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Benefits Derived from the Outer Continental Shelf Environmental Studies Program Are Questionable. CED-78-93; B-118678. June 1, 1978. 23 pp. + appendix (2 pp.).

Report to Secretary, Department of Commerce; Secretary, Department of the Interior; by Henry Eschwege, Director, Community and Economic Development Div.

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Authority: Outer Continental Shelf Lands Act of 1953 (43 U.S.C. 1331).

The Outer Continental Shelf (OCS) environmental studies program was established in 1974 to provide information about the OCS environment which would give Federal agencies a basis for making decisions on resource development, predicting the impacts of OCS development, and modifying leasing stipulations and regulations for OCS development. Findings/Conclusions: The program has been costly, exceeding \$200 million since its inception, and it may have little effect in minimizing environmental damage during exploration, development, and production in the OCS. There is little agreement among Federal and State agencies on how the studies can best be used in decisionmaking and what information is needed to assess the environmental impact of OCS development. Research on effects of pollutants is widely dispersed among Federal agencies and is not coordinated with overall marine research needs. State agencies are concerned about the lack of data describing coastal and nearshore environments on which to base lease decisions. Uncertainties about information management are exemplified in the Alaska studies program, the largest of the programs. The Bureau of Land Management (BLM) has not provided adequate program guidance to the National Oceanic and Atmospheric Administration (NOAA) to develop the necessary information, and NOAA has not used its resources to develop environmental information effectively. Recommendations: The Secretary of the Interior should: reassess the program for how the studies can best be used in the OCS development decisionmaking process and what information is needed to assess the impact of development; in cooperation with Federal and State agencies, develop

coordinated plans that identify OCS environmental information needs and focus relevant marine research activities on these needs; and require the Director, BLM, to define specific Alaska program goals, priorities, and research needs, and improve program guidance to NOAA. The Secretary of Commerce should direct the Administrator of NOAA, in line with BLM guidance, to improve the operational design, implementation, and control of the Alaska program, with greater emphasis on: long-range research planning, an interdisciplinary approach, integration of research results with Department of the Interior decision points, use of outside expertise, procedures to assure consideration of previous research, and consideration of users' needs. (HTW)

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REPORT BY THE U.S.

# General Accounting Office

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## Benefits Derived From The Outer Continental Shelf Environmental Studies Program Are Questionable

This report to the Secretaries of Commerce and Interior addresses the overall Outer Continental Shelf environmental studies program; and the Alaska studies program, the largest program of the group, which receives about 45 percent of total program funding.

The Outer Continental Shelf environmental studies program is costly and may do little toward minimizing environmental damage during oil and gas exploration, development, and production in the Outer Continental Shelf. Uncertainties about program effectiveness are exemplified in the Alaska studies program.

GAO believes that the Outer Continental Shelf environmental studies program needs to be reassessed for how it can best be used in the decisionmaking process, what information is needed, and the type of plans that are necessary. This report includes recommendations to the Secretaries of the Interior and Commerce.





UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC  
DEVELOPMENT DIVISION

B-118678

To the Secretary of Commerce  
and the Secretary of the Interior

This report discusses the Department of the Interior's Outer Continental Shelf environmental studies program and the National Oceanic and Atmospheric Administration's management of such studies in Alaska.

The report contains recommendations to you on pages 12 and 23. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, House Committee on Government Operations, House Committee on Interior and Insular Affairs, Senate Committee on Governmental Affairs, House and Senate Committees on Appropriations, and Senate Committee on Environment and Public Works; the Secretary, Department of Commerce; the Administrator, National Oceanic and Atmospheric Administration; and the Director, Bureau of Land Management.

A handwritten signature in cursive script that reads "Henry Eschwege".

Henry Eschwege  
Director

D I G E S T

The Outer Continental Shelf environmental studies program is costly--exceeding \$200 million since its inception--and may accomplish little in minimizing environmental damage during oil and gas exploration, development, and production in the Outer Continental Shelf. There is little agreement among Federal and State agencies on (1) how the environmental studies can best be used in the decisionmaking process affecting development of the Outer Continental Shelf and (2) what information is needed to assess the environmental impact of oil and gas development in the Outer Continental Shelf. These problems are compounded by the absence of coordinated Government-wide plans that adequately define the information needs of Outer Continental Shelf managers and give direction and an approach to obtaining such information. The Outer Continental Shelf environmental studies program should be reassessed for how the studies can best be used in the decisionmaking process, what information is needed, and what plans are necessary. (See p. 6.)

Various Federal and State agencies have questioned how environmental studies are used in Outer Continental Shelf lease decisions because it is often not clear how environmental information affects such decisions. Although the Secretary of the Interior, in response to environmental concerns of specific lease sales, has made general pronouncements on the use of such information, the relationship of the overall environmental studies program to the Outer Continental Shelf decisionmaking process is not clear. Bureau of Land Management officials stated that the environmental studies could be used in various ways. They said that there are various opinions about how the studies should be used, but there are uncertainties about how they are used. (See p. 6.)

Federal and State officials affected by Outer Continental Shelf decisions also do not agree on the information that is needed to assess the environmental impact of development decisions. For example, although there is a lack of definitive information on the effects of pollutants in the marine environment, the Bureau of Land Management has emphasized studies that characterize the predevelopment environment--limited effort is given to effects studies. The approach has been criticized by the National Academy of Sciences, the U.S. Fish and Wildlife Service, the Environmental Protection Agency, and several States as inadequate for assessing the impacts of Outer Continental Shelf development. Although a number of Federal agencies (in addition to the Bureau of Land Management) are conducting effects research, such research is widely dispersed and not coordinated with overall Federal marine research needs. (See p. 8.)

A particular concern of State agencies is the lack of data describing coastal and nearshore environments on which to base lease decisions. A controversy also continues between the Federal agencies and the States about which should have primary responsibility for conducting the nearshore studies.

The uncertainties about the information needed and approach to obtain such information are exemplified in the Alaska Outer Continental Shelf environmental studies program. The Alaska program receives almost \$76 million (about 45 percent of the Bureau's funding) for Outer Continental Shelf environmental information and is the largest program managed by a single entity. This program is managed by and received an additional \$30 million from the National Oceanic and Atmospheric Administration. The Bureau retains overall program responsibility while the National Oceanic and Atmospheric Administration has program design and operational responsibility. GAO found that the Bureau has not provided adequate program guidance to assure that the National Oceanic and Atmospheric Administration is developing the environmental information needed for Outer Continental

Shelf-related management decisions. (See p. 13.)

Even though the Bureau of Land Management has not provided adequate program guidance, the National Oceanic and Atmospheric Administration has not used the available time and resources to most effectively develop environmental information.

GAO recommends that:

- The Secretary of the Interior reassess the environmental studies program for (1) how the studies can best be used in the Outer Continental Shelf oil and gas development decisionmaking process and (2) what information is needed to assess the impact of Outer Continental Shelf oil and gas development.
- The Secretary of the Interior, in cooperation with Federal and State agencies responsible for Outer Continental Shelf activities, develop coordinated plans that identify Outer Continental Shelf environmental information needs and focus all relevant marine research activities on these needs. (See p. 12.)
- The Secretary of the Interior require the Director, Bureau of Land Management, to define specific Alaska program goals, priorities, and research needs, and to improve program guidance to the National Oceanic and Atmospheric Administration to assure that the Alaska program is developing adequate environmental information needed for Outer Continental Shelf decisions.
- The Secretary of Commerce direct the Administrator of the National Oceanic and Atmospheric Administration, in line with Bureau guidance, to improve the operational design, implementation, and control of the Alaska program to better meet Bureau needs. Specifically, the Administrator should be directed to place greater emphasis on
  - developing dynamic long-range research planning efforts;

- pursuing an interdisciplinary approach to research efforts;
- assuring that individual research results are adequately integrated and geared to Interior decision points;
- soliciting and using available outside expertise in planning its research program;
- establishing specific formal procedures to assure that previous research efforts are carefully considered before authorizing new research; and
- considering users' needs in addition to the Bureau and, where possible, incorporating such needs in research planning. (See p. 23.)



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### ABBREVIATIONS

BLM	Bureau of Land Management
EPA	Environmental Protection Agency
GAO	General Accounting Office
NOAA	National Oceanic and Atmospheric Administration
OCS	Outer Continental Shelf

## CHAPTER 1

### INTRODUCTION

The Outer Continental Shelf (OCS) is a major area of potential oil and gas resources--one-third of all remaining U.S. oil and gas resources are estimated to be in the OCS. Consequently, considerable reliance has been placed on the OCS leasing program to meet energy needs.

The Outer Continental Shelf Lands Act of 1953 (43 U.S.C. 1331) established Federal jurisdiction over submerged OCS lands seaward of State boundaries. The act charged the Department of the Interior with the responsibility for administering OCS mineral exploration and development. The Department of the Interior adopted three overall management goals to do this:

- (1) Receipt of fair market value for minerals leased.
- (2) Orderly development of resources.
- (3) Protection of the environment.

Energy self sufficiency was first emphasized by the President in his April 1973 message to the Congress; he directed an expansion of the OCS lease program to triple the annual acres leased to 3 million. In January 1974, following the Arab oil embargo, the President ordered the Secretary of the Interior to increase annual leasing goals to 10 million acres, and to determine the amount to be leased in subsequent years by market needs and industry's record in exploring and developing leases. With the exception of the Mississippi-Alabama-Florida sale in 1973 and the problems resulting from the Santa Barbara oil spill, Interior had not dealt with States and private groups that were concerned with the implications of OCS development, and it had not attempted to lease in areas where well-defined resource conflicts existed.

To protect the environment and respond to the environmental concerns of Federal and State agencies and private interests, Interior, through its Bureau of Land Management (BLM), established the OCS environmental studies program in 1974 to study the environmental impact of OCS development. According to BLM the program's broad objectives are to:

- (1) Provide information about the OCS environment to enable Interior to make sound management decisions on development of OCS mineral resources.

- (2) Acquire information to enable BLM to answer questions about the impact of oil and gas exploration and development in the marine environment.
- (3) Establish a basis for predicting the impact of OCS oil and gas activities in areas not previously developed.
- (4) Acquire impact data that could cause the modification of leasing stipulations and regulations for OCS development, to permit efficient resources recovery along with environmental protection.

### STRUCTURE OF OCS ENVIRONMENTAL STUDIES

The OCS environmental studies program is designed to identify unique environments and to develop a data base of predevelopment OCS conditions that can be used to detect changes in the environment during oil and gas exploration, development, and production. The program includes three categories of research--baseline, monitoring, and special studies.

Baseline studies consist of integrated multidisciplinary investigations designed to characterize predevelopment OCS environmental conditions. Benchmark and descriptive data is provided that can be used in the development of OCS environmental impact statements and provide a basis for detecting changes in the environment during OCS development.

Monitoring investigations supplement initial baseline studies by continuing the same types of sampling and environmental assessments during oil and gas exploration, development, and production. Both benchmark and descriptive data are collected for comparison with data from baseline studies.

Special studies are to address specific areas. Special studies include effects studies--which are to determine the effects of particular pollutants on specific marine environments. Effects studies include studies dealing with both acute and chronic toxicities of petroleum-related pollutants on organisms possibly affected by such pollutants.

### OCS ENVIRONMENTAL STUDIES EFFORTS

Since program inception through fiscal year 1978, BLM has spent about \$167.8 million for environmental studies. Currently, BLM has OCS environmental study efforts underway in these areas: Western Gulf, Central and Eastern Gulf, South Atlantic, Mid-Atlantic, North Atlantic, Southern California, and Alaska. (See app. I.)

Alaska is the most environmentally sensitive and hazardous OCS area. The National Oceanic and Atmospheric Administration (NOAA), following a request from BLM, initiated in May 1974 a program of environmental studies in the Northeast Gulf of Alaska. While BLM maintains overall program responsibilities, NOAA responsibilities include designing the program and the conduct of daily operations. The studies began in July 1974; in October 1974 BLM expanded its studies effort to include these additional Alaska OCS areas:

- Gulf of Alaska, Kodiak Island;
- Gulf of Alaska, Aleutian Shelf;
- St. George Basin, Bering Sea;
- Outer Bristol Basin, Bering Sea; and
- Beaufort Sea.

In October 1975 the Norton Basin, Bering Sea and the Hope Basin, Chukchi Sea were added, and in February 1976 the Lower Cook Inlet was also included.

In total, BLM designated nine potential lease areas for study in Alaska, although the Aleutian Shelf, St. George Basin, Outer Bristol Basin, and Chukchi Sea areas are not included in the most current leasing schedule that shows planned leases through 1981; all nine areas will eventually be included as lease sales. BLM has devoted about 45 percent of its funding to the Alaska studies effort.

In May 1974 NOAA established an OCS Environmental Assessment Program Office in Boulder, Colorado, to design and manage the program. That office, in turn, established project offices at Juneau and Fairbanks (Alaska).

Since program inception through fiscal year 1978, BLM has provided \$75.8 million to NOAA to conduct Alaskan environmental studies. In addition, NOAA has furnished ship services worth an estimated \$30 million.

Funding of the Alaska Program (in millions)

<u>Fiscal year</u>	<u>BLM funds</u>	<u>NOAA funds</u>	<u>Total funds</u>
1974	\$ -	\$ -	\$ -
1975	7.7	a/11.6	19.3
1976 (note b)	27.9	7.4	35.3

1977	21.1	5.2	26.3
1978	<u>19.1</u>	<u>5.8</u>	<u>24.9</u>
Total	<u>75.8</u>	<u>30.0</u>	<u>105.8</u>

a/Includes \$4.4 million from a special energy appropriation to refurbish NOAA ships for use in the Alaska program.

b/Includes the fiscal year transition quarter 7/1/76 through 9/30/76.

Only two Alaska OCS lease sales have taken place through January 31, 1978, but several more are planned within the next few years.

### SCOPE OF REVIEW

Our review addressed two areas of concern: the overall OCS environmental studies program (see Ch. 2) and the Alaska OCS environmental studies program (see Ch. 3).

We interviewed BLM and NOAA officials in the Washington, D.C., area about both the overall and the Alaska OCS environmental studies programs and examined pertinent program documents.

We reviewed the activities of NOAA offices in Boulder, Colorado; Juneau, Alaska; and Fairbanks, Alaska; and the BLM OCS office in Anchorage, Alaska, for its action on the Alaska OCS environmental studies program.

We also interviewed representatives of government and private organizations concerned with or responsible for environmental protection of marine resources including the:

- National Marine Fisheries Service, Department of Commerce;
- U.S. Coast Guard, Department of Transportation;
- U.S. Geological Survey, Department of the Interior;
- U.S. Fish and Wildlife Service, Department of the Interior;
- Environmental Protection Agency;
- National Science Foundation;
- National Academy of Sciences;

--State of Alaska; and

--American Petroleum Institute.

Our review covered the period from program inception in fiscal year 1974 through fiscal year 1977.

## CHAPTER 2

### OCS ENVIRONMENTAL STUDIES

#### PROGRAM NEEDS REASSESSMENT

THE OCS environmental studies program is costly and may accomplish little in minimizing environmental damage during oil and gas exploration, development, and production. There is a general lack of agreement among Federal and State agencies on (1) how the environmental studies can best be used in the decisionmaking process affecting OCS development and (2) what information is needed to assess the environmental impact of OCS oil and gas development. These problems are compounded by the lack of coordinated Government-wide plans that adequately define the information needs of OCS managers and give direction and an approach to obtaining such information.

We believe that the OCS environmental studies program needs to be reassessed for how the studies can best be used in the decisionmaking process, what information is needed, and what plans are necessary.

#### LACK OF AGREEMENT ON HOW ENVIRONMENTAL STUDIES CAN BE USED BEST

There is a lack of agreement among Federal and State agencies on how the environmental studies can best be used in the decisionmaking process affecting OCS oil and gas development. Various Federal and State agencies have questioned how environmental studies are used in OCS lease decisions. It is often not clear how environmental information affects OCS decisions; although the Secretary of Interior has made general pronouncements on the use of such information in response to environmental concerns for specific lease sales, the relationship of the overall environmental studies program to the OCS decisionmaking process remains unclear.

The Congressional Office of Technology Assessment, commenting on the BLM studies program in their report "Coastal Effects of Offshore Energy Systems" stated that:

"The vague relationship between these studies and any decisionmaking process, however, is a principal issue. If there is little or no relationship between the studies and management decisions, then the value of the investment in the studies is questionable."

BLM officials stated that the environmental studies could be used in various ways. They said that there are

various opinions about how the studies should be used, and there are uncertainties about how they are used.

A number of lease sales have been environmentally controversial and contested by the States. In December 1975 Interior offered for sale some 1.25 million acres of southern California offshore lands. The State of California, along with several city and county governments, opposed the sale on environmental grounds and twice unsuccessfully attempted to stop it in court.

In December 1975, the Administrator of the Environmental Protection Agency (EPA), told the Chairman of the Council on Environmental Quality (established within the Executive Office of the President to formulate and recommend national environmental policies) that the proposed sale in the Gulf of Alaska was environmentally unsatisfactory. After reviewing the facts of the proposed sale, the Council recommended to the Secretary of the Interior that the sale be delayed 2 years. The Council stated that if such a delay were not acceptable, then the sale should be limited to 150,000 acres in the least environmentally vulnerable area of the proposed sale. When the Secretary announced his decision to lease 1.1 million acres, the Council stated that it viewed the action as unsatisfactory and maintained that additional work was essential to deal with the unique environment of the Gulf of Alaska. Although the State of Alaska tried to enjoin the sale, in March 1976 the injunction was denied.

The Commissioner of Natural Resources, State of Alaska, testifying before the Senate Committee on Energy and Natural Resources, cited examples of State concerns with the relationship of the studies program to lease decisions. The commissioner said that the Gulf of Alaska lease sale was held without adequate environmental information on which to base a decision. He stated that environmental research must be an integral part of leasing decisions and an adequate understanding of the effects of OCS oil and gas development must be developed so that future leasing decisions will not be based on environmental ignorance.

In 1977 the State of Massachusetts filed a suit to delay a planned lease sale in the Georges Bank. The State, arguing that the sale would lead to irreparable harm to Georges Bank, asked a district court for a 3-month delay to allow for the enactment of amendments to the OCS Lands Act. In January 1978 the district court issued an injunction that delayed the lease sale for 3 months. The Secretary of Interior canceled the lease after the lower court's



decision was upheld in the First U.S. Circuit Court of Appeals on January 31, 1978.

LACK OF AGREEMENT ON INFORMATION  
NEEDED TO ASSESS THE ENVIRONMENTAL  
IMPACT OF OCS DEVELOPMENT

There is a lack of agreement among Federal and State agencies affected by OCS decisions on the information that is needed to assess the environmental impact of OCS oil and gas development. Consequently, OCS managers have little assurance that the information being developed by the studies program is adequate for OCS development.

The congressional Office of Technology Assessment, commenting on the BLM studies, stated in their report "Coastal Effects of Offshore Energy Systems" that:

"Many scientists claim that the studies are not well planned since they attempt to solve too many complex problems within unrealistic timeframes, and that study efforts are hopelessly fragmented. A priority of important subjects should be established if meaningful results are to be obtained."

Comments made by Federal agencies, including EPA, NOAA, and State agencies on environmental impact statements issued for OCS lease sales, have criticized the information that is available to base lease decisions. As an example, the Director, Environmental Research Laboratories, (the NOAA component managing the Alaska environmental studies program for BLM) commenting on the draft environmental impact statement for an Alaska lease sale in the Lower Cook Inlet stated:

"The Lower Cook Inlet, like the remainder of the Alaskan OCS, has not received nearly as much research work as has much of the Coast around the lower 48. The DEIS [draft environmental impact statement] appears to consider most available information but decision makers should be made aware that neither the great environmental risks nor the extreme natural hazards can be defined adequately."

## Baseline versus effects research

There is a lack of definitive information on the effects of pollutants in the marine environment. BLM has placed its highest priority on obtaining baseline data before developing OCS areas. Although certain biological effects studies are part of the program, staffing and funding constraints have generally mitigated against the initiation of a biological effects research program.

The BLM direction and approach of emphasizing baseline studies, with limited effort to study the effects of petroleum-related pollutants has been criticized by the National Academy of Sciences, the U.S. Fish and Wildlife Service, EPA, and States as inadequate for assessing the impacts of OCS development. For example, the Director, U.S. Fish and Wildlife Service, in a memorandum to the Assistant Secretary for Fish and Wildlife and Parks, stated that the scientific approach to biological studies would not improve the ability to predict impact.

The Outer Continental Shelf Environmental Studies Advisory Committee <sup>1/</sup> stated that the baseline, benchmark, or inventory approach proposed in the study plan for the North Atlantic was inadequate for assessing the impacts of, or solving the environmental problems associated with, OCS development. The Committee also stated that there was a need for determining the effects of chronic and acute OCS development-related pollutants on the marine environment. Similar comments were made by the Committee about the South Atlantic study.

Information on the effects of pollutants on marine organisms is necessary to make the baseline/monitoring approach effective in protecting the marine environment. Representatives of BLM, the U.S. Fish and Wildlife Service, EPA, and NOAA stated that no criteria exists that could be used to determine whether changes between baseline and monitoring data are significant enough to require changes in leasing or OCS operating orders. Without the necessary effects information to establish such criteria, the baseline/monitoring approach appears to be incomplete and will

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<sup>1/</sup>The Committee is to advise the Secretary of the Interior on the planning, implementation, and interpretation of OCS environmental studies programs. The Committee consists of representatives from NOAA, EPA, the National Science Foundation, the U.S. Coast Guard, 22 coastal States, and several organizations from the private sector.

accomplish little to protect the marine environment from potential OCS development-related impacts.

### Offshore versus nearshore studies

State agencies have been particularly concerned about the lack of nearshore data upon which to base lease sale decisions. There is also a controversy between Federal agencies and the States about which should have primary responsibility for conducting the nearshore studies. Also, representatives from the National Academy of Sciences, the Office of Technology Assessment, the U.S. Fish and Wildlife Service, and the Outer Continental Shelf Environmental Studies Advisory Committee have criticized BLM for not properly emphasizing nearshore studies. For example, the Committee, in reviewing the studies plans for the North Atlantic and South Atlantic, recommended that more emphasis be placed on data collection in coastal areas at early stages in the study program.

The Director, U.S. Fish and Wildlife Service, in an April 1977 memorandum to the Assistant Secretary for Fish and Wildlife and Parks, stated:

"Coastal studies should be a fundamental part of any rational attempt to determine the environmental impact of OCS petroleum development. With minor exceptions, the BLM program does not address coastal and nearshore environments where the impact of development will be greatest. Instead, it focuses on offshore areas."

In response to concerns over nearshore studies, BLM, in cooperation with NOAA and the States involved, studied what nearshore and coastal information was needed in future nearshore programs. The resulting report, completed in January 1977, summarizes the State's views on the types of nearshore data required and addresses, to some extent, the timing and responsibilities for acquiring the information. We were informed by an Interior official that, while action has been taken on some of the report's recommendations, additional efforts are needed.

### COORDINATED GOVERNMENT-WIDE PLANS FOR OCS ENVIRONMENTAL RESEARCH STUDIES ARE NEEDED

As discussed above, considerable disagreement continues about the best use of the environmental studies in the OCS decisionmaking process and about the information needed to assess the environmental impact of OCS development. Consequently, OCS managers have little assurance that the studies program is providing adequate information. Because of such

controversies the Outer Continental Shelf Environmental Studies Advisory Committee adopted a resolution in February 1976 which stated, in part, that inadequate attention had been given to all users' needs in the studies program and asked BLM, in cooperation with NOAA, the U.S. Fish and Wildlife Service, the U.S. Geological Survey, EPA, the U.S. Coast Guard, and other Federal and State agencies to identify decision points in OCS operations, to indicate what data and what level of precision are required for each decision, and to provide a priority schedule of data acquisition to assure the proper relationship of data collection and decisionmaking.

While BLM is responsible for conducting an environmental studies program to support its role as manager of submerged OCS lands, a number of other Federal agencies, including the U.S. Fish and Wildlife Service, EPA, the U.S. Geological Survey, and NOAA have statutory responsibilities for the activities conducted on OCS and support marine research programs. When BLM started the program, however, there was a lack of information that could be used to assess the environmental impact of OCS development. Due to the complexity of the coastal and marine environment and the poor understanding of relationships within the environment, BLM was confronted with many uncertainties in determining what information was needed and how to get it.

Although BLM has responded to criticism of the program, improvements are needed to develop coordinated Government-wide plans that define information needs and also focus relevant Federal and State marine research on such needs. For example, BLM officials stated that, while they recognize the need to establish an effects research program, BLM efforts to develop a plan have been hampered by the scattered structure of effects research in the Federal Government. A BLM official stated that BLM tried unsuccessfully to identify ongoing and planned effects research within the Federal Government. NOAA and EPA representatives also stated that they agree that Federal effects research is widely dispersed and that coordinated Government-wide plans which identify long-term information needs and responsibilities for research are needed.

Additionally, coordinating OCS environmental studies among Interior agencies needs improvement. For example, the Director, U.S. Fish and Wildlife Service, in a memorandum to the Assistant Secretary of Fish and Wildlife and Parks, stated that little consideration was given by BLM to U.S. Fish and Wildlife Service concerns about the direction of OCS studies. A U.S. Fish and Wildlife Service official stated that coordination with BLM has improved but certain

issues on the design of biological studies have not been resolved.

### CONCLUSIONS AND RECOMMENDATIONS

The OCS environmental studies program is costly and may accomplish little in minimizing environmental damage during OCS oil and gas exploration, development, and production. There is little agreement among Federal and State agencies on (1) how the environmental studies can best be used in the decisionmaking process for OCS development and (2) what information is needed to assess the environmental impact of OCS oil and gas development. These problems are compounded by the lack of coordinated Government-wide plans that adequately define the information needs of OCS managers and give direction and an approach to obtaining such information.

We recommend that the Secretary of the Interior reassess the environmental studies program for (1) how the studies can best be used in the OCS oil and gas development decision-making process and (2) what information is needed to assess the environmental impact of OCS oil and gas development. We also recommend that the Secretary of the Interior, in cooperation with Federal and State agencies responsible for OCS activities, develop coordinated plans that identify OCS environmental information needs and focus all relevant marine research activities on these needs.

## CHAPTER 3

### THE ALASKA OCS ENVIRONMENTAL

#### STUDIES PROGRAM NEEDS IMPROVEMENT

The Alaska OCS environmental studies program has not provided the information needed to understand the impact of oil and gas development on the Alaska OCS. This happened because (1) BLM has not provided adequate guidance to NOAA to assure that the program meets BLM needs and (2) NOAA has not adequately planned for and implemented the program within available time and resource constraints to most effectively develop environmental information.

#### BLM PROGRAM GUIDANCE NEEDS IMPROVEMENT

BLM has not provided adequate program guidance to NOAA to assure that the environmental information needed for OCS-related management decisions is being developed. Based on the agreement with NOAA, BLM is responsible for providing program policy and priorities and delineating the scope of the work. BLM guidance, however, has been very general rather than detailed.

BLM stated that NOAA was selected to plan and manage the program because of NOAA expertise in the area. Initially, BLM allowed NOAA to develop program plans for specific research efforts. In January 1976 BLM expressed concern that no framework existed to judge the relevancy of particular studies being undertaken in the Alaska program, stating that it was difficult to get a total view of the program plan and its direction. A year later (January 1977) an overall plan that described such a framework was approved by BLM. As prescribed by the overall plan, specific plans for each lease area are to be developed annually. The first specific plans were developed by NOAA for the fiscal year 1978 program. However, these plans have been criticized by other agencies.

NOAA stated that the initial guidance from BLM was very general--not detailed. Although NOAA verbally asks BLM for specific guidance before preparing plans, responses continue to remain very general. We were unable to determine the extent of such requests. Inadequate BLM guidance may be partially due to the failure to adequately define overall OCS environmental information needs. (See ch. 2.)

NOAA PROGRAM PLANNING AND  
IMPLEMENTATION NEEDS IMPROVEMENT

Even though BLM has not provided adequate guidance to the Alaska program, NOAA has not used the available time and resources to most effectively develop environmental information. NOAA has not placed enough emphasis on

- developing dynamic long-range planning,
- implementing an interdisciplinary approach to research efforts,
- assuring that research results are integrated and timed with BLM decision points,
- using the available expertise of other organizations,
- establishing procedures to assure consideration of prior research, and
- adequately considering other agency needs.

The inadequacy of NOAA program planning and implementation will not permit BLM to base OCS decisions on the most reliable information.

Long-range planning is not adequate

Long-range planning is not adequate even though NOAA recognizes the need for such planning. The NOAA Research Planning Committee--responsible to the Program Director for long-range planning--has not been effective, and the NOAA plans do not sufficiently address long-range needs. The inadequacy of NOAA long-range planning will not permit assessment of the status and coordination of current and future studies and may detrimentally affect the information provided to BLM.

The Planning Committee's stated responsibilities are to:

- provide the Alaska Program Director with interdisciplinary scientific planning support by designing future studies and recommending modification of existing studies;
- define proposed project's objectives, recommended approach, relationship to other projects (by lease area and discipline), priorities schedule, leasing schedule, resource requirements, deliverables, cost,

performance milestones, required research and development, and operational activities;

--identify and recommend program requirements to achieve program objectives; and

--provide the Program Director with scientific and technical reviews and evaluations of program direction, needs, and accomplishments.

Some NOAA and BLM officials stated that the Planning Committee does not achieve long-range planning because it does not evaluate the current status and future direction of the research program; rather, it addresses short-term, yearly planning. For example, only recently did NOAA formally request information from program researchers for planned efforts beyond 1 year for fiscal year 1979.

The agreement between NOAA and BLM identifies the need for long-range planning by requiring overall and specific geographic area plans. According to some NOAA officials, even the detailed lease area plans for fiscal year 1978 do not contain adequate long-range planning addressed to producing reports designed to meet BLM decision points. However, such plans will be incorporated in future plans.

Changes in leasing schedules have also disrupted research planning. Interior has changed the leasing schedule four times since the program beginning in May 1974. Nine general lease areas had been identified for study by November 1974 and were again identified in the June 1975 lease schedule. However, in January 1977 two lease areas were dropped from the schedule, and in August 1977 two additional lease areas were dropped. The lease areas were dropped for a variety of reasons, including environmental concerns, lowered expectations of oil and gas potential, and lack of adequate technology for exploration and development. The deleted areas are expected to be reinstated on later leasing schedules. Although NOAA continues to conduct some research in the four dropped areas, it had to redirect much of its efforts to currently scheduled lease areas. The Alaska Program Director said that the lack of continuity caused by changes in the proposed sale dates makes it very difficult to plan research to provide timely and useful information to decisionmakers.

We recognize that changes in the leasing schedule, as well as changes in funding levels, will affect planning, but we believe that dynamic long-range research plans should be developed and updated as necessary to assure effective program performance.



Interdisciplinary approach has not  
been adequately implemented

NOAA has not placed enough emphasis on pursuing an interdisciplinary approach to its research efforts to assure that the various scientific disciplines (such as chemistry, biology, and geology) are properly coordinated. Although consideration of the interrelationship of each discipline should be carefully considered when planning research, NOAA has allowed the researchers to plan work in their respective fields of expertise. Without adequate emphasis on assuring the research is interdisciplinary, BLM will not receive the best possible information needed for management decisions.

BLM and other agencies have criticized NOAA efforts toward achieving an interdisciplinary approach. In January 1976 a BLM official criticized the research efforts described in the NOAA overall planning document. According to the official, the scientific communities' work suggestions were rearranged with minor modification and then combined to form the program. This represents the traditional multidisciplinary science program, where program managers permit researchers to control important aspects of the programs (such as timing, products, objectives, and methods). In June 1977 BLM again criticized NOAA research plans. BLM stated that, although NOAA agreed to use an interdisciplinary approach, the procedures to accomplish interdisciplinary objectives were not evident in the detailed plans submitted for fiscal year 1978.

Some NOAA officials stated that the Alaska program planning approach resulted in a multidisciplinary rather than an interdisciplinary program, and that the program was merely a set of independent, multidisciplinary research projects. For example, NOAA has a research project for studying benthic populations (organisms living on or near the ocean floor) on the Alaska coast and a research project for studying bottom sediment. Although sediment affects benthic populations, these two research projects were not coordinated. As a result, samples were not taken at the same sites, making an interdisciplinary analysis impossible. In another instance, bird census studies were incompatible because of differences in field methods employed to gather the data.

A member of the OCS Environmental Studies Advisory Committee stated that the Alaska program's baseline, special, and monitoring studies were not being linked together, and that the relationship between research in different disciplines was not defined. Three negative effects contributed to the lack of an interdisciplinary approach:

- The application of all data to the overall program cannot be determined, and some data may not be useful.
- The critical areas and specific items needing special study cannot be identified.
- Research of major significance can be passed over for less important work.

NOAA officials stated that the interdisciplinary approach is difficult and, while efforts have been made, more emphasis could be placed on this approach.

Research results have not been adequately integrated and geared to Interior decision points

Research results are not adequately integrated and geared to decision points even though NOAA agreed to provide integrated research results in a manner most useful to decisionmakers. This is caused by the NOAA lack of emphasis on these needs. Without properly integrated information being available when various OCS leasing decisions are made, Interior must base decisions on less information than could be available.

The BLM review of NOAA proposed detailed lease area plans for fiscal year 1978 concluded that the plans did not adequately address the integration of data products. BLM stated that:

"Integrated data products are essential to proper utilization and interpretation of results. Moreover, they are necessary for any semblance of an understanding of the ecosystems under study. Our principal concern with the programs presented in the TDP's [specific area plans] is that their apparent design is not directed toward achieving integrated results. Perhaps a redefinition of the anticipated products is in order.

\* \* \* \* \*

It is our belief that a program of this nature and magnitude should be structured toward producing integrated results. The programs and plans presented in the TDP's fall seriously short of ever producing these products."

An Alaska State official stated that information developed by researchers is not useful to BLM because it is not presented in a form relevant to the decisions to

be made--both BLM and NOAA officials stated that integrated information is needed.

Although NOAA has not adequately emphasized integration, some efforts have been made to integrate the research results. Synthesis meetings were initiated in late 1976. Researchers, NOAA and BLM personnel, and other interested parties discuss research efforts during these meetings. According to NOAA officials, the meetings are to

- provide planning input to the program by identifying data gaps and special concerns,
- integrate the most recent knowledge about a lease area, and
- use new information and provide practical data applications to meet immediate BLM needs for decisionmaking.

NOAA and BLM officials believe that the synthesis meetings are highly beneficial in integrating some information geared to OCS decision points. As of August 1977, four synthesis meetings had been held and four are planned for fiscal year 1978. Currently, a maximum of four meetings per year are scheduled because of the extensive logistics required and the demands on the NOAA staff's available time. NOAA officials explained that the synthesis meetings are planned for winter (when some field research cannot be effectively conducted because of weather conditions) but scheduled dates are modified whenever possible to meet BLM needs.

We recognize that both NOAA and BLM officials use the synthesis meetings and other informal means to exchange information; however, these meetings are not a required part of the formal overall plan. For example, the overall plan cites important program milestones for the submission of information to aid key decision points; however, NOAA formal reporting requirements as described in the overall plan do not include the submission of reports geared to these milestones. A comparison of NOAA milestones contained in the overall plan, with key decision points contained in the applicable proposed leasing schedule revealed that in three of nine lease areas some NOAA planned submission dates were to occur after the decision points. Also, although the proposed leasing schedule has been revised since development of the plan, NOAA has not revised its plans to gear data submission to the new decision points.

Available outside expertise  
has not been used effectively

NOAA has not effectively used expertise outside of its own agency, even though several valuable sources of assistance are available for planning and managing the program. The NOAA failure to adequately use available outside expertise could cause a program to follow an inadequate plan.

NOAA has received adverse comments about its proposed program plans, content, and approach, from other agencies. For example, the U.S. Fish and Wildlife Service and the U.S. Geological Survey, in their review of specific area plans, commented that the technical information was not adequate. BLM also stated that, to expedite the review process, it would only comment on program management and operation issues and would have to postpone specific comments about the technical aspects of the NOAA program. Initially BLM assessed the draft plans as inadequate to warrant fiscal year 1978 funding and required changes before approving funding.

Similarly, a State of Alaska official recently stated that the State has never been adequately included in the program planning process. The official said the State has not established a mechanism to review NOAA planned work, partially due to the statements being already established before the State's review.

Liaison positions have been established within NOAA offices for representatives from BLM, the U.S. Geological Survey, the U.S. Fish and Wildlife Service, EPA, the National Marine Fisheries Service, and the State of Alaska. The personnel in these positions are the principal interface between NOAA and the agency, and a source of input to NOAA on recommended program content, timing, and direction. As of November 1977, however, four of eight positions were vacant, as shown in the following schedule.

### Schedule of Liaison Positions

<u>Parent agency</u>	<u>Location of liaison</u>	<u>Filled or vacant</u>
BLM	Boulder, CO	Vacant
National Marine Fisheries Service	Boulder, CO	Vacant
U.S. Fish and Wildlife Service	Boulder, CO	Vacant
EPA	Boulder, CO	Filled
U.S. Geological Survey	Boulder, CO	Filled
Alaska State	Boulder, CO	Vacant
Alaska State	Juneau, AK	Filled
Alaska State	Fairbanks, AK	Filled

A coordination panel was also formed by NOAA, consisting of representatives from various agencies interested in marine research in Alaska including BLM, EPA, the Energy Research and Development Administration, the National Science Foundation, and the State of Alaska. The coordination panel, scheduled to meet annually, is to avoid duplication of research by various agencies and to co-fund projects whenever possible. The Alaska Program Director said that the panel could be very useful, yet the panel has met only once in March 1976 and no future meetings are scheduled.

The National Marine Fisheries Service criticized program management's failure to recognize the value of other agency expertise. Commenting on the proposed fiscal year 1978 detailed lease area plans, Fisheries officials stated that one major deficiency was the lack of adequate consultation and coordination among agencies and researchers on research activities descriptions. The officials suggested a section on interagency coordination be incorporated in the plans.

#### Procedures do not assure consideration of prior research

NOAA does not have formal procedures for considering prior research before approving new research--the researchers are relied on to perform this function. Formal procedures are needed to reduce the potential of duplicating existing research.

NOAA has not developed a master list of prior and ongoing research to assure that all possible research is considered before new research is approved. For example, BLM, in reviewing NOAA research plans, commented that

several proposed studies had already been conducted by Canadian scientists, and questioned funding similar research before NOAA considered the previous studies. NOAA then reviewed the Canadian literature.

One NOAA official stated that due to the urgency of program initiation, prior research listings were probably weak and more searches should be done. Initially, researchers were requested to identify and investigate prior research as part of their initial effort. NOAA is also aware of prior research as a result of the knowledge of its staff and BLM reviews of all planned research before implementation.

At least eight major literature listings have been funded by the Alaska program at a cost of \$384,000. Other literature listings have also been completed by organizations such as BLM, the American Petroleum Institute, and the Army Corps of Engineers. NOAA staff members who monitor the progress of research work made the following comments about the use of prior literature lists:

--Literature lists are used.

--Literature lists are not used as much because of high workload.

--Literature lists are not used because the proposed research has already been approved.

We believe that NOAA should establish formal procedures to assure that previous research efforts, internal and external, are carefully considered before authorizing new research. In a program of such magnitude, this would reduce the potential for duplicating research and identify previous research that could be used to satisfy the needs of BLM and other agencies.

Other agencies needs have not been adequately considered

Inadequate consideration is being given to the environmental information needs of other agencies. The agreement between NOAA and BLM states that, although BLM and U.S. Geological Survey needs are paramount in program planning, NOAA should consider the needs of other Federal and State programs influenced or affected by oil and gas development in the Alaska OCS when possible. Without proper emphasis the program cannot plan for other agency needs, although the agencies may be directly affected by Alaska oil and gas development.

A users panel has been established (with membership from major users, including public and industry groups, environmental institutions, and Government and community interests) to consider user needs in planning and directing the Alaska program. However, discussions with several members from the users panel and NOAA disclosed that the users panel is ineffective. Officials from the State of Alaska, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and EPA stated either that the users panel is ineffective or is redundant to other planning organizations. NOAA officials said that the users panel was highly ineffective and provided surprisingly little input. One major problem is that some panel members have little authority to make decisions for their organizations.

A member of the OCS Environmental Studies Advisory Committee said that NOAA was not adequately considering other agencies' needs. He also said that although BLM funds OCS research, other agencies' decision points and information needs should be considered in research planning and be met by research. For example, the U.S. Geological Survey is responsible for supervising oil and gas exploration and production. To carry out its responsibilities, environmental information is needed for regulation of post-sale activities and other uses. U.S. Geological Survey, Conservation Division officials also said their needs are not incorporated into NOAA planning for the Alaska program.

We recognize that BLM needs are considered top priority by the Alaska Program Director, but other users' needs could be given more consideration within the Alaska program's time and resource constraints.

#### CONCLUSIONS AND RECOMMENDATIONS

The Alaska OCS environmental studies program has not provided the information needed to understand the effect of oil and gas development on the Alaska OCS. This happened partly because OCS environmental information needs have not been clearly defined for the program. Although BLM is responsible for providing program policy and priorities on the scope of work, it has not provided adequate guidance to NOAA to assure that the Alaska program is meeting its needs. NOAA, which is responsible for designing, implementing, and controlling the Alaska program, has not planned or implemented the program to most effectively develop environmental information. While limited actions have been taken to improve the program, additional improvements are needed.

We recommend that the Secretary of the Interior require the Director of BLM to define specific Alaska OCS program goals, priorities, and research needs, and improve program guidance to NOAA to assure that the Alaska program is developing adequate environmental information needed for OCS decisions.

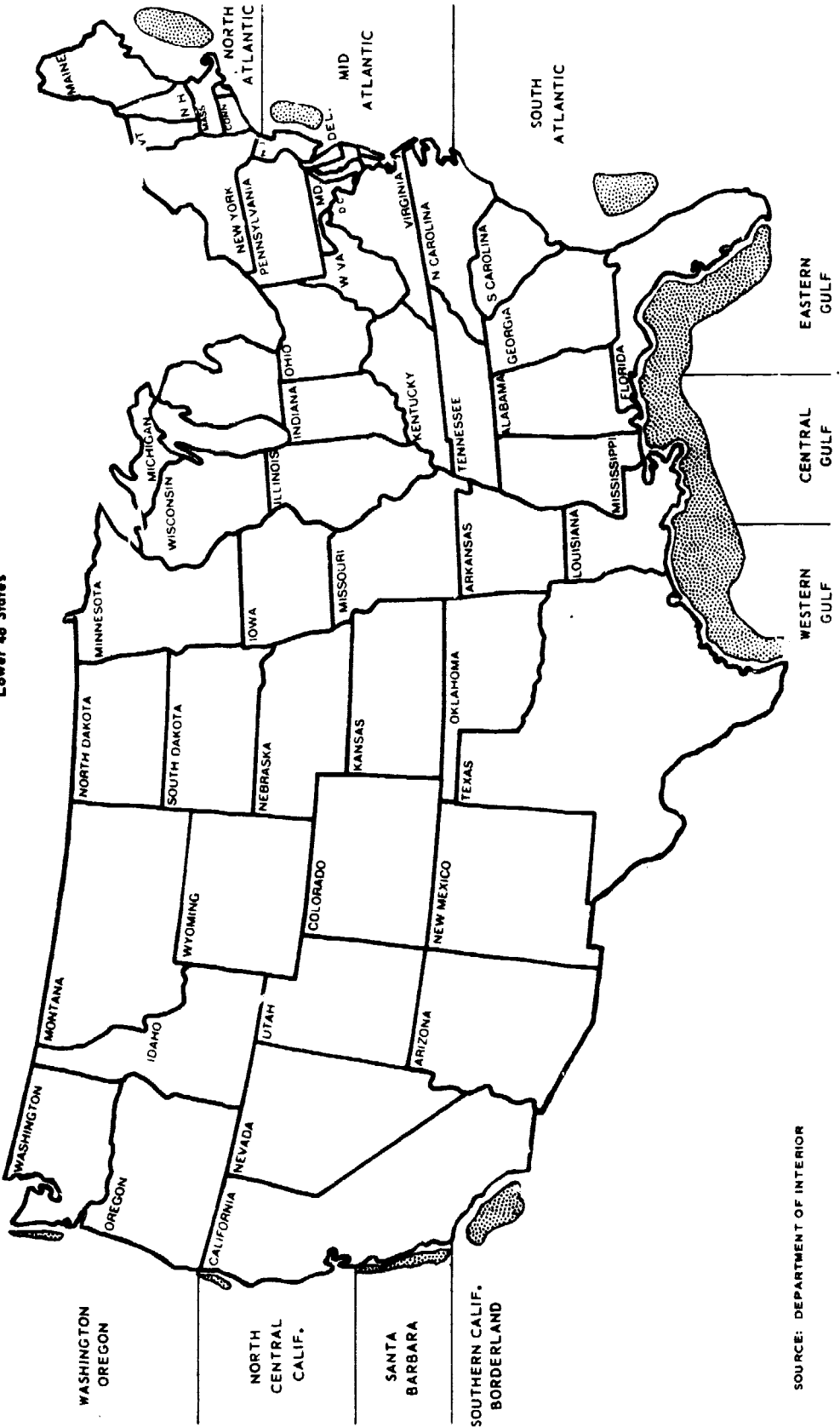
We recommend that the Secretary of Commerce direct the Administrator of NOAA, in concert with BLM guidance, to improve the operational design, implementation, and control of the Alaska program to better meet BLM needs. Specifically, the Administrator should be directed to place greater emphasis on

- developing dynamic long-range research planning efforts;
- pursuing an interdisciplinary approach to research efforts;
- assuring that individual research results are adequately integrated and geared to Interior decision points;
- soliciting and using available outside expertise in planning its research program;
- establishing specific formal procedures to assure that previous research efforts are carefully considered before authorizing new research; and
- considering the users' needs in addition to BLM and, where possible, incorporating such needs in research planning.



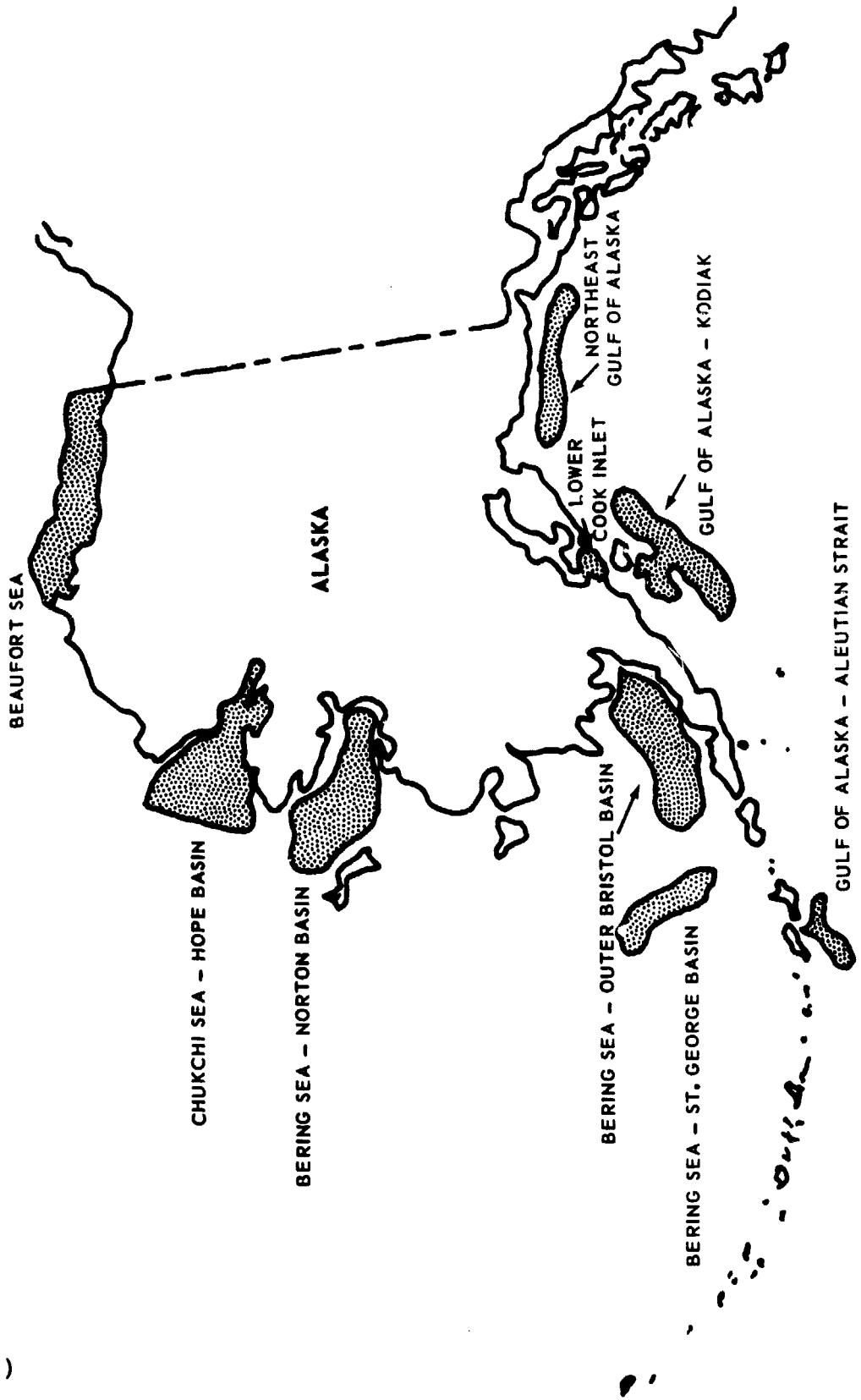
OUTER CONTINENTAL SHELF AREAS UNDER CONSIDERATION FOR LEASING

Lower 48 States



SOURCE: DEPARTMENT OF INTERIOR

OUTER CONTINENTAL SHELF AREAS UNDER CONSIDERATION FOR LEASING IN ALASKA



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