senate Committee on Technology and the Human Environment.[29]

3.3 Winter 1969

3.3.1 Introduction. As previously indicated, the Santa Barbara oil spill of January 1969 aroused considerable ire within the body politic. Pressure from the general public and the mass media became more intense for strong Congressional action. The Nixon Administration in general, and Secretary Hickel in particular, were quickly introduced to environmental realities at the national level.

3.3.2 Jackson Bill. In many respects, the Santa Barbara oil spill served as a catalytic agent in the competition for leadership in environmental matters. In February, Senator Jackson, Chairman of the Interior and Insular Affairs Committee, introduced a bill which eventually was to become the National Environmental Policy Act. Jackson's bill called for (a) the Department of the Interior to spearhead the conduct of environmental research and (b) the establishment of a three-man Council on Environmental Quality reporting directly to the President.[30] A modified version of the bill eventually cleared the Senate in July of 1969.

Considerable credit should go to Michigan Congressman John Dingell for passage of the House version of Jackson's bill. According to John Steinhart, Dingell -- Chairman of the House Subcommittee on Fisheries and Wildlife Conservation -- introduced the bill "as an amendment to the 1946 Fish and Wildlife Act."[31] Steinhart viewed this as a ploy to get the

bill assigned to Dingell's subcommittee for hearings over the opposition of Representative Wayne Aspinall. In the House version of the bill, the proposed Council on Environmental Quality would have consisted of five members in contrast to the three recommended in Jackson's Senate version. When this landmark piece of environmental legislation cleared the House of Representatives in September 1969, the number of proposed Council members again stood at three.

3.4 Spring 1969

3.4.1 Introduction. In the Spring of 1969, President Nixon brought the weight of the Executive Branch to bear on environmental affairs. While Jackson's bill was languishing in the Senate, Mr. Nixon issued Executive Order 11472 in May establishing an Environmental Quality Council (which should not be confused with the Council on Environmental Quality recommended in the Jackson bill). A month earlier The President's Advisory Council on Executive Organization had been appointed under the leadership of Roy L. Ash, then President of Litton Industries, Inc. The Council's proposal to establish a Department of Natural Resources is of prime interest, but a full discussion of its implications will be reserved for a later section since the Council's findings were not presented to the President until May 1970.

3.4.2 Executive Order 11472. With this action President Nixon launched an Environmental Quality Council and the Citizen's Advisory Committee on Environmental Quality, the former including the President as Chairman and the President's Science Adviser as the Executive Secretary. The Council was designed to advise and assist the Chief Executive on matters related to environmental quality. Specifically, it was to (a) review Federal plans and programs and recommend measures to insure that environmental effects were properly treated (b) conduct studies and advise the President on policy matters related to recreation and beautification outdoors; (c) encourage mutual cooperation among Federal, State, and local organizations and strengthen public and private participation in environmental programs. The fifteen-member Citizen's Advisory Committee shared many of the same duties, including offering assistance and evaluating the extent to which progress was being made in the achievement of the Council's goals.[32] The Environmental Quality Council met for the first time in June 1969, with top priority assigned to such problems as air pollution, solid waste disposal methods, and the long range effects of DDT.

Steinhart has argued that the Environmental Quality Council was Mr. Nixon's initial attempt to establish "primacy" in the field of environmental affairs.[33] In Steinhart's opinion, however, the Council could never be an

effective coordinating group because of its special relationship to the President and his belief that the Chief Executive should take action to solve problems, not merely "comment" on them.

3.4.3 Muskie Bill. As chairman of the Public Works Subcommittee on Air and Water Pollution, Senator Muskie is regarded by many as the leading environmental crusader in Congress. During the 60's he was responsible for some of the most important pollution control legislation of that era -- notably, the Water Quality Act of 1965, the 1966 Clean Water Restoration Act, and the Air Quality Act of 1967. Muskie introduced the Environmental Quality Improvement Act in June of 1969 which called for:

- The development of criteria and standards to assure the protection and enhancement of environmental quality in all Federal and federally assisted public works projects and programs;
- the coordination of all Federal research programs to increase knowledge of the interrelationship between man and his environment;
- the creation of an Office of Environmental Quality and appropriate staff in the Executive Office of the President.[34]

The Senate was now confronted with competing bills (Jackson's and Muskie's) and the prospect of a protracted floor fight. Muskie, it seemed, was very concerned about the effect of NEPA on existing environmental programs. Fortunately, negotiations between Muskie and Jackson led to a compromise -- provisions for the Council on Environmental Quality and the Office of Environmental Quality both survived, and a lengthy struggle over committee jurisdiction was avoided. Ultimately, Jackson's bill got through first, and Muskie's proposal was incorporated in proposed water pollution legislation.[35]

3.5 Summer 1969

3.5.1 Introduction. During the summer of 1969, Senator Jackson's bill passed both houses of Congress and was sent to the President for signature. Also of significance to ecology-minded Congressmen was the creation of the Environmental Policy Division in the Congressional Research Service.

3.5.2 Environmental Policy Division. "Congressional concern for the quality and productivity of the physical environment" was the driving force behind the establishment of the Environmental Policy Division in September 1969.[36] Comprised of experts from the Natural Resources Division and

other sections of the Legislative Reference Service, the Division was responsible for providing non-partisan information, advice, and assistance on legislative proposals. By creating the Environmental Policy Division, Congress could obtain "authoritative and objective policy analysis" in specific areas such as beautification, land use planning, natural resource management, air and water pollution, and protection of shorelines and estuaries.[37]

3.6 Fall 1969

3.6.1 Introduction. Secretary of the Interior Hickel had captured some of the headlines in late August by coming out with tough off-shore drilling regulations opposed by the oil industry. By fall, the public's attitude toward Hickel began to change, and, before long, he developed into a folk hero to many conservationists.

3.6.2 SCOPE. In December, Secretary Hickel and his assistants came up with a new concept known as SCOPE (Student Council on Pollution and the Environment). SCOPE was envisaged as a means of involving students in the fight against pollution; however, given the mood on many campuses, it was not an easy product to sell. Initially hostile and apprehensive about being "used" by the Government, many student leaders gradually became intrigued by the concept of an early warning system for pollution problems. Hickel told visting students that "SCOPE will be a vehicle to open up a channel from the youth who care about the environment to those agencies in government who can do something about it on a national scale."[38]

3.7 Winter 1970

3.7.1 Introduction. In many ways 1970 might be regarded as the year when government action on behalf of the environment finally began to overtake public demand to do something meaningful. The Jackson bill, better known as the National Environmental Policy Act of 1969, was signed into law as PL 91-190 on January 1st. President Nixon issued Executive Order 11507, which dealt with pollution caused by Federal facilities; it was formally announced on the 4th of February and six days later was followed by Mr. Nixon's message on the environment. In the latter, the President outlined a comprehensive 37-point program on environmental quality, including 23 major legislative proposals and an additional 14 measures for Executive action. (February was also noteworthy for the Chevron oil spill mentioned earlier.)

President Nixon continued to press for environmental reform with two important actions in March: Executive Order 11514, on the protection and enhancement of environmental quality, and Reorganization Plan No. 2, which established the Office of Management and Budget and a White House Domestic Council.[39]

3.7.2 The National Environmental Policy Act (NEPA). On signing the National Environmental Policy Act into law, President Nixon stated that "the 1970's absolutely must be the years when America pays its debt to the past by reclaiming the purity of its air, its waters and our living environment. It is literally now or never."[40]

By definition, NEPA is a declaration of national policy to foster productive and enjoyable harmony between man and the environment. Title I of the Act instructs all agencies of the Federal Government to;

- employ an interdisciplinary approach in planning and decision making related to the environment;
- identify and develop methods for insuring the inclusion of environmental values in the decision making process;
- include in all reports and recommendations which might "significantly affect" environmental quality a "detailed statement" on
  - . environmental impact of the proposed action
  - . unavoidable adverse environmental effects
  - . alternatives to the proposed action
  - . the relationship between local short-term use of the environment and the maintenance of long-term productivity
  - . irreversible commitment of resources if the project were to be implemented;
- study, develop, and describe action alternatives;
- recognize the international and long-range implications of environmental problems;
- disseminate information which would be useful in maintaining and improving environmental quality;
- develop and use ecological information in planning and development of resource-oriented projects;
- provide assistance to the Council on Environmental Quality.[41]

Title II of NEPA established the Council on Environmental Quality (CEQ). Composed of three members appointed by the President (with the advice and consent of the Senate), CEQ formulates and recommends national environmental policies and promotes the overall improvement of environmental quality. Specifically, the Council is to

- assist and advise the President in the preparation of an annual Environmental Quality Report;
- gather information on environmental quality and determine if conditions coincide with NEPA policy;
- review federal programs and activities;
- develop policy recommendations;
- conduct investigations related to environmental quality;
- document and define changes in the natural environment;
- report to the President on the state of the environment;
- comply with Presidential requests for policy studies and recommendations.[42]

President Nixon selected Russell Train, then Undersecretary of the Interior as Chairman of CEQ. Gordon J. F. MacDonald and Robert Cahn initially were appointed to serve as the other members of the Council. Since its inception, CEQ has been the subject of controversy -- indeed, as has the National Environmental Policy Act. Some of the criticism leveled against NEPA and the Council on Environmental Quality will be discussed in a later section.

3.7.3 Executive Order 11507. Shortly after NEPA became law, EO 11507 was issued, calling for a three-year program demonstrating Federal leadership in a nation-wide effort to combat pollution. To accomplish this goal, Federal agencies were specifically charged with the responsibility for insuring that government facilities could meet air and water quality standards. In a message to Congress, Mr. Nixon stated that

> For years, many Federal facilities have themselves been among the worst polluters. The Executive Order ... not only accepts responsibility for putting a swift end to Federal pollution, but puts teeth into the commitment...[43]

3.7.4 Executive Order 11514. Early in March President Nixon issued EO 11514 which continued the theme of Federal leadership on matters related to environmental quality. From the standpoint of environmental policy, the executive order did not appear to differ substantively from NEPA except for broadening the directions given to most Federal agencies. Its primary function seemed to be one of clarifying the role of the newly created Council of Environmental Quality. CEQ "was provided a mandate for reform in the environmental decisions of Federal agencies -- from the start of planning to the initiation of ... projects and programs."[44] Specifically, the Council was given authority to:

- recommend priorities for environmental programs;
- determine the need for new policies;
- conduct public hearings;
- promote the use of monitoring systems;
- assist in the achievement of international cooperation;
- issue guidelines and instructions to Federal agencies;
- initiate investigations relating to environmental quality.

It should be noted that EO 11514 also changed the name of the Environmental Quality Council (which had been created by the President in May 1969) to the Cabinet Committee on the Environment, presumably to avoid any confusion with CEQ. The Cabinet Committee was quickly absorbed into the newly established Domestic Council, a White House coordinating group created along with the Office of Management and Budget as part of Reorganization Plan Number 2. Of additional interest here is the fact that the House Committee on Government Operations initially rejected the President's Plan; however, a vote of the full House defeated a resolution to veto the plan and it became effective on July 1, 1970.

3.8 Spring 1970

3.8.1 Introduction. Spring, appropriately enough, was an active period in the quest for environmental improvement, both within Government and among the public at large. Senator Muskie's Environmental Quality Improvement Act was finally signed into law as Title II of the Water Quality Improvement Act of 1970. "Earth Day" was observed on April 22nd, and much of its success can be attributed to the efforts of Senator Gaylord Nelson. Science called the environmental

teach-in on Earth Day "a fresh way of perceiving the environment" but questioned how long the enthusiasm would last.[45] Former Secretary of the Interior Hickel recounts a strong difference of opinion within the Administration over participation in Earth Day. Secretaries Hickel and Volpe, both active in SCOPE, were the main proponents, whereas others had expressed misgivings about "anyone getting involved."[46]

President Nixon's next action in the environmental field was EO 11523, which established the National Industrial Pollution Control Council. The Ash Committee also submitted its recommendation for the creation of a Department of Natural Resources.

3.8.2 The Environmental Quality Improvement Act. Public Law 91-224 was the product of a compromise worked out by the Muskie and Jackson staffs. The Act does two things: (1) it requires Federal agencies "conducting or supporting public works activities which affect the environment" to implement policies created under current laws; and (2) authorizes an Office of Environmental Quality to be established in the Executive Office.[47] The Office of Environmental Quality was supposed to provide the administrative and professional staff for the Council on Environmental Quality (the Chairman of CEQ was also designated as Director of the Office). In reality, however, the Office of Environmental Quality" ... has never been formally established as an organizational entity".[48]

Earlier, when NEPA and the Environmental Quality Improvement Act were still in the conceptual stage, the stance taken by Senator Jackson and Congressman Daddario was described as "in part, a power play directed against HEW and Muskie in favor of the Interior Department and a new alignment of congressional committee jurisdictions."[49] In Steinhart's opinion, the requirement in P.L. 91-224 that annual Environmental Quality Reports "be transmitted to each standing committee of the Congress having jurisdiction over any part of the subject matter ..." was Muskie's way of maintaining his jurisdictional prerogatives.[50]

3.8.3 Ash Council Report. On the 12th of May, the President's Advisory Council on Executive Organization submitted a formal memorandum calling for a consolidated Department of Natural Resources (DNR). In so doing the Council cited the need for a coordinated natural resource policy which, theretofore, had been "virtually impossible to achieve."[51] The memorandum went on to say that, by creating a clearly defined center of responsibility, the Federal Government's relationships with state and local government and private industry would be simplified considerably. In essence, the

proposed Department of Natural Resources was to have consisted of the following areas: land and recreation, water resources, energy and mineral resources, marine resources and technology, and geophysical science services.

The Ash Council recommendations concerning a DNR have not been implemented for a variety of reasons, including lack of Congressional action on reorganization. (It should be noted, however, that the DNR proposal was reintroduced by the White House in June 1973). Perhaps of greater significance to the present discussion is the position taken by the Council with respect to key elements of the President's Reorganization Plans 3 and 4 which quickly followed.

3.9 Summer 1970

3.9.1 Introduction. In July 1970 President Nixon announced Reorganization Plans No. 3 and 4. The former established the Environmental Protection Agency; the latter created the National Oceanic and Atmospheric Administration. Although both Plans were eventually approved by Congress, each was opposed by a coalition of concerned lawmakers, Administration officials, and conservation groups -- but for altogether different reasons.

3.9.2 Reorganization Plan Number 3. With the backing of the Ash Council, President Nixon submitted a plan to Congress creating an independent Environmental Protection Agency (EPA). The Chief Executive indicated that the Federal Government must regard the environment "as a single, interrelated system" and, consistent with that perception, there is a need to reorganize pollution control programs under one umbrella.[52] Mr. Nixon cited previous failures to coordinate agency efforts, partly because the traditional way of viewing pollution had been "along media lines" (e.g., water, air, etc.) rather than acknowledging that pollution frequently cuts across all media. EPA's method of attacking pollution problems would involve:

- identifying pollutants;
- tracing their path through the environmental chain while observing and recording any changes in form;
- assessing the effects on human health and welfare of exposure to pollutants;
- keeping a watchful eye for synergistic effects among pollutants;
- locating an optimum point in the ecological chain for "interdiction."[53]

The programs transferred from other agencies to form EPA were the Federal Water Quality Administration, the National Air Pollution Control Administration, the Bureau of Water Hygiene, the Bureau of Solid Waste Management, the Bureau of Radiological Health, Pesticides Standards and Research, Pesticides Registration, Federal Radiation Council, and Studies of Ecological Systems. With respect to the roles of the Council on Environmental Quality and the Environmental Protection Agency, Mr. Nixon stated that

> ...the Council focuses on what our broad policies in the environmental field should be; the EPA would focus on setting and enforcing pollution control standards. The two are not competing, but complementary .....[54]

In November, William Ruckelshaus was appointed Administrator of EPA which became operational the following month.

In the opening remarks to this subsection it was noted that Roy Ash was a staunch advocate of an Environmental Protection Agency. The President's Advisory Council on Executive Organization went on record in memoranda dated April 29 and May 12 supporting the idea "that key anti-pollution programs be merged in a new and independent Environmental Protection Administration to give priority to the task of cleaning up our environment."[55] Senator Muskie also seemed committed -- at least in principle -- to an "EPA" concept. In the Introduction to Davies' book, Senator Muskie argued that:

> One of our most urgent needs is the creation of an independent watchdog agency, uninvolved with the operating programs of the government and dedicated solely to the protection and enhancement of environmental quality. We cannot afford to vest the duty to enforce environmental standards in the very agencies involved in the development of those resources for public use.[56]

Within the Nixon Administration, one of the most vocal opponents of EPA was Secretary Hickel:

> ....I strongly urged, and repeatedly fought for the transforming of Interior into a Department of Natural Resources and the Environment. I reasoned that it was self-defeating to separate resource development from environmental protection...

> The President chose another course ... This decision ... (to create EPA) removed from the Interior the Federal Water Quality Administration as well as several other offices dealing with pollution control. I still believe that the environment suffers when the policing function is isolated, ...[57]

Congressional opposition to EPA, while generally muted, was based on two points: (1) appropriate Congressional committees had not been consulted about the contents of Reorganization Plan 3, and (2) a small, but critical group of environmental programs (e.g., HUD's water and sewer grant program, DOT's noise pollution program, etc.) were omitted. Despite the criticism the Plan became effective in October.[58]

3.9.3 Reorganization Plan No. 4. The plan to create a National Oceanic and Atmospheric Administration (NOAA) can be traced directly to the Commission on Marine Science, Engineering and Resources -- sometimes referred to as the Stratton Commission -- although its roots go back much farther than that. Edward Wenk provides a fascinating account of early interest in a "superagency" for the marine sciences in his Politics of the Ocean.[59] It is apparent from Wenk's book that there were strong odds against such an agency being established, particularly given a downward spiral of interest coupled with powerful opposition at the highest levels of government.

In a prepared statement accompanying Reorganization Plan 4, Mr. Nixon said that, by bringing together a select group of departments then scattered throughout the Federal Government, a unified, coordinated program could be initiated which would effectively cope with "the compelling need for protection from natural hazards and the need to develop marine resources."[60] As spelled out in the Plan, NOAA would consist of the following programs:

- Environmental Science Services Administration;
- selected activities of the Bureau of Commercial Fisheries;
- marine sport fish program of the Bureau of Sport Fisheries and Wildlife;
- Office of the Sea Grant Programs;
- elements of the United States Lake Survey;
- National Oceanographic Data Center;

- National Oceanographic Instrumentation Center;
- National Data Buoy project.

As Science points out, other than Edward Wenk (who, in 1970, was the executive director of a White House advisory council on marine affairs), one of the few influential proponents of NOAA was then Attorney General John Mitchell.[61] Wenk credits Mitchell with overcoming considerable opposition from key Presidential advisors, among them Roy Ash. The President's Advisory Council on Executive Reorganization had strongly recommended against NOAA as early as January. In the Council's May memorandum, Ash stated that:

> We wish to reaffirm our recommendation that an independent NOAA should not be established. To create such a separate agency would be inconsistent with the basic objective or our proposal for a new Department of Natural Resources. It would separate closely related natural resource functions at the very time when it is urgent to bring them together...[62]

Ash had suggested an alternative plan, supported by Secretary Hickel, which would have involved consolidating a number of marine-related programs under the aegis of the Interior Department.[63] Eventually, NOAA was established within the Department of Commerce despite opposition from many conservation groups. Their argument was "that traditionally the Department of Commerce had represented the industrial and economic viewpoint, rather than the public use and enjoyment of a natural resource."[64] Congress nevertheless approved the plan, and NOAA became a reality with Dr. Robert White at the helm.

4.0 EPILOGUE

4.1 The Struggle Continues

The decision to restrict this discussion of environmental policy-making to a two-year period was, of course, arbitrary. Obviously, the struggle for leadership in environmental affairs continued. For example, one of the last and most important products of the 91st Congress was the Clean Air Amendments of 1970, which strengthened controls over automobile emissions and hazardous substances emitted from new and existing sources. These Amendments embody Congressional recommendations as well as those contained in the President's 1970 Message on the Environment. According to the National Journal, "... it appeared that the President had effectively challenged Muskie's pre-eminence in environmental matters, ..."[65]

Two years later, as the present paper is being written, little has changed. The 92nd Congress overrode the President's veto on the Federal Water Pollution Control Amendments -- the most expensive environmental bill in history. The bill's price tag is $24.7 billion, to be spent over a three-year period at a time when inflation and deficit spending are key political issues. Dedicated environmentalists were not alarmed by the cost, but were concerned that "the measure is an authorization, not an appropriations bill, and there is a feeling that considerably less money will actually be expended than is called for in the legislation."[66] In late November 1972 President Nixon impounded more than half the funds which Congress had set aside for new water treatment plants, although this action has been submitted for judicial review.

Three significant features of the Water Pollution Control Act especially deserve attention: (1) effluent limitations, not water quality standards, are now the enforcement mechanism of the water pollution control program; (2) private citizens have the right to go to court on environmental issues, even to sue violators of the new law -- however, plaintiffs must demonstrate that the violation has adversely affected their interests; and (3) the water discharge permit program has been tightened, giving EPA regulatory powers over pollutant discharge into coastal and inland waters.

Just before adjournment the 92nd Congress enacted some additional measures worth noting.[67] Foremost among these is the Environmental Pesticide Control Act, which makes EPA the chief regulatory agency in the pesticide field and also simplifies the procedure for removing dangerous products from the market. Federal authority had previously been based on the Insecticide, Fungicide, and Rodenticide Act of 1947 which contained little, if any, regulatory power. The 92nd

Congress was also responsible for such important environmental measures as the coastal zone management bill, a law to control dumping in oceans and coastal waters, and a noise control act.

4.2 NEPA: Pro and Con

At this point it seems appropriate to take a closer look at the National Environmental Policy Act, this time from the vantage point of recent history. Three years have elapsed now since NEPA was signed into law, a sufficient period to evaluate its accomplishments and failures.

In a recent presentation before the Interprofessional Council on Environmental Design, Fred Anderson, Executive Director of the Environmental Law Institute, suggested five areas where NEPA has been successful:

- The National Environmental Policy Act has induced the Federal Government to give greater attention to public concern about "quality of life;"
- the NEPA requirement of environmental impact statements ("102 process") has provided a systematic way of cutting across Government lines, necessitating the creation of intergovernmental coordinating groups and task forces;
- the 102 process has engendered active public participation in policy making and, in general, has increased the level of public awareness with respect to government programs which might affect the environment;
- Federal agencies have had to supplement their staffs with better in-house talent -- inter-disciplinarians with a fresh point of view;
- the language of NEPA has been vigorously enforced by the courts (NEPA is no "paper tiger").[68]

Ironically, Section 102(2)(C), which spells out the requirement for environmental impact statements, has probably evoked more controversy than any other aspect of NEPA, yet it appears to have been an afterthought. The legislators who drafted NEPA contemplated two-or three-page impact statements, not verbose documents, but the latter have frequently been produced.[69] Professor Harold P. Green, Director of George Washington University's Law, Science and Technology Program, told members of the American Association for the Advancement of Science that "It is difficult to believe NEPA isn't going to get its teeth pulled." He

went on to say that if the legal implications of the Act had been anticipated, it never would have been enacted.[70] Even NEPA's chief advocate in the House of Representatives, Congressman Dingell, recently remarked: "I have some doubts that NEPA would pass in its present form today. I very much doubt if the Section 102 provision ... would be in ..."[71] The pessimism of both men stems from the fact that successive court rulings have greatly expanded the concept of "environmental consequences:" almost any federal government activity might conceivably require impact statements. As Green points out, agencies have been inundated with "immense amounts of paperwork."[72]

NEPA has been attacked both for "not doing enough" and for "going too far." The position of those in the first camp has been stated as follows:

> ... While federal courts have ruled in almost 200 cases that the government has failed to comply with NEPA or other environmental protection laws, the courts have not stopped a single project on substantive grounds. The merit or lack of merit of a project has not been the basis of any environmental court decision. Some environmental lawyers believe a court may one day rule on the substance of a proposed project, that a court may find, for instance, that a project is too environmentally destructive or is not the best alternative. So far, however, the courts have avoided the substance of these conflicts.[73]

In essence, the courts have focused on procedural requirements, leaving open the possibility of having a beautifully written set of impact statements for a pointless or potentially destructive project. Some additional problems include (1) the fact that environmentalists have no recourse except going to court, (2) the absence of any requirement for comments on final impact statements -- only on draft statements, (3) the absence of any mechanism for assessing the validity of impact statements (i.e., to determine how the information was obtained), and (4) the exclusion of the private sector from the impact statement process.

Similar comments were attributed to two departing presidential advisors, Robert Cahn and Gordon MacDonald who, with Russell Train, comprised the original Council on Environmental Quality. Cahn thought that the courts had done an excellent job of "getting environmental concerns built into decision making;" however, he felt there was still considerable room for improvement on the part of some federal agencies:

We're getting much better compliance with the letter of the law but I'm not satisfied with compliance with the spirit of the law.

That is, I'm not satisfied that the agencies in all cases have really considered the environmental impact, instead of making their decision first and then writing an environmental impact statement to justify it. This is still done too much.[74]

MacDonald stated that one of CEQ's shortcomings might have been the inability to devote sufficient staff time for thorough review of environmental impact statements. Nevertheless, he and Cahn both thought that the Council had accomplished a great deal in the review process and had developed important roles in the drafting of legislation, providing advice to the President, and coordinating the activities of other Federal agencies.

It is probably correct to say that there are just as many critics who would like to see NEPA rescinded (or, at the very least, weakened) as there are individuals advocating tougher environmental measures. Marvin Zeldin, a frequent contributor to Audubon, is particularly apprehensive about future legislation designed to bypass NEPA or to abolish citizen lawsuits. According to Zeldin, the National Environmental Policy Act has been referred to as a "trumpet call to retreat into the past," and its adherents have been accused of "blocking progress" and "promoting mischief."[75] Even many moderates, who quickly agree that NEPA has had a positive effect on the nation's ability to maintain and improve the environment, argue that some change in NEPA is inevitable. In their opinion, continued costly delays and the denial of services to people may well swing the pendulum away from environmental concerns.

A recent EPA publication provides several examples of projects which were modified or canceled as a direct result of NEPA.

- In March, 1972, the Army Corps of Engineers prepared draft impact statements covering proposed construction of a 1760-foot pier extending from Assateague Island into the Atlantic. The project was terminated when negative comments underscored the likelihood that natural barriers along the eastern coastline would be harmed.

- A dredging operation designed to "improve safety for barge crossings" in Florida's Gulf Intracoastal Waterway was halted because of harm to the "natural habitat" of aquatic life in the area.

- In a landmark decision (Calvert Cliffs Coordinating Committee v. AEC), the Court instructed the Atomic Energy Commission to (a) devote greater attention to the environment in its internal review process, (b) consider halting nuclear generating plant construction until environmental factors are carefully weighed, and (c) make its own assessment of water quality rather than rely on Federal or State certification.[76]

4.3 Whither the Environmental Cause?

But what of the environmental movement itself? Is it likely to continue and, if it does, what direction will it take? At the close of 1972, environmentalism seemed to be making progress on some fronts while losing ground on others. On the plus side one can cite the following:

1. Court victories resulting from citizen lawsuits continue to be a source of optimism. In addition to those cases previously described, environmentalists have achieved court victories primarily because judges were willing to set bonds at reasonable levels; otherwise, the expense would have precluded groups such as the Sierra Club and Friends of the Earth from obtaining judicial review. Indications are that future court decisions may be based on factors previously ignored in NEPA, for example, clear evidence that alternatives to the proposed action and social impact have been considered.

2. There are signs that the environment is becoming a political issue at the grass-roots level. Scammon and Wattenberg predicted in April 1971 that ecology would be important in local elections; the 1972 elections appear to support their forecasts.[77] For example, the League of Conservation Voters was heavily involved in a number of congressional and gubernational races, backing candidates with contributions as well as endorsements. Spokesmen for the League attributed the primary defeat of Representative Aspinall, and the unseating of Senator Gordon Allott to Colorado environmentalists.[78] Colorado voters also vetoed Denver as a site for the 1976 Winter Olympics, partly due to the threat of environmental degradation. However, perhaps the biggest victory was scored in California, where, in the face of bitter opposition from petroleum and other industrial interests, voters approved a proposition calling for strict coastal zoning and careful regulation of future coastal development.

3. Despite enormous difficulties, the 1972 United Nations Conference on the Human Environment appeared to open the door to international cooperation on environmental problems. Agreement was reached on 109 separate recommendations incorporated in a declaration on the environment, a global action plan, and the machinery to carry it out.[79]

On the debit side of the ledger, the staggering cost of cleaning up the environment will undoubtedly become a highly polarized issue. The Council on Environmental Quality estimates that approximately $287 billion will have to be spent during the current decade in order to do the job properly.[80] Thus far, solid data are lacking on public willingness to underwrite environmental programs. Presumably, many people overlook the fact that someone has to pay for a cleaner environment--namely the taxpayer.

Another area of concern to environmentalists is the energy crisis. Whether or not a "crisis" exists, and who should be held responsible, remains the subject of heated debate. Part of the problem rests with the move to low sulfur coal and oil which has taken a substantial fraction of fossil fuel out of the pool. Furthermore, it has been suggested that the environmental movement is to blame for delaying nuclear power plants and for "hindering the construction of new petroleum refineries."[81] During the first few weeks of 1973, when schools and businesses were forced to shut down because of fuel shortages, the petroleum industry launched a vigorous advertising campaign calling for increased incentives for oil exploration, fewer restrictions on offshore drilling, and postponement of deadlines for achieving air and water quality standards. Secretary of Agriculture Butz, upon assuming his new role as the President's natural resource counselor, said that:

> We should have been thinking about the energy shortage when construction of the Alaskan pipeline was blocked 5 years ago ... When we run short of power, the first people to have their power shut off should be those who blocked the Alaskan pipeline.[82]

At the same time, the oil industry has received criticism from CEQ Chairman Russell Train who points out that the recent "spate of advertising" blaming environmentalists for gasoline shortages neglects to mention the extent to which oil companies miscalculated fuel oil and gasoline needs.[83] The Federal Government has also been criticized for not lifting quotas on foreign oil imports and for failing to develop "a coordinated, coherent national energy policy geared to the public interest."[84] Secretary of Commerce Peterson, commenting on the energy-ecology debate,

has argued that both sides are going to have to accept trade-offs:

> If we can forge a national commitment and if, on that foundation, we can construct national environmental policies, national energy policies, and national economic growth policies that are coherent and reconciled, one with the other, we may well be able to solve our energy problem. With such a commitment, we may well be able to clean up our environment without slowing economic growth.[85]

Is environmentalism an "elitist fad" as some critics have charged? Has the American public's concern about environmental quality diminished, or was it, in fact, exaggerated from the beginning? The answer in both cases is a qualified "No", based on the results of recent attitude and opinion surveys:

1. Cantril and Roll found that, in contrast to the results of previous national surveys conducted in 1959 and 1964, pollution "emerged distinctly" as a new national concern in 1971.[86] Nevertheless, fear about pollution still ranked well below apprehension about war, national disunity, economic instability, communism, and lack of law and order.

2. Watts and Free updated the Cantril and Roll study in 1972 with a national probability sample of 1806 respondents.[87] Their findings indicated that the environment was unquestionably a major concern of the American public; however, they also found evidence that a vigorous environmental "backlash" had developed within government, industry, and the scientific community. Support for environmental reform appeared uniform across all population strata, with greatest concern expressed by the young, the well-educated, suburbanites, professional and business groups, Westerners, Catholics, political independents, and liberals; less concern was noted among those with little education, little income, and those who reside in rural areas:

> Looking ... at the entire range of environmental issues, it would appear that the public ... would not only condone, but indeed welcome, a considerable new investment in solving the problems of air and water pollution and solid waste disposal. The people remain leery, however, about more sweeping and revolutionary attacks on environmental problems, if these approaches assume overtones of governmental control through such devices as officially limiting economic or technical growth or inhibiting an increase in population.[88]

3. Tognacci and his associates interviewed 141 randomly selected subjects in Boulder, Colorado to find out if environmental concern is consistent across major population subgroups.[89] While their results were similar to those reported by Watts and Free (persons expressing the most concern about environmental quality were generally younger, better educated, more liberal, and higher in socioeconomic status), they arrived at a considerably more pessimistic conclusion:

> Taken together, our findings suggest that the ability of the ecology movement for unifying a diverse constituency has perhaps been overrated. At least at this point in time, those persons most concerned about environmental issues appear to reflect the same configuration of social and psychological attributes which have traditionally characterized individuals active in civic, service, and political organizations ... Recent increments in public concern about ecology may merely reflect a more intense commitment by this relatively select group of people rather than broad increases in sensitivity to environmental problems among the general citizenry.[90]

Tognacci's findings underscore one additional problem which is both national and international in character: the age-old battle between "haves" and "have nots." The U. N. Conference on the Human Environment indicated all too clearly that the developing nations perceive environmental concern as the "rich man's dilemma." Worse, some countries consider it an "imperialist plot" to prevent poorer countries from reaching full potential. In sum, unless environmental issues can be shown to apply to a broad spectrum of the American public, and to transcend national boundaries, the future of environmentalism may be in jeopardy.

REFERENCES

1. Lloyd Free and Hadley Cantril, The Political Beliefs of Americans (New York: Simon and Schuster, 1968), pp. 94-112.

2. James Ridgeway, The Politics of Ecology (New York: E. P. Dutton & Co., Inc., 1971) pp. 118-119.

3. The Committee of Scientists, "The Torrey Canyon-Report of the Committee of Scientists on the Scientific and Technological Aspects of the Torrey Canyon Disaster," available from Her Majesty's Stationery Office, (1967), 48 pp.

4. Julian McCaull, "The Black Tide," Our World in Peril: An Environmental Review. Sheldon Novick and Dorothy Cottrell, eds. (Greenwich, Conn.: Fawcett Publications, Inc., 1971), pp. 51-71.

5. Walter J. Hickel, Who Owns America? (New York: Prentice Hall, Inc., 1971), p. 87.

6. Ibid, p. 91.

7. Ibid, p. 105

8. Cecile Trop and Leslie Roos, "Public Opinion and the Environment," The Politics of Ecosuicide. Leslie Roos, ed. (New York: Holt, Rinehart, & Winston, Inc., 1971), p. 54.

9. Free and Cantril, The Political Beliefs of Americans, p. 105.

10. Trop and Roos, "Public Opinion and the Environment," pp. 55-56.

11. J. Clarence Davies, The Politics of Pollution (New York: Pegasus, 1970), pp. 78-82.

12. Trop and Roos, "Public Opinion and the Environment," p. 60.

13. Ibid, p. 62.

14. Frank Egler, "Pesticides-in Our Ecosystem," The Subversive Science. Paul Shepard and Daniel McKinley, eds. (Boston: Houghton Mifflin Co., 1969), p. 251.

15. Ibid, pp. 250-251.

16. Philip Converse, Aage Clausen, and Warren Miller, "Electoral Myth and Reality: the 1964 Election," American Political Science Review, 49, (1965), pp. 321-336.

17. John Maloney and Lynn Slovonsky, "The Pollution Issue: A Survey of Editorial Judgments," The Politics of Ecosuicide. Leslie Roos, ed. (New York: Holt, Rinehart, & Winston, Inc., 1971), pp. 64-78.

18. Max Gunther, "Where Does Television Stand on Ecology," TV Guide, August 4, 1972, p. 7.

19. Joseph Klapper, "The Social Effects of Mass Communication," The Science of Human Communication. Wilbur Schramm, ed. (New York: Basic Books, Inc., 1963) pp. 65-76.

20. "Issue of the Year: The Environment," Time, January 4, 1971.

21. Trop and Roos, "Public Opinion and the Environment," p. 57.

22. Richard Scammon and Ben Wattenberg, The Real Majority (New York: Berkeley Publishing Corporation, 1970), p. 299.

23. Davies, The Politics of Pollution, p. 17.

24. John Steinhart, "The Making of Environmental Policy: The First Two Years," Environmental Impact Analysis: Philosophy and Methods. Robert Ditton and Thomas Goodale, eds. (Madison, Wisconsin: University of Wisconsin Sea Grant Program, 1972), pp. 5-21.

25. Michael Barone, Grant Ujifusa, and Douglas Matthews, The Almanac of American Politics (Boston: Gambit, Inc., 1972), p. viii.

26. Davies, The Politics of Pollution, p. 70.

27. Barone, Ujifusa, and Matthews, The Almanac of American Politics, p. 895.

28. Davies, The Politics of Pollution, pp. 70-71.

29. Ibid. p. 71

30. Ibid, p. 71.

31. Steinhart, "The Making of Environmental Policy: The First Two Years," p. 7.

32. Elizabeth Boswell, Federal Programs Related to Environment, (Washington, D. C.: Library of Congress, 1970), p. 7-8.

33. Steinhart, "The Making of Environmental Policy: The First Two Years," p. 13.

34. Davies, The Politics of Pollution, pp. 71-72.

35. Ibid. p. 72.

36. Boswell, Federal Programs Related to Environment, p. 1.

37. Ibid, pp. 1-2.

38. Hickel, Who Owns America?, p. 213.

39. Susan Abbasi, Federal Environmental Activities, (Washington, D. C.: Library of Congress, 1972), p. 5.

40. Carolyn Harris, In Productive Harmony (Washington, D. C.: Environmental Protection Agency, 1972), p.1.

41. Council on Environmental Quality, Environmental Quality: The First Annual Report of the Council on Environmental Quality, (Washington, D. C.: U. S. Government Printing Office, 1970), pp. 243-246.

42. Ibid, pp. 243-249.

43. Elizabeth Boswell, Executive Reorganization for Environmental Affairs (Washington, D. C.: Library of Congress, 1971, p. 5.

44. Ibid, p. 7.

45. Science, May 1, 1970, p. 558.

46. Hickel, Who Owns America?, p. 220.

47. Boswell, Executive Reorganization for Environmental Affairs, p. 8.

48. Abbasi, Federal Environmental Activities, p. 2.

49. Davies, The Politics of Pollution, p. 72.

50. Steinhart, "The Making of Environmental Policy: The First Two Years," pp. 16-17.

51. The President's Advisory Council on Executive Organization, Memorandum for the President: The Establishment of a Department of Natural Resources (Washington, D. C.: Executive Office of the President, May 12, 1970), p. 5 .

52. Boswell, Executive Reorganization for Environmental Affairs, p. 13.

53. Ibid.

54. Ibid, p. 15.

55. The President's Advisory Council on Executive Organization, Memorandum for the President: The Establishment of a Department of Natural Resources, p. 3.

56. Edmund S. Muskie, "Introduction" to J. Clarence Davies, The Politics of Pollution, p. x.

57. Hickel, Who Owns America?, p. 243.

58. Boswell, Executive Reorganization for Environmental Affairs, p. 16.

59. Edward Wenk, The Politics of the Ocean, (Seattle: University of Washington Press, 1972).

60. Boswell, Executive Reorganization for Environmental Affairs, pp. 16-17.

61. Robert Gillette, "Politics of the Ocean: View from the Inside," Science, November 17, 1972, pp. 729-730.

62. The President's Advisory Council on Executive Organization, Memorandum for the President: The Establishment of a Department of Natural Resources, p. 12.

63. Steinhart, "The Making of Environmental Policy: The First Two Years," p. 16.

64. Boswell, Executive Reorganization for Environmental Affairs, pp. 20-21.

65. James Rahtlesberger, Nixon and the Environment (New York: Taurus Communications, Inc., 1972), p. 11.

66. John Walsh, "Environmental Legislation: Last Word From Congress," Science, November 10, 1972, pp. 593-594.

67. Ibid, p. 594.

68. Fred Anderson, Address to the Interprofessional Council on Environmental Design, Airlie, Va., November 28, 1972.

69. Lester Edelman, Panel Discussion presented to the Interprofessional Council on Environmental Design, Airlie, Va. November 28, 1972.

70. Harold Green, Panel discussion presented at the American Association for the Advancement of Science, Washington, D. C., December, 1972.

71. Marvin Zeldin, "Will Success Spoil NEPA?", Audubon, July 1972, p. 108.

72. Green, op cit.

73. Zeldin, "Will Success Spoil NEPA?", p. 107.

74. "Environmental Law Ignored, Departing Nixon Aides Say," Washington Star, September 17, 1972.

75. Zeldin, "Will Success Spoil NEPA?", p. 106-107.

76. Harris, In Production Harmony, pp. 10-12.

77. Scammon and Wattenberg, The Real Majority, pp. 333-334.

78. League of Conservation Voters, Election Report, (Washington, D. C., 1972), pp. 1-16.

79. Marvin Zeldin, "The World Sets Out to Rescue Its Earth," Audubon, September 1972, pp. 116-122.

80. Council on Environmental Quality, Environmental Quality: The Third Annual Report of the Council on Environmental Quality, (Washington, D. C.: U. S. Government Printing Office, 1972), p. 278.

81. Russell E. Train, Speech presented to the Washington Rotary Club, June 13, 1973.

82. Luther Carter, "Earl L. Butz, Counselor for Natural Resources: President's Choice a Surprise for Environmentalists," Science, January 26, 1973, p. 359.

83. Russell E. Train, Op Cit.

84. The Conservation Foundation, "Wanted: A Coordinated, Coherent National Energy Policy Geared to the Public Interest," CF Letter, June 1972, pp. 1-12.

85. Peter G. Peterson, "The Environment and the Economy: Joint Progress or Parochial Negativism," Address presented at the National Environmental Information Symposium of the Environmental Protection Agency, Cincinnati, Ohio, September, 1972.

86. Albert Cantril and Charles Roll, Hopes and Fears of The American People (New York: Universe Books 1971).

87. William Watts and Lloyd Free, State of the Nation (New York: Universe Books, 1973).

88. Ibid, p. 154.

89. Louis Tognacci, Russell Weigel, Marvin Wideen, and David Vernon, "Environmental Quality: How Universal is Public Concern?", Environment and Behavior, 4, 1, (March 1972), pp. 73-86.

90. Ibid, p. 85.

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This paper traces some of the critical events leading up to the National Environmental Policy Act (NEPA) of 1969. The opening section spotlights the rapid growth of an environmental ethic in this country, the impact of some highly visible ecological disasters, and the subsequent pressure for environmental reform exerted by opinion leaders and the mass media. The Federal Government's response to perceived changes in public priorities is the focal point of the second section. The activities of Congress and the Nixon Administration are charted in a two-year chronology spanning the 1968 and the 1970 elections, a key period in the development of environmental policy. The final section provides a critique of NEPA with special attention devoted to the controversial requirement for environmental impact statements. The paper concludes with a brief discussion of some of the challenges facing the environmental movement today.

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