

Interagency 1968 Task Force on
Marine Sciences

ADMINISTRATIVELY CONFIDENTIAL

September 4, 1968

EYES ONLY

MEMORANDUM FOR

Honorable Matthew Nimetz

In accord with our earlier discussions, it would be helpful if you would submit by October 7, 1968, a detailed outline of new initiatives which might be proposed in the Budget, Economic and State of the Union Messages in the following fields:

- D.C. Affairs
- Marine Sciences
- Communications Policy

The outline should cover actions which might be taken both now and in the future to deal with the various problems in this area.

Joseph A. Califano, Jr.
Special Assistant to the President

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TF Report



EXECUTIVE OFFICE OF THE PRESIDENT
NATIONAL COUNCIL ON MARINE RESOURCES
AND ENGINEERING DEVELOPMENT

WASHINGTON 20500

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EXECUTIVE SECRETARY

October 14, 1968

MEMORANDUM

TO: Mr. Joseph A. Califano, Jr.

FROM: Edward Wenk, Jr. *EW*

SUBJECT: Marine Science Options for the President

In accordance with your request, we have examined marine science activities and certain recommendations anticipated from the Marine Science Commission to identify needs and opportunities for initiatives by the President before he leaves office. Eight proposals are outlined in this memorandum, with back-up rationale attached.

These proposals extend and strengthen earlier policies enunciated by the President. Appropriately consolidated and enunciated, they could reflect a long-term maritime legacy. President Johnson has already laid the foundation for such a legacy, with more initiatives than any previous incumbent. He has asserted our Nation's stake in the oceans, sought to use the marine environment to meet broad public purposes and supported marine science programs. These separate achievements have never been packaged, and are significant in advancing this field in the absence of a crisis or political constituency.

Minimum costs are roughly \$40 million over FY 69 levels to implement these extensions of earlier initiatives. These funds should not be at the expense of other marine science programs.

The proposals follow:

1. Start the International Decade of Exploration in 1970

- step up "at sea" exploration of U.S. shelf and nearby waters, with a goal of complete mapping by 1980;
- assure that existing U.S. capabilities for ocean research and exploration are fully utilized by more time at sea for government-owned ships and charter of research submarines;

- strengthening international planning for the Decade by U.S. contributions to international coordinating bodies;
 - develop interest by U.S. industry in participation on their own;
 - accelerate analysis and publication of backlog of U.S. data about the oceans;
 - exporting U.S. "know how" on exploration and data collection to the developing nations.
2. Submit Presidential Proposals on Law of the Sea to the U.N., at this session, to
- urge restraint among nations not to extend claims of sovereignty over the seabed seaward, and to continue to separate limits of territorial seas, fishing zones and seabed;
 - accelerate efforts to reach international agreement on the seaward boundary of the Continental Shelf;
 - suggest establishment of an international registry to record mineral claims beyond depths of 200 meters;
 - insure that losses to private U.S. companies resulting from a Seabed Treaty will be adequately protected by Government guarantees where investment was made prior to agreement on a regime;
 - extend life of the U.N. ad hoc Committee to deal with seabed matters;
 - limit arms race by having ENDC proceed with negotiations on banning emplacement of nuclear weapons on seabed.
3. Revitalize the lagging Fish Protein Concentrate Program by
- providing more energetic, Government-wide leadership and management through a small special project office in the Council;

- establishing goals to develop FPC capacity to meet needs of 200 million by 1980;
 - accelerating the technological development of various processes for extracting protein from many aquatic animals, including those not now utilized;
 - deepen our commitment to gain overseas market acceptance by advancing the first demonstration project abroad to 1970 and initiating an expanded program for a number of other needy areas of the world, such as central Africa and Asia;
 - coordinating this program with the world food programs of other countries and international organizations;
 - urging FDA to permit use of FPC as an additive;
 - commissioning an itinerant FPC laboratory and demonstration ship;
 - urging FDA to permit use of FPC in bulk quantities for commercial use (this is necessary to make U.S. commercial development profitable);
 - convening an international conference to accelerate the dissemination of knowledge of fish stocks, their reduction to concentrate, and their use in palatable foods in local diets.
4. Propose legislation on the Coastal Zone to promote the orderly and rational economic development through
- grant assistance to States to manage the Coastal Zone by establishing State operated Coastal Zone Planning and Management Authorities;
 - providing funds for environmental research and dissemination of scientific and demographic data on Coastal Zone problems as a foundation for land management decision;

- land acquisition through Bureau of Outdoor Recreation to provide new recreation opportunities in estuaries and on the coasts;
 - Federal development of criteria for allocating uses to maximize benefits and minimize conflicts.
5. Strengthen the politically popular Sea Grant College and Programs Act by
- increasing FY 70 funding significantly over FY 69;
 - setting forth long-range goals such as
 - . a Sea Grant College in every Coastal and Great Lake State or region;
 - . double production rate of ocean-related manpower by 1980;
 - . establish extension services to aid coastal economies;
 - . provide indigenous advisory services to aid states in providing rational basis for eliminating conflicts in use of coastal zone.
6. Improving U.S. Fisheries, doubling the catch by 1980, and develop a competitive sea food industry by
- removing institutional barriers to innovation through revision in Federal, State and local laws;
 - providing incentives for utilization of new technology;
 - expanding research for technology and conservation;

- revising the fishing vessel subsidy program;
 - inducing the fish food industry to integrate vertically to stabilize markets, prices and employment;
 - expanding fish mapping on the U.S. Shelf and disseminate environmental data promptly to improve the catch;
 - improving fishery statistics to facilitate sound business decisions and guide Federal programs.
7. Proclaim an Arctic Policy for exploration and development, by assigning responsibilities to agencies to redirect current research and exploration to
- aid the economic development of Alaska;
 - step up research and observation for prediction of U.S. weather and long-term climate prediction;
 - begin geological studies of oil and mineral deposits on the Arctic continental shelf;
 - study icebreaking and transport to and from Prudhoe Bay;
 - survey implications of the Arctic for national security;
 - plan an international program for peaceful exploration and uses of the Arctic as part of the International Decade of Ocean Exploration;
 - examine merits of a nuclear-powered ice-breaker to serve collaterally as a Polar research station.
8. Expand capabilities for exploration and weather/climate prediction by a national data buoy system
- establishing a goal of a Northern Hemisphere buoy network by 1980;
 - begin development in FY 70 of pilot network that was deferred by budget cuts.

Not included here is consideration of Federal reorganization for civilian marine science affairs. Alternatives, pros and cons of each, and commentary on tentative Commission views will be forwarded in a separate memo. The President could, however, propose continuation of the Council for another year beyond its June 30, 1969 expiration, to prevent a hiatus in momentum of his policies. A rationale for such extension is set forth in the attached copy of my October 1 letter to the Director of the Budget.

Attachment

a/s

cc: Mathew Nimetz

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ADVANCING THE INTERNATIONAL DECADE OF OCEAN EXPLORATION

Problem

During the past year U.S. initiatives at meetings of the United Nations and its specialized agencies have resulted in broad international support for an International Decade of Ocean Exploration during the 1970s with the scientific, economic, and political benefits to be derived from such a cooperative venture clearly recognized. However, unless the United States is now prepared to support specific new programs within the framework of the Decade, it is likely that increased support of programs by other countries, with the exception of the USSR, also will not materialize and the proposal as originally conceived will founder. The U.S. initiative would thus be interpreted as a hollow political gesture, while the USSR continues to expand its ocean research and survey activities in foreign waters. Current budget constraints not only prevent initiation of any new significant programs in support of the Decade but are already resulting in laying up ships in FY 69 which had been scheduled to conduct exploration activities.

Background

President Johnson in his State of the Union Address on January 17, 1968 stated that

"This year I shall propose that we launch, with other nations an exploration of the ocean depths to tap its wealth, and its energy, and its abundance."

He subsequently proposed (Enclosure 1) that such an endeavor be called an International Decade of Ocean Exploration, emphasizing that such a program could:

- "expand cooperative efforts by scientists from many nations to probe the mysteries of the sea;
- increase our knowledge of food resources, to assist in meeting world-wide threats of malnutrition and disease;
- bring closer the day when the people of the world can exploit new sources of minerals and fossil fuels."

The proposal has already been supported by a number of nations and by several UN bodies, including the Economic and Social Council, the ad hoc Committee on the Seabed, and the Intergovernmental Oceanographic Commission of UNESCO. It is likely that the UN General Assembly will adopt a Resolution supporting the Decade this fall. A Concurrent Resolution, strongly endorsing the Decade, has been passed by the Senate and will probably be acted on early next year by the House. The Marine Sciences Council is coordinating U.S. planning for the Decade. Under Council auspices the Academy of Sciences and the Academy of Engineering are developing the scientific and industrial goals of the Decade proposal.

Proposal

The President should announce the next steps by the U.S. to assure effective implementation of his initial Decade proposal, namely:

1. Stepping up systematic mapping of mineral and fishery resources along our own coasts so as to complete an inventory of nearby ocean resources within ten years;
2. assuring that all of our existing oceanographic exploration capabilities are fully utilized by providing funds to operate research ships and submarines already built but in danger of being moth balled due to lack of funds;
3. strengthening international planning for the Decade, by additional US contributions, and contributions by other countries, to the Intergovernmental Oceanographic Commission;
4. increasing our capability to collect and evaluate information about the oceans using new research ships and submarines, spacecraft, oceanographic buoys, and other sophisticated data collection and processing technologies with a view to increasing the availability of useful information many-fold by 1980;
5. accelerating analysis and publication of the backlog of US data about the oceans, including data already collected by spacecraft, and preparation of ocean atlases to be made available in the early 1970's.

Costs

Funding of \$13.2 million over FY 1969 levels should be provided in FY19 as a minimum necessary to start the Decade and gain acceptance abroad.

Department of State (\$0.2 million)

At present, the Intergovernmental Oceanographic Commission (IOC) of UNESCO appears the best international body to coordinate international planning and we anticipate that IOC's leading role will be endorsed by the UN General Assembly. Present funding of the IOC by UNESCO is, however, too meager to carry out the expanded planning functions and we should thus earmark direct contribution to IOC, expecting matching support from other nations, so as to double the current annual budget for staff and supporting activities to about \$500,000.

Department of the Navy (\$3 million)

The U. S. has an existing fleet of research submarines that exceeds in capability that of all other nations combined. Most of these were built with private funds, expecting rental by government programs. At present, their utilization is less than 35% because of tight budgets. These funds would permit the Navy to serve as a clearinghouse to correlate government-wide needs during the initial phase of the Decade and arrange for leasing of the boats. The submersibles could in some instances carry foreign scientists--thus further contributing to Decade goals. Industry would be encouraged to take further initiatives in investing in oceanic endeavors, and other nations would recognize US readiness to share the benefits of its advanced technological developments.

ESSA (\$3 million)

This increase in funding will expand capabilities for fuller utilization of the Coast and Geodetic Survey's fleet of research and survey ships by providing additional equipment for the ships such as gravity meters, advanced navigation equipment, and automated data processing equipment, by providing relief crews which will enable ships to operate one or two more months per year, and by providing funds to operate ships currently tied up due to budget constraints. These ships are engaged in a variety of research and survey activities off the Alaskan, Atlantic, and Pacific Coasts, and some of them are scheduled to participate in international cooperative programs in the North Atlantic and Caribbean which will be integral parts of the Decade.

Bureau of Commercial Fisheries (\$3 million)

This program will basically consist of an expanded exploratory fishing effort to systematically map fishery resources of the U. S. Continental Shelf. It will supplement and be closely coordinated with ongoing Departmental programs which in themselves are too limited to meet the goals of the Decade. Funds provided by this program will be used to charter commercial fishing vessels and to hire scientific and

support personnel for resource mapping and fishing gear development and assignments in areas where the most likely potential latent resources occur and where domestic industry has the capacity to respond to survey findings.

In addition to strengthening the base for the Decade, this expanded effort will also implement the President's accelerated Food-from-the-Sea program announced in 1967, both to strengthen the US fishing industry and to assist in the War on Hunger.

Many of the fish stocks have already attracted international interest and the data acquired by this effort will greatly assist in the development of sound international fishery management schemes.

Geological Survey (\$ 2 million)

This expanded effort will focus on the unexplored areas of the Continental Shelf with geological continuity from adjacent land areas which have yielded great mineral wealth; of particular interest are areas off the Alaska, Pacific, and Gulf Coasts. Most of the funds will support research projects on the ships operated by our academic institutions. The information acquired on the nature of the continental margins will be of considerable international interest in attempts to better understand the geological history of the ocean basins and thus provide a better basis for estimating the mineral wealth of the ocean floor.

National Science Foundation (\$2 million)

This increase will enable the fleet of research ships operated by our academic institutions to continue to operate at full strength. At present some of these are being laid up due to budgetary constraints. In addition to carrying out programs of direct scientific and potential economic value to the US, these ships provide much of the US contribution to international cooperative programs, including programs in the Mediterranean, Tropical Atlantic, and Caribbean.

Justification

This program will

--significantly increase the food, mineral, and energy resources available for the benefit of mankind

- benefit the Nation's fishing and mineral extractive industries
- enhance the protection of life and property along our coasts and further the safety of maritime commerce through improved predictions of weather and sea conditions
- contribute to advancement of a broad range of scientific disciplines
- increase the efficiency and economy of ocean exploration through international sharing of exploration responsibilities and broad distribution of results
- promote international cooperation and understanding, including broader participation by the developing nations in deriving the benefits of ocean activities.

ESTABLISHING A LEGAL REGIME FOR THE OCEAN FLOOR

Problem

Even though international attention is focusing more sharply on the legal question of "who owns the seabed," there is a growing potential for conflict, both internationally and domestically, as advancing technology enables exploration and exploitation of oil, gas, and mineral resources in deeper water and farther from the coast. Some nations want to extend claims of sovereignty over the seabed great distances seaward while other nations, particularly developing countries, advocate the other extreme of a very narrow coastal band of sovereignty with the title to the seabed beyond national sovereignty vested in the United Nations. The same dichotomy of views exists within the U. S. with the National Petroleum Council urging a unilateral proclamation that the Continental Shelf extend at least to the 2500 meter isobath.

Delay in developing a US policy could lead to a hardening of positions which would be far more difficult to reconcile after exploitation begins in deep water and could also cause undesirable deferment of industrial development of resources in deeper waters near our shores pending clarification of these legal uncertainties. At present, the U.S. government does not have a definitive position on (a) the precise seaward boundary of the Continental Shelf over which the coastal state exercises sovereignty; and (b) the legal regime for the seabed beyond the Continental Shelf, including distribution of benefits from this area.

Background

The following 1966 statement of the President has set the tone for the U.S. position on this question and has been repeatedly quoted at the UN during the past two years:

"Under no circumstances, we believe, must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations. We must ensure that the deep seas and the ocean bottoms are, and remain, the legacy of all human beings."

It is likely that this fall the UN General Assembly will (1) adopt a limited set of very general principles stating that the seabed be reserved exclusively for peaceful purposes and developed for benefit of all mankind, and (2) establish a standing committee on the seabed to prepare further recommendations.

The status of current UN deliberations is summarized in Enclosure 1.

The Marine Sciences Council/State Department Committee on International Policy in the Marine Environment has been requested to develop a government-wide position on the boundary of the Continental Shelf and the seabed regime by December 1, considering factors related to national security, foreign policy, domestic economic development, integrity of existing treaty commitments, and freedom of scientific research.

Proposal

Pending government-wide concurrence on more definitive recommendation currently being developed, the President could

- reiterate the necessity for restraint among nations not to extend claims of sovereignty over the seabed seaward, separating consideration of the seabed from the pattern that has resulted in excessive claims over territorial waters hundreds of miles from the coast; and
- urge accelerated efforts to reach international agreement on the seaward boundary of the Continental Shelf.

Pending establishments of this boundary, we should support efforts to

- establish an international registry to record mineral claims beyond depths of 200 meters;
- protect the integrity of investments beyond the Continental Shelf made prior to international agreement on the regime for the deep ocean floor through appropriate grandfather clauses in such agreement;

--set aside the ocean floor as an arena for peaceful activities of the international community, with the ENDC promptly proceeding to develop a workable and verifiable treaty to ban emplacement of nuclear weapons on the seabed.

Costs

There will be no direct immediate budgetary costs. The long range economic impact will depend on the details of the international arrangements that are developed and on the extent and distribution of oil, gas, and mineral deposits that are identified and developed beyond the Shelf.

ACCELERATED DEVELOPMENT OF FISH PROTEIN CONCENTRATE

Statement of Problem

Despite Presidential support of this area early in 1967, the program to develop Fish Protein Concentrate as a weapon in the War on Hunger has lagged. The goal established at that time - to place in operation in at least one lesser-developed country a demonstration system which would provide products enriched with low cost fish protein concentrate for a large number of preschool children and pregnant mothers by 1971 - has been delayed at least one and probably two years.

The major causes of delay are:

- a. slow progress by the Bureau of Commercial Fisheries in improving the chemical process;
- b. lack of leadership by A.I.D. which was assigned lead agency responsibilities but never developed adequate management capabilities;
- c. an ultra-conservative attitude in the FDA, with regard to the non-critical aspects of residual fluoride content and esthetics. (A requirement that FPC be sold in one pound packages and used only in the household as a food supplement has inhibited private investment.);
- d. delays in starting the FPC demonstration plant due to inadequate planning by BCF and misrepresentation in Congress as to its use.

Prior Presidential Position

In addition to approving the FPC program for FY 1968 and FY 1969, the President, in February, 1968, emphasized the importance of the program in his message to the Congress "To Build the Peace" :

"We must also tap the vast storehouse of food in the oceans which cover three-fourths of the earth's surface. I have directed the Administrator of the Agency for International Development and the Secretary of the Interior to launch a five-year program to:

- Perfect low-cost, commercial processes for the production of Fish Protein Concentrate.
- Develop new protein-rich products that will fit in a variety of local diets.
- Encourage private investment in Fish Protein Concentrate production and marketing as well as better fishing methods.
- Use this new product in our Food for Freedom program to fortify the diets of children and nursing mothers."

Proposal for FY 1970

The President should:

A. Establish a special project for the accelerated technological development of FPC, the application of FPC-enriched products to the problems of protein malnutrition and hunger, and the establishment of a self-sustaining FPC industry throughout the world. Goals should be announced, such as meeting protein needs of 200 million by 1980. As an interim management measure (pending reorganization of marine science activities) the Marine Resources and Engineering Development Council would be given responsibility for policy guidance and program leadership with authority to manage the program across agency lines and with funding and personnel provided independently of other programs of the host agencies.

B. Emphasize prompt technological development of various processes for extracting protein from many aquatic animals, including those not now utilized, especially with contract research through BCF.

C. Deepen our commitment toward gaining market acceptance in needy countries by:

1. Advancing completion of the first demonstration project abroad to 1970;

2. Expanding a program for a number of other needy areas of the world, such as central Africa and Asia;

3. Commissioning an itinerant, Food From the Sea Demonstration ship which would travel to various parts of the world, catch local fish, process these into FPC and incorporate the FPC into local staple foods on the spot. It would be capable of producing enough FPC to meet the daily needs of 10,000 to 40,000 children and thus could perform "fire fighting" services in famine-stricken areas as well as routine demonstrations;

4. Supporting world-wide conferences on Food From the Sea, with cooperation of FAO, WHO, etc.

D. Urge FDA to permit use of FPC as an additive in commercial products and to facilitate its widespread use.

Implications

Strong Presidential action could have the result of turning a dragging, bureaucratic effort into a constructive, dynamic program to combat a major world-wide problem. U. S. leadership in the exploitation of the oceans would be strengthened by the application of technology to a tangible, basic and

critical need.

Estimated Costs

The total project objectives can be reached in not more than ten years after which the federal participation should no longer be required. In fact, successful commercial production may eliminate any further need of U. S. funding after the first five years. For the first five years funds will be needed approximately as follows:

FY 1969	\$7 M (\$4 M supplemental above FY 1969 program)
FY 1970	\$20 M (including \$10 M for demonstration ship)
FY 1971-73	\$15 M annually

Justification

Progress in biological chemistry, nutrition and food technology, and our knowledge of the sea's living resources has reached the point where it is not unreasonable to talk about eliminating world-wide protein malnutrition. Food from the sea can play a significant role. To do so, however, requires leadership and a specific and firm commitment of the necessary resources--both funds and the relatively few but talented people needed to develop and manage the project.

The rewards are primarily humanitarian - to stop suffering and promote stability in developing countries.

A secondary, but important, benefit will be the increased economic activity of U. S. fishing and food processing industries both here and abroad.

Experience over the past two years indicates clearly that normal bureaucratic procedures have not responded with the flexibility and urgency required. On the contrary, the concept is ideally suited for a project management team

approach. It would have a finite, short span. It requires the mobilization of a small team from industry, universities and federal laboratories.

The demonstration ship would be a strong and effective element of the FPC program. It would have fish catching gear, laboratories and dietetic

kitchens. It would travel to critical areas of the world investigating and demonstrating:

- methods of catching local fish,
- processing of the suitable local varieties of fish or other aquatic products into FPC,
- incorporation of FPC into local diets,
- the feasibility of equipping local villages with simplified, compact equipment for producing of FPC which could be operated under the initial guidance of specially trained Peace Corps volunteers.
- provide significant quantities of FPC where protein malnutrition is severe (e.g., Biafra).

STEPS TOWARD RATIONAL USE OF THE COASTAL ZONE

Statement of the Problem

The Coastal Zone, that band of land and water which stretches along our seacoasts and the shores of the Great Lakes, is the area where man meets the marine environment. It is the home of more than 75% of the Nation's population and most of our heavy industry. Annually, more than 1 billion tons of cargo move through Coastal Zone ports. Eight million sport fishermen spend 95 million man-days fishing there. It provides a source of food, employment, and recreation for our citizens, yet it is a sensitive environment, subjected to ever-increasing demands from diverse and often conflicting uses. Individual private citizens, industries, local, State and Federal Governments--all are heavily committed in the Coastal Zone, and yet there is no adequate mechanism for guiding the rational development of this area and resolving the conflicts which arise.

Prior Presidential Actions or Positions

Last August, the President signed H.R. 25, a bill "To authorize the Secretary of the Interior, in cooperation with the States to conduct an inventory and study of the Nation's estuaries and their natural resources" This Act was the culmination of a series of estuarine bills, all of which were attempts to introduce order into use of the Coastal Zone. The final much-amended version of H.R. 25, and the precedent Water Resources Planning Act of 1965 and Clean Water Restoration Act of 1966, provide a foundation for the process. Full realization still lies ahead.

Implications and Consequences of Presidential Initiative

Congressional deliberations on the estuarine bills and other bills to control activities on the outer continental shelf focused attention upon the multiple-use problems of the Coastal Zone and aroused considerable interest among the States, industry, conservation organizations, and several departments within the Federal Government. A number of States have recently enacted programs directed toward this problem, others are in the process of doing so. The Multiple Use Of the Coastal Zone Committee of the Marine Sciences Council has devoted considerable attention to this issue, and the Council is convening a meeting on November 13-15 of representatives of constituency groups interested in coastal management. Proceedings should lay the ground work for future steps. The Marine Sciences Commission report is expected to contain recommendations for a national program for estuarine management, also.

The next Congress will again be addressing the problem of how to manage use of the Coastal Zone. Many State legislatures will similarly be involved next spring, and local governments will be taking a hard look at their role in the process. A statement by the President would be extremely timely, would lend considerable prominence to the issue, and would facilitate action at all levels of Government.

Proposal for FY 1970

The President should enunciate a policy that all levels of Government--local, State, and Federal--join together with the private sector to

develop a comprehensive cooperative approach for rational development of the Coastal Zone which would:

1. Recognize and protect the proper role of Government and the private sector, and of each level of Government.
2. Provide for the prompt, systematic acquisition of environmental, economic, and demographic information directed toward solving the problems of the Coastal Zone, and for the dissemination of that information for use in decision-making.
3. Formulate criteria for allocating uses of the Coastal Zone in such a manner as to maximize benefits and minimize conflicts, recognizing that groups of uses may be compatible among themselves and incompatible with others, but that all may be legitimate in their own right.
4. Assure that the public interest of future generations is protected by the reservation, through just and equitable means, of sufficient areas of the Coastal Zone to sustain the nutritional, economic, cultural, and recreational demands of our increasing population.

The President should call for a White House Conference on the Coastal Zone to focus public attention on the needs, and to mobilize wide governmental, private interest, and lay support.

The President should propose legislation to provide Federal aid to States for (1) creation and operation of State Coastal Zone Planning and Management Authorities meeting Federal standards, expansion of existing programs of estuarine research and coastal engineering, (2) supplemental funds to BOR for acquisition of coastal lands and waters, and (3) creation of a Federal overseeing authority.

Estimated Costs

If appropriate legislation is passed in FY 1970, budgetary increases would be necessary in FY 1971 and FY 1972 as the program becomes fully operational.

	<u>\$ Millions</u>		
	<u>First</u> <u>Year</u>	<u>Second</u> <u>Year</u>	<u>Third</u> <u>Year</u>
Aid to States	2.0	4.0	4.0
Research & Development	5.0	10.0	20.0
Land Acquisition	5.0	15.0	20.0
Federal Operations	0.3	0.5	0.5
Totals	12.3	29.5	44.5

Detailed Justification

1. The Coastal Zone supports, in one way or another, the majority of our citizens, yet there exists no rational means for its development and use.

2. Local, State, and Federal Government interact with the private sector here, yet there is no clear division of authority and responsibility.

3. Because of the diffusion of roles, levels of Government, agencies within Governments, and various elements within the private sector are competing among themselves and conflicting with each other, to the detriment of all.

4. A number of use-regulation mechanisms exist, but none is comprehensive in approach, and the most effective (i. e., the Corps of Engineers permit) is currently being tested in the courts.

5. Decisions have been made, and will continue to be made, regarding use of the Coastal Zone, without an adequate foundation of knowledge. Problem-oriented research would lessen the probability of error and improve the reliability of such decisions.

6. Although the primary responsibility for management of the Coastal Zone should lie within the States, many have not been able to

muster the resources to support effective action. As a result, broader public and national values have suffered (e.g., recreation, cultural and esthetic values). The proposed measures would strengthen the role, provide needed research to aid planning, and provide Federal backup to assure quality standards and muscle to resist strong or short term local interests.

All of the participants in coastal zone management would be catalyzed by a Presidential initiative so as to give the problem its share of attention and begin to subordinate narrow interests to longer range, broader considerations.

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STRENGTHENING THE SEA GRANT PROGRAM

Statement of Problem

Progress in marine sciences in the 1970's depends on what is done today to develop a base of manpower, especially engineers and technicians, applied research capabilities and improved mechanisms for information transfer. These are long lead time developments. The National Sea Grant College and Program Act of 1966 is a major innovative step to meet our future needs and has become the cornerstone of these developments. The Sea Grant Program offers a unique, multidisciplinary approach, augmenting rather than replacing existing programs with special emphasis on developing regional capabilities to work on regionally differentiated problems.

The present level of funding is insufficient to allow the Sea Grant Program to grow so as to provide stable institutional support at those universities where programs have begun, make additional grants to qualifying institutions so as to expand geographical coverage and meet total national needs, and assure information transfer, a la extension services in phase with the marine science goals.

Long range planning for this program - to add goals, milestones and operational texture to the organic act has not proceeded adequately. As a consequence, the Council's Executive Secretary recently requested

the NSF Director to submit a plan by October 23 for review by consultants and the Council. It should provide a basis for a major Presidential statement.

First grants by NSF were made in 1968. To date, 6 institutional grants and 27 project grants have been made in such areas as educational program development for technicians and engineers, and research in aquaculture, ocean engineering, pollution, food technology, marine economics, drugs from the sea, minerals and law. Widespread and intense interest, including cost sharing, is exhibited by state and local governments, colleges and universities and industry. The Program has strong Congressional support.

Background

The Sea Grant Program has two grant instruments - institutional and project. Institutional grants support multi-faceted programs at colleges and universities which combine activities of several departments such as law, economics and public administration with earth and life sciences and engineering into a joint effort on common regional marine problems. A package of institutional support is about \$1 million per year. Project grants support ad-hoc research or study projects on such problems as aquaculture, law, curriculum development and coastal zone problems in areas where mission-oriented agencies have no grant program, the issues cross agency lines or gaps occur between the missions of various agencies.

In light of these objectives, the Administration requested Congress to extend original 2-year authorization and increase it.

Prior Presidential Actions

In transmitting Annual Reports to the Congress in March 1967 and March 1968, the President emphasized the Sea Grant Program, and called special attention to it; also in his March 8, 1968 conservation message.

Consequences of Presidential Initiative

By financing further growth of the Sea Grant Act, the Nation will be assured of a more adequate supply of marine technicians and ocean engineers for the years ahead; new technological applications will be developed, states and industry will become more involved in a partnership necessary to extract full benefit from ocean resources.

The result should strengthen local economies, conserve limited coastal resources and improve the quality of the environment. Sea Grant funds provide for a better geographic distribution of effort. Most importantly, this is another method, and a politically popular method of aid to education.

Proposal for FY 70 and Costs

It is proposed to increase the FY 70 funding for Sea Grant by \$7 million over FY 69 to a total of \$13 million, close to the full amount authorized by Congress.

The President should also lay out the land range goals of Sea Grant:

- a Sea Grant College in every Coastal or Great Lakes state, or region if better served collectively.
- training so as to double technical manpower at both ends of the spectrum - technician and post-doctorate - by 1980.
- an extension service to aid coastal economy to identify and exploit coastal resources, through aquaculture, sand/gravel extraction, etc.
- an estuarine research capability to help preserve quality of coastal environment.
- an advisory service in States to aid them in providing sound technical basis for zoning of coastal lands as a crucial step toward rationalizing conflicts in use.

Detailed Justification

Funds would be utilized as follows:

Sea Grant Program Funding

<u>Type of Support</u>	<u>FY 68</u>	<u>Est. FY 69</u>	<u>Proposed FY 70</u>
6 Institutional	\$2.5 M	\$3.6 M	\$6.0 M
2 Institutional		0.8	1.4
3 Institutional			1.5
27 Projects	2.5		
5 to 10 Projects		1.6	
30 to 50 Projects	<u> </u>	<u> </u>	<u>4.1</u>
	\$5.0	\$6.0	\$13.0

IMPROVING U. S. FISHERIESThe Problem

Despite a 70% increase in U. S. utilization of fish products in the past 10 years (now 71 pounds per capita--the world's largest market), fish catch of U. S. fishermen has remained essentially constant and accounts for only one fourth of the supply. We have dropped to sixth place among fishing nations. As a consequence, there is an adverse effect upon domestic jobs and profits, our balance of trade, the general maritime influence of U. S., and capability to alleviate growing world hunger.

Background

While fishing for some species (shrimp, salmon, crab) prospered, many other fisheries have declined drastically as the result of foreign competition, insufficient knowledge of fish ecology, and antiquated regulations. Many of our domestic coastal sources are underutilized and it has been estimated that the readily available stock is three to ten times our catch.

Fish resources of the seas are, generally speaking, common property and require better national and international conservation management to prevent depletion. U. S. rights to these international resources and a voice at the conference table will be insured only if the U. S. maintains technological knowledge and presence at sea.

U. S. fishing industry is neither vertically integrated nor benefitting from economies of scale. Wholesalers, distributors, and processors of fish operate independently from fishermen, and their domestic as well as their foreign operations are generally profitable.

If the U. S. fisherman can be freed from outdated and unnecessary

regulatory constraints, if international agreement on conservation and management can keep pace with growth of fishing effort, and if incentives for higher industrial investment can be introduced similar to those prompting mechanized farming with all its benefits, the U. S. fishing industry can grow and make a profit.

Presidential Initiative

The President should enunciate a positive policy to expand the catch of U.S. fisheries (at least double by 1980) and develop an economically healthy sea food industry through major legislation amending the Fish and Wildlife Act of 1956 and other relevant statutes to:

- Provide a uniform Federal backdrop for conservation that would eliminate unnecessary restrictions and inconsistencies and foster selective revisions of state and local laws;
- Reorient research mandate of Bureau of Commercial Fisheries so as to minimize emphasis on marketing and increase attention to estuarine ecology, aquaculture, the technology of extracting concentrated proteins, expanded knowledge of fish populations on the continental shelf and especially fish catching equipment;
- Revise the fishing vessel subsidy programs that now give questionable aid to the shipbuilder but inadvertently penalize the fisherman, to provide competitive ships and equipment;
- Improve the federal program of statistics, data processing and information dissemination to the fisherman through extension programs.
- Provide direct incentives to U. S. fish processors to use fish caught by U. S. flag fishermen so as to accelerate vertical integration of

the industry.

Implications of a Presidential Initiative

The Presidential initiative would have the following effects:

- It would demonstrate the President's concern about a lagging U. S. industry, and the U. S. consumer, and means to make this area a model for resource management as we have with agriculture;
- It would raise the economic and social status of a number of our citizens by reversing the trend toward imports and unfavorable balance of trade;
- It would demonstrate the President's recognition of the potential of the oceans to alleviate world hunger, and the importance of projecting U. S. maritime presence into the world community;
- It would show his interest in applying U. S. technology to social problems.

Costs

An effective program covering the above areas can be initiated for a \$10 M increment above the FY 1969 level of expenditures for reorganization and expansion of activities in the Bureau of Commercial Fisheries.

Justification

A substantial portion of the additional funds would be employed to:

1. establish new lines of in-house research, especially on fishing engineering;
2. develop a contract research program in universities and industry so as to stimulate interest by competent scientists and bring their results promptly into practical use;

3. begin development of a systematic extension service by making fishery data available - including real time environmental forecasts.

PROCLAIMING AN ARCTIC POLICYThe Problem

Scientific study, exploration and economic development of the full potential of the Arctic Ocean and its continental shelves have been neglected.

The Arctic Ocean affects our National health and welfare through its influence on weather and ocean circulation patterns, yet we do not understand how the system works. There are identified mineral riches on the North Alaskan Continental Shelf, yet we do not have the transportation systems to take them out. The submerged continent under the Arctic Ocean is believed to have a store house of minerals, as yet unidentified. The Arctic Ocean lies under the missile trajectory between continents of the Northern hemisphere, and is thus of crucial importance for detection and intercept. It also is a natural hiding place for nuclear ballistic missile submarines, ours and the USSR's.

Despite these features of critical importance to the U.S., the Soviets have studied the Arctic Ocean and made more use of it than we. Sorely needed is a statement of our national interest in the Arctic with the possibility of development of a policy for development of resources within U.S. sovereignty and of a treaty to assure peaceful development of this region as we did in the Antarctic.

Background

The Continental Shelf off Alaska (in water less than 200 meters) equals the area of the State, but geological and geophysical maps necessary for exploration are lacking. Nevertheless, industry has discovered significant mineral deposits - an oil field, possibly as large as the largest in the U.S. at Prudhoe Bay; large coal deposits on the Northern coast of Alaska; and a large copper deposit in the Brooks Range. Extraction of these resources may require major new transport systems to negotiate the ice fields.

In fact, new techniques of ice-breaking and Arctic Ocean transport may be necessary. Water borne commerce across the Arctic could provide the shortest route from Alaska to Asian and European markets.

By Executive Order 11182 of October 2, 1964, the President established the Federal Field Committee for Development Planning in Alaska. However, this Committee is devoting only token consideration to the oceanic study and development, and this concentrated in the Southwestern Alaska coastal zone.

In 1959, the President announced a U.S. Policy for scientific uses of the Antarctic Continent and adjacent waters that greatly benefitted exploration and study of the South Polar Continent and waters and their influences on the Southern hemisphere. This policy did not include the North Polar region although its potential importance to the U.S. may be greater than the Antarctic.

In light of these considerations, an Ad-Hoc Committee on the Arctic was established by the Marine Sciences Council on August 2, 1968. It is undertaking a study to be completed by November 15, 1968, on the Nation's stake in the Arctic. In anticipation of their findings, the following proposal could be supported.

Proposal

The President should issue a statement of National Policy on the Arctic along the following line:

"It is in the national interest to strengthen our marine science activities in the Arctic in order to enhance:

- 1) our health and welfare through an understanding of the influence of the Arctic on the global environment;
- 2) our economy by identifying, exploring, and mapping natural resources leading to their development and use;
- 3) our national security posture through a capability to inhabit and operate in the Arctic Ocean environment;
- 4) our international relations with neighbors bordering the Arctic Ocean."

To indicate implementation of the policy, the President would instruct agencies to redirect current research and exploration programs to:

- step up research and observation for long-range prediction of weather and climate effects on U.S.

- plan our international program for peaceful exploration and uses of the Arctic as part of the International Decade of Ocean Exploration.
- aid the economic development of Alaska and the nation.
- study merits of a nuclear propelled ice breaker to be used also as a polar research station.
- identify and describe the oil and mineral deposits on the Arctic continental shelf.
- provide ocean transport systems to recover the natural resources of the Arctic.

Justification

Federally supported research and exploration in the Arctic Ocean and adjacent waters amounts to about \$4.5 M per year. Logistical support adds another \$9.5 M per year. Observations are largely ad hoc, such as from floating ice islands.

A systematic, coordinated and stable program of research and exploration is needed, as are more and more varied platforms for observation. Scientists, engineers, and technicians of the various disciplines need to be encouraged and supported to do Arctic work.

Consequences of Presidential Initiative

By a Presidential enunciation of a U.S. policy and objectives for the Arctic, attention would be drawn to the needs and opportunities, and a higher priority would be given by Federal agencies to conducting programs of science and economic development. Such a pronouncement would engender a stronger feeling of need for work by the Federal agencies and also provide a basis for initiating closer cooperation with our international Arctic neighbors including the USSR. Industry likely would be encouraged to invest more effort in Arctic developments by a Presidential announcement of strong U.S. interest.

DEVELOPING CAPABILITIES FOR OCEAN EXPLORATION AND PREDICTION - NATIONAL DATA BUOY SYSTEM

Problem: Major gains in long-range forecasts of weather, storms, floods, droughts, etc., are constrained by lack of systematic observations from the oceans which are the regulators of weather. Observations are needed also, particularly along U.S. coasts, to generate adequate short range environmental warnings for safety in recreation, sports and commercial fishing, oil operations, marine transport, etc. A national data buoy system is a cost-effective means for acquiring the needed data. With guidance of the Marine Sciences Council, a start was made in FY 69 in terms of establishing goals, creating a U.S. management focus, and extension of international agreements to engage other nations through World Weather Watch, etc.

The original seed capital of \$5 million was deferred by Congress and the program for an oceanwide network of data buoys for ocean and climate forecasting is in jeopardy.

Prior Presidential Actions: The President's Message to the Congress on Conservation in 1968 stated in part:

"Already our marine technology gives us the ability to use the ocean as a new and promising source of information on weather and climate. We can now build and moor electronic buoys in deep water. Unattended, these scientific outposts can transmit to shore data for accurate long-range forecasts.

"The benefits will be incalculable--to farmers, to businessmen, to all travelers.

"This year we can begin development of improved ocean buoys. I urge the Congress to approve my request for \$5 million in the Fiscal 1969 Coast Guard budget for this program."

The President restated his support in his report to the Congress, "Marine Science Affairs," 1968.

Implications and Consequences: The National Data Buoy System will simultaneously meet requirements of many Federal agencies for oceanic data, and will head off duplication by many agencies developing independent systems. It will be coordinated with meteorological measurements as well. Moreover, major benefits to nearly all sectors of U.S. economy and to citizens will result for advances in weather and climate forecasting but are now "data limited."

Proposal for FY 1970: The President could announce (in relation to the Decade and other marine science initiatives) the goal of establishing a network in the North Atlantic, North Pacific and Coastal North America by 1980-- a total of 450 buoys. A start should be made in FY 1970 that compensates for last year's delays.

Reinforcement of the earlier Presidential statement should be a decisive factor in approval of funds by the 91st Congress.

The plan for FY 1970 involves essential further exploratory and advanced development efforts to demonstrate performance of a

pilot network of 35 buoys by FY 1974. These include:

- procurement of 5 test buoy platforms to evaluate the existing state-of-the-art in oceanographic and meteorological sensors;
- engineering of "Mark I" prototype subsystems;
- improved reliability and maintainability of advanced components and materials.

Costs:

Management and Support	\$ 450,000
Advanced Development Test and Evaluation	5,005,000
"Mark I" Development	5,045,000
Exploratory Development	<u>2,300,000</u>
Total	\$12,800,000

10 year cost - \$300-\$400 million

Concept formulation will be completed during FY 1970 for unmanned, automatic National Data Buoy Systems intended for North Atlantic, North Pacific, and Coastal North American regions. Evolutionary development of such systems on an eight-year cycle should lead to implementation of a prototype network of approximately 35 buoys during the latter part of FY 1973 and FY 1974 and implementation of operational systems commencing in FY 1976.

The Coast Guard will also investigate requirements, capabilities, and potential benefits related to four buoy networks: Estuarine and

Great Lakes, Research, Deep Ocean, and Coastal North American networks. These four will constitute National Data Buoy Systems fully responsive to composite national requirements for marine environmental information.

Detailed Justification:

1. National Data Buoy Systems will be the most cost-effective means for meeting a major segment of marine atmospheric and oceanic data requirements of the nation. They will provide data fulfilling a broad spectrum of national operational and research needs. Related benefits which range geographically from the deep oceans to the inland states are extensive and extend to diverse economic, military, scientific, and social activities such as long-range climate (drought predictions), emergency storm warnings, ship routing, current and temperature shifts that affect fish location, and environmental data needed for construction and operational safety in offshore drilling, etc.

2. Existing marine observation systems are incapable of furnishing sufficient data in real time for synoptic analysis and forecasting. This present lack of an adequate data base is the primary barrier to improvements in marine environmental prediction.

October 1, 1968

Dear Mr. Zwick:

Attached to this letter are justifications and estimates of FY 1970 funds in the amount of \$1,375,000 to support the President in the duties assigned in Sections 4, 6, and 7 of the Marine Resources and Engineering Development Act of 1966 (PL 89-454). These estimates are submitted in response to Circular A-11 and have been based upon the experience of the Council during FY 1967, 1968, and 1969.

As specified in the Act, the responsibilities of the President under Sections 4, 6, and 7 have been carried out during the past two years with the advice and assistance of the National Council on Marine Resources and Engineering Development. The Council's present statutory expiration date is June 30, 1969. However, the President's duties in Sections 4, 6, and 7, and the \$1.5 million authorized by Section 9, are permanent elements of the legislation.

The responsibilities assigned to the Council can be carried out in FY 1970 by extending the Council, or, alternatively, by a delegation from the President to one or more other agencies. In any event, funds from some source will be required to conduct the tasks described in the attached justification. Therefore, I recommend that a request for funds in the amount indicated in the attached list be included in the President's budget for FY 1970.

In submitting this budget request, I should like to call to your attention the related issue of whether to extend the life of the Council or assign its advisory responsibilities elsewhere. The legislative history of PL 89-454 indicates Congressional intent to provide the President with an explicit instrument to assist the President to carry out the mandate of Congress with respect to the policy and objectives set forth therein. The President has used the Council extensively during the past two years. A recommendation by him to continue the Council until permanent means of implementation are provided would further demonstrate his ongoing intent to carry out the original objectives of Congress to advance marine science affairs, and would provide an interim planning and coordinating mechanism.

BOB

Had the Commission reported earlier, the Council itself would have had time to formulate a recommendation regarding these responsibilities in the FY 70 planning time frame. However, the Council's ad hoc Committee appointed by the Vice President to consider the Commission report has indicated that continuation of the Council is the most feasible and logical procedure to sustain the momentum of the program pending Congressional action. I understand that the Commission on Marine Science, Engineering and Resources, and interested members of Congress have informally indicated similar views.

The Council mechanism appears to be operating well. Under these circumstances and because a Presidential decision on the budget and Council operation could facilitate continuity of the Marine Sciences Program, I recommend that consideration be given to the Council continuing in its role of assisting the President for the next year or until he and the Congress establish a permanent implementing organization.

The Council Chairman concurs with this proposal.

Sincerely,

Edward Wenk, Jr.

Honorable Charles J. Zwick
Director
Bureau of the Budget
Washington, D. C.

cc: The Vice President

Followup

BOB
Memo

MR. GAITHER

UNITED STATES GOVERNMENT

Executive Office of the President
Bureau of the Budget*Memorandum*

TO : The Director

DATE: November 14, 1968

FROM : Economics, Science and Technology Division
(Glenn R. Schleede) *Glenn R. Schleede*

SUBJECT: Marine Science "Initiatives"

In response to a request from Mr. Califano, Dr. Wenk has proposed eight "initiatives" for the President's 1970 program. In addition, Mr. Nimetz has sent to the Bureau for comment a memorandum to the President on actions to strengthen the U.S. fishing industry, prepared by Mr. Ernest Goldstein. The recommendations are summarized in the pages that follow--along with Bureau staff comments.

As described below, more marine science "initiatives" for FY 1970 will be considered for endorsement by the Marine Council at its November 26th meeting - but most of these duplicate the "initiatives" in Wenk's proposals to Califano.

Dr. Wenk is anxious to meet with you to appeal items that he considers critical which have not been included in agency budgets or which are deleted in the review process. We think you should meet with him but not until the list is narrowed. We will continue working with Wenk and his staff to do this--keeping in mind the new schedule for submission of agency budgets to the President.

In summary, two of Dr. Wenk's proposals to the White House would require legislation, two others would involve a Presidential declaration or executive order, and five of the eight would involve additional funds in the FY 70 budget--totaling approximately \$50M.

1. International Decade of Ocean Exploration - \$13M
2. Accelerated FPC development (ECF) - 7M
3. Sea grant program (NSF) - 7M
4. Improving U.S. fisheries (PCF) - 10M
5. Develop ocean data buoys (Coast Guard) - 13M

Some of the proposed increases have not been included in agency budget requests; others have--but often within totals in excess of planning figures. It now appears that some increase will be granted during the regular review of the FY 70 agency budgets for above items (except number 2) but substantially less than Wenk considers necessary.

We doubt that the proposals are sufficient to warrant a Presidential statement on marine sciences but the occasion of the Marine Commission report--which is due to the President and the Congress by January 9, 1969--might be an opportunity for a statement, if desired.

The Commission report will make significant organizational and program recommendations. Most program recommendations are long-range; though the report will endorse some proposals--such as the RDT&E effort on ocean data buoys--that will likely be provided for in the FY 70 budget. Thus, it does not appear likely that the Commission report will be the cause for major new proposals for the FY 70 budget.

Additional Initiatives

At its November 26th meeting, the Marine Council will consider endorsement of numerous initiatives for FY 70--including all but one (legal regime for the ocean floor) of those proposed to Mr. Califano by Dr. Wenk. The additional initiatives involve more proposals for the coastal zone, reducing damage from oil spills, port and harbor development, support of academic research, a national oceanographic instrumentation center, and the National Oceanographic Data Center. Information available thus far indicates that some of these will present budgetary and legislative problems. We will provide more information later.

Attachment

cc: Mr. Hughes
Mr. Lewis
Mr. Cohn
Mr. Rommel (2) ✓
Mr. Carey
Mr. Young
Mr. Schwartz
Mr. Veatch
Mr. Clark

1. Start the International Decade of Ocean Exploration in 1970. The "Decade" was proposed by President Johnson on March 8, 1968 when he instructed the Secretary of State to explore with other nations their interest in participating in a decade of ocean exploration. Dr. Wenk recommends a Presidential announcement of next U.S. steps and \$13M in FY 70 funding increases in 6 agencies.

- The announcement would include:

- accelerated mapping of U.S. shelf;
- full utilization of government owned ships and industrially owned submarines for research and exploration;
- a voluntary contribution to International Oceanographic Commission (IOC) for international decade planning;
- assisting developing nations in exploration and data collection.

- FY 1970 funding increases would include:

- \$100K voluntary contribution by State to UNESCO for IOC.
- \$3M for Navy to lease research submarines for Government-wide uses.
- \$3M for Commerce (ESSA) for additional research and survey ship equipment, automatic data processing, and operating funds.
- \$3M for Interior (BCF) for mapping of fish resources and gear development.
- \$2M for Interior (GS) for geological mapping of continental shelf.
- \$2M for NSF for research ship operating funds.

Bureau Staff Comments

Relatively slow implementation of decade proposal should be expected because of (a) need to involve other nations in planning and contribution of resources, (b) need for U.S. program development and justification, and (c) the current fiscal situation.

Other maritime nations have shown interest in the decade proposal but have not committed resources. Developing nations have evidenced some suspicion of foreign interest in their continental shelf areas. Also, they have shown reluctance to participate in a cooperative effort unless U.S. aid is promised. Ocean exploration presents unlimited possibilities for commitment of resources--thus calling for careful planning of U.S. activities and commitments and assessment of benefits.

Activities already underway in ocean exploration (in excess of \$100M annually) represent sizable U.S. commitment. Sharing of ocean data is already under discussion. Combined with the limited increases that can be accommodated in the FY 70 budget for improving mapping and charting capability, these commitments represent a creditable U.S. contribution to the start of a "decade." Beyond this, Bureau staff recommend that U.S. activities for FY 70 be limited to planning by various agencies for additional U.S. activities, and possibly a voluntary contribution to IOC.

On specific proposals:

- Recommend against any policy of keeping all available research and survey ships in operation; decommissioning of some of the older, less efficient, and costly ships would be desirable, even in the absence of fiscal restraints.
- Industrially-owned research submarines appears to be a case of over-investment; the capabilities of many of those available are not suited to Federal requirements. A "full utilization" policy would be unwise.
- Neither State nor AID has requested the proposed \$100K for a voluntary contribution for IOC. We would have no objection to such a contribution but we believe only AID has the authority to make it.
- The \$3M proposed for ESSA was not all included in the Commerce budget request. Funds for improved ship and data processing equipment probably can be accommodated.
- Interior has requested funds for fish mapping (BCF), and geological mapping (GS)--but as "overceiling" items. Interior does not consider these high priority and only minimal increases, if any, are likely to be possible in FY 70.
- Some additional ship operating funds have been requested by NSF but not the \$2M proposed by Dr. Wenk. NSF's request is in a budget total that is more than 50% above planning figures and must compete with other NSF programs.

2. Submit Presidential proposals on law of the sea to the U.N. The Secretary of State's Committee on International Policy in the Marine Environment is attempting to develop by December 1, 1968, a government-wide position on the boundary of the Continental Shelf and the seabed regime. Pending development of an agreed upon position, Dr. Wenk proposed that the President submit proposals to the current session of the U.N. to:

- urge restraint among nations not to extend claims of sovereignty over the seabed seaward, and to continue to separate limits of territorial seas, fishing zones, and seabed.
- accelerate efforts to reach international agreement on the seaward boundary of the Continental Shelf.
- suggest establishment of an international registry to record mineral claims beyond depths of 200 meters.
- insure that losses to private U.S. companies resulting from a Seabed treaty will be adequately protected by Government guarantees where investment was made prior to agreement on a regime. [Presumably this would be a U.S., rather than U.N., action.]
- extend the life of the U.N. ad hoc Committee to deal with seabed matters.
- limit arms race by having ENDC proceed with negotiations on banning emplacement of nuclear weapons on seabed.

Staff Comments

The recommendations are interim proposals only and could be prejudicial. We, therefore, recommend against action at this time. No immediate budget issues are involved.

This proposal should be checked with the Departments of State, Interior and Defense before action is taken. We understand that Interior would oppose the idea of an international registry.

Because of new knowledge gained in the past year, it may be the time for a complete review to determine our national interest in defining seaward boundaries (e.g., Prudhoe Bay oil strike which affects our concepts of resources available; and oil strike in 11,000 foot of water in the Gulf of Mexico which revises our geological theories.)

In connection with the banning of nuclear weapons emplacements on the seabed, we understand from Defense that technology is not near at hand for a workable and verifiable surveillance system and that costs of such a system may be prohibitive.

3. Revitalize the lagging Fish Protein Concentrate (FPC) Program. Dr. Wenk proposes Presidential actions involving:

- establishing a special project office as a part of the Marine Council (as an interim measure) to "manage the [FPC] program across agency lines" and with funding and personnel independent of programs in AID and BCF.
- announcing goals to develop FPC capacity to meet needs of 200 million people by 1980;
- accelerating development of additional processes for FPC extraction;
- stepping up efforts to gain overseas market acceptance by advancing first demonstration project abroad (Chile) to 1970 and initiating programs in Central Africa and Asia;
- coordinating with food programs of other countries and international organizations;
- urging FDA to (a) permit use of FPC as an additive, and (b) permit sale in bulk quantities;
- commissioning an itinerant FPC laboratory and demonstration ship;
- convening an international conference.

Funding proposals would involve:

- \$4M supplemental in FY 69 for AID (demonstration projects)
- \$7M increase (total of \$10M) in FY 70 - not specified as to agency or purpose
- \$10M in FY 71 for an itinerant FPC laboratory and demonstration ship

Staff Comments

Staff would recommend against establishing a FPC special project office in the Marine Council (or any other program management function at the Executive Office level).

Interior has improved the administrative management of its FPC programs, but more time will be needed to see whether technological problems can be overcome and the FPC process made economical.

We would recommend against establishing a goal for FPC feeding because of (a) problems remaining in producing low-cost FPC and marketing it, and (b) possibility that non-fish protein concentrates will be more advantageous.

We also believe that there should be evidence that one FPC process is competitive or useful before considering a commitment for others.

The proposal to advance the data for a demonstration project overseas to 1970 (presumably Chile) is unrealistic given the current state of development efforts. AID has not requested funds (\$4M FY 69 supplemental) and, we understand, has no plans for doing so.

We understand that FDA is willing to consider petitions for removal of restrictions on use of FPC as an additive and on packaging; and that discussions are proceeding among staff of FDA, BCF, Marine Council and industrial interests. At least until normal appeal procedures are exhausted, we would recommend against Presidential urging of FDA.

Consideration of an itinerant FPC laboratory ship is clearly premature until an on-land technology is developed.

We understand the proposed additional FY 70 funds (\$7 or \$10M) have not been included in any agency's budget.

We would, of course, favor closer coordination of plans for FPC with other food programs and the consideration of trade-offs among various protein programs for commitment of Federal resources.

4. Coastal Zone. Dr. Wenk suggests that the President (a) make a statement calling attention to the problems of the coastal zone and (b) propose legislation to promote the orderly and rational economical development of the coastal zone through:

- grant assistance to States to manage the coastal zone by establishing state operated "Coastal Zone Planning and Management Authorities,"
- provide funds for environmental research and dissemination of scientific and demographic data on coastal zone problems as a foundation of land management decisions;
- land acquisition through the Bureau of Outdoor Recreation to provide new recreation opportunities in estuaries and on the coasts;
- Federal development of criteria for allocating uses to maximize benefits and minimize conflicts.

No funds would be involved in FY 1970, but the Council staff estimates \$12.3 for 1971, \$29.5 for FY 1972 and \$44.5 for FY 1973.

Bureau Staff comments

The proposal by Dr. Wenk is nearly identical to one that will be made by the Marine Commission in its forthcoming report (January 9, 1969). Assuming the proposal was sound in all respects, disclosure prior to the Commission report would appear inappropriate. We question, however, whether only legislation should be proposed in the near future.

Efforts are underway which should give a sound basis for decisions on the coastal zone. The FWPCA estuary study--due in November 1969--will contain the first detailed inventory of estuaries and make recommendations for management. Considerably more study and analysis has been possible in the FWPCA study than either the Commission or Council staff has been able to do. It includes 33 public hearings around the country, study contracts, etc. The study authorized by H.R. 25 should round out the picture. Recognizing the above, action now on coastal zone problems would appear premature--with possible exception of a proposed Executive Order dealing with disposition of Federal lands in coastal zone areas that is now being considered in Interior.

Recognition of the importance of State roles is a significant improvement over earlier Council staff proposals. However, on specific recommendations,

- the proposal for coastal planning and management authorities does not adequately take into account the responsibilities that States already have for natural resources and the agencies, commissions and boards that already exist in States. New State agencies may not be needed. There may not be any need for additional coastal zone planning funds, recognizing those potentially available from EDA, HUD, FWPCA, etc. While a more rational approach may be possible, it is not clear that the Commission Council staff

proposals would help rather than hinder solutions. Hopefully, the FWPCA study will go a long way in providing the needed information and analysis.

- We are not clear as to what additional research is being proposed. As far as data are concerned, a considerable amount is being collected under the FWPCA study.
- At the present levels of funding of Federal grants for recreation lands (and even at higher levels) it is doubtful that priorities should be shifted to coastal areas if that would detract from the higher priority goal of meeting the recreation needs of major metropolitan centers.
- Efforts to develop criteria "to maximize benefits and minimize conflicts" have been underway in a Marine Council committee but without success. Since local land management, planning and zoning are involved, "criteria" may not have significant impact, if developed.

5. Sea Grant Program. Dr. Wenk proposes strengthening the "politically popular sea grant program by:

- increasing FY 1970 funding to \$13M
- setting forth long-range goals such as:
 - a sea grant college in every coastal and Great Lakes State or region
 - double production rate of ocean-related manpower by 1980
 - establish extension services to aid coastal economies
 - providing indigenous advisory services to aid states in providing rational basis for eliminating conflicts in use of coastal zone.

Staff Comments.

\$6M for sea grant was included in the President's FY 1969 budget request for NSF, but the NSF total of \$500M was reduced by the Congress to \$400M.

NSF has requested \$15M for sea grant for FY 1970, but this is in a budget total that is more than 50 percent above planning figures. (\$6M is within the planning figures). Funds for sea grant must be considered in context of total NSF program. It appears unlikely that funding in excess of \$6M would be possible in FY 1970.

While the sea grant program is popular with some congressmen, there has been no evidence in NSF appropriations committees of any desire to give sea grants preferential treatment.

Establishing long-range goals for the sea grant program is extremely difficult without better information than is now available on the long range direction and needs of Federal, State and local programs related to marine sciences. Perhaps review, evaluation and proposed action following the Commission report will provide guidance need for improved long-range planning for the sea grant program.

We know of no basis for establishing goals of doubling production of ocean-related manpower by 1980 or establishing sea grant colleges in every coastal or Great Lakes state or region. Extension and advisory services may have some merit and would, we understand, be considered by NSF if included in proposals.

6. Improving U.S. Fisheries. Dr. Wenk suggests goals of (a) doubling the catch by 1980, and (b) developing a competitive sea food industry, and proposes:

- legislation amending the Fish and Wildlife Act of 1956 and other relevant statutes to:
 - provide a uniform Federal backdrop for conservation that would eliminate unnecessary restrictions and inconsistencies and foster selected revisions of state and local laws;
 - revise the fishing vessel subsidy programs that now gives subsidy aid to the shipbuilder but inadvertently penalizes fishermen, to provide competitive ships and equipment;
 - provide direct incentives to U.S. fish processors to use fish caught by U.S. flag fishermen so as to accelerate vertical integration of the industry.
- reorient the research mandate of the Bureau of Commerical Fisheries (BCF) so as to:
 - minimize emphasis on marketing and increase attention to estuarine ecology, aquaculture, the technology of extracting concentrated proteins, expanded knowledge of fish populations on the continental shelf and especially fish catching equipment.
 - improve the Federal program of statistics, data processing and information dissemination to the fisherman through extension programs.
- providing increased funding of \$10M over FY 69 levels of \$41M.

Mr. Goldstein suggests a special message outlining his proposals or including them in the Economic Report. His proposals include:

- development of Federal standards for conservation of fisheries and study of the feasibility of Federal control of all ocean fisheries.
- repeal of the "Buy America" requirement on fishing vessels.
- tax incentives to encourage retirement of obsolete vessels and limitations on entry of new vessels in fisheries to promote greater economic return for efficient fishermen.
- mandatory quality inspection program for fresh fishery products.
- Federal assistance to promote increased production of under-utilized resources of the U.S. continental shelf, through:
 - increased research and exploration of groundfish resources,
 - increased assistance to fishermen in forecasting, locating and harvesting available stocks,
 - stimulation of construction of modern vessels through tax incentives, low cost financing, broader and cheaper mortgage insurance programs, and encouragement of cooperatives
- increased Federal support of aquaculture and support for removal of legal and economic obstacles to the farming of coastal waters.
- strengthened Federal leadership toward production and use of FPC.

- strengthen cooperative efforts with other nations in conservation of fishery resources of mutual interest and in removing impediments to maximum production of food from the sea.
- additional facilities for training fishermen.

Staff Comments

There does not appear to be much basis in either set of proposals for a special message or legislative proposals at this time. Legislative authority already available provides considerable latitude. On the two possible legislative proposals:

- Buy American - Mr. Goldstein's proposal for repeal of the requirement on fishing vessels has been attempted but found politically infeasible. Dr. Wenk proposes, but does not describe, a revision of the fishing vessel subsidy program. Possibly this would require legislation.
- Incentives for use of U.S.-caught fish. The proposal for "direct incentives" to U.S. fish processors to use fish caught by U.S. flag fishermen appears to raise again the problems of a fish subsidy program. Inclusion of fish for purchase under P.L. 480 was considered a few years ago and opposed.

The proposals, in total, would make major changes in both the direction and level of most of the existing commercial fisheries programs of Interior. They certainly imply a major doubt as to the wisdom of the content and direction of Interior's fisheries programs--as it now exists.

The proposals could better be considered if developed more fully and analyzed alongside existing programs. This would normally be done as a part of a Program Memorandum presentation and would of course take some time.

FY 70 Funding

Interior has proposed increases in FY 70 for programs similar to some of those recommended by Dr. Wenk and Mr. Goldstein. In most cases, increases were included as "overceiling" items. Proposed increases are being reviewed in the context of Interior's budget but there appears to be little room for increases.

7. Arctic Policy. Dr. Wenk proposes that the President (a) proclaim an Arctic policy calling for exploration and development and (b) instruct agencies to redirect current research and exploration to:

- aid the economic development of Alaska;
- step up research and observation for prediction of U.S. weather and long term climate prediction;
- begin geological studies of oil and mineral deposits on the Arctic continental shelf;
- study icebreaking and transport to and from Prudhoe Bay;
- survey implications of the Arctic for National security;
- plan an international program for peaceful exploration and uses of the Arctic as part of the International Decade of Ocean Exploration;
- examine merits of a nuclear-powered ice-breaker to serve collaterally as a polar research station.

The Council staff proposes no funding increases in FY 70 above the FY 69 base of \$14.0M (largely research and support activities).

Staff Comments

We would have no objection to the development and issuance of a statement of policy with respect to the Arctic, but any such policy should be directed to total U.S. interest and not limited to interests in the Arctic Ocean. An inter-agency group led by NSF is now developing a paper dealing with total U.S. interests which will be reviewed later this month by an ad hoc interagency Committee instigated by the Marine Council and chaired by Mr. Charles Johnson of the National Security Council staff. While the Marine Council stimulus was useful, broader consideration of the Arctic (including Arctic Alaska) -- going far beyond the mandate of the Marine Council -- is appropriate.

On some of the specifics of Dr. Wenk's proposal,

- it seems inappropriate to give higher priority to geological studies of the continental shelf than to on shore efforts -- though there is merit in moving offshore in the near future.
- studies of Arctic transportation needs should cover all alternative systems rather than just icebreaking and ocean transport systems; in fact such broader studies are underway in DOT.
- the merits of nuclear-powered icebreakers were studied a few years ago by the Coast Guard and the idea was rejected--apparently because of large cost differentials compared to conventional power. Also, there are alternatives for arctic research stations (e.g., barge type research platforms) that appear much more economical than a nuclear-powered icebreaker.

Some additional funding for Arctic research may be possible in the NSF FY 70 budget.

8. Expand capabilities for exploration and weather/climate prediction by a national data buoy system. The proposal for FY 70 is:

- establishing a goal of a Northern Hemisphere (North Atlantic, North Pacific and Coastal North American) buoy network by 1980.
- begin development in FY 70 of pilot network that was deferred by budget cuts.

Budget proposal is \$12.8M in FY 70 for the Coast Guard.

Staff Comments

\$5M was requested in the President's FY 69 budget for the Coast Guard to begin an ocean data buoy RDT&E effort--directed toward a possible 35-buoy pilot network. Congress deleted the \$5M but Coast Guard reprogrammed funds so that studies and planning could continue at level of \$580K.

DOT has requested \$12.8M for the RDT&E effort in FY 70 but this is in a budget total that exceeds planning figures.

Bureau staff favor going ahead with RDT&E in FY 70--without any commitment to an operational system. The request is being considered in the context of the DOT budget -- recognizing that both the RDT&E and the proposed system is intended to serve needs of many agencies -- including Navy.

We recommend against establishing a date for an operational network (e.g., 1980). Instead, what is needed is a smoothly paced effort that:

- meets critical needs of all agencies
- can be considered, along with other platforms (such as ships, satellites, etc.) in a total marine environmental observation system.
- does not proceed ahead of hard data needs or capabilities to transmit, store, manipulate and use the data for operational and scientific purposes.

9. Extension of and FY 70 funding for the Marine Council. Dr. Wenk has also forwarded to Mr. Califano a copy of his letter to you which recommended legislation to extend the Council beyond its June 30, 1969 statutory termination date and fund it at the level of \$1,375K in FY 70.

Bureau staff agree that some kind of interim coordinating mechanism is appropriate after June 30, 1969 though it need not be the Council as now constituted and staffed. Bureau staff position is that decision on extension of the Council should be reserved for the new administration--with funds provided for in the "allowance for contingencies". \$750K is considered sufficient considering past funding for the Council (maximum of \$1,125K), the completion of funding during FY 69 for contract studies that were underway, and the absence of any critical need for large new contract studies.

**Pricing of Proposals by Staff of National Council on
Marine Resources and Engineering Development
(Fiscal years; in millions of dollars)**

Descriptive title of legislative or budget proposal	Adminis- tering agency	Action required*	1969 Base BA	Proposed Task Force add-on over 1969 base	
				1970	1972
				BA	BA
1. International Decade of Ocean Exploration	<u>1/</u>	C	-	13.0 ^{6/}	50.0 ^{6/}
2. A Legal Regime for the Ocean Floor	State	<u>2/</u>	-	-	-
3. Accelerate FPC Development	AID, BCF MSC	C	7.0 ^{9/}	7.0 ^{3/}	15.0
4. Coastal Zone Use	<u>4/</u>	A	-	-	29.5
5. Sea Grant Program	NSF	C	6.0	7.0	13.0
6. Improving U. S. Fisheries	Interior (BCF)	A&C	41.1	10.0	20.0
7. Proclaim Arctic Policy	<u>5/</u>	<u>5/</u>	14.0	<u>7/</u>	5.0
8. Developing Capabilities for Ocean Exploration and Prediction	DOT (USCG)	C	-	12.8	12.8 ^{8/}

*Specify whether required action is (A) new legislation, (B) action which simply extends the program or increases the dollar authorization, or (C) budget increase without any legislative changes.

1/ Planning under MSC Staff at the present time; operations to be conducted by ESSA, BCF, G.S., NSF, State & Navy.

2/ Presidential declaration

3/ An FPC Demonstration Ship could be funded in FY 70 but FY 71 funding is more likely in view of the lead time.

4/ Legislation will have to specify administering agency.

5/ Executive Order; several agencies involved.

6/ Assumes continuation of the current base of related, ongoing programs.

7/ Increases may result from reprogramming from Antarctic.

8/ Assumes level funding. The program will increase in FY 73 & 74 if the decision is made to go to an operational system.

9/ Includes a proposed FY 69 supplemental of \$4M

10/29/68