The Outer Continental Shelf
Oil and Gas Program--

Moving beyond Conflict to Consensus

Report of the OCS Policy
Committee's Subcommittee on
OCS Legislation

October 1993

Foreword

On October 20, 1993, the OCS Policy Committee voted to approve the report of its Subcommittee on OCS Legislation and to adopt a resolution calling for the Secretary of the Interior to implement the report's recommendations. A copy of the resolution adopted by the Policy Committee has been added to this version of the report as Appendix C.

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REPORT OF THE OCS POLICY COMMITTEE'S SUBCOMMITTEE ON OUTER CONTINENTAL SHELF LEGISLATION

EXECUTIVE SUMMARY

The federal Outer Continental Shelf (OCS) oil and gas program has provided significant benefits to the nation by helping to fulfill energy needs, contributing to economic well-being, and providing an important source of revenues for the U.S. Treasury. The OCS program also entails a variety of environmental and socioeconomic impacts to the marine and coastal environment that primarily affect the coastal states and localities.

Owing to both the benefits and costs associated with the OCS program, there has been a great deal of controversy over the ownership and management of offshore oil and gas resources. Some of the controversy predates the inception of the federal program in 1954, as both the United States and individual coastal states vied for jurisdiction over the nation's offshore realm, with the federal government eventually gaining title to the great majority of the continental shelf. Additional controversy has arisen over the years as concerns about the program's environmental and socioeconomic impacts have increased.

Conflict and contention related to the OCS program have intensified over the past decade, in large part because of the federal executive branch's approach to managing the program under the existing legal and regulatory regime. The Department of the Interior and other federal agencies have prime authority for OCS program decisions while states have a subordinate role. This regime has allowed the exercise of a hierarchical method of management on the part of the executive branch.

Since 1982, affected state and local governments have turned to the federal legislative branch to check the executive's authority by enacting annual appropriations legislation prohibiting the use of funds for OCS leasing and related activities. Such restrictions have played a substantial part in dampening the U.S. offshore industry's interest in participating in the federal OCS program. Overall, the prevailing controversies and the measures used to deal with them have seriously diminished the effectiveness of the federal OCS oil and gas program in helping to meet the Nation's energy needs.

The National Energy Policy Act of 1992 provides a comprehensive framework for managing the nation's energy future. Enactment of proposed OCS measures related to moratoria, lease cancellation and buyback, impact assistance and revenue sharing, incentives to industry, and environmental sciences review panels was considered. However, reflecting the great degree of conflict and resulting political polarization currently affecting the OCS oil and gas program—as well as the cost to the U.S. Treasury of impact assistance and lease buybacks—the conferees from the House and Senate could not agree on the pertinent legislative provisions that were proposed, so all of those measures were removed from the bill that ultimately was signed into law. Subsequently, the OCS Policy Committee decided to conduct its own review of those legislative provisions in the broad context of the overall legal and regulatory regime governing the OCS program and chartered the Subcommittee on OCS Legislation for that purpose.

As a starting point, the Subcommittee undertook an independent and objective assessment of the history and current state of the OCS program. The Subcommittee concluded that there is a need to maintain an active OCS oil and gas program to continue to help in meeting the nation's energy requirements for the foreseeable future.

However, if the program is to proceed successfully out of its present state of conflict and controversy, a new paradigm of OCS decisionmaking will be necessary.

A summary of the Subcommittee on OCS Legislation's findings and recommendations is presented below.

Summary of Primary Recommendations

Moratoria are a symptom of the federal government's past hierarchical approach to OCS decisionmaking; the OCS process should be modified to focus more on reaching consensus in order to obviate the need for moratoria; regional task forces should be established to build consensus on OCS leasing.

Calls for **lease cancellation and buyback** reflect the same problems underlying moratoria; specifically, with respect to the leases considered for buyback in the 1992 comprehensive energy legislation, the Subcommittee favors a prompt and suitable solution; generally, the Subcommittee believes that section 5 of the OCS Lands Act should be the sole means for considering an OCS lease for cancellation, and section 5 is not in need of amendment.

Impact assistance and revenue sharing measures should be enacted. Two alternatives are presented for providing impact assistance to coastal states, Great Lakes states, and U.S. Territories as well as coastal localities: one provides for allocating a portion of the present revenue stream; and the other provides for appropriating money annually for a trust fund to generate interest that would be distributed either through an entitlement or an annual appropriation mechanism. OCS revenues would be used to fund the regional task forces discussed above.

Incentives to industry—especially relating to royalty relief—should be considered further. Possible measures include: a program similar to the reduced royalty program applying to onshore stripper wells that would extend the producing life of OCS leases; full implementation of the initiatives announced by MMS in Fall 1992; and new legislation to give MMS the authority to provide royalty relief on all existing undeveloped leases. The Secretary should consider carefully measures such as S.318—which proposes a deepwater royalty holiday—as well as other possible incentives for both the mature shallow and frontier deepwater portions of the Gulf of Mexico. Existing technical restrictions as they apply to deepwater operations also should be analyzed with an eye toward reducing costs and risks.

Environmental sciences review panels should not be established because they would add an unnecessary layer of review to that of the Scientific Committee of the OCS Advisory Board. Instead, the existing MMS environmental studies program is in need of adequate funding, good science, and appropriate cooperation among MMS and other involved parties. Further, the MMS should develop a comprehensive, efficient, and accessible data management and dissemination system for the studies program.

Summary of Additional Recommendations

The Subcommittee is aware that MMS is looking into alternatives to existing leasing policies and that the Department of Energy is undertaking an effort to develop a strategy to provide expanded opportunities for domestic oil and gas producers. The Subcommittee recommends that the results of those efforts be considered as they become available.

The Subcommittee finds it appropriate for the OCS Policy Committee to consider the findings and recommendations of an effort in progress by the National Research Council's Marine Board concerning the concept of a national multiple criteria decisionmaking regime for managing the resources of the U.S. Exclusive Economic Zone.

I. BACKGROUND ON THE SUBCOMMITTEE ON OCS LEGISLATION

THE OCS ADVISORY BOARD, COMMITTEES AND SUBCOMMITTEES

The OCS Advisory Board was established by the Department of the Interior to provide advice to the Secretary concerning the performance of discretionary functions under the OCS Lands Act, as amended, including environmentally sound leasing, exploration, and development and production of OCS mineral resources. It is intended to represent the collective viewpoint of coastal states, environmental groups, affected industries, and other interested parties.

The OCS Advisory Board is composed of the following committees: a Policy Committee; Regional Technical Working Group Committees; and a Scientific Committee. The committees may establish subcommittees as deemed desirable. Membership of subcommittees is balanced in terms of points of view. functions to be performed. and necessary expertise, and nonmembers of the parent committee may be included. Each subcommittee reports to its parent committee.

Subcommittees of the OCS Policy Committee have been chartered in the past to examine relevant issues and produce findings and recommendations. Such previous efforts have included, *The Report of Committee on Energy Policies to Avert Future Energy Crises (April 1987)* and *The Report of the Task Group on Improving the Process for Developing the 5-Year OCS Oil and Gas Leasing Program (September 1988).* Both of those reports included findings and recommendations concerning a number of the issues considered in the current effort of the Subcommittee on OCS Legislation.

MEMBERSHIP AND CHARTER OF THE SUBCOMMITTEE ON OCS LEGISLATION

The Subcommittee on OCS Legislation was established by the Policy Committee at its October 1992 meeting as a mechanism designed to encourage diverse interests to begin working toward a consensus on the OCS oil and gas program. The members of the Subcommittee and their affiliations are:

Paul L. Kelly, Chairman
Rowan Companies, Inc.
Houston, Texas

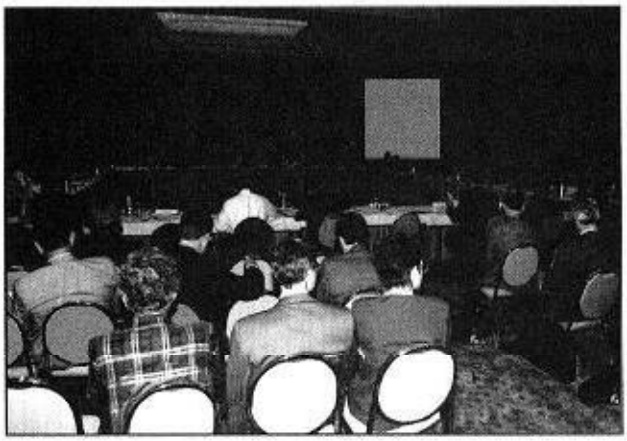
Kim Crawford, State of North Carolina

William D. Lastrapes, City of Lafayette, Louisiana

Gary Magnuson, Center for Marine Conservation,
Washington, D.C.

Paul C. Rusanowski, State of Alaska

All of the above participants are members of the Policy Committee. In addition, Dr. Jerry M. Neff, a member of the Scientific Committee employed at Battelle Ocean Sciences Laboratory in Duxbury, Massachusetts, acted as an advisor to the Subcommittee on behalf of the Scientific Committee.



The OCS Policy Committee in session, October 1993.

The OCS Policy Committee chartered the Subcommittee to review the primary OCS provisions of the National Energy Policy Act of 1992 (P.L. 102-377) that were considered by the 102nd Congress but were not enacted as part of the Act. Those primary provisions fall into the following five general categories:

- moratoria;
- lease cancellation and buyback;
- impact assistance and revenue sharing;
- incentives to industry; and
- environmental sciences review panels.

A table listing the specific OCS provisions considered is presented in Appendix A.

In undertaking this task the Subcommittee chose first to assess the state of the federal OCS program under the existing legal regime of the OCS Lands Act, as amended. The program was examined in light of the events and circumstances, policies and prerogatives, and perceptions and attitudes that have shaped it since its inception in 1954. The Subcommittee then applied all of these considerations in determining what role the OCS program should have in helping the nation to meet its future energy demand and what type of legal regime best would support that role.

In addition to issues related to the five categories listed above, the Subcommittee considered a number of other issues in terms of the existing overall legal and regulatory regime, including the following:

- environmental studies;
- the program's role in a comprehensive ocean management regime and national energy policy;
- offsets for onshore impacts;
- state and local government participation in the decisionmaking process;
- the role of Congress;
- incentives for industry to participate in the program; and
- the ability of the program to provide a fair return for the use of public resources.

Based on its review, the Subcommittee on OCS Legislation has prepared both specific recommendations relating to the primary legislative proposals considered by the 102nd Congress and more comprehensive recommendations intended to provide long-term solutions to the problems facing the OCS program. This report presents all of those recommendations for consideration by the full OCS Policy Committee. Subsequently, the Policy Committee may submit to the Secretary of the Interior a resolution regarding any of the recommendations of the Subcommittee. It should be noted that the findings and recommendations of the Subcommittee on OCS Legislation are intended to provide information and suggestions that will be helpful in future deliberations concerning the OCS program.

II. BACKGROUND ON THE OCS PROGRAM

Introduction

Although significant amounts of petroleum have been produced from the OCS, generating considerable federal revenues, the OCS oil and natural gas program has become mired in controversy and confrontation. Continuous stalemates and disagreements over OCS activities have limited the program's effectiveness, causing many people to question the program's existence and ability to help the nation meet its energy needs. While different views as to how and why the program reached this state are held by various interested and affected parties, there appears to be a general consensus that the existing way of conducting the OCS program can and must be improved. It is time to break the pattern of contention that has been so pervasive over the last decade. As a first step in seeking to develop program improvements, the Subcommittee prepared an objective account of the OCS program and the factors influencing it, which is presented below.

ORIGINS OF THE FEDERAL OCS PROGRAM

The Tidelands Controversy

The federal OCS oil and gas program originated off Louisiana and Texas in the Gulf of Mexico in late 1954. A historical overview of the program is presented in Figure 1. Establishment of the federal OCS program followed years of conflicting federal and state claims for offshore jurisdiction that had been motivated largely by their interests in offshore oil and gas resources. This federal-state struggle for control of offshore lands is known as the Tidelands Controversy.

In 1937, at the urging of the Secretary of the Interior, legislation was introduced in Congress that would confirm federal ownership of lands seaward of the low-water mark. In 1938, as the proposed federal legislation was being considered and ultimately defeated in Congress, the State of Louisiana enacted a law asserting its jurisdiction out to 27 miles offshore. Texas and California also made claims to the seabed off their shores.

In 1945 President Harry S. Truman issued a proclamation asserting federal jurisdiction over offshore resources. That same year the Department of Justice filed litigation to enjoin offshore lease activities being administered by the State of California. In 1947 the Supreme Court decided the case against California in favor of the federal government, stating,

> *". . . California is not the owner of the three-mile marginal belt along its coast, and that the Federal Government rather than the state has paramount rights in and power over that belt, an incident to which is full dominion over the resources of the soil under that water area, including oil."*

In 1950 the Supreme Court issued similar findings with respect to offshore claims that had been asserted by Louisiana and Texas.

The Submerged Lands Act and the OCS Lands Act of 1953

As the nation headed toward the 1952 presidential election, the issue of jurisdiction over offshore lands became a hotly debated political issue. In 1952 Congress passed legislation granting states ownership and jurisdiction over the first three miles of land off their coasts. Citing the Supreme Court's rulings, President Truman vetoed the bill. He called for using offshore oil and gas resources for national defense and one year later issued an executive order to make the continental shelf a naval petroleum reserve. Meanwhile, presidential candidate Dwight D. Eisenhower

1894	First U.S. offshore oil discovered off Santa Barbara, California.
1921	California authorized issuance of state oil and gas leases offshore.
1933	U.S. Department of the Interior (DOI) affirmed state title to offshore lands within 3-mile limit.
1937	DOI reversed position and asserted federal ownership.
1938	First offshore oil produced in the Gulf of Mexico (off Louisiana). Louisiana asserted state ownership out to 27 miles offshore.
1945	Truman Proclamation asserted Federal jurisdiction over the OCS.
1947	Texas asserted state ownership out to the seaward limit of the OCS. Supreme Court upheld Federal jurisdiction.
1953	Submerged Lands Act gave States jurisdiction to lands beneath the first 3 statute miles/ 3 marine leagues. OCS Lands Act gave Secretary of the Interior authority to lease minerals and regulate related activities.
1969	Santa Barbara Channel blowout. Passage of the National Environmental Policy Act.
1972	Passage of the Coastal Zone Management Act (CZMA).
1974	Oil embargo -- first oil price shock. 10 million acre leasing goal announced. Congress began to consider amendments to the OCS Lands Act.
1976	Amendment of the CZMA re: consistency on OCS plans.
1978	Passage of the OCS Lands Act Amendments.
1979	Iranian revolution -- second oil price shock.
1980	First 5-year leasing program approved under section 18 of the OCS Lands Act, as Amended.
1981	Secretary Watt announced areawide leasing approach. First congressional moratorium enacted.
1982	Oil prices began to decline.
1986	Oil prices bottommed out.
1989	Exxon Valdez tanker spill raised public concern over offshore oil production.
1990	Presidential statement and fact sheet released, canceling several sales and withdrawing several OCS areas from leasing consideration until after the year 2000. Passage of the Oil Pollution Act, Clean Air Act Amendments, and Reathorization and Amendments to the CZMA.
1992	Current 5-year program (1992-1997) approved.

Figure 1. Key events in the history of the Federal OCS Program.

campaigned pledging support for the measure that had been passed by Congress.

Subsequently, in 1953 President Eisenhower signed into law the Submerged Lands Act, which established state jurisdiction over the offshore lands within three miles of shore (or 3 marine leagues for Texas and the Gulf Coast of Florida) and federal jurisdiction over the offshore lands beyond those state waters. He stated,

> *". . . this measure also recognizes the interests of the Federal Government in the submerged lands outside the historic boundaries of the States. Such lands should be administered by the Federal Government and income therefrom should go into the Federal Treasury."*

Further, the Eisenhower administration was opposed to bills proposing to share OCS revenues and decisionmaking authority with states.

Another significant action regarding the resolution of matters related to ownership and management of the continental shelf was enactment of the OCS Lands Act in 1953. The OCS Lands Act authorized the Secretary of the Interior to lease the federal offshore lands—or OCS—for mineral exploration and development and production and provided for very limited state involvement in the federal program. Thus, after nearly two decades of intense haggling over offshore resources, the federal-state compromise regarding jurisdiction over offshore lands gave the federal government the ownership of the vast majority of the continental shelf along with ultimate primacy in the management of its mineral resources. The OCS Lands Act of 1953 also gave the federal government a mandate to develop OCS resources, stating outright that there was

> *". . . an urgent need for further exploration and development of the oil and gas deposits of the submerged lands of the Outer Continental Shelf."*

EXPANSION OF THE FEDERAL OCS PROGRAM

The First Two Decades—Small-scale Expansion

Activity in the Gulf of Mexico

The management regime that had been established for the OCS worked well enough from 1953 to 1973, as both the states and the federal government were able to receive ample benefits associated with developing oil and gas resources in offshore areas that were established producing provinces. Those benefits generally were also perceived as greatly outweighing any costs that were understood at the time. Although the federal government had ownership and authority over OCS resources off their coasts, Louisiana and Texas had robust state oil and gas programs—both onshore and offshore—and they generally perceived the federal program as supporting their programs and the petroleum based regional economy.

The federal OCS program did not expand to areas other than offshore Louisiana and Texas until the late 1950's and early 1960's, and this first phase of expansion took place on a relatively smallscale, piecemeal basis. Some leasing and exploration took place off southwest Florida with no resulting discoveries, and drilling in the area ceased in 1961.

Activity in the Pacific

Of far greater significance was the OCS program's expansion to the Pacific coast beginning in 1963. While exploration off Washington, Oregon, and Central and Northern California met with disappointing results and the cessation of drilling in those areas by 1967, exploration in the Santa

Barbara Channel led to sizable oil discoveries and eventual production. However, in 1969 a blowout and oil spill from a production platform occurred on a federal OCS lease in the Santa Barbara Channel, causing significant environmental damage that attracted national attention, and with it the first groundswell of opposition to offshore oil and gas development arose.

The National Environmental Policy Act

The Santa Barbara oil spill commonly is cited as a major impetus for the enactment of landmark environmental legislation—The National Environmental Policy Act (NEPA) of 1969. The new law established a national policy calling for a systematic, interdisciplinary approach to federal project planning to ensure that environmental values and considerations would receive proper attention in decisionmaking. Under NEPA and the implementing regulations promulgated by the Council on Environmental Quality federal OCS actions would be subject to comprehensive environmental review, and the federal government would be required to consult with coastal states and other interested and affected parties in that environmental review process.

The Past Two Decades—Large-scale Expansion

Initial Call for a More Expanded and Accelerated OCS Program

In 1971, just two years after the Santa Barbara spill, President Nixon called for expanded and accelerated OCS oil and gas leasing to trim the nation's imports and head off future energy shortages. While the Department of the Interior responded by preparing an ambitious leasing schedule, another new law was enacted that in addition to NEPA would have a significant effect on the way the federal government conducted the OCS program.

The Coastal Zone Management Act

Based on the recommendations of an independent qualified appointed commission, passage of the Coastal Zone Management Act (CZMA) in 1972 provided states with a generally greater role in the management of activities affecting their coastal zones. However, it was not until the consistency provisions [section 307(c)(3)(B)] were added to CZMA by amendment in 1976 that states received explicit authority with respect to permitting OCS activities. Section 307(c)(3)(B) provided that OCS exploration plans or development and production plans would have to be consistent to the maximum extent practicable with the federally approved coastal management programs of affected states if those plans were to be permitted.

The CZMA, as amended, gave the states their first real voice in federal OCS decisions, as it conferred to them a way of influencing OCS projects to assure that activities in federal waters would be consistent with federally approved state coastal zone goals and plans. However, the CZMA preserved the primacy of the federal government in OCS matters by setting forth a consistency appeal process giving the Department of Commerce final decision authority. Thus, in the early 1970's the federal government's ambitious plans and ultimate authority to expand development of the OCS—when memories of the Santa Barbara oil spill were still fresh and vivid—provided state and local governments and other interested and affected parties the impetus to call for a new paradigm for managing the OCS.

Plans for Expansion Following the 1973 Oil Shortage

The debate concerning management of OCS resources was exacerbated as a result of the Middle East oil embargo of late 1973 and early 1974. In 1974, as Americans had their first experiences with sharply rising fuel

prices and long waiting lines at gas stations, President Nixon set a goal for an even more expanded OCS program intended to replace petroleum imports. The Department of the Interior responded with a plan for numerous lease sales in frontier areas—including nine off Alaska, five off the Atlantic Coast, one off Central and Northern California, and one off Washington and Oregon—all during the period 1974 to 1978.

The OCS Lands Act Amendments of 1978

While the nation perceived an urgent need to develop domestic energy sources including the OCS, the proposed expansion increased concerns about the environmental and socioeconomic effects of offshore development. Heightened debate resulted, and the Congress deemed the matter important enough to establish a special committee—the OCS Select Committee—to develop legislation. After two years of congressional deliberations, the OCS Lands Act was amended extensively in 1978.

The OCS Lands Act Amendments of 1978 primarily were intended to provide for more environmental consideration and to allow more state and local government involvement in OCS decisionmaking. Section 18 prescribes a process for developing leasing schedules in 5-year increments with review and comment by coastal state and local governments and others (previously, the OCS leasing schedule could be prepared and issued solely at the discretion of the Secretary of the Interior). Section 19 prescribes a process for coordination and consultation with state and local governments concerning scheduled lease sales and other OCS activities (under the OCS Lands Act of 1953 the Secretary had the authority to consult with affected states but was not required to do so).

However, both sections 18 and 19 still retained the Secretary of the Interior's broad discretion to accept or reject the recommendations of the states and local governments and others. Thus, the OCS Lands Act Amendments of 1978 preserved federal primacy in the management of OCS oil and gas resources, although provisions to allow greater opportunities for government and public involvement were included. Moreover, it is noteworthy that although the national purposes and policies set forth in the 1978 amendments recognize environmental principles, they also further the sense of urgency created in the original legislation by calling for *"expedited"* exploration and development.

Plans for Expansion Following the 1979 Oil Shortage

Following the Iranian revolution and resulting oil supply disruptions and price increases in 1979, the sense of urgency for developing OCS resources received another boost. Although the 5-year OCS leasing program for 1980 to 1985 that was developed by Secretary of the Interior Cecil Andrus under the Carter Administration provided for continuing to pursue the OCS program in frontier areas, the Reagan Administration decided that program was an inadequate and inefficient means for developing OCS resources. In 1982 Secretary of the Interior James Watt issued a new 5-year program and announced a policy of *"areawide"* leasing intended to make available the largest area of the OCS ever—nearly 1 billion acres—for leasing, exploration and development.

Following the action of Secretary Watt, the debate concerning the OCS program then turned extremely contentious. Opponents charged that Secretary Watt was indifferent to the views of coastal states and localities and their concerns about potential environmental and socioeconomic impacts. As they had all along, state and local governments felt that they should have more say in OCS program decisions and should share more in the revenues generated by program activities. They opposed what they perceived as a unilaterally imposed policy of unlimited

expansion of leasing, exploration and production off their coasts[1], while at the same time the Reagan Administration opposed the funding of State CZM grants that were used by the states in part to review federal OCS activities. In response the coastal states and local governments mounted efforts to curtail Secretary Watt's plans. As it turned out—primarily due to strong and widespread opposition—the practice of areawide leasing was short-lived. As of 1984 it was generally discontinued in areas other than the Central and Western Gulf of Mexico. However, the opposition to OCS leasing continued to grow.

PROGRAM CONSTRAINTS

Litigation

As the OCS program began to expand in 1982, those with objections made them known to Secretary Watt. In most cases such objections and related recommendations were rejected or not fully adopted by the Secretary, and the opponents then challenged the Secretary's decisions in court. However, the great majority of lawsuits failed (and even those few that were successful did not have a significant curtailing effect on the OCS program). Federal primacy again was a factor in the results of litigation, as the decisions challenged were based on statutes like the OCS Lands Act that give the federal government great discretion and require that the lawsuits themselves be tried in the federal court system.

Legislative Moratoria

By 1982, in the face of Secretary Watt's ambitious OCS program, those with objections to that program were extremely frustrated. They believed they had made good faith efforts to consult and coordinate with the federal government under the OCS Lands Act, as amended, only to have their objections and related recommendations summarily dismissed by the Secretary. Then, having failed to persuade the federal government during that process, they had tried litigation to negligible effect as described above. Finally, starting with the State of California, interested and affected parties turned to the annual congressional appropriations process as a means for delaying OCS leasing to which they objected.

Beginning in Fiscal Year (FY) 1982 opponents of certain OCS lease sales and other program activities persuaded Congress to enact as part of the Department of the Interior's annual appropriations legislation a series of one-year moratoria of targeted activities. The enactment of the first moratorium signaled a change in the legislative branch's involvement and attitude toward the OCS program from a comprehensive view to a more focused one that centered on certain controversial lease sales. The coastal states developed a regionalism as many individual geographic areas came to the conclusion that their coastlines are unique and should be protected from the perceived risk of oil spills through the enactment of congressional moratoria. From FY 1982 through FY 1993 the acreage covered by these congressional moratoria grew from 0.7 million acres off California to a total of over 266 million acres off the Pacific and Atlantic coasts, in the Eastern Gulf of Mexico, and in the Bering Sea off Alaska (see Figure 2). Over the years the moratoria have also expanded from restricting the issuance of new leases to prohibiting prelease activities and exploration and development activities on existing leases.

[1] While expansion of the OCS program has been perceived by some as arbitrarily targeting certain geographic areas for leasing and exploration, efforts to discover oil and gas actually are directed at areas which have the requisite geologic characteristics for forming and trapping hydrocarbons. Moreover, given the high degree of uncertainty of occurrence, resources can only be proven by drilling.

Fiscal Year	Planning Area Name	Acres by Planning Area	Total Acres	Fiscal Year
		In millions		
1982	Central and Northern California		0.7	1982
1983	Central and Northern California Mid-Atlantic	35.0 0.3	35.3	1983
1984	Central and Northern California Southern California North Atlantic Eastern Gulf of Mexico-- (South of 26)	35.0 1.8 9.3 7.4	53.5	1984
1985	Central and Northern California Southern California North Atlantic	35.0 1.8 9.3	46.1	1985
1986-1988	North Atlantic	7.5	7.5	1986-1988
1989	Northern California North Atlantic Eastern Gulf of Mexico-- (South of 26)	1.1 12.2 19.9	33.2	1989
1990	Central California (All) Northern California (All) Southern California (All) North Atlantic (All) Mid-Atlantic Eastern Gulf of Mexico-- (South of 26) North Aleutian Basin (All)	1.7 1.2 5.0 13.9 9.9 19.9 32.5	84.0	1990
1991	Central California (All) Northern California (All) Southern California (All) Washington/Oregon (All) North Atlantic (All) Mid-Atlantic Eastern Gulf of Mexico EGOM (South of 26) North Aleutian Basin (All)	15.0 28.5 30.5 47.9 50.6 9.9 49.2 19.9 32.5	284.0	1991
1992	Central California (All) Northern California (All) Southern California (All) Washington/Oregon (All) North Atlantic (All) Mid-Atlantic and South Atlantic-- (Sale 145) Eastern Gulf of Mexico-- (Sale 151 and Presidental Moratoria) North Aleutian Basin (All)	15.0 28.5 30.5 47.9 50.6 5.2 56.3 32.5	266.5	1992
1993	Same as FY 1992		266.5	1993

Figure 2. Millions of acres under OCS leasing moratoria.

Those who had felt that administrators of the OCS program were not seriously considering their concerns view the congressional moratoria as an effective means to overrule decisions made by the executive branch that they perceive as posing unreasonable adverse impacts at the local level. They believe moratoria provide a necessary check to the executive branch's federal primacy. Proponents of the OCS program believe that congressional moratoria constitute arbitrary intervention on the part of the Congress to circumvent existing law and impede the decisions of the executive branch. They maintain that the OCS Lands Act, as amended, sets forth an effective framework for prudent deliberation and decisionmaking while providing for ample consultation and coordination with state and local governments.

CONFLICT RESOLUTION EFFORTS

While confrontation, litigation and congressional moratoria have besieged the OCS program since efforts to expand the program were initiated in the mid-1970's, a few opportunities for dispute mediation and conflict resolution have been pursued to resolve differences over the program. Unfortunately, these have been largely unsuccessful. Key conflict resolution efforts that have been pursued over the last decade are summarized below.

Mediation under CZMA

In 1979 the first effort at mediation under the Coastal Zone Management Act (CZMA) pertained to whether that law's federal consistency provisions applied specifically to OCS oil and gas lease sales. While earnest views were exchanged between the Department of the Interior and the State of California, the session lasted less than a day. No agreement was reached, and partly because of the way in which the mediation process was handled by the mediator (a representative of the Secretary of Commerce), the CZMA's innovative mediation provision was rarely used thereafter. The mediation process was unworkable because a federal official could not be viewed as an impartial party in the mediation of differences between a state and the Department of the Interior—another federal agency—concerning an OCS lease sale.

Negotiations Concerning OCS Leasing off California

During the period from June 1985 to July 1987 Secretary of the Interior Donald P. Hodel personally promoted a series of negotiations with the California congressional delegation and the Governor of California to resolve conflicts related to the development of the 5-year OCS leasing program and its proposals with respect to the California OCS. Over 20 meetings with members of Congress were held, and numerous consultations with the governor and his staff took place in an effort to agree on a leasing proposal for the California OCS that would eliminate the annual congressional moratorium in effect since 1982. The negotiations failed to produce a leasing proposal that would be acceptable to all of the interested and affected parties. As a result, the 5-year program for 1987-1992 that ultimately was approved by Secretary Hodel included for leasing consideration areas that had been requested for deferral. Moratoria were enacted again to prohibit all leasing off California proposed in the approved 5-year program.

Negotiated Rulemaking on Air Quality Regulations for the California OCS

In 1986 Secretary Hodel commissioned a negotiated rulemaking on air quality that included MMS, EPA, the State of California, affected local governments and others. Numerous negotiating sessions were held, and progress was made in narrowing the gaps between disagreeing parties. However, the effort ended in 1988 with no final agreement, and the issue was resolved in 1990 with the enactment of amendments to the Clean Air Act, which effectively rescinded

MMS's jurisdiction over air quality on the OCS off California.

Institute for Resource Management Bering Sea Project

In 1986 the Institute for Resource Management (IRM) provided a forum in which industry, environmentalists, and fishery interests reached consensus on areas of the Bering Sea OCS to be recommended for inclusion for leasing consideration in the 5-year program for 1987 to 1992. The IRM proposal was submitted to the Department of the Interior for consideration in developing the 5-year leasing program but was not fully adopted, partly because state and federal officials and some key industry interests were not involved in the negotiations.

Office of Technology Assessment OCS Conflict Resolution Workshop

In 1986 the U.S. Congress promoted a conflict resolution effort concerning OCS issues. Its Office of Technology Assessment organized and sponsored a workshop involving key participants in the OCS decisionmaking process that produced a draft report and recommendations. However, there was no agreement by the participating parties on a final report.

Consultation with the State of North Carolina on the Manteo Unit

In 1989 the MMS, the State of North Carolina, and the operator of the Manteo Exploration Unit located off Cape Hatteras executed a Memorandum of Understanding (MOU) to govern analysis and consultation related to review and approval of an exploration proposal for that unit. In accordance with the MOU—and unprecedented in the process for considering an OCS exploration proposal—a detailed environmental report concerning the Manteo Unit proposal was completed in August 1990. However, the state did not concur on the operator's coastal zone consistency certifications for a discharge permit from EPA or for the exploration plan submitted to MMS.

The State of North Carolina's position on the Manteo Unit changed markedly following President George Bush's June 1990 findings and directives concerning the OCS program (described below). State officials felt that since they had been cooperating with MMS and others to study the proposed project, the president's decisions should have applied to that area as well as those such as Washington/Oregon and the North Atlantic. The North Carolina officials believed that the states adjacent to those OCS areas had been strongly opposed to OCS activity and had shown little or no willingness to work to resolve conflicts. North Carolina felt that those other states had been rewarded for their steadfast opposition while North Carolina had been penalized for its conciliatory approach. Thus, the state's opposition to the Manteo Project was solidified by the president's announcement, and officials successfully sought a congressional moratorium for the OCS off North Carolina.

PRESIDENT BUSH'S JUNE 26,1990 ORDER

By 1988, due to the prevailing controversy and conflict, the OCS program had become a presidential campaign issue. As a consequence of pledges he made during that campaign, President Bush brought about an abrupt change in federal OCS policy. On June 26, 1990, following analysis and recommendations by an Inter-departmental OCS Oil and Gas Leasing Task Force, he announced a series of decisions regarding the nation's offshore oil and gas program. The president's key directives were:

- cancel all scheduled sales off California, southern Florida, North Atlantic, Washington and Oregon, and withdraw those areas from leasing until after 2000 (except for 87 tracts

off southern California that could be considered for leasing in 1996 at the earliest, but only if studies satisfactorily address concerns related to those tracts);

- begin a process that may lead to buying back existing leases in the Eastern Gulf of Mexico off southern Florida;
- approve establishment of the proposed Monterey Bay Marine Sanctuary and ban oil and gas leasing there; and
- prepare a legislative initiative to provide coastal communities directly affected by OCS development with a greater share of the financial benefits of new development and with a larger voice in decisionmaking.

President Bush's decision was the first withdrawal of numerous and extensive areas of the OCS under the authority of section 12(a) of the OCS Lands Act, as amended. The stated objective of all of his decisions was to balance energy production and environmental protection and to allow the OCS program to go forward in the areas not withdrawn from leasing consideration. To the degree that these decisions were designed to eliminate the motivation for congressional moratoria, they did not succeed. The Congress continued to enact moratoria for the areas withdrawn by the presidential order and even expanded prohibitions to some areas and activities that had not previously been subject to moratoria.

The president's announcement did not specifically address the Alaska OCS. The State of Alaska generally has been receptive to the OCS program, especially in the Beaufort Sea and the Chukchi Sea. Alaska's opposition to the OCS program has been very narrow and limited to certain specific areas such as Bristol Bay. Leasing and exploration off Alaska have declined substantially as elsewhere, but mainly due to declining world oil prices in the mid-1980's and the lack of any major discoveries. Since the costs of operations in Alaska are so high, the price drop and poor exploration results made exploration less attractive for most companies. It should be noted, however, that recent discoveries in the Beaufort Sea and in the vicinity of Cook Inlet have sparked renewed interest.

CURRENT STATUS OF THE OCS PROGRAM

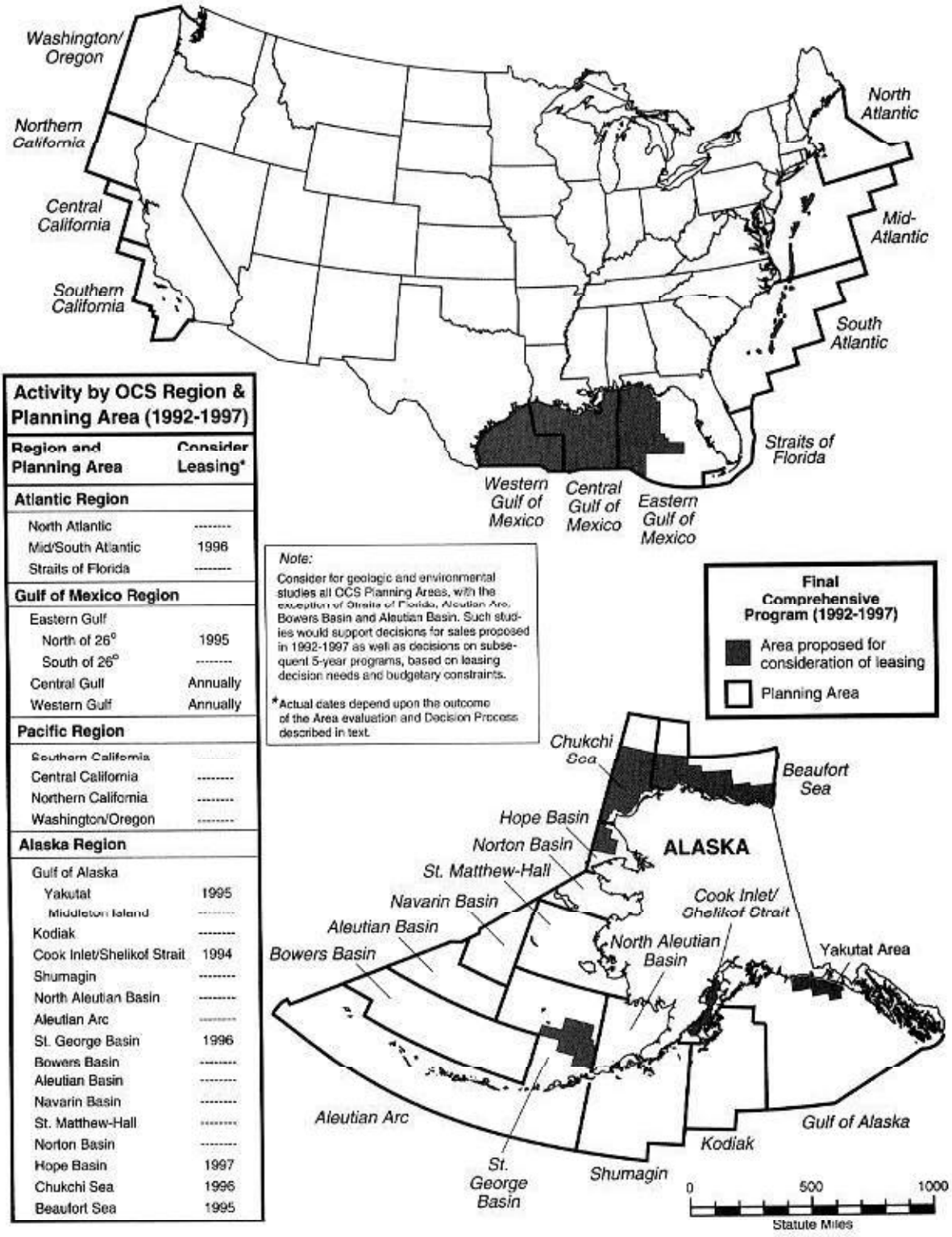
Reliability

5-Year Leasing Programs and Results Since 1982

Recent OCS 5-year leasing programs have proven unreliable for planning by MMS, other federal agencies, state and local governments, and the oil and gas industry. More sales were canceled or deferred than were held during the 5-year period 1987-1992, and few leasing milestones actually occurred in the months scheduled. Table 1 shows the number of sales scheduled versus the number held since 1982.

The Current 5-Year Leasing Program

The current program for 1992-1997 attempted to address the issue of reliability in two ways. First, and most important, there are fewer, smaller sales in less controversial areas so the likelihood is greater that proposed sales will actually be held and the sale preparation processes will go forward as planned. Second, an Area Evaluation and Decision Process (AEDP) was developed with built-in flexibility to accommodate delays. Figure 3 shows the general location and timing of OCS leasing proposed in the 5-year program for 1992-1997.



Activity by OCS Region & Planning Area (1992-1997)

Region and Planning Area	Consider Leasing*
Atlantic Region	
North Atlantic	--------
Mid/South Atlantic	1996
Straits of Florida	--------
Gulf of Mexico Region	
Eastern Gulf	
North of 26°	1995
South of 26°	--------
Central Gulf	Annually
Western Gulf	Annually
Pacific Region	
Southern California	--------
Central California	--------
Northern California	--------
Washington/Oregon	--------
Alaska Region	
Gulf of Alaska	
Yakutat	1995
Middleton Island	--------
Kodiak	--------
Cook Inlet/Shelikof Strait	1994
Shumagin	--------
North Aleutian Basin	--------
Aleutian Arc	--------
St. George Basin	1996
Bowers Basin	--------
Aleutian Basin	--------
Navarin Basin	--------
St. Matthew-Hall	--------
Norton Basin	--------
Hope Basin	1997
Chukchi Sea	1996
Beaufort Sea	1995

Figure 3. Proposed location and timing of OCS leasing under the 5-year program for 1992-1997.

Program	Lease Sales	Atlantic Region	Gulf of Mexico Region	Pacific Region	Alaska Region	*Total*
5-Year Program 1982-87[1]	**Scheduled**	8	12	4	16	*40*
	Held	2	12	3	6[2]	*23 (57%)*
5-Year Program 1987-92[3]	**Scheduled**	5	11	6	12	*34*
	Held	0	10[4]	0	4	*14 (41%)*

[1] One additional sale (RS-2) which reoffered tracts located in the Atlantic, Pacific and Alaska Regions that previously had been offered but not leased was also scheduled and held.

[2] Includes Sale 92, North Aleutian Basin, which was delayed by litigation. The sale planning process was completed in 1986, but MMS was enjoined from opening bids until 1988.

[3] Three additional sales (SU - 1, 2 and 3) which would have reoffered a limited number of tracts outside the Central and Western Gulf of Mexico were scheduled but not held.

[4] Includes Sale 116, Eastern Gulf of Mexico, which was divided into two parts. Part 1 was held, and Part 2 was not.

Table 1: Lease sales scheduled vs. lease sales held for each region,1982-1992.

Industry Response

Uncertainty over Unresolved Issues

While a main goal of the 5-year program for 1992-1997 is a predictable schedule, there remain operative issues that undermine the oil and gas industry's confidence in the OCS program. For example, some of the areas proposed for leasing consideration are now covered by congressional moratoria. Even more unsettling to the industry are efforts to mandate cancellation and repurchase of existing leases. These unresolved issues may have a dampening effect on the industry's interest in pursuing oil and gas resources outside the Central and Western Gulf of Mexico. Industry had generally viewed leases in the U.S. as reliable relative to contracts with foreign governments. That view is rapidly changing.

Declining Interest and Activity

As Table 2 indicates, even industry interest in the Central and Western Gulf of Mexico is dropping in large part due to the persistence of the lower world price of oil, an economic downturn, and anticipation of more costly environmental regulations. The decline of the nation's oil and gas industry has been as dramatic. Industry sources cite 450,000 jobs lost over the last 10 years. Many major oil and gas companies have redirected their efforts overseas and have radically cut back U.S. operations.

Year	Gulf of Mexico Region	Pacific Region	Alaska Region	Atlantic Region
1954	462			
1955	403			
1956				
1957				
1958				
1959	171			
1960	705			
1961				
1962	1,929			
1963		313		
1964	33	581		
1965				
1966	140	2		
1967	744			
1968	571	363		
1969	109			
1970	599			
1971	37			
1972	826			
1973	1,032			
1974	1,762			
1975	1,370	310		
1976	339		409	529
1977	605		405	
1978	1,052			245
1979	813	288	86	581
1980	935		199	
1981	1,308	321	79	557
1982	871	204	663	148
1983	5,394	44	883	274
1984	5,125	114	2,158	
1985	3,573			
1986	735			
1987	3,448			
1988	5,467		3,210	
1989	5,581			
1990	4,263			
1991	2,977		436	
1992	1,027			
1993	1,714			
Total by Region	***56,140***	***2,540***	***8,618***	***2,334***

Table 2: OCS acreage leased by region by year *(thousands of acres)*.

Figure 4 shows OCS exploration and development drilling for the period 1981 through 1992. Figure 5 shows exploration permits issued for the period 1974 through 1992.

Role of State and Local Governments

The role of coastal states in the OCS decisionmaking process is limited under federal law. Under the laws that have been governing the federal OCS program since its inception the states have a subordinate role to the federal government. Politically, however, the coastal states have played a significant role in the program.

Participation under the OCS Lands Act

The OCS Lands Act, as amended, mandates consultation with states, and they, along with local governmental bodies, can submit comments and recommendations on OCS program proposals. The Secretary must consider these recommendations and strike a proper balance as required by the statute. In developing a 5-year OCS leasing program pursuant to section 18 the Secretary is required to strike a balance between the potential for environmental damage and adverse impact on the coastal zone and the potential for the discovery of oil and gas. In considering a state governor's recommendations concerning specific lease sale proposals and development and production plans pursuant to section 19 the Secretary is required to strike a balance between the national interest and the well-being of the state's citizens. However, there is a great deal of discretion allowed in such balancing decisions, and the final decision rests with

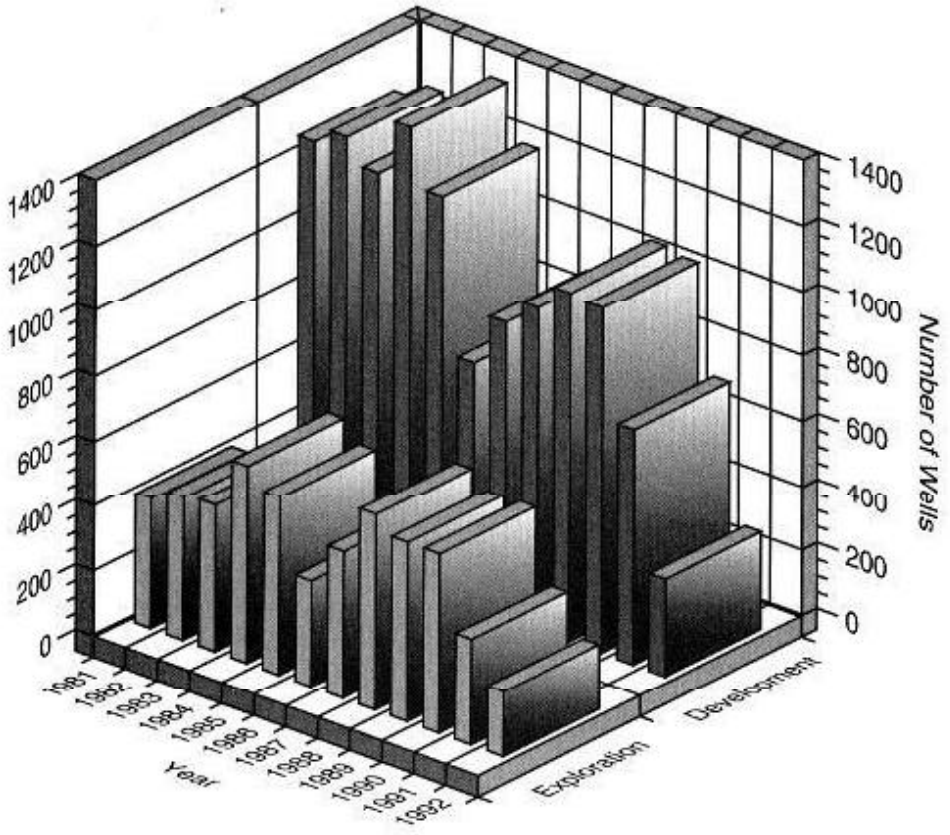


Figure 4. Drilling activity on the OCS, 1981-1992.

the Secretary. Numerous judicial opinions have upheld past balancing decisions by citing and affirming the federal government's primacy in the management of OCS resources.

Participation under the CZMA

The states have a somewhat stronger role under the CZMA, as a state may object to the approval of any exploration plan or development and production plan it deems to be inconsistent with its CZM program, thereby preventing MMS from approving necessary permits until the state's objection is resolved. Appeals can be made to the Secretary of Commerce to override state decisions under limited circumstances, but the criteria for such an override are very limited.

The most recent change in the management regime for the federal OCS program came about in 1990 with reauthorization and amendment of the CZMA to make OCS lease sales subject to federal consistency. The states previously had asserted that the

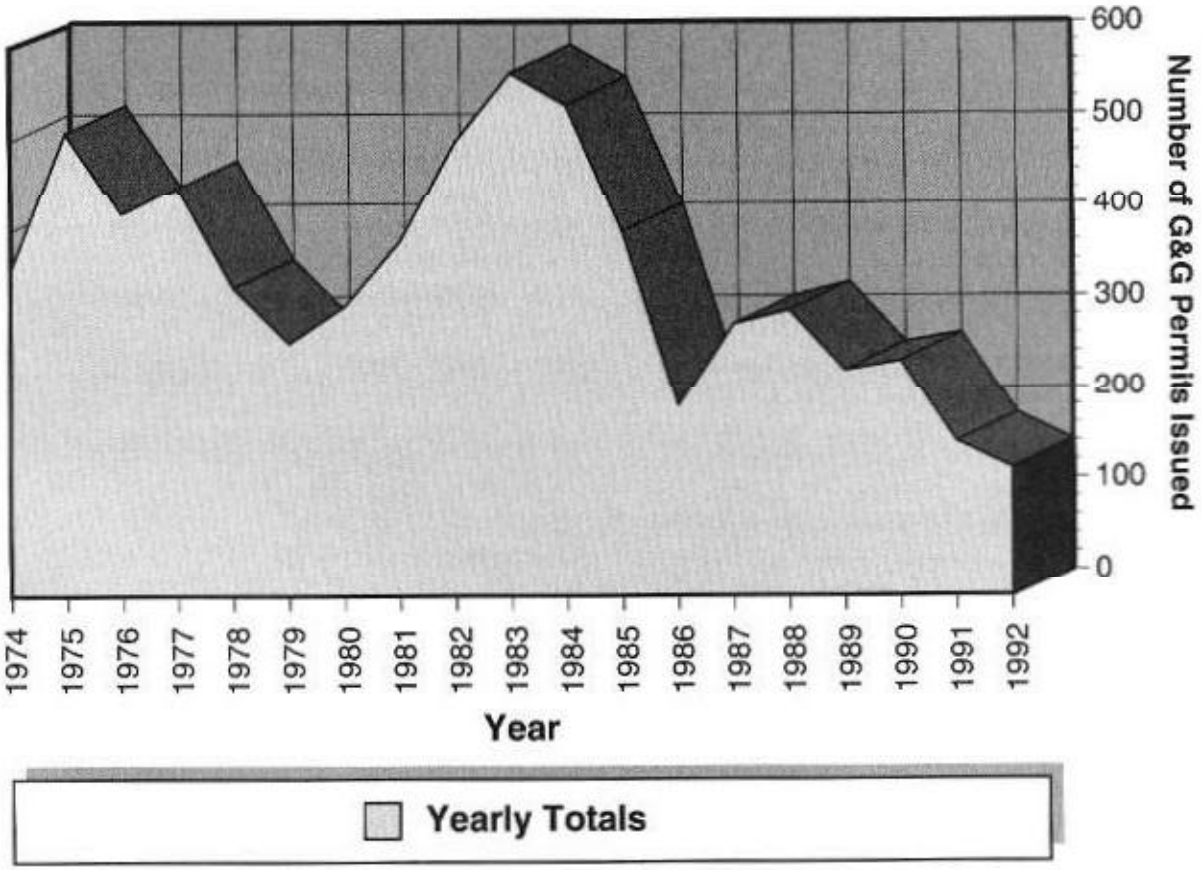


Figure 5. Geological and geophysical exploration on the OCS, 1974-1992.

consistency provisions of CZMA applied to OCS lease sales as well as plans and permits, but the Department of the Interior took the opposite view and was sustained by the Supreme Court in 1984. The 1990 amendment gave to the states the authority they had assumed before the Supreme Court's decision. The MMS now is required to prepare a determination that a lease sale is consistent with state CZM programs and to provide it to affected coastal states for review. If a state objects to such a consistency determination, it can recommend changes, but MMS is not obliged to accept them. If a state and MMS do not reach accord, the state can seek mediation or pursue litigation in federal court.

Legislative Proposals

Since the 1978 amendments to the OCS Lands Act, various proposals have been introduced in Congress to strengthen further the role of states in OCS leasing decisions. This legislation has focused on the obligation of the Secretary to accept recommendations of governors, the nature of the burden of proof on which decisions are based, and the legal tests that the Secretary must meet.

To date, no amendments modifying federal-state roles in decisionmaking, except the one mentioned above regarding consistency determinations, have been enacted. The primacy of the federal government on coastal and ocean issues for the most part remains intact.

Revenue Sharing

The disposition of revenues generated by offshore oil and gas activities has been a prominent issue for as long as OCS activities have been conducted and was a major factor underlying the contending claims and arguments over the continental shelf that predated establishment of the federal OCS program. Coastal states and localities have continuously requested a greater share of federal OCS revenues.

Coastal Energy Impact Program

The distribution of revenues through the Land and Water Conservation Fund (LWCF), National Historic Preservation Fund (NHPF), and pursuant to section 8(g) of the OCS Lands Act, as amended, is described in the discussion of economic considerations presented later in this report. In addition, the Coastal Energy Impact Program (CEIP) was authorized by Congress in 1976 amendments to CZMA. That program was enacted as a compromise among several revenue sharing proposals that had been advanced by states. The CEIP authorized grants, loans, and loan guarantees for planning assistance, financing public facilities and services, and compensation for unavoidable losses of environmental and recreational resources. Funding allocation criteria included equal division among coastal states, number of coastal energy facilities, amount of newly leased OCS acreage, volume of OCS oil and gas produced and first landed, and gains in new employment as a result of OCS activities.

CEIP Termination and Subsequent Legislative Proposals

The CEIP was funded from 1977 to 1981. Then, as part of its federal cost cutting effort, the Reagan administration decided not to request funding for the CEIP. With Congress channeling all available federal funding to CZMA administrative grants, the CEIP was unfunded and eventually deauthorized in 1990. A number of new revenue sharing proposals were then developed during the 1980's that would have provided OCS revenues to coastal States as grants and loans to be used for implementing the CZMA, for enhancing and managing living marine resources, and for related natural resource activities. Those new revenue sharing pro-

posals generally were designed to replace the CEIP.

The House twice passed revenue sharing bills that were killed by filibuster in the Senate, and no new revenue sharing legislation ever was enacted. The Reagan administration consistently opposed such legislation, citing concerns about the anticipated effect it would have on the federal budget. Another factor cited was the 8(g) settlement in 1985, which distributed to eligible coastal states more than $1.4 billion that had been held in escrow since enactment of the OCS Lands Act Amendments of 1978 and mandated the continued sharing of revenues from OCS tracts within the first three miles seaward of state waters.

President Bush made a case for revenue sharing in his June 1990 announcement, which recognized a need to assist financially the coastal communities most directly affected by OCS activity. His concept of impact assistance differed from past revenue programs and proposals that were criticized because they provided for indirect flow of revenues and inequity in revenue distribution. Following President Bush's directive, the Department of the Interior developed and submitted to the 102nd Congress a proposal for providing impact assistance to coastal states and communities located near OCS oil and gas activities. That proposal was adopted in a modified form by the Senate, but the energy legislation enacted by Congress in October 1992 excluded this and all other provisions relating to the OCS program.

Public Perception

The 1989 *Exxon Valdez* tanker oil spill that occurred in Prince William Sound, Alaska, had a profound effect on the public's perception of the OCS program even though the spill was not caused by OCS oil and gas drilling. That event, which rekindled concerns first raised after the Santa Barbara OCS oil spill some 20 years earlier, received intense and lengthy media coverage. The overall effect was to heighten concern about the possibility of similar accidents and to strengthen negative perceptions about offshore oil development. Despite arguments that development of domestic resources is necessary and beneficial, as well as reassurances about the environmental soundness of the OCS program, a large segment of the population remains unconvinced.

Current Assessment

It appears the OCS program has come full circle. Strong and broad opposition to most offshore development and related political polarization, the lack of new commercially viable discoveries outside historically producing areas, and persistent lower oil prices have dictated major cut-backs. While there is some OCS production activity off California and ongoing leasing and exploration off Alaska, the OCS program—similar to its beginnings in the 1950's—is at this time mainly concentrated in the Central and Western Gulf of Mexico, where annual lease sales have continued apace since the mid-1970's. Even the states in that region have expressed some concern and disgruntlement about shouldering the bulk of the nation's energy needs. Nevertheless, in that region offshore oil and gas still is viewed as an important and integral part of the economy, relatively few residents are opposed, and extensive infrastructure and overcapacity in the service industries have kept operating costs relatively low.

ENVIRONMENTAL CONSIDERATIONS RELATED TO THE OCS PROGRAM

Impacts

Oil and gas exploration and development and production activities that take place under the federal OCS program can cause a variety of impacts, some severe, to the marine and coastal environment. Those impacts may be the result of two general

types of activity or event. First, there are routine permitted activities that have chronic effects on the marine ecology and social or economic conditions onshore. Such activities include: the discharge of liquids and solids—including drilling muds—into the ocean; emission of gases; tanker, service vessel, and helicopter operations; and construction, operation and removal of facilities both offshore and onshore. Second, there are accidents such as oil spills that have acute effects. This latter category generally is viewed as much more threatening to the environment due to the damage and disruption a high-volume spill can cause to ecological resources and to coastal livelihoods and activities that depend on those resources. The effects of trash and debris originating from OCS facilities also is an area of great concern.

The activities and events associated with OCS oil and gas operations can result in ecological and socioeconomic impacts. Ecological impacts can include the degradation of water and air quality, lethal and sublethal effects on marine wildlife (e.g., birds, whales, turtles, and fish and shellfish), and damage to shorelines, wetlands and estuaries and the wildlife habitats they support. Socioeconomic impacts can include effects on coastal communities (e.g., changes in land use patterns, greater employment demands, higher population, and increased need for government services), effects on tourism and recreation (e.g., diminished aesthetics), hardship for commercial and recreational fishing interests (preemption or closure of fishing grounds and damage or loss of equipment), disturbance or destruction of historic or prehistoric archaeological resources, and interference with cultural and subsistence activities.

Operations Record

While large accidental oil spills have occurred as a result of OCS operations, there have not been many. Following the most notorious event resulting from operations on the federal OCS—the 1969 Santa Barbara blowout and oil spill—improvements in government regulation and industry practices and technology were implemented. Those reforms have resulted in OCS operations that have been relatively free of large accidental oil spills.

According to records maintained by MMS, since 1970 there have been 14 OCS oil spills of greater than 1,000 barrels, accounting for approximately 91 percent of the total volume of oil spilled. About 99 percent of all OCS spills have been in volumes of 10 barrels or less. Spills of 50 barrels or less have constituted about 96 percent of the total number of OCS oil spill events on record and have accounted for only some 2 percent of the total volume of oil spilled. Conversely, spills of greater than 50 barrels have constituted 4 percent of the number of OCS spill events and 98 percent of the volume spilled.

It is notable that no claims have ever been made against funds that have been maintained to provide compensation for oil spills resulting from OCS operations since enactment of the OCS Lands Act Amendments of 1978.

OCS Operations versus Tanker Operations

Table 3 lists oil spills of 1,000 barrels or more that have resulted from tanker operations in coastal and offshore waters versus spills of 1,000 barrels or more resulting from OCS operations during the period 1974 to 1992. Comparison of these data indicates that large oil spills have occurred more frequently and in greater quantities as a result of tanker operations—including those transporting imported oil—than as a result of OCS operations. However, it should be noted that when spills from tankers and OCS operations are compared in the context of the total volume of oil handled, the difference is less marked. Over the last ten years (1982-92) OCS activ-

Year	TANKERS[1]		OCS FACILITIES[2]	
	Number of Spills	Volume (BBL)	Number of Spills	Volume (BBL)
1974	6	89,676	2	23,333
1975	10	246,358	0	----
1976	8	389,340	1	4,000
1977	4	32,401	0	----
1978	5	15,744	0	----
1979	8	341,345	1	1,500
1980	7	73,475	2	1,456
1981	4	32,047	1	5,100
1982	2	2,466	0	----
1983	3	3,986	0	----
1984	10	138,073	0	----
1985	5	22,607	0	----
1986	5	24,419	0	----
1987	3	31,310	0	----
1988	3	39,350	1	15,576
1989	5	262,034	0	----
1990	4	139,077	2	10,992
1991	0	----	0	----
1992	2	5,760	1	2,000
Total	***94***	***1,889,468***	***11***	***71,957***

[1] Total of crude oil and refined product spilled in U.S. and coastal offshore waters.

[2] Total of crude oil and condensate spilled from facilities on Federal OCS leases (all spills listed took place in the Gulf of Mexico OCS).

Table 3: Oil spills from tankers vs. oil spills from OCS facilities *(spills of 1,000 barrels or more)*, 1974-1992.

ities have resulted in 10 bbl of oil spilled per million bbl handled, while tankers in U.S. waters have resulted in 18.5 bbl spilled per million handled. The spill rate for tankers carrying imported oil over the same period was 12 bbl per million handled (the 1989 *Exxon Valdez* spill accounts for the increase to 18.5 bbl spilled for all tankers in U.S. waters).

One factor that diminishes the likelihood of OCS blowouts and oil spills in volumes comparable to tanker spills such as the *Exxon Valdez* incident is the nature of OCS oil reservoirs. Oil is currently produced in the Gulf of Mexico and Pacific OCS regions. Thirty-six percent of the producing wells in the Pacific Region and 90 percent of the wells in the Gulf of Mexico Region require artificial lifting of their oil with pumps or the use of gas. The average rate of production for wells in the Pacific Region is 9 barrels per hour, and the average rate for the Gulf of Mexico Region is 8 barrels per hour. Such reservoir characteristics make extremely large spills improbable.

Over 98 percent of the production from the OCS is transported by pipeline. While the overall spill record of OCS operations is

better than the record of tanker operations, in recent years concerns have grown about the aging pipeline system in the Gulf of Mexico.

In late 1992 legislation was enacted to address concerns about the nation's pipeline system, both onshore and offshore. The Pipeline Safety Act (P.L. 102-508) amends the Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquid Pipeline Safety Act of 1979, stressing environmental protection and providing for increased training, inspection, and reporting requirements with respect to pipelines transporting oil, natural gas, and hazardous liquids. One key feature of the new law is the requirement for use of internal inspection devices known as smart pigs to detect and pinpoint the location of weakness or damage in pipelines. It also includes provisions for replacing cast iron pipelines and for reporting on abandoned underwater pipeline facilities.

Recent Measures to Improve Safety and Pollution Prevention in OCS Operations

While the overall environmental record of OCS operations has been good, the offshore industry recognized that in the aftermath of the *Exxon Valdez* oil spill in 1989 there was a compelling need for improved management in all phases of oil and gas activity in the nation's coastal waters. Also in response to that oil spill and other major spills that followed, the Congress in 1990 enacted the Oil Pollution Act (OPA) to consolidate and strengthen pollution prevention requirements applying to petroleum producers, transporters, and handlers both onshore and offshore. The offshore industry has taken measures to promote safety and pollution prevention both on its own initiative and to comply with the OPA. Some of those key measures are highlighted and discussed below.

American Petroleum Institute (API) Recommended Practice 75 (Safety and Environmental Management Program):

Based on guidance provided by the MMS Inspection Task Force and the National Academy of Sciences Marine Board, the MMS has supported the development of a structured and comprehensive nonregulatory method for reducing the risk and occurrence of accidents, injuries, and oil spills in the OCS. The API formulated a voluntary standard—Recommended Practices for Development of a Safety and Environmental Management Program for OCS Operations and Facilities (RP 75)—with input from MMS. RP 75 recommends that each OCS operator develop a safety and environmental management program (SEMP) to govern design, construction, operation, inspection, and maintenance of drilling and production facilities and provides guidance to assist operators in program formulation.

Since RP 75 was published in May 1993, the API and the Offshore Operators Committee (OOC) have conducted workshops to promote its voluntary implementation. The MMS has informed the API and OOC that RP 75 provides a good foundation for promoting safety and environmental protection. Further, the MMS is working with those two organizations in monitoring and assessing the offshore industry's success in implementing RP 75 in order to determine whether SEMP should be pursued as a regulatory requirement.

In September 1993 API issued another Recommended Practice (RP 14J), which assembles into one document useful procedures and guidelines for planning, designing, and arranging offshore production facilities and performing hazards analysis on open-type offshore production facilities.

Marine Spill Response Corporation (MSRC):

The MSRC was proposed by the offshore industry in order to meet Coast Guard requirements for responding to major oil spills pursuant to the OPA. The Coast Guard ordered companies that ship or produce oil

in U.S. coastal waters to have oil spill response plans and capability in place by August 18, 1993. The MSRC, a private oil spill response contractor for offshore shippers, became fully operational by that deadline, spending some $400 million on ships and gear in preparation. It has stationed equipment and trained personnel in order to be able to make the best effort at responding to oil spills in volumes ranging between 1,200 to 210,000 barrels in U.S. coastal waters. The MSRC will have an operating budget of about $90 million per year.

International Code for the Safe Operation of Ships and for Pollution Prevention:

Recently the United Nations International Maritime Organization (IMO) has taken action to adopt the International Management Code for the safe operation of ships and for Pollution Prevention (ISM Code) and to urge member governments to adopt the ISM Code at the earliest possible opportunity. In response to the IMO's initiative the U.S. Coast Guard's National Offshore Safety Advisory Committee has formed a working group to develop guidelines implementing the ISM Code in the U.S. offshore industry. Such guidelines will include minimum standards individual companies must meet to demonstrate compliance with the ISM Code and will outline steps to be taken to ensure continued compliance.

Industry Initiative on Marine Waste and Debris:

Through the OOC based in New Orleans, the oil and gas industry has established a program to reduce waste and debris offshore, commit more companies to sound waste management practices, and provide educational tools and public information concerning marine debris. One of the goals of this program is to increase participation in semi-annual beach cleanups sponsored by the Center for Marine Conservation and various coastal state agencies.

Development of OCS Natural Gas

Most of the energy produced from the OCS is in the form of environmentally preferable natural gas. Natural gas also comprises more than half of proven OCS reserves and about 55 percent of estimated undiscovered OCS resources. Not only does the use of natural gas produce less pollution than most other conventional energy sources, development and production of gas is unlikely to result in oil spills. Generally, natural gas incidents on the OCS have resulted only in the loss of gas into the atmosphere, which has caused no discernible adverse effects.

Technological Advances

The U.S. offshore industry has been preeminent in the development of technology for OCS oil and gas operations. In addition to the equipment and practices used in the relatively calm seas and conventional water depths of the mature Gulf of Mexico OCS, technology has been developed for application in harsh sea ice conditions such as those found in the frontier areas of the arctic OCS, and exploration has been accomplished safely in other areas with waters several thousand feet deep and relatively strong ocean currents. Current OCS technology also includes production systems that have been in operation for several years in over 1,000 feet of water in the Gulf of Mexico.

The industry's technological achievements also include the development of equipment and practices for operation in specific sensitive environments. For example, in certain biologically sensitive and nearshore areas of the Gulf of Mexico where the effect of discharges of drilling fluids and cuttings is of greater concern mobile offshore drilling rigs with closed systems allowing zero discharges to the ocean have been used.

Cooperative beach clean-up efforts in the Gulf of Mexico.

Another example is a proposal for time-shared use of one electric powered rig off California to accomplish exploration while minimizing emissions in an area where air pollution is of great concern.

The offshore industry's record of technological advances is in line with the new presidential administration's stated emphasis on the development of new technologies for the nation's use. This industry has been at the forefront of improvements that promote economic growth and development while complying with applicable laws and regulations.

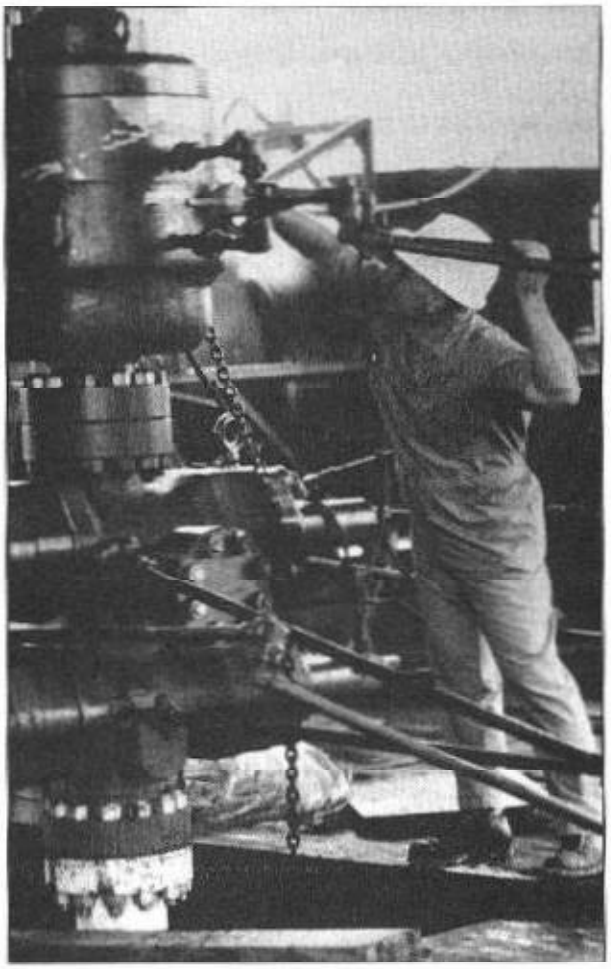
The U.S. offshore industry also exports billions of dollars worth of equipment and services for use overseas. However, in order to continue such exports and reap the associated economic benefits it will be necessary to maintain the domestic base of expertise in the oil and gas industry.

Leasing and Permitting Processes

The MMS's review and decisionmaking processes form the basis of an established administrative and regulatory regime for OCS leasing, exploration and development and production activities. Those processes are described briefly below, and relevant diagrams are presented in Appendix B.

Evaluation of Areas for Leasing Decisions

Preparation of the 5-year leasing program for 1992-1997 included the formulation of a new process for deciding whether and under what conditions to hold individual lease sales in the areas proposed for leasing consideration. That process—the Area Evaluation and Decision Process (AEDP)—provides the framework for acquiring information, coordinating and consulting with interested and affected parties, and formulating specific leasing options for final decision. It is a multi-step process spanning 2 to 3 years that affords flexibility in deciding whether to proceed, delay, or stop the process at key points.



An MMS inspector at work offshore on a drillship.

Figure B-1 depicts the AEDP.

Exploration Plan Review and Permitting

Regulations at Title 30 of the Code of Federal Regulations, Part 250.33 (30 CFR 250.33), require OCS lessees to submit and receive approval of an exploration plan and required permits before proceeding with drilling for oil and gas. The MMS reviews each exploration plan and supporting information—including a detailed oil spill contingency plan—and forwards copies for simultaneous review by affected States and by other interested and affected federal agencies including the Fish and Wildlife Service, EPA, Coast Guard, Army Corps of Engineers, and National Oceanic and Atmospheric Adminis-

tration. Exploration plans are subject to the consistency provisions of the CZMA and undergo state consistency review for up to 180 days. While an exploration plan may be approved by MMS before required state consistency determination is received, required permits for the activities proposed in the plan may not be issued—and the project may not commence—until state consistency concurrence is granted.

Among the permits necessary for OCS exploration drilling are: MMS-approved Application for Permit to Drill; Coast Guard aids to navigation and certification of mobile offshore drilling unit; Army Corps of Engineers navigation permit; and EPA National Pollutant Discharge Elimination System permit. In addition, the exploration must comply with specific lease stipulations developed by MMS as well as the requirements of laws including the Clean Air Act, Oil Pollution Act, Endangered Species Act, and Marine Mammal Protection Act.

Figure B-2 depicts the exploration plan review and permitting process.

Development and Production Plan Review and Permitting

Regulations at 30 CFR 250.34 require OCS lessees to submit and receive approval of a development and production plan before proceeding to bring to production oil and gas resources discovered by exploration activities (for leases in the Central and Western Gulf of Mexico areas, an abbreviated form of plan known as a development operations coordination document meets the requirement in lieu of a full-blown development and production plan). As with exploration plans, development and production plans receive simultaneous review by states and other federal agencies. They are also subject to similar CZMA consistency review requirements but, unlike exploration plans, may not be approved until consistency concurrence is granted.

Development and production operations require permits similar to those necessary for exploration. Additional permits related to design, fabrication and installation of platforms and production and transportation of oil and gas also are needed.

Figure B-3 depicts the development and production plan review and permitting process.

The Environmental Review Process

The National Environmental Policy Act (NEPA) requires environmental review of OCS leasing proposals and operations plans. According to NEPA, a detailed environmental impact statement (EIS) must be prepared for any proposed major federal action that will significantly affect the quality of the human environment. The MMS prepares an EIS for proposed OCS 5-year leasing programs, for each proposed lease sale, and for development and production plans for leases in areas other than the Central and Western Gulf of Mexico. Development operations coordination documents for leases in the Central and Western Gulf undergo an environmental assessment to determine whether a particular plan would have significant impacts and therefore lead to preparation of an EIS. Exploration plans, except those submitted for leases in the Central and Western Gulf, also undergo an environmental assessment. Since the numerous environmental assessments conducted in the Central and Western Gulf have indicated that the activities proposed in exploration plans would have no significant environmental impact, they have been classified as categorical exclusions from the NEPA requirements and are subjected to a more limited environmental review.

The EIS prepared if it is determined that a proposal constitutes a major action with significant impacts provides a comparison of the potential environmental impacts of the proposed action and the alternatives under

consideration. Since there is a large degree of uncertainty at the time a new program is developed or when a lease sale is proposed regarding the location and extent of impact-causing activities that could result, the EIS's prepared for such proposed actions analyze a number of scenarios, including highly unlikely events such as large oil spills.

Public Participation

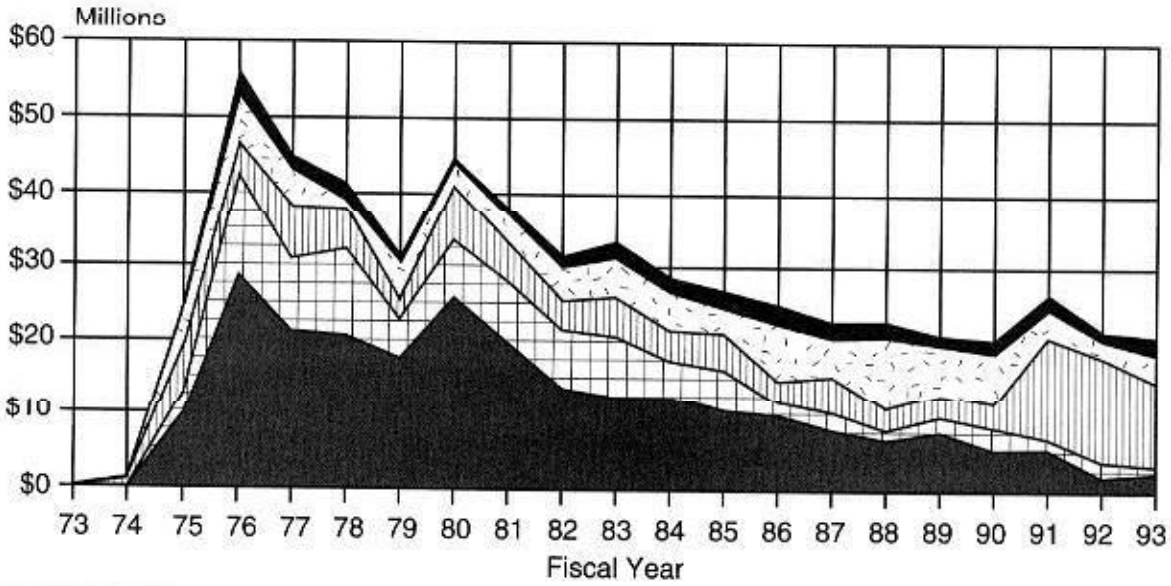
There are several opportunities for public participation throughout the preparation of an EIS. Prior to initiation of the EIS, the public and federal and state agencies assist MMS in determining the scope of the EIS. These same parties also review the published draft EIS and provide comments in writing or at public hearings for use by MMS in preparing the final EIS. As interest in the OCS has increased, MMS has provided additional opportunities for public involvement, such as public meetings in local communities in Alaska to hear concerns about scheduled OCS activities.

The effectiveness of public consultation efforts in the environmental review process has been questioned by interested and affected parties. For example, on one hand some state and local governments and environmental groups have complained that MMS displays a disengaged—if not condescending and dismissive—attitude at public hearings, and the result is that their concerns and comments are not treated seriously. On the other hand MMS believes that opponents of the OCS program have abused public hearings by staging media events and taking other disruptive actions designed to stop proposed OCS actions from proceeding. Also, the EIS scoping process has been criticized as being a one-way collection of information rather than an interactive consultation with interested and affected parties.

The Environmental Studies Program

The Department of the Interior's Environmental Studies Program was initiated in 1973 to support the OCS oil and natural gas leasing program. The OCS Lands Act Amendments of 1978 established the environmental studies program by law and cited its goal as providing information needed for prediction, assessment, and management of impacts on the human, marine and coastal environments of the OCS and nearshore areas that may be affected by offshore activities. Through Fiscal Year (FY) 1992 the program expended over $562 million on such research. Figure 6 shows environmental studies program spending by FY for each OCS region.

Between 1973 and 1978 the environmental studies program consisted primarily of baseline and monitoring studies. The baseline studies were large-scale, multidisciplinary projects designed to identify the biology and physical characteristics of the areas of concern in detail, and they were based on syntheses of available literature and data. In concept the monitoring studies would follow baseline studies to identify changes in measurable environmental characteristics relative to the baseline data as OCS activities proceeded. However, during 1977 to 1978 reviews of the program by the General Accounting Office and the National Research Council criticized the baseline/monitoring approach because natural variability in the marine environment made it impossible to establish statistically valid characterization over wide geographic areas. Subsequently, the studies program was restructured to tie the program to management decisions and focus on information needed to support the lease sale process. Figure 7 compares the total amount of money that has been spent on environmental studies and the acreage offered for lease for each OCS region. Figure 8 provides similar information on studies expenditures versus acreage actually leased.



	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
Total	$0.37	$1.38	$24.06	$55.59	$44.81	$40.92	$31.28	$44.72	$37.51	$30.95	$33.53	$28.81	$26.75	$25.40	$22.96	$23.08	$21.05	$20.08	$26.98	$21.76	$20.69
HQ	$0.37	$0.06	$0.92	$2.01	$1.48	$1.73	$0.55	$0.45	$0.65	$1.23	$1.83	$1.40	$1.52	$1.77	$1.77	$1.50	$1.06	$1.76	$1.61	$1.06	$2.46
Pacific	$0.00	$0.12	$4.58	$6.44	$4.86	$1.18	$4.64	$3.49	$3.15	$3.81	$5.20	$5.09	$3.85	$7.82	$5.30	$10.08	$6.32	$5.57	$4.33	$2.56	$4.33
G.O.M.	$0.00	$1.21	$5.72	$4.40	$7.57	$5.60	$2.86	$7.17	$4.64	$3.88	$5.48	$4.00	$4.63	$2.96	$5.41	$3.31	$3.94	$4.13	$13.29	$12.88	$9.48
Atlantic	$0.00	$0.00	$2.89	$13.78	$9.35	$11.71	$6.15	$9.99	$9.04	$7.84	$7.04	$5.17	$5.07	$6.21	$1.84	$0.53	$1.42	$2.27	$1.36	$3.10	$1.19
Alaska	$0.00	$0.00	$9.97	$28.97	$21.56	$20.69	$18.11	$25.28	$19.63	$14.19	$13.18	$13.15	$11.38	$10.34	$8.54	$7.20	$8.31	$6.35	$6.20	$2.16	$3.26

Source: Minerals Management Service, March 1993.

*Note: FY1993 numbers are estimates

Figure 6. OCS Environmental Studies Program - Total spending by region and fiscal year, 1973-1993.

National Research Council Reviews

In 1986 the MMS contracted the NRC to conduct an independent evaluation of the program and make specific recommendations. The NRC has issued four separate reports presenting findings on the MMS environmental studies program with respect to the following topics: physical oceanography; ecology; socioeconomics; and lessons and opportunities. While the NRC reports include compliments for many topical and regional segments of MMS environmental studies program, they also note a number of specific deficiencies and provide recommendations for dealing with them. Key NRC recommendations are listed below.

Key Recommendations of the Physical Oceanography Report

- MMS should support studies on physical oceanographic and meteorological processes that are relevant to MMS missions. Modeling physics and methodology for oil-spill studies should be revised and improved continuously.

- MMS should not rely on modeling results alone without using field observation data to fully test and verify the models.

- MMS should continue to work cooperatively with other agencies. Program priorities and operating proce-

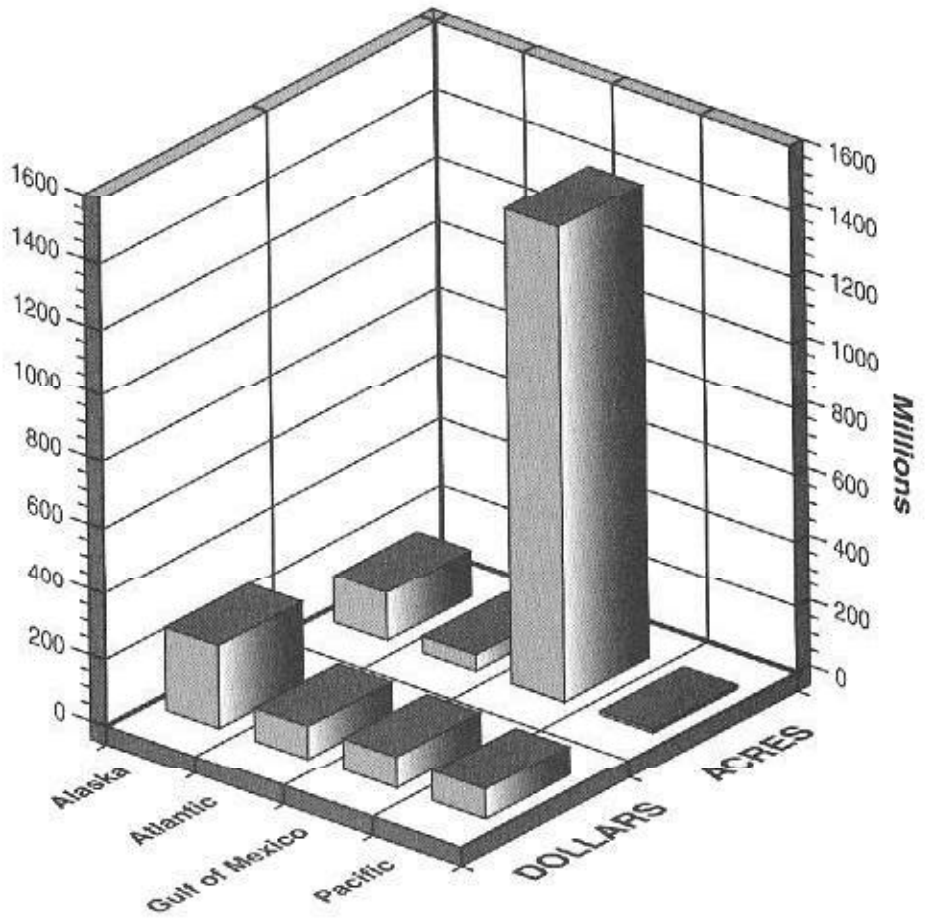


Figure 7. Total environmental studies spending vs. total acreage offered for each OCS region through 1992.

dures should be timely modified to reflect the advancement of science and availability of resources.

Key Recommendations of the Ecology Report

- MMS should support more *"process-oriented"* studies to understand why species congregate where they do.
- MMS should monitor the various impacts of development and production, including routine discharges, to assess chronic effects.
- MMS studies should be integrated across disciplines, such as joint ecological and physical oceanography studies.
- MMS should improve its data management.

Key Recommendation of the Social and Economic Report

- While the NRC did not make specific study recommendations, it suggested a three-phase approach to designing a national socioeconomic program.

Key Recommendation of the Lessons and Opportunities Report

- MMS should strengthen the role of the Scientific Committee of the OCS Advisory Board and pay greater heed to its advice. Key officials in MMS and the Department of the Interior should use the Scientific Committee more effectively in the interpretation and application of environmental information in the OCS decisionmaking process.

The recent reviews by the NRC and others have demonstrated the importance of the studies program in providing information needed by the public, states, and federal government for making informed management decisions in the offshore oil and natural gas program.

Funding Constraints

While demands for information have continued to increase, the budget for the studies program has been decreasing. The program's FY 1993 budget of approximately $19.7 million is about one-third of its peak annual funding level of $55.6 million. Program reviews such as those performed by the NRC and the North Carolina Environmental Sciences Review Panel continue to identify new topics for study. However, with the current budget constraints, only a small portion of candidate new study topics can be

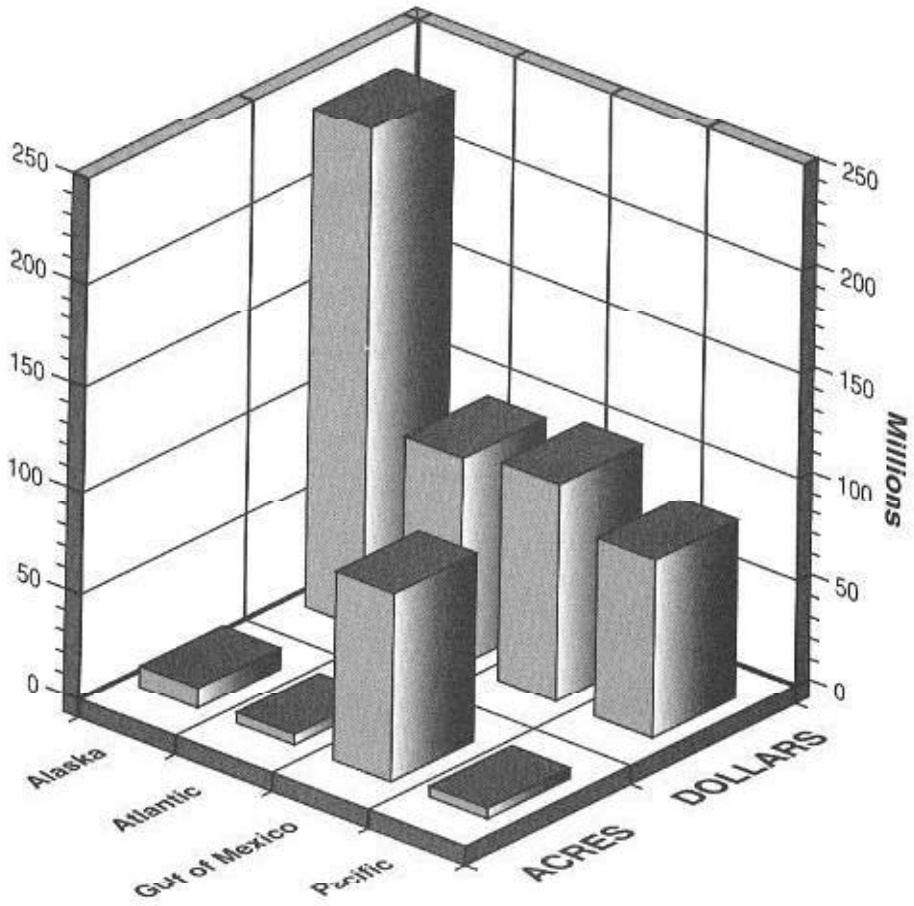
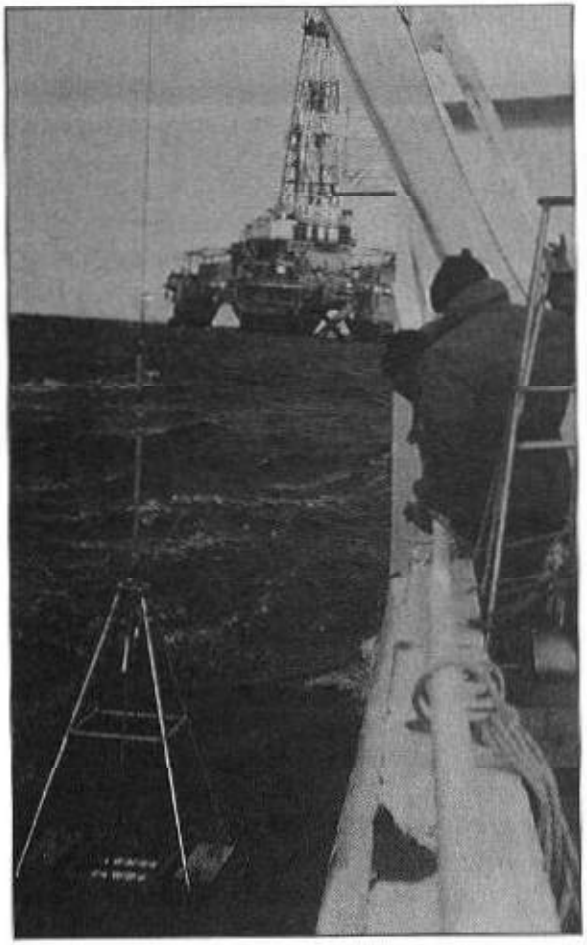


Figure 8. Total environmental studies spending vs. total acreage leased for each OCS region through 1992.



Scientists collect samples for use in the Environmental Studies Program.

addressed by the ESP. The MMS is, by and large, focusing the studies on areas where leasing is scheduled rather than in areas excluded from the 5-year program, even though such excluded areas may have been cited as needing additional studies by the NRC. Before the areas excluded by the president and the Congress can be included for leasing consideration in a future 5-year program, the recommended studies are needed, but there is only enough money to study areas in the current 5-year program. Until enough funds are made available to do the necessary studies in excluded areas as well as the studies in areas included in the 5-year program, MMS will be prevented from studying the excluded areas *or* considering them for leasing.

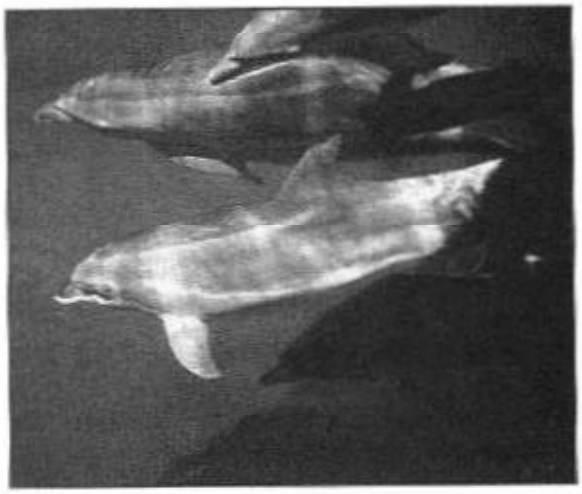
Information Adequacy

Another dilemma related to the environmental studies program concerns the adequacy of scientific information. In recent years the NRC and others have conducted assessments of the volume and quality of data available for specific OCS planning areas. While such assessments have proved useful in identifying specific data gaps, they have demonstrated that there is no simple prescription for scientific data that can be applied across the board for the OCS program.

ENERGY AND ECONOMIC CONSIDERATIONS RELATED TO THE OCS PROGRAM

Recent History—Oil

Emerging from World War II, the United States enjoyed dominance in military affairs, the international economy, and the world petroleum market. However, the post-World War II era brought major changes that would alter the world forever. The amount of oil Americans consumed increased faster than new domestic reserves could be found, and the U.S. was transformed from the world's swing producer to a net importer of oil, depending upon imports to supply close to half of its oil by the latter part of the 1960's.



Dolphins observed by MMS scientists.

Reserves under the control of members of the Organization of Petroleum Exporting Countries (OPEC) increased tremendously, especially in the West Asian OPEC countries, such as Saudi Arabia, Iraq, Kuwait, and Iran.

Throughout the less developed nations of the world there was a rising tide of nationalism that would transform the relationship between the industrialized nations of the West and the countries that were increasingly supplying the oil that fueled western economies. At the same time the "environmental" movement began to gain support in the Western world, as people became more concerned about the massive changes in the environment caused by human activities. Television footage of oiled sea birds and mammals caused by the blowout off Santa Barbara in 1969 created a lasting impression.

During this period production from the OCS not only increased in volume but also in the percentage it represented of total domestic production. By 1970, the peak year for domestic oil production, OCS oil accounted for more than one-tenth of the domestic total and, combined with production in state waters, accounted for one-sixth of domestic oil production. By the early 1970's, domestic production was declining, and reserves were falling at an even faster rate. The United States had increased its reliance on Middle East oil imports to such a degree it was unable to respond effectively to the Arab oil embargo of 1973.

Energy Crises in the 1970's

At the start of each of the oil crises of the 1970's, the economy was booming, with low unemployment. Inflation was increasing, interest rates were high, and a mild recession was predicted for the following year. However, when the Yom Kippur War began in 1973, Arab countries stopped oil shipments to those countries supporting Israel and for the first time OPEC unilaterally implemented large price increases that sent the price of oil from about $3 per barrel in October of that year to more than $11 per barrel two months later in December. In 1979 the Iranian revolution and the beginning of a long war between Iran and Iraq created a second major oil supply disruption and price shock in world markets. The price of oil doubled from $17 per barrel to $34 per barrel with some prices even higher in the spot market. In the aftermath of these two oil shocks the import dependent U.S. economy experienced its two worst post-World War II recessions during 1973-1975 and 1980-1982. The National Petroleum Council, in a study requested by the Secretary of Energy, estimated that the 1973 and 1979 energy price increases shrank the economy by about 2.5 percent and 3.5 percent, respectively.

The last two decades have seen several very different energy policies under successive presidents. The U.S. went from price controls and allocation schemes under Nixon to an emphasis on government incentives for conservation and synthetic fuels under Carter to an aggressive market-based, supply-side policy under Reagan to a less aggressive market-based strategy under Bush.

While early federal policies tended to exacerbate the problems underlying the symptoms they addressed, some of the policies initially implemented during the mid-to-late 1970's did help to reduce the Nation's vulnerability to future supply disruptions. Among these were new automobile fuel efficiency standards (set to more than double fuel efficiency over 10 years from 13 miles traveled per gallon of gasoline to 27.5 miles per gallon), the opening of more OCS acreage to leasing, and decontrol of domestic prices. In addition, the expectation of higher prices and the fear of further nationalization in the less developed countries led to a huge increase in exploration drilling in the U.S. and other

developed countries. Furthermore, generally increased energy prices encouraged more efficient energy use and prompted investments in the development of alternative energy sources.

Declining Prices in the 1980's

In 1982 the economic recession, increased energy efficiency, and lower usage patterns developed in response to high prices caused a large drop in U.S. and European demand for oil, creating a glut on the world oil market. World oil prices began to decline until suddenly in 1986 prices plummeted when certain Middle East nations increased production in order to reclaim market shares lost to other producers.

While the large drop in oil prices since 1985 has benefitted the economy and consumers by reducing inflationary pressures, it also has helped to increase our dependence on oil imports and our vulnerability[2] to the kind of supply and price disruptions of the 1970's. Because of increases in both onshore and offshore production in response to higher prices and favorable policies and because of a conscious effort to decrease the share of imports from OPEC countries, by 1985 the U.S. had diversified its sources of supply to the point where the nation would be much better able to withstand the kind of events that occurred in 1973 and 1979. However, lower prices brought increased consumption and reduced the incentive to develop and produce the higher-cost domestic supplies, depressing onshore and offshore exploration and production activity. Thus, imports and, more specifically, imports from OPEC countries began to increase both in total volume and as a percentage of overall supply. While OCS oil and gas cannot make the U.S. self sufficient, they can, in conjunction with other actions, help the nation lessen its vulnerability to supply disruptions, especially if the U.S. is the target of an embargo or if a war breaks out between major suppliers.

Recent Consumption Patterns

In the last two decades the United States has made substantial progress in using energy more efficiently and in converting many fuel uses from oil to other energy sources. However, much of the investment responsible for this progress was made when oil prices were high, and fuel efficiency has not played as important a role in investment decisions since the mid-1980's. Therefore, the Nation's petroleum consumption has begun to rise again and is at about the same level as it was twenty years ago, before the Middle East oil embargo of 1973 that prompted our efforts at conservation and the use of alternative energy sources in the first place.

Three phenomena related to consumption patterns are clear from recent data on domestic energy use. First, as one might expect, consumption of oil generally has been inversely related to price—it fell after the price hikes of 1973 and 1979, and it rose after prices dropped dramatically in 1986. Second, there has been no major shift to alternative fuels in response to the large oil price increases of the 1970's and, absent

[2] "Dependence" and "vulnerability" are related, but not synonymous concepts. Our dependence on imports is measured by how much of our oil we buy from foreign sources, while our vulnerability to supply and price disruptions is determined by how much damage those disruptions would do to the economy. For example, the *ability* to switch from oil to other fuels does not by itself reduce our dependence on imports, but it does lessen the vulnerability of our economy to both supply and price disruptions. Reliance on a variety of sources reduces vulnerability to supply disruptions (but not to large price increases). The Strategic Petroleum Reserve reduces our vulnerability to short-term supply disruptions and can be used to moderate price spikes.

sustained higher prices or government intervention, oil is expected to continue to be the primary transportation fuel for at least several more decades[3]. Third, total consumption of primary energy has increased since 1972, indicating that increased energy efficiency and lower usage patterns have not fully compensated for other factors—such as growth in the economy and population—that have increased demand for energy.

Recent Domestic Exploration and Production

While average U.S. petroleum consumption declined only slightly from 1988 to 1992, domestic crude oil production is now at its lowest level in about 30 years, falling from an average of 9.0 million bbl per day in 1985 to just over 7 million bbl per day in the latter half of 1992. The reduction of 500,000 bbl per day between 1988 and 1989 was the largest yearly decline ever.

Domestic production declines reflect the generally low level of exploration activity over the past few years in response to low crude oil prices. In 1981, when President Reagan removed the last federal controls on oil prices, the rig count reached an all-time high of 4530 active rotary drilling rigs running. The weekly average rig count has recently fluctuated from the mid-to-high hundreds.

Figure 9 shows the steady drop in domestic oil production from about 9 million bbl a day in the mid-1980's to about 7 million in the early 1990's.

Recent History—Natural Gas

Natural gas did not become a common source of energy outside of gas-producing areas until the 1940's, when demand increased and transmission systems improved. Total gas consumption, at 3 trillion cubic feet (Tcf) in 1940, roughly doubled every 10 years, until it peaked at 22 Tcf in 1972, when it accounted for almost a third of our energy consumption.

Regulation of prices at the wellhead for natural gas bound for interstate markets, beginning in the mid-1950's, helped spur the growth of natural gas consumption and set the stage for supply problems in the 1970's. Regulators based allowable prices on the cost of supplying the gas, so the price faced by consumers was higher than the cost of producing "old gas" but lower than the cost of "new gas," which was more expensive to find and produce. Thus, the effect was to encourage consumption while discouraging exploration and production. In addition, because only interstate markets faced Federal price regulation, producers were encouraged to sell their gas on intrastate markets, where prices were allowed to rise to account for the cost of replenishing reserves. In 1968, the prices of newly contracted gas for intrastate markets were 18 percent higher than those for interstate markets (although average intrastate prices were still lower). In 1975 newly contracted intrastate gas prices were 150 percent higher than interstate gas prices. This placed further downward pressure on interstate gas supply.

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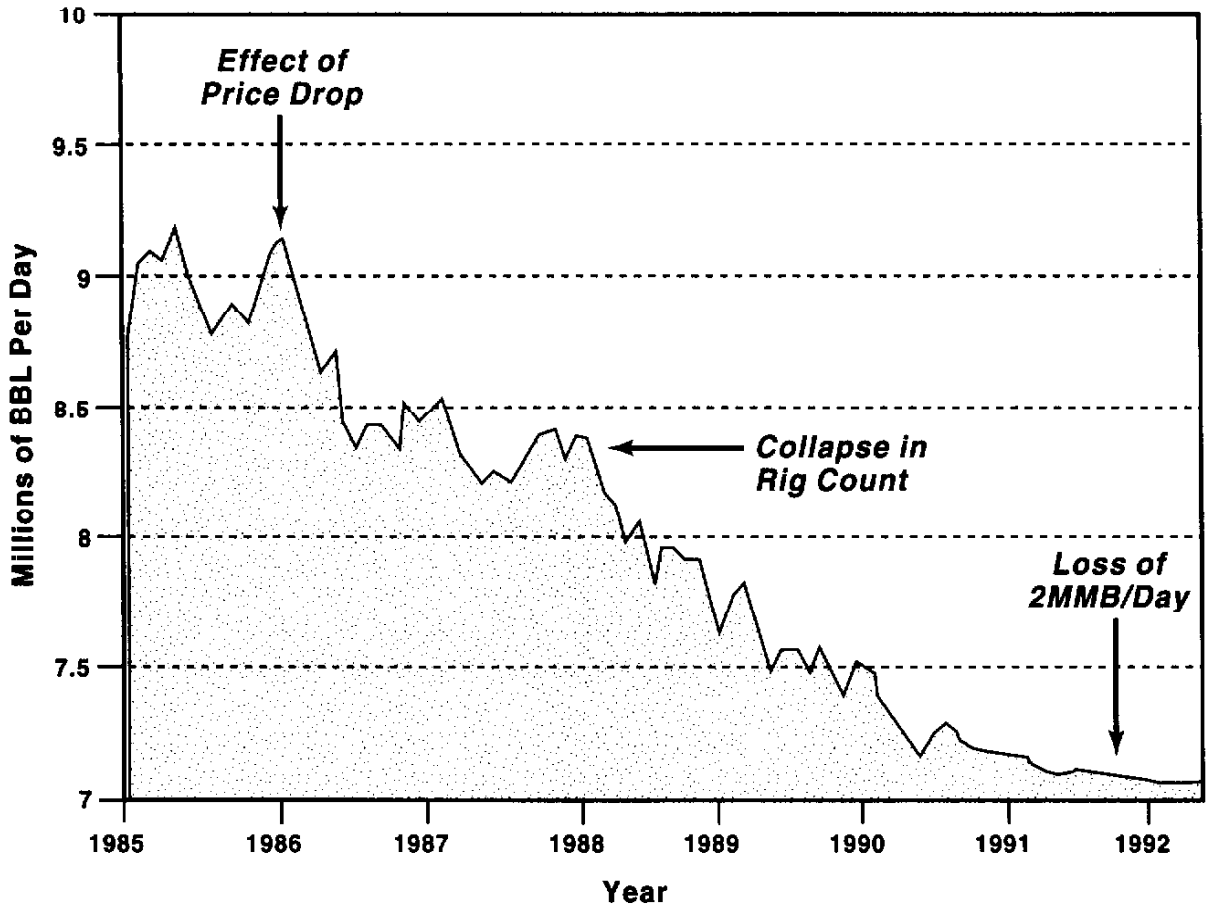
[3] While there has been movement from oil to other energy sources outside of transportation, overall, increases in demand have been met largely by coal and nuclear power. In transportation, while the number of alternative fuel vehicles is increasing by 10-15,000 per year, they still represent less than 0.1 percent of the approximately 180 million vehicles now on the road. However, the National Energy Policy Act of 1992 calls for a 10 percent displacement of petroleum fuels by 2000 and a 30 percent displacement by 2010. The Department of Energy is conducting a study to determine whether these goals are feasible by reducing petroleum consumption through a combination of increased numbers of alternative fuel vehicles and use of non-petroleum components in reformulated gasoline.



Source: Modified from Simmons & Company International

Figure 9. U.S. crude oil production, 1985-1992.

Supply Shortages in the 1970's and the "Gas Bubble" of the 1980's

In response to supply shortages, in 1970 natural gas pipeline companies began to curtail the amount of gas they made available to industrial customers. Curtailments increased rapidly until, during the unusually cold winter of 1976-1977, they forced school and factory closings in some regions of the country. At the time, there were fears that our supply of natural gas was nearly exhausted. While this was true for the gas that could be produced at the artificially low, regulated interstate prices, there was no shortage of economically producible natural gas at higher prices.

Fears of further natural gas curtailments (accompanied by resistance to higher gas prices) led to the Natural Gas Policy Act of 1978, which set a series of price ceilings for various kinds of gas, leading to phased deregulation of almost all categories of new gas but retaining controls on prices of old gas. Accompanying legislation restricted some uses of natural gas and prohibited others.

Due to the long time between the decision to explore for natural gas and the arrival of resulting supply on the market, the gas shortage lingered in the late 1970's. Because pipeline companies needed the gas but were unable to bid prices higher

than the legal limits, producers were able to establish conditions in long-term contracts that tied future prices to the ever-higher ceiling prices as they increased over time. The higher prices encouraged aggressive exploration for new reserves and discouraged consumption at the same time (although price averaging still prevented consumers from paying the full cost of new gas). The combination of higher prices, legal restrictions and prohibitions, fear of future supply disruptions, and the recession of 1982 reduced demand considerably as supply was increasing. Thus, rather than a shortage, there became a surplus of natural gas, sometimes called the *"gas bubble."* Lingering effects of previous market distortions, expectations of a strengthening market, and the long-term nature of the industry probably contributed to long duration of the surplus, which lasted until 1993.

As it has become clear that there was still an abundance of domestic natural gas and as environmental concerns gained increasing prominence in public policy, restrictions on natural gas usage have been reduced through legislation and regulatory reform.

Recent Consumption and Domestic Production

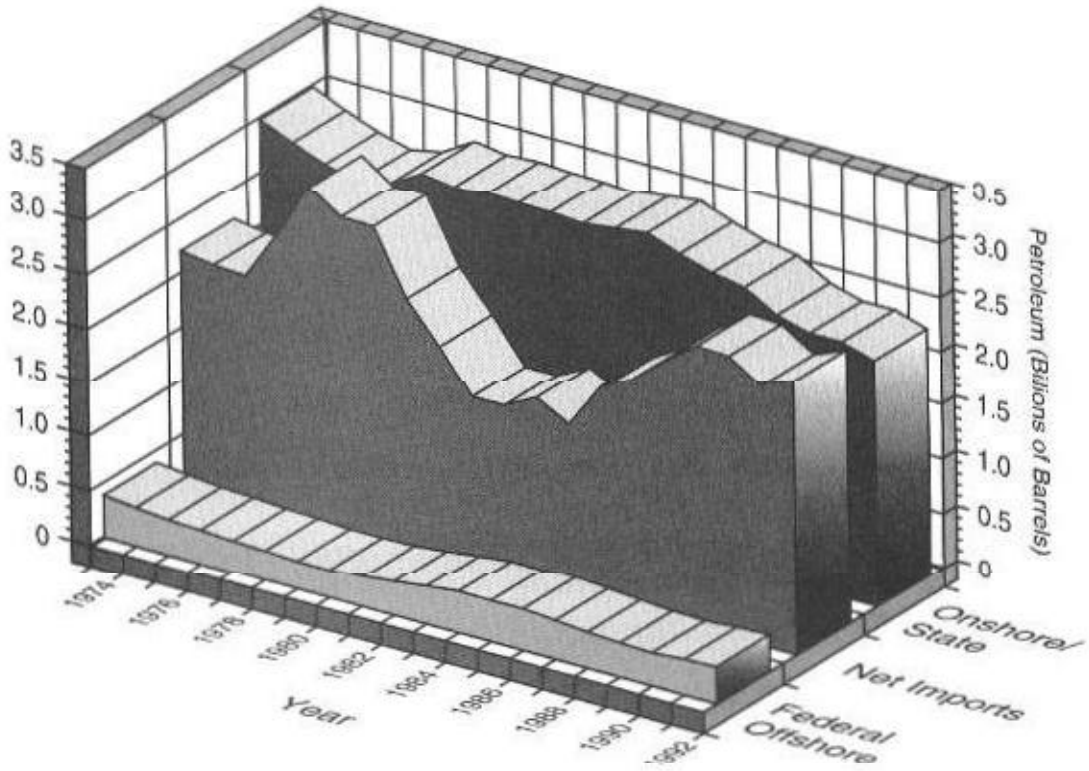
Domestic consumption of natural gas increased significantly from about 16 Tcf in 1986 to almost 20 Tcf in 1992, the highest consumption level since 1980. Meanwhile, domestic natural gas production, which declined fairly steadily after 1973, reversed in 1987, increasing from about 16 Tcf in 1986 to almost 18 Tcf in 1992. A large proportion of the increase came from co-discoveries of gas with oil, the oil being the primary objective of much of the exploration in the early 1980's in response to the high prices occasioned by the 1979 oil price shock. The natural gas industry itself also added to production from reserves discovered in exploration specifically focused on natural gas deposits. Simultaneously, U.S. natural gas imports, primarily from Canada, rose during the post-1987 period. Imports from Canada alone increased from 1.45 Tcf in 1990 to 2.02 Tcf in 1992. Some observers expect to see a change in the chronically low prices in the North American natural gas market over the next few years because the drop in exploration has resulted in fewer discoveries being identified to supply future demand growth. Price increases in the last several months lend some support to these predictions.

OCS Contribution to the Domestic Energy Supply

The offshore contribution has helped to slow the decline of domestic oil production. From 1960 through 1989 U.S. onshore oil production declined steadily from 76 percent to 41 percent of total U.S. supply of crude oil. During this decline offshore production allowed U.S. crude oil imports to remain below 50 percent of total oil consumption. However, OCS oil production crested in 1971 and actually declined as a percentage of total domestic production until a resurgence of activity in the 1980's. It has remained at 11-12 percent of domestic oil production since that time, with absolute volume generally declining.

Federal OCS natural gas production has also served to stabilize the domestic energy supply. Since 1978, over 20 percent of total U.S. production of natural gas has come from federal OCS leases. In percentage terms, OCS natural gas production reached a record high in 1990 when it accounted for more than 27 percent of total domestic production of natural gas, which in turn was at its highest level since 1982. (See "Future Sources of Oil and Natural Gas Supply," below, for data on reserves and undiscovered resources.)

Figure 10 shows the relationship of OCS oil production to domestic onshore and state production, as well as to imports. The impor-



Source: Department of Energy, Monthly Energy Review; Federal offshore production from the Minerals Management Service, Royalty Management Program

Figure 10. Sources of petroleum consumed in the U.S., 1973-1992.

tance of OCS natural gas production to the Nation is even greater, representing about one-fourth of domestic supply.

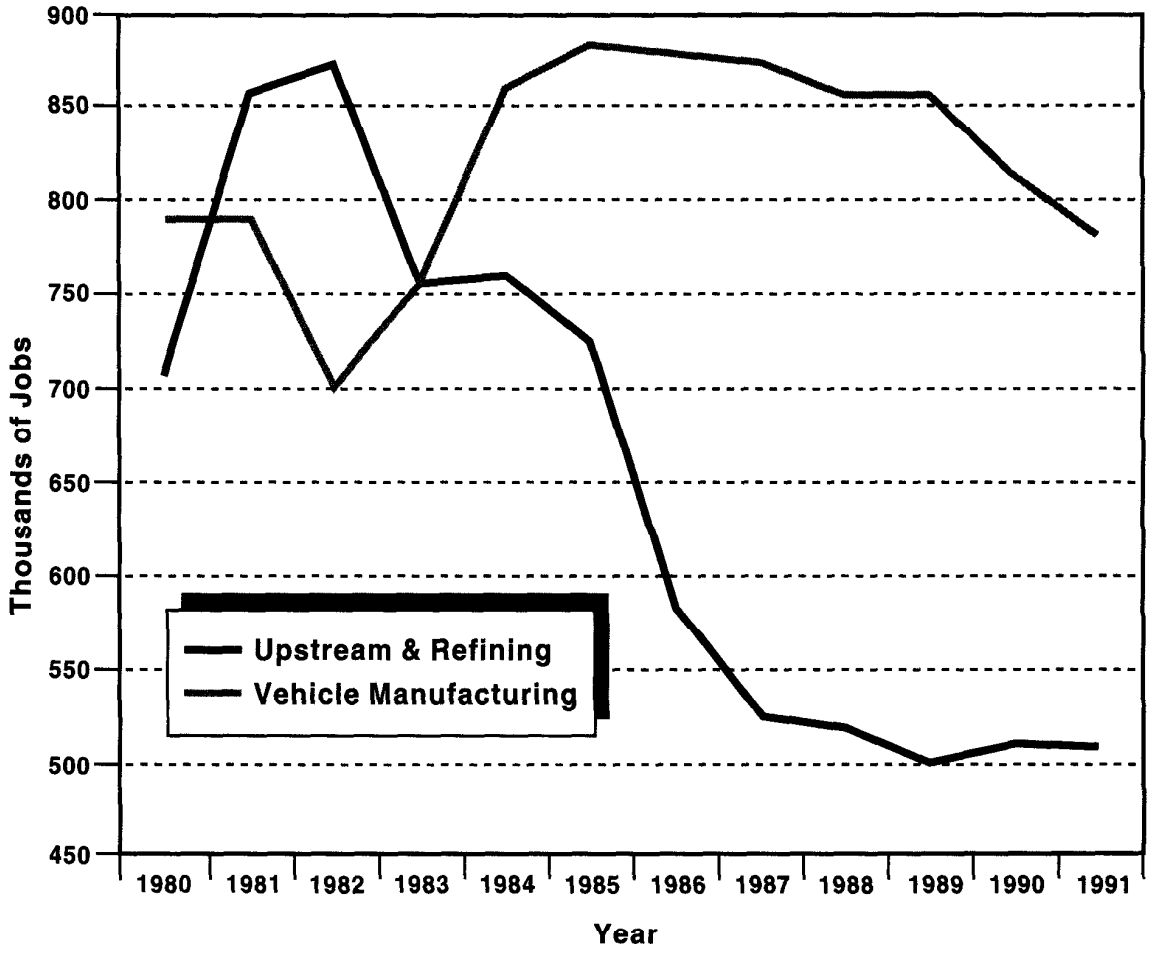
Employment

Oil and natural gas related activities on the OCS provide thousands of direct jobs. In addition, it is estimated that OCS activities indirectly provide about 2.5 jobs for every person directly employed by industry. While the effects of employment losses by industry have been felt across the nation, certain areas, such as the Gulf of Mexico region, have been hit particularly hard. Overall, the petroleum industry has lost about 450,000 jobs over the past decade, some 300,000 of which were in the exploration and production segment of the industry. Figure 11 contrasts employment in the petroleum industry with that in the vehicle manufacturing industry.

The jobs provided by OCS activities are not confined to producing coastal areas. Table 4 shows the number of equipment supply facilities distributed among the various States. In total, there are 3,532 facilities in 39 States and the District of Columbia. As is the case with jobs provided directly by OCS activities, the jobs created at these facilities provide corporate and personal income tax, sales tax, and property tax revenues.

Balance of Trade

In 1992 the U.S. spent more than $45 billion on imported oil, accounting for some 54 percent of the nation's total trade deficit for that



Source: American Petroleum Institute

Figure 11. Employment--Petroleum vs. vehicle manufacturing, 1980-1991.

year. Despite concern over the Nation's trade deficit, the fact that purchases of imported oil account for over half the trade deficit is largely ignored.

According to a recent Arthur Andersen survey of the 30 largest public energy companies, U.S. exploration and development spending decreased by 26 percent to $10.5 billion in 1992, representing the lowest level of spending on domestic exploration and development in ten years. The companies' lower domestic spending in 1992 continued a five-year trend during which the U.S. oil and gas industry has been spending more to explore and develop resources in other countries than at home. Since 1988, spending in foreign countries has exceeded spending in the U.S. by some $20 billion. Domestic expenditures over the same period have dropped by a total of 31.4 percent.

Technology

Many of the most technically advanced offshore drilling rigs, including those capable of drilling without discharges into the environment, are leaving U.S. waters for foreign waters, where geologic and political circumstances are better. With this exodus goes a

The advent of heavy hauler ships from Western Europe and Russia have enabled mobile offshore drilling rig owners to respond more quickly to changes in world market conditions. Here the *Transshelf V* carries two large jack-up rigs, the *Charles Rowan* and the *Rowan Juneau*, from the North Sea to the Gulf of Mexico.

State	Number of Facilities	State	Number of Facilities
Alabama	31	Montana	24
Alaska	97	Nebraska	5
Arizona	4	Nevada	3
Arkansas	32	New Jersey	9
California	233	New Mexico	102
Colorado	119	New York	8
Florida	14	North Carolina	2
Georgia	5	North Dakota	60
Hawaii	1	Ohio	36
Illonois	48	Oklahoma	378
Indiana	6	Pennsylvania	37
Iowa	1	Tennessee	4
Kansas	97	Texas	1,269
Kentucky	9	Utah	34
Louisiana	507	Virginia	6
Massachusetts	4	Washington	5
Michigan	48	Washington, D.C.	1
Minnesota	2	West Virginia	30
Mississippi	88	Wisconsin	1
Missouri	10	Wyoming	162
Total Number of States – 40		***Total Number of Facilities – 3,532***	

Source: Petroleum Equipment Suppliers Association (1992)

Table 4: Petroleum equipment supply facilities by State.

source of technological innovation and some of the infrastructure that would be needed to build domestic production back up should world events drive prices up again.

As the trend of foreign investment continues, OCS holdings have shifted increasingly from the major multi-national companies to smaller independent companies. This shift has resulted not only in less leasing activity but also in a need for increased emphasis on inspection and enforcement activities, review of royalty rates to encourage investments to extend production from older OCS fields, and review of measures to assure that companies have adequate financial resources to plug and abandon OCS wells and to remove production platforms.

The most promising prospects in the Gulf of Mexico are now in deep water. As the major companies leave, the smaller companies that take over OCS activities may not have the financial resources, technical expertise, and large project management capability needed to pursue deepwater resources. Likewise, the smaller companies could lack the capability to operate effectively in much of the Alaska OCS, especially in the Arctic area.

Federal Revenue

The federal government has received over $100 billion from the leasing and production of OCS oil and gas since 1954. More than 80 percent of this revenue has been disbursed to the General Fund of the U.S. Treasury. The remainder has gone to the Land and Water Conservation Fund (LWCF), the National Historic Preservation Fund (NHPF), and coastal states.

The LWCF is used by state governments and federal agencies for planning and acquisition related to park and recreation land. Approximately $13.2 billion dollars has been deposited to the LWCF since it was established in 1965. Approximately $7.7 billion of that total has been distributed—$3.2 billion to states and $4.5 billion to federal agencies.

The NHPF is used for preserving historic properties. Approximately $2.0 billion has been deposited to the NHPF since it was established in 1977. Some $618 million of that total has been appropriated and spent.

Direct distribution of revenues to coastal states is done pursuant to section 8(g) of the OCS Lands Act, as amended, which provides that 27 percent of the receipts from the area of the OCS within a 3-mile zone adjacent to state lands is to be distributed to affected coastal states. A total of about $2.1 billion in 8(g) funds has been paid to eligible states.

The overall distribution of federal revenues generated by OCS leasing and production may be illustrated by the following accounting of deposits for the most recent year for which relevant figures are available, 1992: $1.5 billion to the General Fund; $888 million to the LWCF; $150 million to the NHPF; and $68.4 million for distribution to states pursuant to section 8(g) of the OCS Lands Act, as amended. While the actual disposition of all of the money generated for the U.S. Treasury by OCS oil and gas activity is too difficult to track and explain, Table 5 shows that the OCS program produces a significant amount of revenue for the federal government and provides financial benefits to all 50 states, not just to the coastal states. Curtailment of the program has the direct effect of reducing such benefits.

Energy Forecast

National Energy Strategy Projections

The Department of Energy (DOE) developed a comprehensive forecast of U.S. energy markets through 2030 for the National Energy Strategy (NES). A review of the projection reveals the following:

- Oil, coal, and renewable energy consumption are projected to increase significantly over the period.
- Nuclear energy consumption is projected to decline.
- Natural gas consumption is projected to rise significantly until 2000, then decline slowly.
- Much of the projected increase in primary energy consumption is due to a significant increase in electricity consumption.
- Renewable energy sources would not be expected to supply even a third of the demand for petroleum by 2030.

As shown in Table 6, this energy future is one in which, except for oil, the U.S. is projected to be largely self-sufficient from a resource perspective. Dependence on imported oil is projected to exceed 60 percent in the year 2000 and (although not shown in the table) to increase over time. Dependence on natural gas is projected to be about 10 percent.

State	LWCF	NHPF	8 (g)
Alabama	334,991	548,002	4,468,233
Alaska	179,880	393,407	9,524,600
California	1,495,061	862,909	23,659,751
Florida	826,644	634,955	17,288
Louisiana	345,829	671,727	13,954,458
Mississippi	239,550	435,363	152,101
Texas	987,814	737,229	19,660,029
All Other States	15,338,231	24,559,377	0
Subtotal	***19,748,000***	***28,842,969***	***71,436,460***
Undistributed	868,252,000	121,157,031	0
Total	***888,000,000***	***150,000,000***	***71,436,460***

Table 5: 1992 distribution of revenues from the Land and Water Conservation Fund (LWCF), National Historic Preservation Fund (NHPF), and pursuant to Section 8(g) of the OCS Lands Act.

Comparison with Projections of the Union of Concerned Scientists

Table 7 compares the NES projections of petroleum need with several developed by the Union of Concerned Scientists (UCS) and others and published in *Investing in a Strong Economy and a Clean Environment (1991)*. The first two rows show the base case numbers, first with the base case production and then with the increased domestic production called for by the NES. The other three NES projections are for cases where:

- the world oil price remains low;
- the recommendations in the NES for fuel efficiency, fuel substitution, and other measures are adopted; and
- the NES recommendations are adopted and there is low economic growth.

The UCS, *et. al.*, also made three other sets of projections. The first assumes that the U.S. pursues an aggressive market-based strategy to reduce oil consumption, the second assumes that policies are adopted to reduce consumption that harms the environment, and the third assumes strong measures are taken to reduce energy consumption that are thought to contribute to global warming.

The differences in the NES and the UCS projections are largely the result of differences in assumptions about how people will behave. For example, the UCS projections assume a much lower social discount rate, indicating that people will be willing to pay more money sooner for investments that will save them money over the long run through decreased energy bills.

Despite the large differences in the NES and the UCS projections, only in two instances is the U.S. projected to be close to self sufficiency. Those two instances are based on assumptions of strong restrictions on the demand side coupled with the NES production recommendations, which include aggressive exploration, development, and production of resources on the OCS and the Arctic National Wildlife Reserve. Without the extra domestic production, even the demand side restrictions would not bring us below 34 percent dependency on imported oil by

Energy Supply	Domestic Consumption (Quadrillion Btu's)	Domestic Production (Quadrillion Btu's)	Foreign Dependence (Percent)
Oil	38.7	14.7	62.0%
Gas	23.6	21.3	9.7%
Coal	23.4	26.7	0.0%
Nuclear	6.2	6.2	0.0%
Renewable	8.2	8.2	0.0%
Total	***100.3***	***77.0***	***23.2%***
Electricity	12.3	12.1	1.6%

Source: U.S. Department of Energy, National Energy Strategy (1992), Technical Annex 2: Integrated Analysis Supporting the National Energy Strategy: Methodology, Assumptions and Results.

Table 6: National Energy Strategy forecast of U.S. dependence on foreign energy supplies in the year 2000.

PETROLEUM	NES Base Case Production			NES Strategy Production		
	2000	2010	2030	2000	2010	2030
NES: Current Policy Base	62	70	83	53	52	79
UCS. *et. al.* : Reference Case	60	64	77	50	43	72
Other Scenarios						
NES: Low World Oil Price	65	73	85	57	57	82
UCS. *et. al.*: Market Case	56	52	56	45	23	46
NES: Strategic Scenerio	59	65	75	49	44	69
UCS. *et. al.*: Environmental Case	51	41	42	39	6	29
NES: Strategy w/Low Economic	58	61	69	47	38	61
UCS. *et. al.*: Stablization	47	34	21	34	-7	2

Sources: U.S. Department of Energy, National Energy Strategy (1992); America's Energy Choices - Investing in a Strong Economy and a Clean Environment: Union of Concerned Scientists, Alliance to Save Energy, American Council for an Energy-Efficient Economy, and Natural Resources Defense Council.

Table 7. Unmet petroleum needs as a percentage of total petroleum needs: A comparison of contrasting forecasts by the U.S. Department of Energy and by the Union of Concerned Scientists, *et. al.*

2010, a period when OCS resources leased during the next two 5-year programs would be in production.

Future Sources of Oil and Natural Gas Supply

Current Sources

Our oil and natural gas currently are obtained from three basic sources—imports, domestic onshore production, and OCS production. Additional domestic onshore production can come from conventional production methods, enhanced oil recovery techniques, or tight sands and other such sources. However, absent huge price increases, the only way to replace OCS oil and gas production is by increasing imports. Additional imports can come from OPEC countries or from the non-OPEC free market, including any available supply from the former Soviet Union and other Eastern European countries.

OCS Resources

Further development of offshore oil and natural gas could help to reduce imports. As of January 1, 1992, the total estimated recoverable reserves in the submerged federal lands amounted to 3.45 billion bbl of crude oil and 38.3 Tcf of natural gas. This is approximately 12 percent of the Nation's oil reserves and 28 percent of its natural gas reserves. Re-cent major discoveries in deep waters of the Gulf of Mexico could add significantly to these OCS oil and gas reserve estimates.

In addition, the potential for future discoveries on the OCS is still significant. The MMS estimates that about one-third of the Nation's undiscovered oil resources and three-eighths of its undiscovered natural gas resources are on the OCS. As of January 1, 1990, the total risked mean estimate of leased and unleased undiscovered economically recoverable resources was 11 billion bbl of crude oil and 75 Tcf of natural gas.

Foreign Resources

The other source for the oil and natural gas needed by the Nation's economy is imported fuel. Because we are more dependent on foreign sources of oil than of natural gas, and because our vulnerability to supply disruptions is greatest for oil (of all major energy sources), the analysis of import sources will focus on sources of oil. At projected rates of domestic production and consumption, imported oil will become a greater part of our total supply, even with continued OCS production.

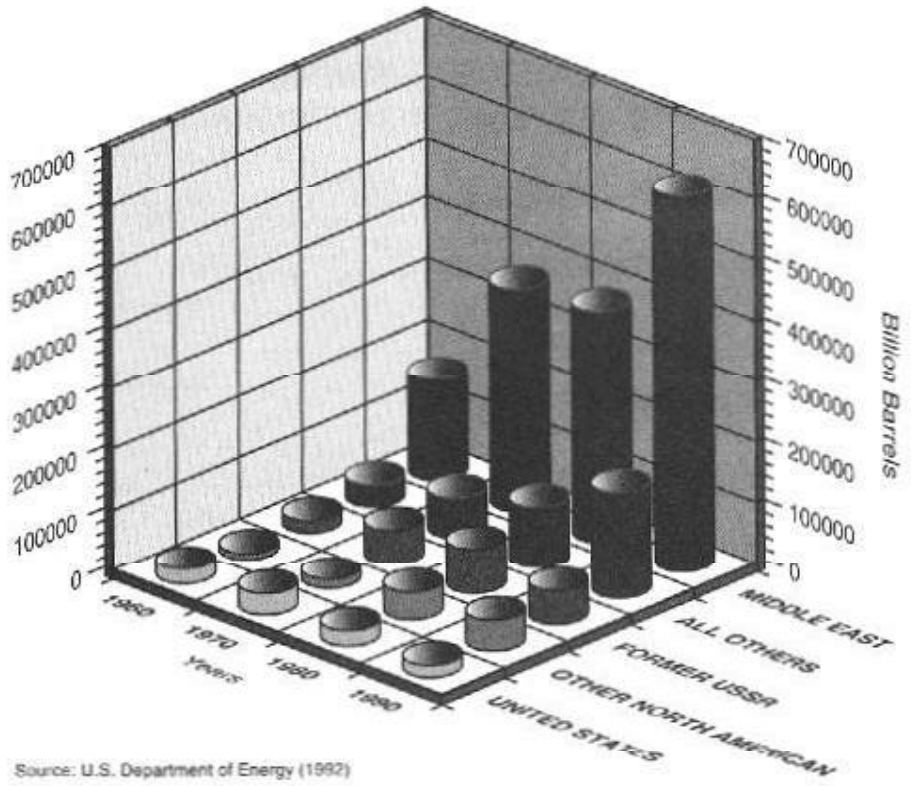
As shown in Figure 12, Middle Eastern countries have greater reserves than the rest of the world combined. About two-thirds of the world's proven oil reserves are in the Middle East, virtually all in the Persian Gulf. The vast majority of non-OPEC reserves are held by China, Mexico, Norway, the U.S., and the former Soviet Union. However, non-OPEC production is expected to peak by the middle of the decade. The development of proven reserves discovered in the early 1980's should allow non-OPEC countries to increase oil production—but only in quantities sufficient to make up for the decline in other non-OPEC countries. This would result in the increasing concentration of proven reserves within a small group of countries, especially the Gulf states of Saudi Arabia, Iraq, Iran, Kuwait, and the United Arab Emirates. Furthermore, a look only at comparative sizes of reserves understates the importance of those countries as suppliers on the world market because they hold not only most of the world's reserves but an even greater share of reserves that can be produced at relatively lower costs. In contrast, the reserves remaining in the U.S. and the rest of the Western world that could be produced at similar costs have largely been used up (the lowest cost reserves in the U.S. can cost about $10 per barrel more to produce than those in the countries listed above).

The major international oil companies are actively exploring for oil in non-OPEC countries in Africa, Asia and Latin America. If they do not find major new reserves there, it appears that the U.S. will continue to depend on the Middle East to supply much of its additional petroleum for the foreseeable future.

Alternatives to Reduce Demand for Oil and Natural Gas

Possible Approaches

There are three basic ways in which the nation can decrease petroleum consumption: switching fuels, improving efficiency, and accepting less service. These can be achieved through responses to market forces, to government incentives, or to government requirements (or a combination of such measures).



Source: U.S. Department of Energy (1992)

Figure 12. World oil reserves, 1960-1990.

Regardless of the way in which consumers respond, and the means by which governments seek to influence their responses, the extent to which major reductions in the demand for oil and natural gas can be effected in the near future is limited by at least four factors.

- Almost two-thirds of domestic oil consumption is in transportation, where there are infrastructure and other constraints to many alternative fuels. Oil accounts for more than 95 percent of the energy used for transportation in the U.S.

- Many proposed alternative fuels have associated disadvantages relating to safety, creation of pollutants, or convenience.

- One of the most promising alternative automobile fuels is compressed natural gas, the consumption of which might increase should it become a widely used alternative to gasoline.

- In our market-based economy, the most efficient, convenient, and economical alternatives tend to have been adopted already. Thus, it is necessary to turn increasingly to what consumers perceive to be more expensive, less efficient, or less convenient alternatives to make *large* reductions in oil and natural gas consumption.

In addition to natural gas, the most commonly suggested alternative vehicle fuels are electricity, hydrogen, ethanol, and methanol. Since current batteries are large, heavy, and expensive and provide a limited range of travel before requiring recharge, major technological advancements will be necessary before electricity is used widely for trans-

portation. Use of hydrogen as an automobile fuel also will require technological changes to reduce the cost of generation and the amount of space needed to store it. Production costs—both in dollars and energy consumed—of ethanol are too great for it to become a widespread alternative fuel at current prices and state of technology.

Methanol has many drawbacks as well. Its manufacture and combustion cause air pollution—albeit in different forms than pollution from gasoline; it is highly corrosive, toxic, and explosive; and it is expensive to produce. In addition, the cheapest manufacturing process would utilize remote resources of natural gas, perhaps in Qatar and Abu Dhabi, which have the world's largest unutilized natural gas reserves. Assuming that the necessary technological advances are achieved, substitution of these fuels for oil should bring both energy security and environmental benefits. For example, while the generation of electricity also produces pollutants, the sources of those pollutants are relatively few and stationary. Thus, they are more easily controlled than the millions of gasoline-powered vehicles in use. In addition, electricity generating plants in general have more flexibility to switch fuels than do owners of automobiles.

Oil and natural gas price increases, technological advances, and greater availability of automobile refueling facilities offering alternative fuels all could reduce the effects of the limiting factors discussed above and foster more rapid and widespread use of alternatives. The Federal Government maintains a fleet of thousands of vehicles and, as a result of legislative requirements and executive branch initiatives, an increasing number of these will use alternative fuels in the future. By increasing purchases of alternative fuel vehicles, the Government hopes to encourage increased investment by the major auto makers in alternative fuel technologies and make more alternative refueling locations available, thus making it easier for others to own and operate such vehicles. As increased production makes alternative fuel vehicles less expensive and alternative refueling locations become more common, current barriers to widespread private ownership will be reduced. However, even aggressive programs to improve efficiency and diversify fuel sources will not alleviate a continuing transportation fuel supply problem for many years.

Switching to Natural Gas

Of the primary energy sources—natural gas, coal, and nuclear—natural gas can be most readily substituted for oil in a wide variety of industrial, commercial, and residential applications. Natural gas also is adaptable to conventional internal combustion engines and its use is expected to increase rapidly in commercial vehicle fleet applications. Furthermore, natural gas is easily the most desirable hydrocarbon fuel from an environmental perspective. Natural gas results in lower emissions of sulfur dioxide, carbon monoxide, hydrocarbons, nitrogen oxides, and particulates than result from burning oil or coal. In addition, natural gas combustion produces almost no solid waste, sludge, or water pollution. On the OCS, natural gas blowouts do not involve the potential for environmental damage that is associated with oil spills. As concerns mount for a cleaner environment, natural gas will be increasingly in demand.

The relative abundance of natural gas has allowed it to remain a domestically produced fuel source. Imports account for only about 8 percent of gas supply. The gas that is imported is from secure North American sources, primarily pipelines from Canada.

Several areas where OCS activities have been strongly opposed, based largely on fear of oil spills, are believed to be gas prone areas having little chance for discovery of oil. Frontier OCS areas believed to be gas prone include the Georges Bank Basin off New

England, the Baltimore Canyon Trough off the Mid-Atlantic States, the Manteo Prospect off North Carolina, and the Norphlet Formation in the Eastern Gulf of Mexico off the Panhandle Region of Florida.

Greater Fuel Efficiency

Greater fuel efficiency could reduce demand for oil as a transportation fuel. However, in the absence of higher gasoline prices and additional subsidies for alternatives, most of the options are somewhat limited.

Increased use of long-distance trains and public transit systems in metropolitan areas would reduce gasoline consumption and air pollution, but the speed and convenience of the personal automobile in most situations—as well as the fact that some of the costs of private automobile users are borne by society as a whole rather than by individual users—make a major shift to mass transit unlikely. In fact, housing and employment patterns are changing in a way that makes efficient mass transit systems harder to design and less convenient. With more people not only living but working in suburban areas, the old hub and spoke systems are not as useful. Some cities have found it necessary to provide large subsidies or to impose strong restrictions on vehicle travel and parking in order to overcome people's reluctance to give up the convenience of their cars.

Higher fuel economy standards would reduce fuel requirements to travel a given distance, but better fuel economy also makes it cheaper to travel by car, leading to increased travel by private vehicle and making mass transportation comparatively more expensive (for those who have cars). While more fuel-efficient automobiles have reduced overall gasoline consumption over the past two decades, part of the theoretical savings have been negated by increased travel. As long as it is relatively inexpensive and convenient to travel by private automobile, people have little incentive to make major changes in their travel patterns.

Consequences of Switching to Alternative Sources of Energy

Concern about the potential environmental effects of OCS development must take into account environmental and other effects of the energy sources and technologies that might be developed to compensate for restrictions placed on the OCS program. The most direct effect of restrictions leading to reduced OCS oil and gas production would be increased imports of crude oil and refined products. As discussed in a previous section of this report, the record indicates that the risk of large oil spills is greater from tankers than from U.S. OCS operations.

There are consequences of demand alternatives as well. Some of the alternative fuels have undesirable characteristics related to air pollution and toxicity. Production and transportation of the fuels need to be considered as well. To have an appreciable effect on our energy security, any substitution of alternative fuels for oil would have to be on such a grand scale that it could create a host of new problems to replace those created by our extensive use of oil. Even lower energy consumption, if required to the extent necessary to replace OCS oil and gas, could impose significant social costs, especially on lower income citizens.

On the other hand three factors should be considered along with these potential consequences of replacing OCS resources. First, technological advances may help to reduce the disadvantages of certain alternatives. Second, the fact that there may be negative consequences of replacing OCS production does not by itself mean that there are no net benefits to be gained from encouraging or forcing a switch to alternatives. Finally, as the cost of finding and producing remaining OCS resources increases, we eventually will have to change our consumption patterns.

To the extent that the market does not provide for a smooth transition or does not fully account for the relative costs and benefits of the various alternatives, government intervention may be appropriate.

Implications for Energy Planning and Policy

It is important to realize that the U.S. faces a *"petroleum problem"* not an *"energy problem."* For the most part, the U.S. has plenty of energy, but many of our energy resources are not as cheap, as low in air pollution, and as well suited to transportation as is petroleum. The NES states,

> *"For the foreseeable future, oil will remain a critical fuel for the United States and all other industrialized nations."*

For the moment, the supply and cost of petroleum and other forms of energy do not seem to be a pressing problem to most Americans. We have ready access to an abundant supply of energy at relatively low prices—some lower in real terms than they were two decades ago. However, underneath the surface, the problems we faced in the 1970's remain. The price shocks of the 1970's prompted us to make energy efficiency improvements and to make use of appropriate technological innovations, but the U.S. economy in the 1990's will require imports of 8 to 10 million bbl per day—representing 50 percent or more of domestic needs. This level of reliance on imports could exacerbate U.S. vulnerability to supply disruptions and cartel manipulation of prices, threaten economic growth, and reduce U.S. foreign policy options. The world's low-cost resources are predominantly in the Middle East, so, at best, greater domestic production brings only short-term—not long-term—energy security.

Improved efficiency in energy use and cost-effective substitution of other types of energy for oil are vital components of the nation's energy strategy, especially in the long term. Nevertheless, improved efficiency, fuel switching, and alternative fuel use will be insufficient, by themselves, to reduce significantly U.S. oil import dependency over the next few decades. While, given a supportive national mood, there are theoretical combinations of alternatives that could create massive shifts in consumption and sources of energy over a period of years, rather than decades, such shifts could impose high costs on individuals and on society as a whole. Absent major long-term increases in oil prices or fundamental changes in technology, such rapid shifts in energy use patterns would be extremely unlikely without government intervention on a large scale.

Even with a large and effective conservation program in force, a sound energy strategy for the nation has to include efforts to find new domestic reserves of petroleum. Providing adequate energy for the U.S. economy will require a consensus understanding of energy issues that, in addition to aggressive energy conservation measures, includes reasonable opportunities for discovery of domestic resources and production of domestic reserves. This is especially true if the nation seeks to reduce oil dependency by using more natural gas. While the emphasis of the nation's energy strategy may shift under the current or future administrations, any substantial additional restrictions on the development and production of oil and gas resources on the OCS will entail direct costs and greater risk to the economy.

III. FINDINGS AND RECOMMENDATIONS OF THE SUBCOMMITTEE

Introduction

The Subcommittee believes that the OCS oil and gas program has been a significant component of the nation's energy supply, and there is a need for the program to continue in the near term to help in meeting the nation's energy requirements. An active environmentally sound OCS program can help to reduce dependence on imported petroleum and maintain necessary technological capability, job skills, and infrastructure.

The Subcommittee also has concluded that, as implemented, the existing OCS legislative and regulatory regime represents an antiquated hierarchical approach to decisionmaking by the executive branch of the federal government. This regime is no longer constructive, since it does not provide for a predictable governing/planning process, an equitable sharing of OCS benefits and costs, an effective decisionmaking process that meaningfully involves all who are affected parties, or taking a comprehensive approach in managing our resources in light of other ocean uses and resource concerns. While the current system does provide the opportunities to make OCS decisions based on consultation and cooperation, in practice it has led to protracted controversy and conflict.

The failure of the existing regime is evinced most notably by the long-running congressional moratoria that have proscribed OCS program activities in a number of areas, as previously described. Other primary indications that this system is in need of repair include the current clamor for cancellation and repurchase of OCS leases in certain areas and the U.S. oil and gas industry's declining willingness to continue to participate in the OCS program.

The OCS program for the past several years has been regressing rather than progressing, and it is now at a crossroads. The nation needs to choose whether to continue with a retrograde program reminiscent of the 1950's or to conceive a forward looking program for the twenty-first century.

The Subcommittee believes that the deficiencies that have resulted in the symptoms described above should be corrected to enable the program to proceed responsibly and effectively in the future. A new paradigm involving revenue sharing, consensus building, and a multiple criteria approach to decisionmaking is needed.

Several prescriptions for the OCS program were considered by the 102nd Congress, but no legislation was passed to effect them. In developing this report the Subcommittee considered those specific legislative provisions along with a number of additional comprehensive long-term solutions for the program (as explained previously in the background section of this report, the Subcommittee deemed it necessary to take a comprehensive view of the OCS program rather than examining it in the context of only the legislative proposals). Thus, the Subcommittee's findings and recommendations are presented below in two parts: Recommendations on the OCS Legislation Considered by the 102nd Congress; and Additional Observa-tions and Recommendations.

RECOMMENDATIONS ON THE OCS LEGISLATION CONSIDERED BY THE 102ND CONGRESS

Moratoria

Provisions of the FY 1993 Interior Appropriations Act

For FY 1993 Congress enacted appropriations legislation (Public Law 102-381) placing moratoria on leasing and related activities in the following OCS areas withdrawn from leasing consideration by President Bush in his June 1990 announcement: Washington/Oregon, Northern California, Central California, Southern California, North Atlantic, and Eastern Gulf of Mexico, south of 26° N. latitude and east of 86° W. longitude. The appropriations legislation for FY 1993 also included the following OCS moratorium provisions: no leasing or drilling or other exploration activity in the North Aleutian Basin Planning Area; no prelease or leasing activities related to proposed Sales 137 and 151 in the Eastern Gulf of Mexico Planning Area (effectively placing the entire planning area under moratorium); and no prelease or leasing activities related to Sale 164 in the Mid Atlantic and South Atlantic Planning Areas (effectively placing both entire planning areas under moratorium). The FY 1993 moratorium provisions apply for the period October 1, 1992 through September 30, 1993.

Measures Considered by the 102nd Congress

The 102nd Congress also considered OCS moratorium measures in both the House and Senate energy bills. The measures in the House bill (H.R. 776) were linked to the findings and recommendations of proposed environmental sciences review panels (ESRP). A discussion of ESRP's is presented later in this report.

The OCS moratorium provisions of H.R. 776 provided that no preleasing activity would be allowed in the following areas before issuance of first the approved 5-year program after January 1, 2002: North Atlantic; South Atlantic; Straits of Florida; Eastern Gulf of Mexico (east of the lateral seaward boundary between Florida and Alabama); Southern California; Central California; Washington/Oregon; and North Aleutian Basin.

The moratorium provisions of S. 2166 provided that no preleasing or leasing activity would be allowed in the following OCS planning areas until after January 1, 2000: North Atlantic; Mid-Atlantic (offshore New Jersey); Eastern Gulf of Mexico (south of 26° N. latitude and east of 86° W. longitude); Southern California; Central California; Northern California; and Washington/Oregon.

Recommendation of the Subcommittee

Regional task forces representing all OCS program stakeholders should be established to focus more on reaching consensus on OCS leasing decisions in an effort to obviate the need for moratoria.

The Subcommittee believes that congressionally enacted moratoria do not provide a long-term solution to the principal problem affecting the OCS oil and gas program. That problem may be characterized somewhat simply as a disagreement between state governments and the federal government concerning uses of the nation's coasts. At its root is the nearly absolute authority given by law to the Secretary of the Interior and others in the federal executive branch to manage activities that can have burdensome impacts at state and local levels. While the authority bestowed to the federal government by the OCS Lands Act may have at one time been more tolerable to interested and affected parties, the moratoria have made it apparent that—in the current age of decisionmaking by consultation and consensus—federal primacy as practiced in the past is no longer appropriate or acceptable.

The congressional moratoria have been the states' and localities' weapon of last resort for preventing impacts to them under a legal regime that gives them very limited decisionmaking authority and little financial assistance for dealing with those impacts. However, the moratoria are an annual exercise taken by the legislative branch on behalf of the states and localities to keep the executive branch's OCS program in check. In terms of getting at the root of the principal problem of the OCS program and resolving it the moratoria accomplish nothing.

The Subcommittee recommends that the OCS decisionmaking process be revised in a way that would obviate enactment of congressional moratoria in the future. The Subcommittee proposes that a regional task force approach be established and funded to build consensus on OCS proposals. Under this proposal a task force composed of interested and affected parties would take a cooperative approach to managing OCS activities. This approach would require flexibility to meet the needs of different areas of the OCS and the parties involved. Also, if successful, it could lead to a comprehensive approach to ocean management involving all state and federal agencies with a stake in OCS program activities and related issues. The Subcommittee recommends that funding of the proposed task forces initially be provided out of Department of the Interior Appropriations and eventually be provided pursuant to impact assistance measures recommended later in this report.

Establishment and use of regional task forces would foster multiple criteria decisionmaking based on consideration of the various potential uses of the ocean and coastal regions. The multiple criteria approach fosters more informed decisions by examining diverse objectives rather than focusing on one prime objective. Such an approach has been applied successfully in other natural resource management programs to produce policies that balance competing and conflicting objectives. Examples include decisions related to managing forests, river basins, and reservoirs, locating power plants, and transporting and disposing of certain forms of nuclear waste. The Subcommittee believes that multiple criteria decisionmaking would be best implemented at the regional level for the OCS program because that is where ocean and coastal use conflicts are manifested and should be addressed.

The primary intent of the task force approach is to provide for the inclusion of interested and affected parties in more of a partnership role that will be assured over the long term. Establishment of officially recognized and stable regional planning bodies should discourage the executive branch from attempting to unilaterally effect sweeping policy changes to the OCS program. As recounted above, such actions by the program's federal managers may be perceived as arbitrary and arrogant, leading those excluded from the decisionmaking process to seek congressional intervention.

Under the regional task force approach the Department of the Interior would be more inclined to give serious consideration to all comments and recommendations submitted by its partners in the OCS process. While the Secretary would retain final decisionmaking authority, the input of the task forces would be likely to lead to the establishment of an OCS program that is truly tailored according to regional conditions and needs. Such a program would be in step with a consensus of the interested and affected parties and would be far less likely to be restricted by the enactment of moratoria by the legislative branch.

The Subcommittee believes that the regional task force approach would have a moderating effect on federal primacy without resurrecting legal issues about jurisdiction over the sea and seabed or possibly triggering constitutional issues related to state/federal sharing of power. The recommended

approach simply would encourage the OCS program's managers to proceed by consensus rather than by hierarchical methods.

In addition to considering specific issues related to proposals in certain OCS regions, this task force approach would provide a means for examining some of the more general issues related to the OCS decisionmaking process such as:

- the use of science;
- public perception and the use of risk management techniques;
- expanded public outreach and education;
- evolving technology, economic conditions, and political climates as they relate to the OCS program; and
- the development of a threshold for proposing or not proposing OCS activities based on a consideration of environmental values and concerns as well as hydrocarbon potential and industry interest and economic benefits.

In a typical situation a regional task force would be made up of members representing the Department of the Interior and other federal agencies, state and local governments (including regional entities), the oil and gas industry, environmental and other interested organizations, and perhaps a member from the public at large. As a general rule, parties with similar interests in a particular geographic area would participate in the same regional task force. The actual composition of each regional task force would be decided in consultation with the constituents of the respective region, with an emphasis on achieving the broadest and most balanced membership possible. Under this proposed approach it is conceivable that the constituents in a particular region might decide that a task force is not necessary to build consensus on OCS decisions related to that region, is not wanted, or that some other means would be more suitable. Subcommittees of the regional task forces could be established as needed. The task forces also should include mechanisms for receiving relevant input from local scientists and other experts. The constituencies represented would have to be willing to work toward a consensus on OCS issues as they relate to their region.

The regional task forces would produce both 5-year programmatic recommendations and recommendations pertaining to specific leasing proposals that would be submitted to the Secretary and to the governors of affected coastal states. While both the Secretary and the governors would be urged to accept the task force recommendations, they would retain the roles and authorities they currently have under the OCS Lands Act, as amended. The Subcommittee believes that there should be flexibility among the regional task forces as to reporting point, i.e., the level within the Department of the Interior and the state governor's administration to which recommendations will be submitted. Also, while some degree of latitude probably will be necessary in establishing and implementing these task forces, they ultimately should be expected to operate within the procedures and timeframes outlined in sections 18 and 19 of the OCS Lands Act, as amended, and related administrative guidelines. Further, the Subcommittee recommends that the proposed regional task forces be established before the section 18 process of formulating a 5-year program for 1997-2002 is initiated so that they may participate fully in that process from its beginning.

In addition, although the regional task force approach is recommended as a means to design and implement a new OCS program, each regional task force could be applied to resolving problems pertaining to already existing leases. The Subcommittee consid-

ers such impasses to be remnants of the previous flawed decisionmaking process that will require attention under the new paradigm proposed.

The use of regional task forces would enable all interested and affected parties to be involved in both the design and implementation of OCS programs. The regional task forces would differ from existing advisory bodies such as the Regional Technical Working Groups by being involved in OCS program planning from the outset rather than responding to proposals conceived by the Department of the Interior. The most important prerequisite for each stakeholder's involvement in a regional task force must be a commitment to working toward consensus. Since the OCS program proposals developed by the task forces would be forged by consensus, a majority of the specific actions proposed would be expected to be less controversial and contentious than those proceeding from programs that have been developed and approved by the Department of the Interior in the past.

Various designs for the regional task force approach should be considered by the Department of the Interior in conjunction with the regional constituents. While the Subcommittee believes that design of the regional task forces should be accomplished by the OCS program's stakeholders, it would like to offer a limited set of alternative conceptual blueprints as examples that might be considered in the designing process. It should be emphasized that the discussion of alternatives presented below is provided merely for discussion purposes and is not intended to be an exhaustive description of all possible designs available for consideration. The design eventually adopted and implemented may or may not embody one or more of the components of these alternatives and could combine certain elements in a way not dicussed below.

Alternative I—Broad Participation and Voting Representation

Under this alternative the membership of the regional task forces would be as broad and balanced as possible, and all members would have an equal vote in task force deliberations. With respect to achieving consensus and providing findings and recommendations to the Department of the Interior, two means are described below.

Unanimous Consensus

If all members vote the same way on a matter considered by the task force, then the vote would constitute unanimous consensus and the recommendation subsequently submitted would be binding on the Department of the Interior (i.e, the Secretary would agree in chartering the task forces that he will adopt their unanimous recommendations).

Majority Consensus

If a majority of the members vote the same way on a matter, then the vote would constitute majority consensus and the recommendation subsequently submitted would not be binding. A minority report reflecting the thoughts and recommendations of those not voting with the majority would accompany the majority's recommendation.

Alternative II—Broad Participation with Core Voting Representation

Under this alternative the general membership of the regional task forces would be as broad and balanced as possible, but only a core of membership—those members deemed essential stakeholders with respect to all matters deliberated—would have votes in all instances. In an instance when a matter involving additional key stakeholders is taken up, the core voting representation for developing a recommendation on that particular matter could be expanded to include appropriate additional members. In any

event, nonvoting participants in task force deliberations would be expected to attempt to influence the outcome of those deliberations by aligning with core voting members of like interests and positions.

As with Alternative I above, a vote by the core members of a task force concerning a particular matter could result in unanimity or majority. Similarly, a unanimous vote and subsequent recommendation should carry more weight than that achieved only by majority. However, it should be noted that under Alternative II it is likely that in many circumstances even a unanimous vote of the core members will not reflect a truly unanimous consensus that embodies the positions of all nonvoting participants as well.

Mediation/Facilitation

The Subcommittee recognizes that under any design the objective of reaching consensus on difficult issues will be a challenge to the regional task forces. Thus, the Subcommittee suggests that in establishing each task force, provisions be agreed upon concerning the use of facilitation and mediation techniques as appropriate. One such means that should be considered is the facilitation process of the CZMA mentioned in the background section of this report. The Subcommittee believes that the CZMA process could be successful if applied fairly and objectively.

Federal Advisory Committee Act

Since the proposed regional task forces would be established for the purpose of providing to the federal government advice and counsel reflecting the consensus of various public and private interests, this recommendation, if adopted, is expected to be implemented consistent with the Federal Advisory Committee Act (5 App U.S.C. 1-15) [FACA]. The FACA sets forth procedures for chartering, maintaining, and terminating advisory bodies. Those provisions apply to the existing OCS Advisory Board and would apply to the proposed task forces. Because the OCS Advisory Board already is in place under FACA, consideration should be given to chartering the proposed regional task forces under its auspices, as subcommittees of the OCS Policy Committee.

Examples

One example of a regional task force approach is the federal-state cooperative effort that was undertaken for the OCS Mining Program Norton Sound Lease Sale. The first step in that effort was establishment of a federal-state task force to evaluate the feasibility of developing offshore mineral resources, to develop technical guidelines and procedures for such activity, and to identify potential use conflicts. The federal-state task force subsequently was organized into a 31-member coordination team representing federal, state, and local government and environmental and other interests. The coordination team provided a forum for the exchange of information and expertise and for consultation on decisions leading to the proposed lease sale and was involved in all major steps of the decision process.

Another experience from which to draw in setting up the regional task forces may be the ongoing California Offshore Oil and Gas Energy Resources Study, an effort involving MMS, state and local government, and the industry. While this effort is still in its early stages, its goal is to engage interested and affected parties in addressing and resolving contentious issues related to the development of existing OCS leases off California.

Additional Considerations

It should be noted that in addition to the proposal outlined above, the Subcommittee looked at revising the legal standard for decisions pursuant to sections 18 and 19 of the OCS Lands Act, as amended. Raising the legal standard was examined as a possible

means to assure states that their comments and recommendations on proposed leasing programs and individual lease sales would receive serious consideration by the Secretary, as a higher standard could make it more difficult for the federal government to prevail in ensuing litigation. As mentioned in the background section of this report, the Congress also has been considering similar proposals to strengthen the role of states in OCS decisionmaking.

The Subcommittee considered a proposal to require that the balancing decisions made by the Secretary of the Interior be supported by *"substantial evidence."* However, it was discovered that while section 23(c) of the OCS Lands Act, as amended, already does provide explicitly for the *"substantial evidence"* standard of review to be applied to the Secretary's findings, the U.S. Court of Appeals for the District of Columbia has issued an opinion that controls the standard of review regardless of the legislation's explicit requirement. In *State of California v. Watt [668 F.2d 1290 (1981)]* the court concluded that a *"hybrid"* standard of review should be applied to the Secretary's section 18 decisions. The court stated that the review of *"findings of ascertainable fact"* pursuant to section 18 will be guided by the *"substantial evidence"* standard while *"policy judgments"* will be tested under the less demanding *"arbitrary and capricious"* standard.

In light of such circumstances the Subcommittee decided not to recommend revision of the legal standard for Secretarial decisions pursuant to sections 18 and 19 of the OCS Lands Act, as amended.

Lease Cancellation and Buyback

Department of the Interior Initiatives

Following President Bush's June 1990 directive concerning buyback of the 73 existing OCS leases located in the Eastern Gulf of Mexico Planning Area south of 26° N. latitude, MMS suspended those leases for the purpose of considering them for cancellation and compensation in accordance with section 5 of the OCS Lands Act (43 U.S.C. 1334). Section 5 provides that leases may be canceled if it is determined that continued lease activities pose a threat of serious harm or damage, the harm will not diminish to an acceptable extent over time, and the advantages of cancellation outweigh the advantages of continuing the leases in effect.

Section 5 also provides that the leases be suspended continuously for a period of 5 years (or a shorter period at the request of the lessees) before cancellation may take place. The holder of an OCS lease canceled under section 5 is entitled to compensation amounting to the lesser of: (1) the fair value of the lease rights; or (2) the excess of lease expenses over revenues (including interest on both expenditures and revenues). According to MMS, should the Secretary decide to cancel the 73 Eastern Gulf leases under section 5, the earliest cancellation could occur would be October 1, 1995, unless the lessees request a shorter period of lease suspension and deliberations.

The Department of the Interior also has been involved in responding to a lawsuit filed by lessees that alleges a breach of contract and 5th Amendment taking of their interests in the 73 Eastern Gulf leases as well as additional leases off North Carolina and in the North Aleutian Basin Planning Area off Alaska. The section 5 cancellation and re-

purchase process has not been initiated for the leases off North Carolina and Alaska.

Measures Considered by the 102nd Congress

The buyback provisions of H.R. 776 provided for the cancellation and payment of compensation for the following OCS leases within 90 days after enactment into law: the 73 leases located in the Eastern Gulf of Mexico south of 26° N. latitude; the 23 leases in the North Aleutian Basin; and 21 leases off North Carolina. The House bill also directed that the amount of compensation due the lessees be computed pursuant to section 5 and provided an amendment to section 5 that would allow the compensation to be in the form of forgiveness of obligations on other leases (in lieu of the current requirement for cash payment). In addition, the House bill proposed amendments to section 5 that would shorten the required period of lease suspension, would recognize Congressional action to initiate suspensions, and would weaken substantially the cancellation criteria.

S. 2166 authorized and directed the Secretary to cancel and pay compensation for the 73 Eastern Gulf leases (subject to the availability of appropriations) and provided that the authorization for appropriations would expire on December 31, 1993. S. 2166 would have compensated the lessees for prelease expenses as well as *"lost profits."* The Senate bill's buyback provisions did not apply to any other OCS leases.

Recommendation of the Subcommittee

A prompt and suitable resolution should be attained for the leases that have been targeted for buyback and are subject to litigation. Generally, section 5 of the OCS Lands Act, as amended, should be the means for considering leases for cancellation and compensation, and section 5 is not in need of amendment at this time.

With respect to the 117 leases that the 102nd Congress considered for cancellation and buyback, the Subcommittee favors attainment of a prompt solution that is acceptable to the interested and affected parties. However, noting that those leases are the subject of litigation in the U.S. Claims Court, the Subcommittee believes that further comment or recommendation concerning their disposition would be inappropriate.

Generally speaking and notwithstanding the position stated in the paragraph above, the Subcommittee perceives the increasing requests for cancellation and buyback of OCS leases as a symptom of the same problem underlying moratoria. As such, measures should be taken to resolve the basic issues affecting the OCS program in order to ensure that future OCS leasing actions are not subject to similar pressure for their reversal. If congressional action mandating buybacks were to become the accepted means for resolving the disposition of controversial OCS leases, it is possible that consideration of fundamental issues in an effort to come up with relevant long-term solutions would be compromised or preempted.

The Subcommittee generally believes that section 5 of the OCS Lands Act should be the sole means for considering OCS leases for cancellation, as it calls for consideration of scientific and technical information in a deliberate and reasoned decisionmaking process. Further, the Subcommittee finds that section 5 of the OCS Lands Act provides adequate criteria and procedures in its present form and recommends that it not be amended. However, as with sections 18 and 19 of the OCS Lands Act, the degree of discretion given to the Secretary of the Interior for decisionmaking under section 5 is of some concern to the Subcommittee.

Coastal Impact Assistance and Revenue Sharing

Department of the Interior Initiative

Following the President's June 1990 directive to prepare a legislative initiative to provide a greater share of OCS revenues to coastal communities directly affected by new oil and gas development, the Department of the Interior developed and submitted to the 102nd Congress a proposal for providing impact assistance to coastal states and communities located near OCS oil and gas activities. The proposal was based on the view that, despite strict environmental standards, OCS development still can affect community infrastructure, social services, and the environment in ways that cause concerns among residents of coastal states and communities. Since those effects cannot be completely eliminated and other means for obtaining revenue to deal with those effects may be limited, it would be appropriate to provide the states and communities located near OCS development with a greater share of the benefits of development.

Under the department's proposal to the 102nd Congress, impact assistance would have been distributed according to the following formula:

- the amount distributed would have been 12.5 percent of new royalties from each OCS tract;
- the money would have been allocated to all coastal states within 200 miles of a given tract—weighted inversely according to each state's minimum distance from that tract; and
- within each state, 50 percent of the allocation would have gone to the state government, and the remaining 50 percent would have been distributed to eligible counties within 200 miles of the tract from which revenues are generated—weighted inversely according to each county's minimum distance from that tract.

The assistance would have been provided only from royalties on new production starting after the date of enactment and would not have applied to tracts covered under section 8(g) of the OCS Lands Act. Payments to the fund would have started in FY 1993 and payments to state and local governments would have commenced in FY 1994. Eligible counties would have been designated by the governors of affected states, with mandatory inclusion of all coastal counties and discretionary inclusion of other counties within 60 miles of the coast. The payments would have gone directly from the federal government to the state and local governments. The impact assistance payments would have been an entitlement rather than an annual appropriation, and there would have been no earmarking or other restrictions on how the assistance is spent.

Measures Considered by the 102nd Congress

H.R. 776 provided for establishment of the Ocean and Coastal Resources Management and Development Fund to be comprised of 4 percent of the average amount of all OCS revenues generated from the three previous fiscal years and administered by the Department of Commerce. This fund would have been subject to appropriations, and the amount deposited to it could increase up to 5 percent each year. Coastal states—including Great Lakes states, territories, and possessions—would have been eligible for block grants from the fund if they have an approved CZM plan or are making satisfactory progress toward one. All recipients were to receive fixed shares of the fund, ranging from

0.25 percent to 10 percent as specified in the legislation, with a small remainder to be distributed based on production.

Grants from the fund would have been used by states and local governments to manage their ocean and coastal resources and to ameliorate adverse environmental impacts on the coastal zone that are related to energy facilities. Payments from the fund would have been annual, and before states could receive their grants, they would have been required to submit a report describing how the money would be used. At least 33.3 percent of each state's grant would have been allocated to local governments. The states receiving grants also would have been required to submit audits to the Secretary of Commerce. The authority of the Secretary of Commerce to award grants and the authority for the revenue sharing fund would have expired on September 30, 2004.

S. 2166 provided for establishment of two funds. The Coastal Communities Impact Assistance Fund would have been administered by the Secretary of the Interior. The Coastal Resources Enhancement Fund would have been administered by the Secretary of Commerce.

The Coastal Communities Impact Assistance Fund would have been comprised of 12.5 percent of the revenues derived from leases coming on production after the date of enactment. The fund would have been subject to appropriations and capped at $300 million. All states and counties within 200 miles of a producing OCS lease would have received money from the fund in allocations based inversely on their distance from the producing lease. Money from the fund would have been distributed directly to both coastal states (50 percent) and counties (50 percent). Payments were earmarked for natural and environmental resource projects and for purposes related to the CZMA and OPA, as well as for the coastal impact assistance and OCS programs that were part of all the earmarking proposals. Payments from the fund would have been for each fiscal year, and an audit for each year would be required. No expiration date for the fund was provided.

The Coastal Resources Enhancement Fund would be comprised of 4 percent of the revenues from new OCS leases. The fund would be subject to appropriations and would be capped at $100 million. All coastal states (excluding the Great Lakes States) would be eligible for grants from the fund if they have an approved CZM plan or are making satisfactory progress toward one. Grants from the fund would be for state and local government use to manage their ocean and coastal resources and to ameliorate adverse environmental impacts on the coastal zone that are related to energy facilities. Grants to the states would be determined by factoring in shoreline mileage (25 percent), coastal population (25 percent), and number, location, and impact of energy facilities located within the coastal zone (50 percent). At least 33.3 percent of each state's grant would be awarded to its local governments. No audit requirement or expiration date for the fund was provided.

Recommendation of the Subcommittee

A portion of the revenues derived from OCS program activities should be shared with coastal states, Great Lakes states, and U.S. Territories.

The Subcommittee believes that a portion of OCS revenues should be dedicated to maintaining and enhancing coastal infrastructure. Due to changing U.S. demographics, there is increasing stress on infrastructure in the nation's coastal regions. During the 1980's the number of people living on the nation's coasts increased dramatically to the point where over half the total U.S. population now resides in coastal regions. Coastal population is projected to continue to grow well into the next century. Billions of dollars will have to be spent on infrastructure to accommo-

date the increasing needs of coastal residents and industries. It would be most appropriate to use OCS revenues, which are derived from the marine realm, for uses in coastal and marine areas. Such use of OCS revenues also would be consistent with the new administration's emphasis on maintaining and rebuilding the nation's infrastructure. In light of these considerations the Subcommittee has identified the following specific purposes to which OCS revenues should be applied:

- to maintain existing coastal and marine resource programs and protect renewable resources;
- to offset the impacts—both onshore and offshore—of federal OCS oil and gas exploration and development on the nation's coastal areas in recognition that the benefits of offshore oil and gas development are national in scope, but coastal states and localities bear a disproportionate burden of environmental and social costs;
- to strengthen the federal-state partnership so necessary in the pursuit of national energy goals and the protection of state interests in pursuing OCS development and the siting of OCS and other energy facilities in or near the coastal zone, thereby reducing conflict and confrontation and resulting in a more productive OCS program; and
- to provide a uniform, reasoned approach for transferring payments from the federal government to state and local governments instead of having states pursue independent exactions to compensate for OCS related impacts (such actions would inject further uncertainty into the process of OCS leasing and development and provide disincentives to the production of the nation's OCS resources).

The Subcommittee believes that one of the most important purposes of impact assistance relates to fulfilling the needs of coastal states for some financial assistance to be able to participate effectively in the OCS program decisionmaking process. At least part of this assistance should come up front to fund establishment of the regional task forces recommended above and to support formulation, review, and analysis of program proposals under the regional task force approach. Funds also should be committed to studies identified by the regional task forces as critical for decisionmaking. While the bulk of impact assistance should flow to states adjacent to OCS oil and gas exploration and development activities, such funds should not be perceived primarily as an inducement to states to encourage OCS development off their coasts, and OCS leasing off a state's coast should not be a prerequisite for that state's receipt of any revenue.

The Subcommittee recommends adoption of a revenue sharing/impact assistance proposal in keeping with the principles discussed above. Two alternative proposal concepts have been outlined below which would satisfy these principles and may provide valuable insight and guidance for crafting an appropriate revenue sharing/impact assistance program. In the first proposal a portion of the present revenue stream to the federal treasury is allocated to revenue sharing/impact assistance for states and territories. In the second alternative proposal appropriated funds would be put into a trust fund annually and, after a few years of accumulation, the interest would be distributed as an entitlement to states and territories. Over the long run this latter approach would generate a permanent, and increasing, revenue stream without causing federal budget problems in the short run.

Recommended Alternative Proposal Concept I

This proposal establishes two funds for impact assistance. Payments from both funds would be through an entitlement rather than an annual appropriation, and there would generally be no restrictions on uses of the funds. All coastal states, the Great Lakes states and territories would be eligible for participation in both funds. However, the amount of payment from the second fund, Coastal Impact Assistance Fund, would be appropriated based on selected criteria and an allocation formula. The program is outlined below.

General

- Revenue for the two funds will be generated from all OCS bonuses, rents and royalties accrued after date of enactment. The percentage of revenues paid into the funds each year should be fixed between four and 15 percent of the average annual OCS revenues for the previous three years. Payments to states and territories will *commence one year after establish* ment of these funds.

- Total annual revenues will be divided between the two funds. The Coastal Resources Enhancement fund should receive 50-66 percent of the revenues, and the Coastal Impact Assistance fund 34-50 percent of the available revenues.

- Payments to states or territories from either of these funds requires a 50:50 split of payments between local governments and the state or territory.

- Eligibility of local governments for *participation in the program and dis*tribution formulae for revenues from the funds is determined by the Governor of each participating state or trust territory; with mandatory inclusion of coastal counties, boroughs and parishes within 200 miles of OCS tracts *from which revenues are generated.*

Coastal Resources Enhancement Fund

- All coastal states, Great Lakes states and territories are eligible to participate in the fund.

- Payments from the fund are based on the coastal zone management funding formula from the CZMA. Funding under the CZMA, as a percentage of total CZMA funding, is used to determine fixed shares of the revenues deposited into the Coastal Resources Enhancement Fund to be distributed to each state and territory.

- Coastal states or territories lacking an approved Coastal Zone Management plan would receive a fixed share amount equal to one-half of the smallest fixed share paid to a state or territory with an approved plan, respectively.

- There would be no restrictions on how money distributed from this fund could be spent, with the exception of those states or territories where moratoria are in place. In those states or territories where moratoria are in place that portion of funds paid directly to the state or territory is restricted to ocean and coastal resources research, assesment and management related to the purposes of the OCS Lands Act, CZMA, Oil Pollution Act, Marine Plastic Pollution Research and Control Act, and Marine Protection Research and Sanctuaries Act. However, those funds distributed to local governments, *according to the formula* determined by the governor, will remain unrestricted.

Coastal Impact Assistance Fund

- All coastal states, Great Lakes states, and territories are eligible to participate in the fund.

- Revenues from the Coastal Impact Assistance fund would be distributed according to the following fixed share formula. The allocation formula will include the following, equally weighted, factors for each participating state or trust territory:

  - percent of EEZ offshore;
  - shoreline miles;
  - population;
  - number and type of energy facilities;
  - cumulative volume of oil and gas landed;
  - number of producing leases;
  - total acreage under lease;
  - proven reserves;
  - number of acres planned or offered for lease; and
  - percent historical volume produced oil and gas

  Participating states or trust territories will be assigned a value, ranging from 1 to 10, for each of the above factors. The point score for each participating state or trust territory will be converted to a percentage, based on total possible points available, to determine the fixed share of revenues distributed to them for each year.

- The minimum score in the above formula (equal to or greater than 10) will be assigned a portion of the fund equal to 0.5 percent of available revenues for a state or territory with an approved Coastal Zone Management plan. Those participating states or territories without an approved Coastal Zone Management plan would be eligible to receive only a portion of the fund equal to 0.25 percent of available revenues, regardless of point score.

- There is no restriction on the use of payments from this fund.

Recommended Alternative Proposal Concept II

The second alternative proposal alters the mechanism of funding and distribution for OCS impact assistance. Establishment of the two funds described in Recommended Alternative Proposal I remains unchanged. The funding mechanism, however, involves establishment of a trust from which annual appropriations or percentage entitlements would be made to eligible states and territories. Key features are described below.

- No payments of OCS receipts would be made directly to any state or territory.

- States and territories would be eligible for distribution of interest earned on deposits of OCS receipts to the two impact assistance funds described in Proposal I.

- Annual deposits of OCS receipts to these two funds would total 12.5 percent of the average of the receipts for the previous 3 years.

- The principal from OCS deposits each year would remain in the corpus of each fund accruing interest. Distribution of interest would be delayed for the first 3 years of the program. Payments from the funds would be authorized to occur on an annual basis thereafter either through an entitlement or annual appropriation mechanism.

- There is no restriction on the use of disbursements to participating states and territories.

Incentives to Industry

Background

The increasing interdependence of the United States national economy and the global economy is nowhere more evident than in exploration and development of offshore oil and natural gas resources. As nations around the world strive for increased energy self-sufficiency, Americans must understand that in many economic endeavors governments, like the private sector, must compete for limited investment capital. In the highly competitive world of natural resource development, contract terms, tax and royalty systems and other elements of a government's *"take"* become factors by which the attractiveness of oil and gas investment in a particular country is judged.

As more and more countries make adjustments in their fiscal systems in order to attract investment in offshore areas, the evidence, including declining federal revenues from the OCS, indicates that the U.S. has become a relatively less attractive place to invest capital. In fact, the U.S. OCS is considered the highest cost oil and gas arena in the world in terms of bonuses, rents and royalties as well as regulatory requirements and resulting delays. Figure 13 indicates the recent trend in Gulf of Mexico OCS activity by showing the number of fields and average reserves discovered each year since inception of the program in 1954.

After three decades of development, the mature shelf areas of the Gulf of Mexico have become economically marginal and thus activity in these areas has become dominated by small independent companies that can operate at lower costs than their major oil company predecessors. At the same time, multinational parents of many major oil companies are labeling U.S. deep water drilling and development as *"excessive risk with limited upside potential,"* and thus are diverting money abroad in pursuit of other opportunities.

There is a tendency on the part of the general public and even citizens knowledgeable about the OCS program to view the Gulf of Mexico as one oil and natural gas province. From an economic and technical viewpoint the Gulf should actually be seen as two hydrocarbon provinces—a developed marginally economic shallow water shelf province and an undeveloped frontier deepwater province with potential for discovery of reserves larger than prospects remaining in the shelf area. The environmental and safety record in both the mature shelf and frontier deepwater provinces has been excellent.

The costs of producing OCS resources increase significantly with water depth. For example, a conventional fixed leg production platform in 800 ft. of water can cost $360 million to construct, whereas a conventional tension leg platform in 3,000 ft. of water may cost nearly $1 billion.

According to Department of the Interior estimates, there are 11 billion barrels of oil equivalent in the Gulf of Mexico in waters of a depth of 200 meters or more. In recent years there have been an estimated 50 deep water discoveries with estimated reserves equivalent to 2.5 billion barrels of oil for which there are no plans for immediate development because proceeding is not economic. Both the Department of the Interior and the Congress have considered incentives entailing some form of royalty relief to increase the economic viability of OCS resources.

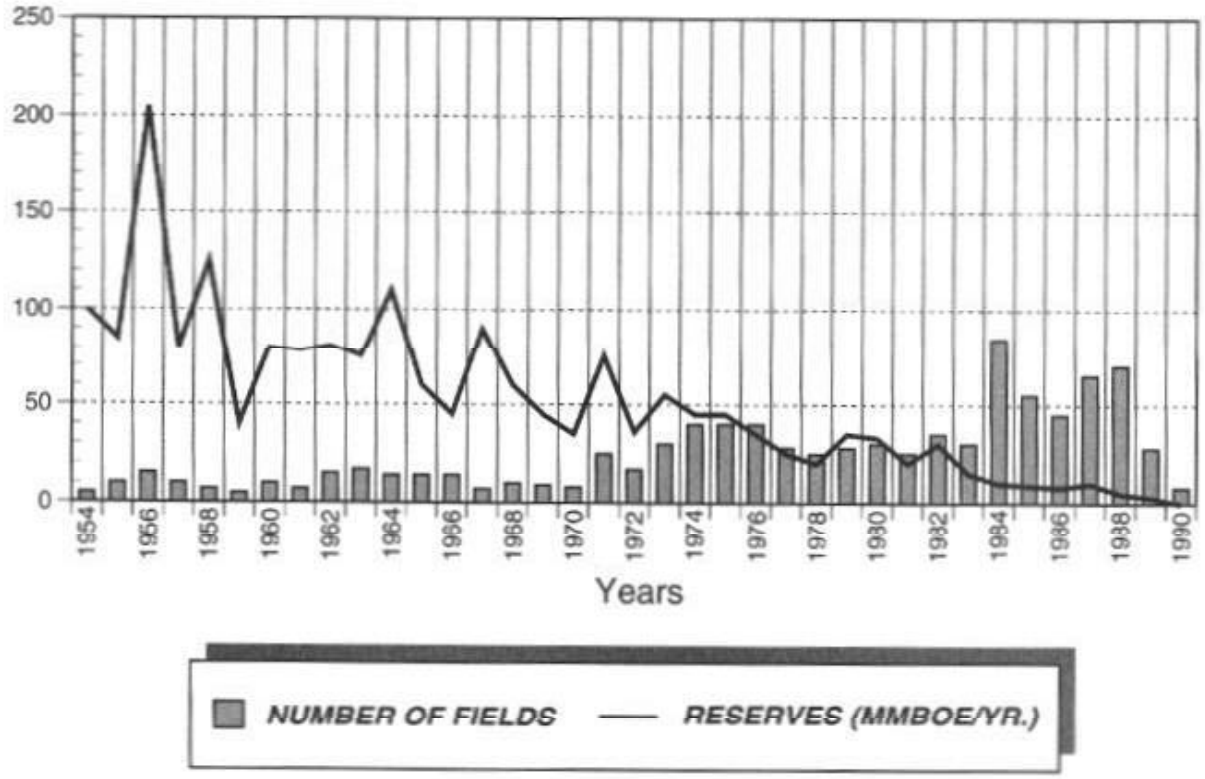


Figure 13. Number of fields and average reserves by discovery year, 1954-1990.

Department of the Interior Initiatives

The Department of the Interior has considered a number of royalty relief initiatives. The Bureau of Land Management has issued a final rule making onshore oil stripper wells eligible for reduced royalty rates. On October 27, 1992, the MMS announced a package of administrative and regulatory initiatives for the OCS program, one of which called for changing the water depth criterion for reduced royalty rate to 200 meters from the existing level of 400 meters. (It is the Subcommittee's understanding that the proposed change in water depth criterion has not been implemented pending a review by the new administration.) All of the MMS initiatives, some of which already have been implemented, reflect the Department of the Interior's authority under existing law. Additional special allowances for developing and producing oil and gas in certain extraordinary circumstances entailing higher costs also have been considered by MMS.

Measures Considered by the Congress

The 102nd Congress considered S.3127, the Outer Continental Shelf Deep Water Production Incentives Act, which would have allowed lessees to suspend the payment of royalties on production in water depths of 200 meters or greater in the Central and Western Gulf of Mexico until capital investment costs (excluding bonus payments) on the lease have been recovered. This measure would have applied to all leases commencing production after its enactment.

On February 4, 1993, U.S. Senator J. Bennett Johnston, Chairman of the Committee on Energy and Natural Resources, introduced to the 103rd Congress S.318,

> *"...to provide for the energy security of the Nation through encouraging the production of domestic oil and gas resources in deep water on the Outer Continental Shelf in the Gulf of Mexico and for other purposes."*

This proposed legislation would provide a royalty holiday on new production from leases in the Central and Western Gulf of Mexico located in 200 meters of water or greater until capital costs directly related to such new production have been recovered by the lessee. Such royalty relief would not apply when oil or natural gas prices exceed $28 per barrel or $3.50 per million Btu's, indexed for inflation.

Both S.3127 and S.318 include provisions for expanding existing discretionary authority for royalty relief by enabling the Secretary of the Interior to grant such relief for producing and nonproducing leases based on a broader range of reasons.

In addition, on February 18, 1993, U.S. Senator John B. Breaux introduced S.403, which would amend the Internal Revenue Code of 1986 to allow a tax credit of $5 per barrel of oil equivalent for new production from any offshore area located in water depths of 400 meters or more.

Expected Results of Royalty Rate Reductions

An appropriately structured program of royalty reductions could provide financial incentives to companies to maintain or increase production while resulting in greater government receipts overall in the long term. Even with appropriate discounting, royalty reductions applied over an extended production life can yield royalty revenues comparable to the royalties now collected under existing procedures where royalties cease with premature shut-in. Additional regulatory authority to reduce royalty rates could be employed to encourage new development and production in high-cost deepwater areas. This would slow the decline in domestic production, reduce dependence on imported oil, reduce the trade deficit, and provide employment benefits.

On September 14, 1993, the Department of the Interior's Assistant Secretary for Land and Minerals Management testified before the Senate Energy and Natural Resources Committee and supported the objectives of S.318 to increase investment, production, and employment in the Gulf of Mexico OCS. However, the Assistant Secretary also cited the results of an MMS analysis of the specific provisions of S.318 that was conducted to determine its effects on future production as well as its impacts to the federal treasury. That analysis looked at 30 meaningfully-sized discoveries in the Central and Western Gulf of Mexico in water depths over 200 meters and concluded that the provisions of S.318 would affect the decision to produce for only two of those discoveries. The MMS further concluded that the estimated revenue gains associated with producing those fields would be more than offset by royalties foregone from other fields that would have been developed and produced even without the incentive. The MMS analysis also found that the overall impact of this particular bill to the federal treasury would be a reduction in receipts amounting to approximately $1 billion over the life of the fields.

The Assistant Secretary concluded his testimony on S.318 by suggesting the following modifications to address the bill's potential fiscal impacts: the mandatory royalty suspension should apply to new leases only and should be limited to tracts in 400 meters of water or greater; and the term *"capital costs"* should be defined to allow the Secretary to set a schedule of allowable costs in regula-

tion rather than require the use of actual costs. The Assistant Secretary indicated that if these changes were made, S.318 would be more acceptable to the Department of the Interior.

Recommendation of the Subcommittee

Economic and technical incentives should be thoroughly analyzed and considered for implementation by the Department to encourage the U.S. oil and gas industry's continued participation in the OCS program.

With respect to royalty relief measures to encourage OCS oil and gas development, the Subcommittee recommends that the Department take the following measures:

- implement a program similar to the royalty reduction program for onshore stripper wells that would be designed to extend the producing life of OCS leases;
- complete the implementation of regulatory and administrative initiatives announced by MMS; and
- consider new legislation to broaden the authority of MMS to provide royalty relief on all existing but undeveloped OCS leases.

While the Subcommittee endorses consideration and analysis of a royalty rate reduction and the lowering of the deep water threshold from 400 meters to 200 meters as measures that might stimulate new OCS activity, other incentives for development that could be provided through the tax system also should be considered. Further analysis is needed to determine whether a more comprehensive package of incentives—including possibly production tax credits—may be required. The Subcommittee encourages the Secretary to examine this issue carefully. Such an examination should be taken from a global economic perspective—and in the context of existing domestic tax incentives and related measures—along with due consideration of risk to the environment and cost to the U.S. Treasury.

In addition to examining economic incentives, MMS and the Secretary of the Interior may wish to examine possible relief from technical restrictions in the deepwater Gulf of Mexico and also to cooperate with industry in studying phased development, low-cost production methods and shared facilities as further means of lowering the financial risks inherent in reserve recovery in deep water. The primary intent of such incentives should be to reduce operating costs and financial risks associated with deepwater exploration and development.

The Subcommittee believes that from the standpoint of both technology and the regulatory regime, Gulf of Mexico deepwater development should not be seen as a simple extension of historical development in the shallower Gulf shelf area. In fact, North Sea development or Brazilian deepwater operations may provide better models for what will happen in the deep water Gulf in the future. New ideas and concepts will be required on the part of both industry and government for both surface and subsea activities. A higher level of cooperation will be required both among operators and between industry and government.

The Subcommittee is aware that MMS has been participating in the oil and gas industry's DeepStar project, which was initiated in 1992 to examine technical and regulatory issues associated with future deepwater development activities, and we encourage MMS to continue in this important endeavor. Issues such as physical size of tracts, shared facilities, large mooring spreads that during testing operations may extend into adjacent blocks, gas handling systems, extended testing and gas flaring, and lease periods, as well as financial incentives, should be ad-

dressed. Ways should be found to avoid delays in the regulatory review process that could also provide a hindrance to deepwater development since operating costs are so high and the time value of money will be an important factor for operators.

The Subcommittee thinks that with good leadership and communication, deepwater oil and natural gas development has the potential for generating the same kind of excitement that has taken place in America's space program. The scope and technical challenges of the program are similar, and just as many states could be involved as far as jobs and other favorable economic impacts are concerned.

In addition to concerns expressed over the financial risks involved in deep water operations, concerns have been expressed that drilling and development operations in shallower Gulf of Mexico waters dropped to record low levels last year. These activities are largely dependent upon natural gas prices that have recovered recently. Nevertheless, continuing lack of capital investment in production in mature areas throughout the Gulf is already having an impact on royalty revenues for the U.S. Annual OCS revenues have fallen to $2 billion from $10 billion ten years ago.

Financial incentives could be used in the more mature shallow water Gulf to achieve objectives of making it possible for marginal field developments to move forward, where they might not otherwise proceed for economic reasons, and also to ensure that existing reserves in productive fields are fully developed and produced in an efficient manner. Such objectives could benefit government, industry and energy consumers.

The Subcommittee recommends that the Secretary examine possible financial and regulatory incentives that could stimulate operators to develop shallower water marginal fields in the Gulf of Mexico and also encourage full exploitation of existing fields using the most efficient recovery methods. For example, MMS might consider royalty incentives that apply to current OCS leases and not just new leases. The Secretary already has the authority to implement a number of incentives under existing OCS laws and regulations. Here also, Congress may wish to examine making production tax credits available to offshore operators similar to those that in the past have been made available to onshore operators to stimulate enhanced oil recovery and recovery of natural gas from tight sands and coal seams. Tax credits also could be applied as an incentive for developing and using new technology such as 3-dimensional seismic techniques to find and produce new horizons in older fields.

The Subcommittee is aware of the increased financial responsibility requirements for OCS operators under new MMS rules that are about to go into effect. Pursuant to the Oil Pollution Act of 1990, evidence of financial responsibility for offshore pipelines and mobile rigs will more than quadruple to $150 million from the $35 million now required. Also, surety bonds or evidence of financial responsibility to assure operator cleanup at the end of field life will increase from $50 thousand per lease or $300 thousand per area to $200 thousand per lease or $1 million per area for exploration and $500 thousand per lease or $3 million per area for development and production. The Subcommittee understands that these increased financial burdens on OCS operators may delay or prevent lease assignments to smaller companies, which may in turn lead to lower drilling activity in the Gulf of Mexico. An appropriate solution to this dilemma should be pursued.

Environmental Sciences Review Panels (ESRP's)

Measures Considered by the 102nd Congress

H.R. 776 provided for the establishment of ESRP's for each of the following OCS areas: North Atlantic; Mid-Atlantic; South Atlantic/ Straits of Florida; Eastern Gulf of Mexico; Southern California; Central California; Northern California; Washington/Oregon; and North Aleutian Basin. The ESRP's would assess the adequacy of scientific information, identify additional studies needed, identify potential impacts, provide peer review, and report to the Secretary with respect to OCS leasing, exploration, and development and production. The ESRP's would be composed of representatives of MMS, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration, and the U.S. Fish and Wildlife Service.

The ESRP's would be established for all of the areas subject to the preleasing/leasing moratoria provisions of H.R. 776, which also provides that the Secretary consider the findings and recommendations of the ESRP's in determining whether to lease any of those areas. In addition to the moratoria provisions outlined above, H.R. 776 provides that no lease sale would be allowed in any of those areas until after the expiration of 45 days of continuous congressional session following submission of an ESRP report to the Secretary.

S. 2166 did not include provisions for ESRP's or any similar measures.

Recommendation of the Subcommittee

Environmental Sciences Review Panels should not be established.

The Subcommittee believes that the MMS Environmental Studies Program receives good and sufficient counsel from the Scientific Committee of the OCS Advisory Board and does not need any additional layers of advice and oversight. Thus, the Subcommittee is unconvinced of the need to establish a program of ESRP evaluation and recommends against such action.

Additional Recommendations

The Subcommittee believes that the real need in the area of environmental studies is for a combination of adequate funding, good science, and more cooperation between MMS and other federal, state and local agencies. This means sufficient funding for the environmental studies program, including more emphasis on socio-cultural issues, socioeconomics, and information on public perceptions, interagency coordination, enhanced data management, and public dissemination of results of studies. The MMS needs to use the information it generates to undergird its decisions and to better inform the public on the impacts of OCS development. Combined with continuing consultation, negotiation, and early resolution of conflicts among federal, state, and local agencies, such an approach should enhance confidence in MMS decisionmaking.

The programmatic review of the Environmental Studies Program that recently was completed by the NRC also should be noted. That review found that overall, the studies program has contributed significantly to the accumulation of knowledge about the U.S. OCS. The NRC has offered recommenda-

tions on physical oceanography, ecology, and social and economic studies that MMS should pursue with advice from the Scientific Committee.

One of the issues identified and discussed by the NRC in its review pertains to MMS's management of the scientific information generated under the environmental studies program. The Subcommittee believes that those data constitute an important and valuable resource that should be easily accessible to the public. The Subcommittee recommends that MMS develop a comprehensive and easy to use automated data management and dissemination system to make the contractual products of the environmental studies program more readily available and usable.

ADDITIONAL OBSERVATIONS AND RECOMMENDATIONS

As recommended above, the Subcommittee proposes establishing regional task forces designed to resolve conflicts related to competing ocean uses, providing a greater share of OCS revenues to states and localities, considering economic and technical incentives to assure industry's continued participation in the OCS program, and developing a better way of managing the information acquired under the environmental studies program. The Subcommittee is hopeful that implementation of these measures will help to regenerate the OCS oil and gas program as a viable, effective and efficient means for producing energy for the benefit of the nation.

Recognition of Parallel Ongoing Efforts

While the Subcommittee has developed its own set of recommendations for the OCS oil and gas program, it recognizes that a number of parallel efforts are in progress that could produce relevant findings and recommendations in the future. Selected projects are identified and discussed below.

Alternative Leasing Policies and Industry Incentives

The Subcommittee is aware that MMS is looking into alternatives to existing leasing policies and that the Department of Energy is undertaking an effort to develop a strategy to provide expanded opportunities for domestic oil and gas producers. Since both of those efforts parallel the work of the Subcommittee on OCS Legislation, the recommendations proposed by those efforts should be considered as they become available.

Multiple Criteria Decisionmaking

Efforts to formulate a workable blueprint for the development, management, and protection of U.S. ocean resources have been ongoing for nearly three decades, starting in 1965 with the Commission on Marine Science, Engineering, and Resources (Stratton Commission). These efforts include: a comprehensive review of U.S. ocean policy commissioned by President Carter and prepared by the Department of Commerce in 1978 entitled, *U.S. Ocean Policy in the 1970's: Status and the Issues*; extensive deliberations by the then National Advisory Committee on Oceans and Atmosphere (NACOA); congressional hearings and legislation to enact a multiplicity of special-purpose ocean laws; various reports and studies by such groups as the Coastal States Organization, the Council of State Governments, and the Pacific Basin Development Council; and a myriad of conference, workshop, and symposia discussions, recommendations, and proceedings. While much has been said and documented on the need for and the elements of a national ocean plan and policy, no tangible results have occurred.

Most recently the Marine Board of the

National Research Council has undertaken an effort

> *"...to look beyond the present federal activities and policies for the oceans, which are limited and fragmented, to envision a truly national plan and policy for sustainable development of the U.S. Exclusive Economic Zone that can serve as a guide for planning and managing the nation's development of its ocean resources into the next century."*

On April 28, 1993, the Marine Board convened a forum entitled, *The Future of the U.S. Exclusive Economic Zone [EEZ]*, in which various parties with an interest in the EEZ could present their views and discuss possible approaches to managing its diverse resources. The consensus of the forum was that there is a great need for a comprehensive national strategy that would take into account the multiple objectives of EEZ stakeholders. The absence of such a strategy was cited as contributing to extreme policy swings relating to development and preservation, declining productivity of marine industries, serious conflicts among various interested and affected parties, and inconsistencies between U.S. and international requirements relating to various ocean activities. In turn such developments have imposed significant costs on all of the EEZ stakeholders.

The ultimate objective of the Marine Board effort is to develop through a partnership of the stakeholders a national management strategy for the EEZ that takes into account regional differences and concerns. Toward that end the forum has proposed consideration of the following possible actions by the NRC/Marine Board:

- conduct an inventory of economic opportunities in the ocean that establishes a realistic basis for assessing the environmental risks of those activities;
- define a national interest in the EEZ—both in terms of economic development and environmental and biological conservation;
- examine and document the problems arising from the lack of a comprehensive national ocean strategy; and
- develop a model strategy to be applied to a specific ocean region and develop a regional strategy for that region to be used as a model for other regions.

Notwithstanding the belief the Subcommittee places in the importance of implementing its recommended regional task force approach to foster multiple criteria decisionmaking, the Subcommittee finds it appropriate and consistent with the stated objective of regenerating the OCS oil and gas program for the OCS Policy Committee to consider findings and recommendations of the Marine Board and to take the appropriate action.

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APPENDICES

Side-by-Side
OCS Amendments to the Energy Bill

IMPACT ASSISTANCE

H.R. 776	S. 2166	Legislation Proposed by the Bush Administration (H.R. 4138)
Title XXIV - **OCS Revenue Sharing**	Composed of 2 Funds 1) Fund #1	
Administered by Commerce.	Administered by Interior.	*Administered by Interior.*
Applicable to all revenues.	Applicable to new revenues- defined as royalties and miscellaneous payments received from tracts coming into production after date of enactment.	*Applicable to new revenues- defined as royalties and miscellaneous payments received from tracts coming into production after date of enactment.*
Establishes Ocean & Coastal Resource Management & Development Fund - comprised of 4% of the average amount of OCS revenues from the three previous fiscal years. - Amount deposited can increase up to 5% each year.	Establishes Coastal Communities Impact Assistance Fund - comprised of 12.5% of "new revenues" from the OCS. - Fund is capped at $300 million.	*Establishes Coastal Communities Impact Assistance Fund - comprised of 12.5% of "new revenues" from the OCS.* *- No cap.*
Subject to appropriations.	Subject to appropriations.	*Permanent indefinite appropriation.*
Coastal states as defined in the bill (includes Great Lakes, territories, possessions) are eligible for block grants if: - they have an approved CZM plan (or are making satisfactory progress towards one).	Fund is allocated among states and counties based on distance of each state or county from producing lease. - All states and counties within 200 miles of a producing lease will receive funds.	*Fund is allocated among states and counties based on distance of each state or county from producing lease.* *- All states and counties within 200 miles of a producing lease will receive funds.*

Side-by-Side
OCS Amendments to the Energy Bill

IMPACT ASSISTANCE (cont.)

H.R. 776	S. 2166	Legislation Proposed by the Bush Administration (H.R. 4138)
Monies allocated as follows: - Approximately 89% of total monies in Fund: - 2.5 % to each coastal territory. - 5.0% each for Alabama and Mississippi. - 10.0% each for Alaska, California, Louisiana and Texas. - 1.75% each to all remaining states. - Remaining 11% of monies in Fund is allocated to States in proportion to OCS production/first landed (TX, LA, CA).	All leases within 200 miles of the coastline are available for impact assistance.	*All leases within 200 miles of the coastline are available for impact assistance.*
Payment is annual. State must submit a report re: the use of the money before it can receive its annual grant. State must allocate no less than 1/3 its block grant to local governments.	One half of the fund is to be distributed to coastal states. The remaining half is to be distributed directly to coastal counties. Payment is annual.	*One half of the fund is to be distributed to coastal states. The remaining half is to be distributed directly to coastal counties. Payment is annual.*
State and local use for management of ocean and coastal resources and ameliorating energy facility activities.	Funds are to be used for designated environmental and natural resource use.	*No earmarking.*
Audit Requirement.	Audit Requirement.	*No Audit Requirement.*
Sunset clause - 09/30/2004.		

Side-by-Side
OCS Amendments to the Energy Bill

IMPACT ASSISTANCE (cont.)

H.R. 776	S. 2166	Legislation Proposed by the Bush Administration (H.R. 4138)
No 2nd Fund.	2) Fund #2. Administered by Commerce. All Coastal States (not including Great Lakes, territories, etc.) are eligible to recieve funds. Applicable to new revenues - as defined in previous provision. Establishes a Coastal Resources Enhancement Fund comprised of 4% of "new revenues" from the OCS. Fund is capped at $100 million. Subject to Appropriations. Block grants made to states from environmental and other specific purposes based on: - energy facilities	*No 2nd Fund.*

Side-by-Side
OCS Amendments to the Energy Bill

ENVIRONMENTAL SCIENCE REVEIW PANELS/ ENVIRONMENTAL STUDIES

H.R. 776	S. 2166	Current Law
- Compensation pursuant to Section 5 of OCSLA, plus Compensation can take form of forgiveness of royalty or rental obligations on other OCS leases (in addition to the provisions of section 5 OCSLA).	- No such provisions.	- *No such provisions.*
Other Requirements for Areas Under Moratoria - Establishment of Environmental Sciences Reveiw Panels to assess adequacy of, and need for additional data to make leasing, exploration and development decisions and to supervise peer-review of proposed studies. - Each panel comprised of Federal, State representatives. - Also, Secretary of Commerce to appoint 3 scientists to the panel. - No lease sales can be held in the areas subject to moratoria until the Secretary of the Interior submits a report to Congress pursuant to the provisions concerning the Environmental Sciences Review Panel.	**Other Requirements for Areas Under Moratoria** - No such provisions.	***Other Requirements for Areas Under Moratoria*** - *For areas under President Bush's withdrawal order, conduct additional environmental studies to ensure that leasing can be carried out safely.*

Side-by-Side
OCS Amendments to the Energy Bill

MORATORIA (ends)/ BUYBACKS

H.R. 776	S. 2166	Current Law
Acreage Proposed for Leasing Moratoria - approximately 500 million acres.	**Acreage Proposed for Leasing Moratoria** - approximately 200 million acres.	***Acreage Proposed for Leasing Moratoria*** *- 190 million acres.*
Lease cancellation/buyback *provisions, and Drilling* Moratoria.	**Lease cancellation/buyback *provisions, and Drilling* Moratoria.**	***Lease cancellation/buyback provisions, and Drilling Moratoria.***
In general, leases to be cancelled within 90 days after enactment of Act; and drilling bans in effect until cancellation for the following areas:	Secretary authorized and directed, subject to availability of appropriations, to cancel and buy back leases off southwest Florida. Authorization for appropriations expires December 31, 1993.	*- No such provision.*
- Florida area south of 26 degrees N. Latitude (73 leases).	- Same areas as H.R. 776.	*- Leases under suspension; President Bush's directive to begin a process that could lead to cancellation.*
- North Aleutian Basin (Alaska) for 23 existing leases.	*- No such provision.*	*- No such provision.*
- Offshore North Carolina (21 leases).	*- No such provision.*	*- No such provision.*
Amendments to Lease Cancellation Provisions of the OCSLA (section 5).		
Congress can suspend leases as well as Secretary.	- No such provision.	*- No such provision.*

Side-by-Side
OCS Amendments to the Energy Bill

ENVIRONMENTAL SCIENCE REVEIW PANELS/ ENVIRONMENTAL STUDIES

H.R. 776	S. 2166	Current Law
- Compensation pursuant to Section 5 of OCSLA, plus Compensation can take form of forgiveness of royalty or rental obligations on other OCS leases (in addition to the provisions of section 5 OCSLA).	- No such provisions.	*- No such provisions.*
Other Requirements for Areas Under Moratoria - Establishment of Environmental Sciences Reveiw Panels to assess adequacy of, and need for additional data to make leasing, exploration and development decisions and to supervise peer-review of proposed studies. - Each panel comprised of Federal, State representatives. - Also, Secretary of Commerce to appoint 3 scientists to the panel. - No lease sales can be held in the areas subject to moratoria until the Secretary of the Interior submits a report to Congress pursuant to the provisions concerning the Environmental Sciences Review Panel.	**Other Requirements for Areas Under Moratoria** - No such provisions.	***Other Requirements for Areas Under Moratoria*** *- For areas under President Bush's withdrawal order, conduct additional environmental studies to ensure that leasing can be carried out safely.*

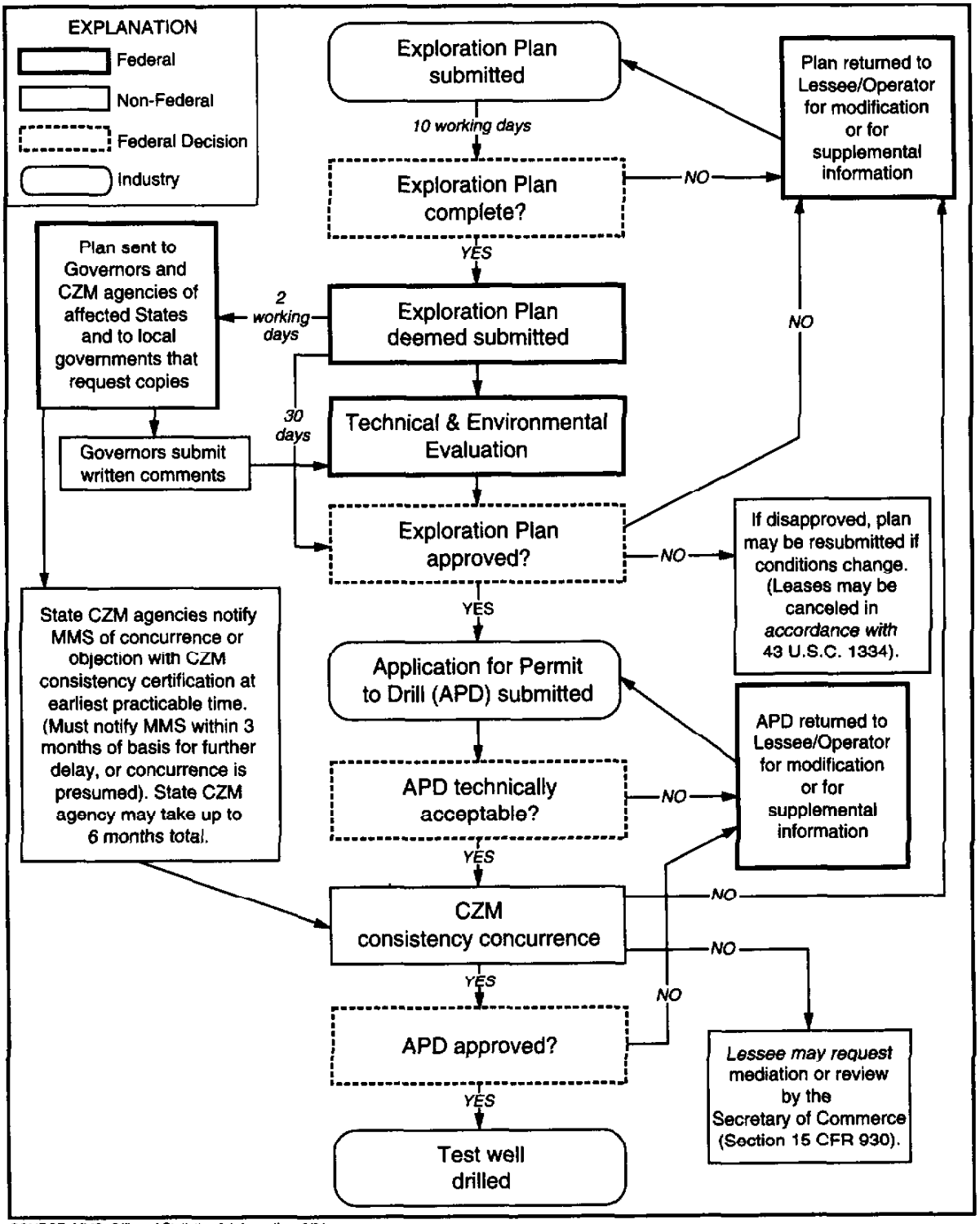
Side-by-Side
OCS Amendments to the Energy Bill

ESRPS'/ ENVIRONMENTAL STUDIES

H.R. 776	S. 2166	Current Law
- For Alaska: future 5-Year Plans, lease sales and Exploration/Development Plans are subject to Section 810 of ANILCA (subsistence requirements).		
Miscellaneous - permanent prohibition on oil and gas leasing in the proposed Olympic Coast National Marine Sanctuary.	- No such provision.	- No such provision.
Studies required in Section 20(a) of the OCSLA shall also include an assessment of the "adequacy of available physical oceanographic, economical and socioeconomic information." - Defines adequacy as -- "sufficiently complete to enable necessary decisions to be made under this Act, and of sufficient quality to be repeatable, reliable, and valid in measurements and analysis with appropriate methods and subject."	- No such provision.	- *No such provision.*
- Authorizes the following appropriations: - $21 million in FY '93 - $25 million in FY '94 - $30 million in FY '95 - $35 million in FY '96 -$40 million in FY '97	- No such provision.	- *No such provision.*

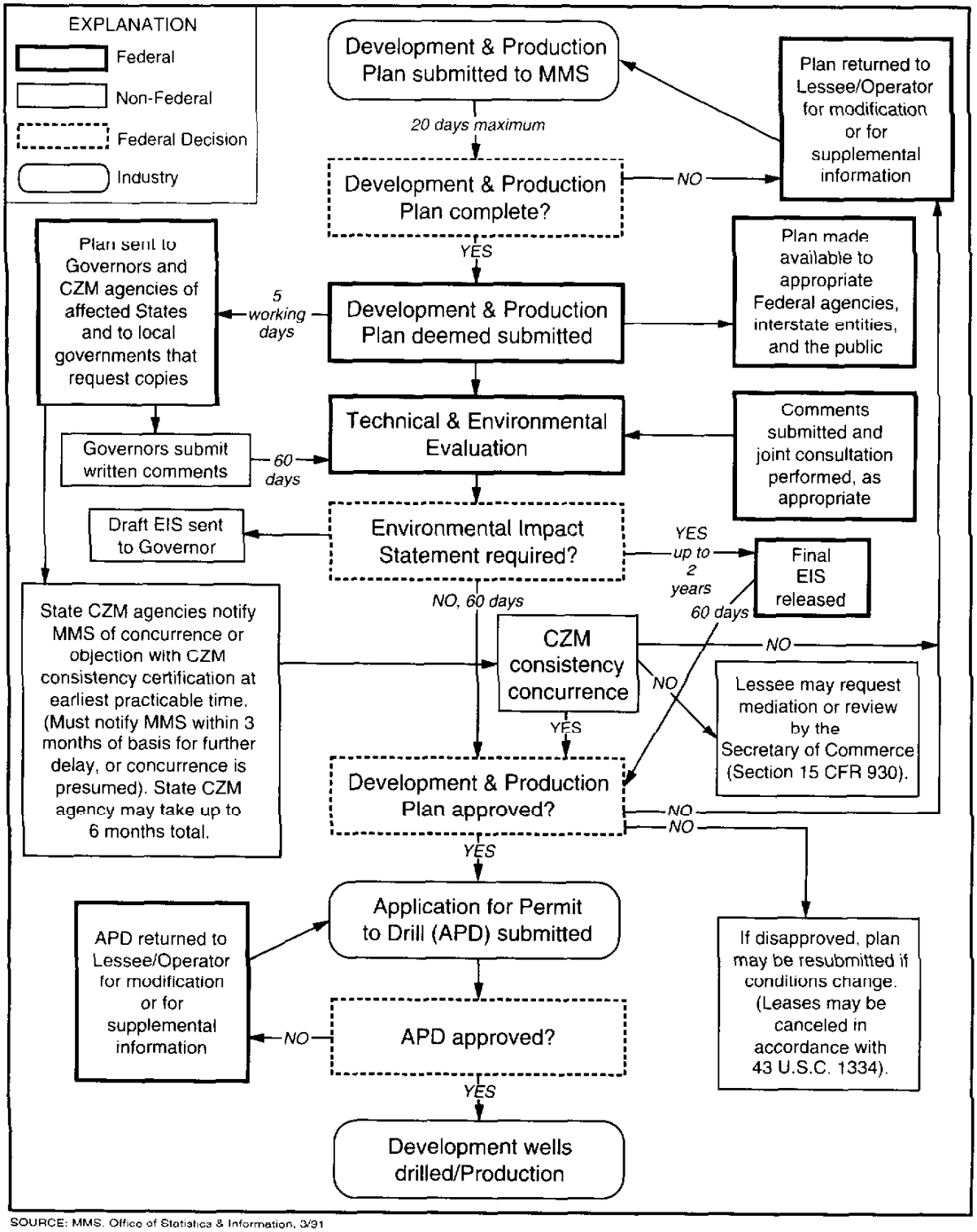
Area Evaluation and Decision Process
Ongoing Studies and Geologic/Geophysical Data Gathering
Information Acquisition and Evaluation Process
Planning and Consultation Process
Analysis of Decision Options Process
Planning for Future Sales and Programs
IDENTIFY INFO. NEEDS
I*
DELAY FOR ADDITIONAL STUDIES
STOP
PROCEED
CALL
REVIEW COMMENTS/ CONSULT/ SCOPING*
PAAM
DELAY CONFLICT RESOLUTION AND/OR ADDITIONAL STUDIES*
STOP
PROCEED
AREA ID
DEIS PNOS
PH*
REVIEW COMMENTS/ CONSULT*
INFORMATION NEEDS
DELAY REVISE DEIS AND/OR ADDITIONAL STUDIES
FEIS CD
STOP
DELAY CONFLICT RESOLUTION AND/OR SUPPLEMENTAL EIS OR ENVIRONMENTAL ASSESSMENT*
NOS
SALE
STOP
Decision Point
* Consultation, using appropriate coordination mechanisms (Options: Workshops; Information Transfer Meetings; Biological Task Forces; State/Federal Task Forces; Regional Studies; etc.)
I Information Base Review
CALL Call for Information and Nominations (45-day comment period)
PAAM Proposed Action and Alternatives Memorandum
AREA ID Area Identification
DEIS PNOS Draft Environmental Impact Statement Proposed Notice of Sale (90-day comment period)
PH* Public Hearings
FEIS CD Final Environmental Impact Statement (30-day comment period) Consistency Determination (90-days before decision on Notice of Sale)
NOS Notice of Sale
Action line
Future planning
Information transfer

Figure B-1.



SOURCE: MMS, Office of Statistics & Information, 3/91

Figure B-2.



SOURCE: MMS, Office of Statistics & Information, 3/91

Figure B-3.

Resolution of the OCS Policy Committee October 20, 1993

Whereas, the OCS Policy Committee on October 21, 1992, authorized the formation of a subcommittee charged with reviewing the primary OCS provisions that were considered for the National Energy Policy Act of 1992 (P.L. 102-377) but were excluded from the legislation that ultimately was enacted; and

Whereas, the Subcommittee on OCS Legislation undertook its charge by conducting an extensive review and assessment of the state of the OCS oil and gas program under the existing overall legal and regulatory regime; and

Whereas, the subcommittee has prepared a report that documents its review and concludes that--while the OCS oil and gas program has become mired in controversy and conflict--there is a need to maintain a sound and active program to continue to help the nation in meeting its energy needs for the foreseeable future; and

Whereas, the report of the subcommittee presents both findings and recommendations relating to the specific legislative proposals considered as well as recommendations intended to provide more comprehensive, long-term solutions to the problems facing the OCS oil and gas program;

Now therefore be it resolved, that The Report of the OCS Policy Committee's Subcommittee on OCS Legislation be approved and adopted by the Policy Committee; and

Further, be it resolved, that the subcommittee report be sent to the Secretary of the Interior with this resolution; and

Further, be it resolved, that the Secretary of the Interior is urged by the Policy Committee to take timely action to implement the recommendations of the subcommittee report.

*U.S. G.P.O.:1994-301-078:80424