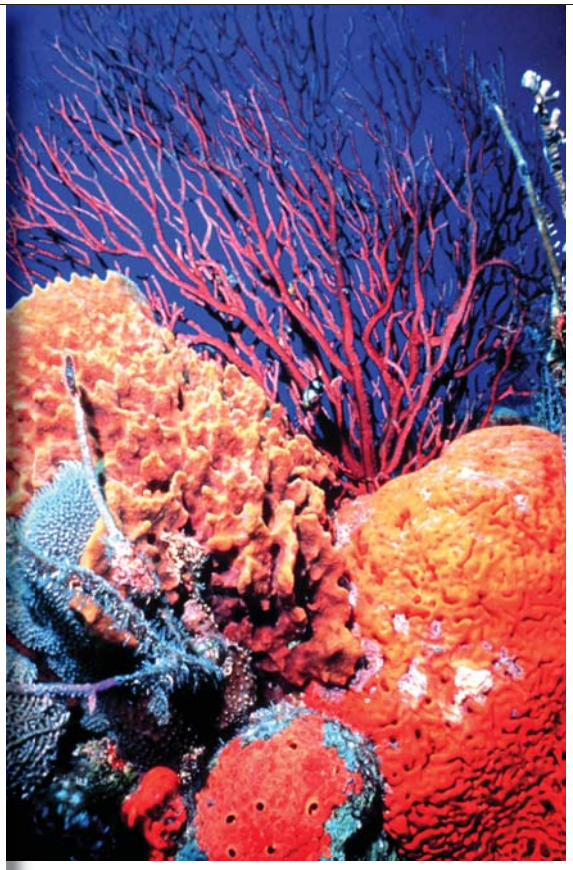
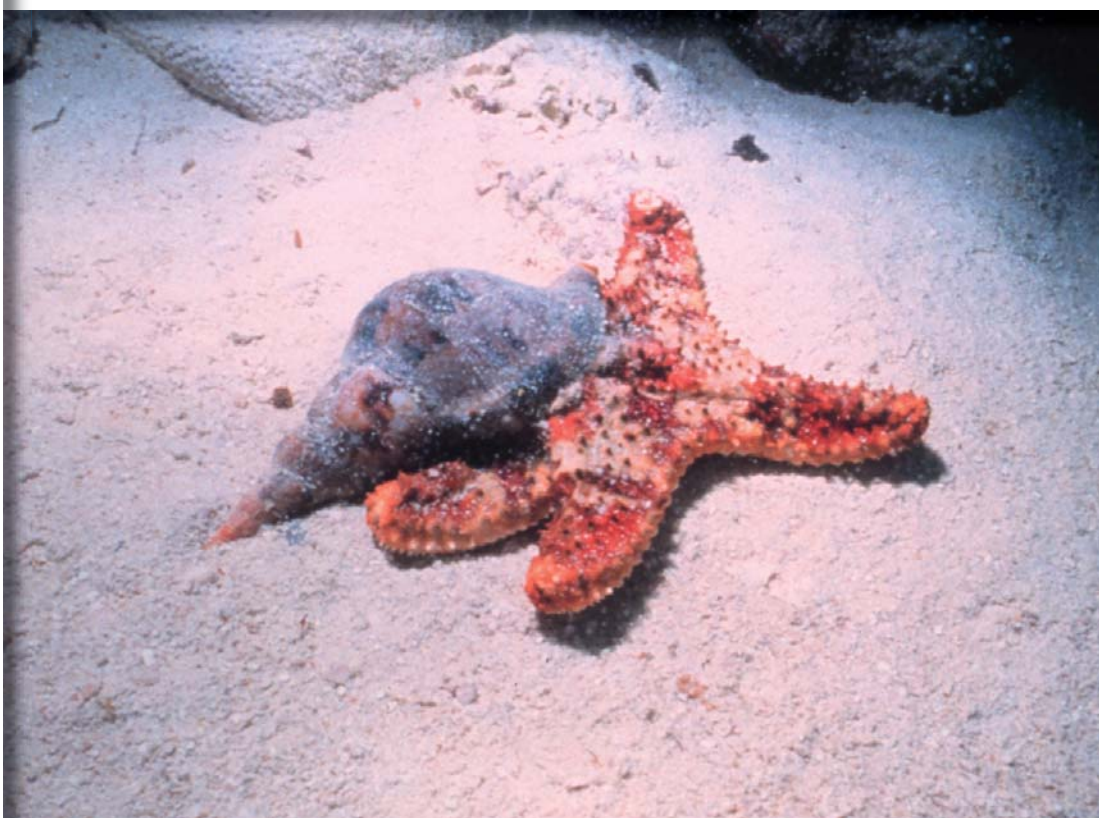
MMS OCEAN SCIENCE

VOLUME 5 ISSUE 1

JANUARY/FEBRUARY/MARCH 2008

THE SCIENCE & TECHNOLOGY JOURNAL OF THE MINERALS MANAGEMENT SERVICE





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ABOUT THE COVER

Left and Top Right: Corals from NOAA's Coral Kingdom Collection. Credit: Florida Keys National Marine Sanctuary.

Middle Right: Platform inspection.

Main Photo: Atlantic trumpet triton and cushion sea star. NOAA's Coral Kingdom Collection. Credit: Florida Keys National Marine Sanctuary.

Back Page: Background platform image by Gregory S. Boland

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www.mms.gov

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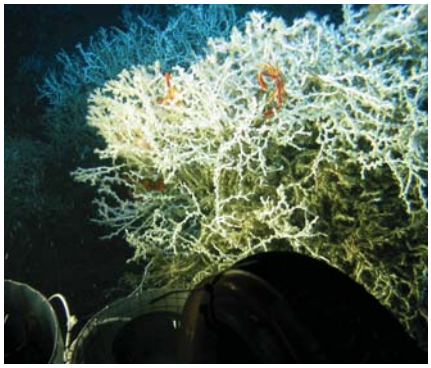


Left: Live bushes of the deep-sea coral, *Lophelia*, may act like island oases in the deep sea. Photographer: Dr. Ken Sulak, USGS. Below: Gray snappers at the reef. NOAA's Coral Kingdom Collection. Credit: Florida Keys National Marine Sanctuary.

DEEP-SEA CORNUCOPIA:

Unwrapping the Ocean's Potential

The ocean holds an amazing array of undiscovered treasures, from new domestic energy supplies to potentially lifesaving marine bio-products. The Minerals Management Service (MMS) continually explores the marine environment, searching for new ways to understand the potential held in the ocean realm. New technology and research projects are stretching farther into previously unreachable areas of the ocean's domain.

In Alaska's Chukchi Sea, record-breaking numbers of bids were received for the February 2008 lease sale. This was the first Chukchi Sea sale held since 1991. In preparation for industry exploration, MMS conducted 30 to 40 environmental studies per year since 2000 to research offshore development in Alaska and ensure that its natural environment will remain protected through the course of the new oil and gas activities. These new energy possibilities are exciting, and MMS estimates 60 percent of oil and 40 percent of natural gas domestic resources are waiting in undiscovered fields.

In addition to examining new technology for oil and gas production, MMS scientists also assess ways to enhance the ocean environment. Through programs like Coastal Impact Assistance and Rigs-to-Reefs, they are finding ways to give back to the environment by enhancing shorelines and providing new fish habitats.

In the midst of exploration into Arctic technology, oil and gas development, biotechnology, and numerous other investigations of the marine environment, MMS will continue to provide balance between the management of ocean resources and the protection of the treasured natural environment from which those resources come.

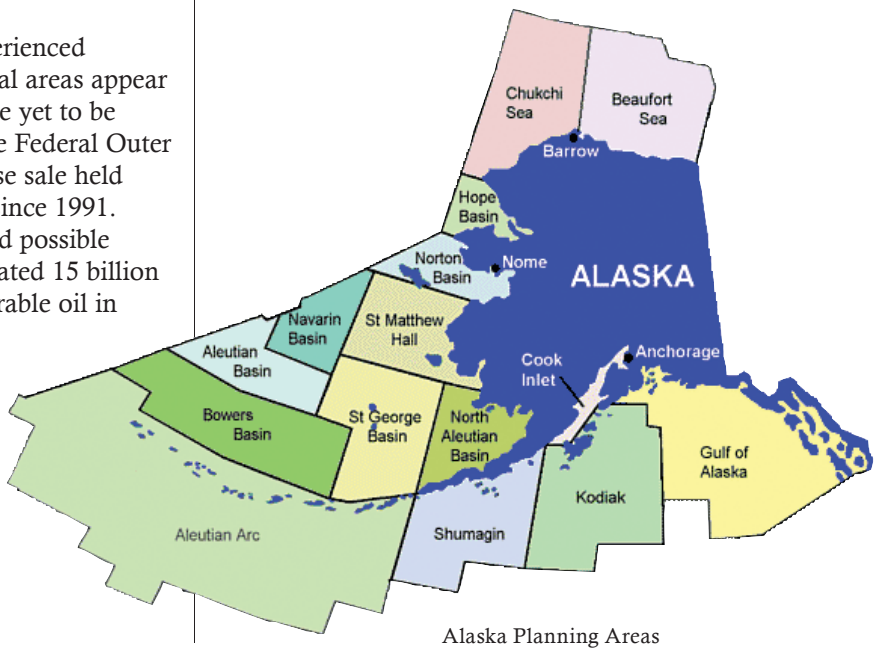
UNCOVERING POSSIBILITIES

IN THE CHUKCHI SEA

The Minerals Management Service (MMS) has discovered great potential for domestic oil and gas off the coast of Alaska through its extensive projects and studies. Almost $300 million in MMS funds have been dispersed over the past 30 years to fund research of Alaska's offshore environment. These projects have also added treasure troves of information about the environment and the life that flourishes in Alaska's offshore areas. This information arms MMS with the knowledge it needs to protect the environment from any activities that may have an influence on it.

Alaskan offshore exploration has experienced renewed interest in recent years, and several areas appear to be rich in oil and gas resources that have yet to be discovered. This interest was evident at the Federal Outer Continental Shelf (OCS) Chukchi Sea lease sale held in February 2008—the first Chukchi sale since 1991. The data from MMS studies has uncovered possible new sources of energy, including an estimated 15 billion barrels of undiscovered technically-recoverable oil in the Chukchi Sea (This oil may be in place but cannot necessarily be retrieved.). Although commercial exploration can now officially begin within this Alaskan frontier, there is still much more to consider beyond leasing the area. MMS Director Randall Luthi notes that "Leasing is just a first step in the energy development process," in an editorial titled *The Bear Necessities*. "Actual production in the Chukchi Sea realistically is 10 to 15 years in the future—and will not occur without many environmental reviews, public commentary, and application of environmental protections."

These environmental protective measures will consist of safety and drilling requirements, including the protection of Alaska's marine mammals, endangered species, and air and water quality. In addition, the sale did not include nearshore coastal waters, and leased areas ranged from 25 to 50 miles from the coast. Excluding

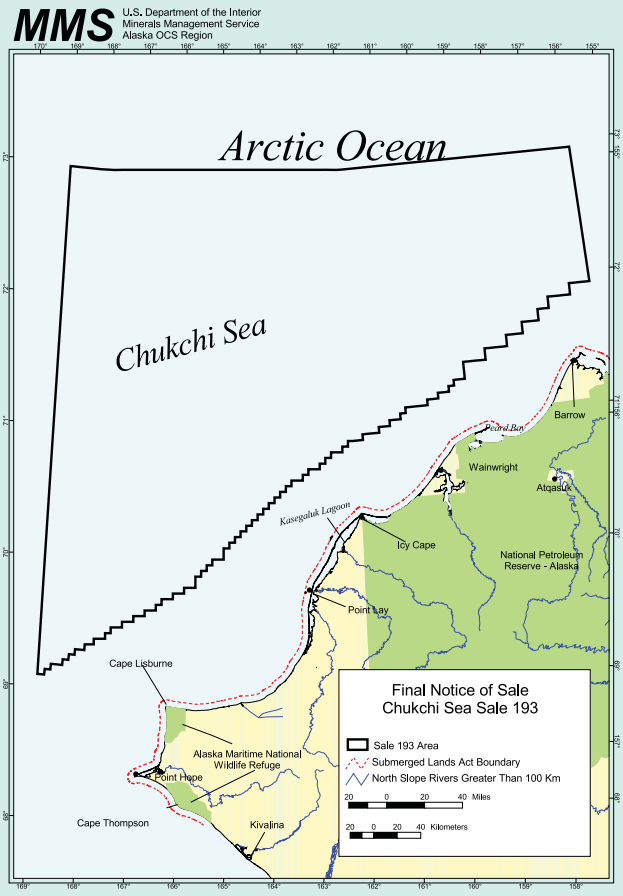


Alaska Planning Areas

MMS Chukchi Sea Lease Sale 193

On February 6, 2008, MMS completed the first Chukchi Sea sale since 1991. The offshore lease sale is the most successful in Alaska's history based on the number of bids received and the number of blocks receiving bids. The sale showed the industry's heightened interest in this area with 667 bids on 488 blocks—both record-setting numbers—on the Outer Continental Shelf.

- Blocks are spread throughout the Chukchi Sea, with the closest to land being approximately 54 miles offshore.
- Companies submitted bids totaling almost $3.4 billion, with high bids of more than $2.6 billion.
- The highest bid received for the sale was $105,304,581 submitted by Shell.
- The sale was first proposed in the 2002-2007 Oil and Gas Leasing Program, but MMS delayed it to provide sufficient time to complete the environmental analysis. It was then incorporated into the 2007-2012 Leasing Program.
- The Chukchi Sea Sale 193 sale area is located offshore Alaska from north of Point Barrow to northwest of Cape Lisburne. It contains more than 29 million acres. The sale area extends from about 25 to 50 miles from shore out to 200 miles offshore.



Graphic Map of Chukchi Sea Lease Sale 193.

these areas will safeguard the coastal zones where marine mammals and birds migrate and local communities hunt for food.

Offshore oil and gas development will not be without challenges. To create the initial infrastructure, new strategies and technologies will need to be developed. This cost could amount to more than $5 billion. In addition, there is no current system in place to move natural gas resources to market. Potentially, this could cause gas production to be delayed for more than 20 years. However, if these obstacles can be overcome, development in the Chukchi Sea could create a significant domestic energy supply that is well worth the effort.

There are currently more than 40 Arctic-specific studies in progress that are funded by MMS to help monitor any effects of oil and gas activities. The research will assist MMS in making decisions and aid in the preservation of the precious natural environment of the Alaskan frontier.

For more information:

Chukchi Sea Lease Sale

Website: www.mms.gov/ooc/press/2008/FactSheetSale193-02-01-2008.htm

Website: www.mms.gov/ooc/press/2008/press0102.htm

Message from MMS Director Randall Luthi

Website: www.mms.gov/ooc/press/2008/OpEdLATimes02-01-2008.htm

Challenges for Development in the Chukchi Sea

Website: www.mms.gov/alaska/reports/2007rpts/2007_002/MMS%20COMIDA%20Workshop%20Proceedings.pdf

Shell and NOAA Pool Resources in the Gulf

The National Oceanographic and Atmospheric Administration (NOAA) has signed a cooperative agreement with Shell Oil Company that will place meteorological and oceanographic observation sensors on seven of Shell's Gulf of Mexico oil platforms. This equipment will be used as an important component of the Integrated Ocean Observing System (IOOS). The data provided will assist in hurricane research, weather forecasting, and coastal resource management, while allowing NOAA to study coastal flooding, algal blooms, and cyclone development.

Federal regulations currently require oil and gas platform operators in the Gulf of Mexico to collect and transmit current profile observations to NOAA. This agreement will go further and includes upgrading weather stations on four platforms to include direct transmission to NOAA satellites, collecting ocean heat measurements from the Brutus platform, collecting meteorological information from two new continental shelf locations, upgrading ocean wave instrumentation on the Auger platform, and installing high-frequency radar transmitters to measure surface current speed.

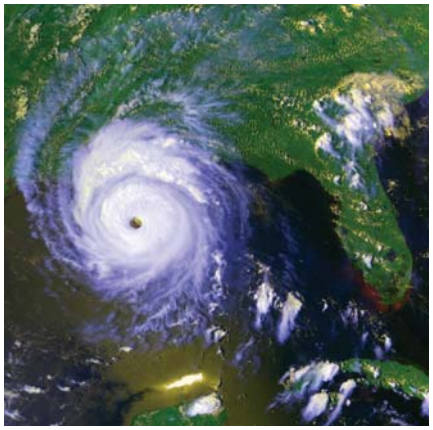
Installation of the equipment will begin in the spring of 2008, with completion scheduled for late 2009. Shell will acquire and install the equipment, while NOAA will provide quality control of the data and make it available to the National Weather Service, National Hurricane Center, and the general public.

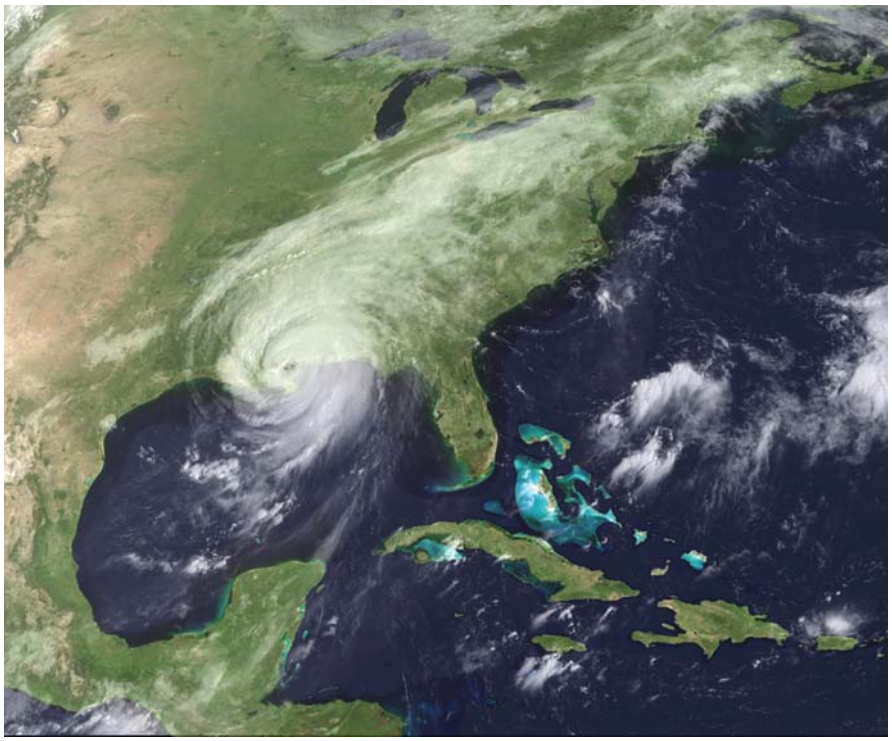
The NOAA is the Federal agency charged with providing storm forecasts and warnings to the American public. As a storm approaches, the Minerals Management Service, U.S. Coast Guard, and Department of Energy also work cooperatively with NOAA to minimize potential damage to oil and gas infrastructure, prevent injury to industry workers, and respond quickly after the storm has passed.

FOR MORE INFORMATION:

Website: www.energycurrent.com/?id=2&storyid=8836

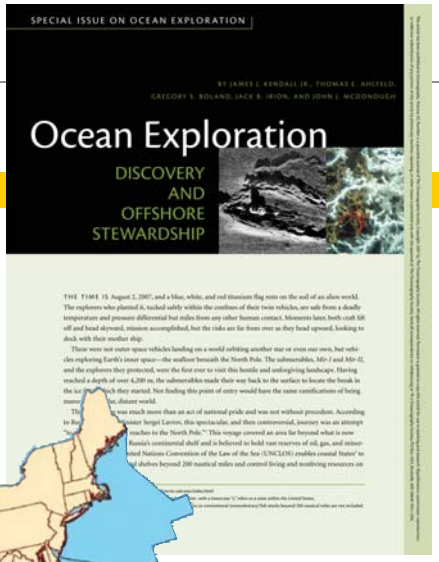
Website: www.mms.gov/PDFs/FederalPartnersWorkingForSafety.pdf





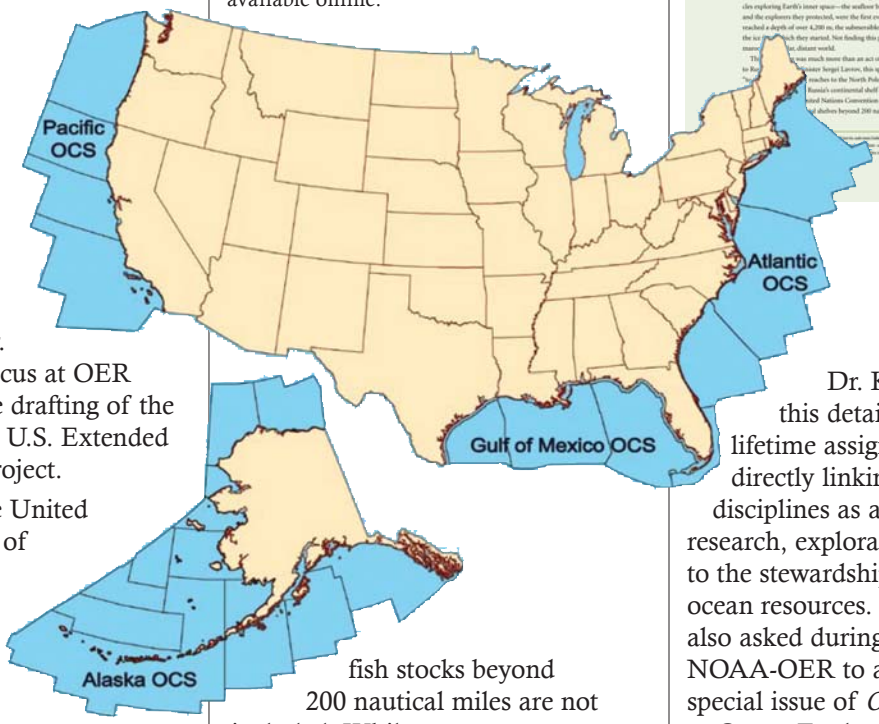
Satellite view of Gulf of Mexico hurricanes. Top left: Hurricane Lili – October 2002. Bottom left: Hurricane Andrew – August 1992. Right: Hurricane Katrina – August 2005. Images courtesy of NOAA and NASA.

Exploring the Details of the Detail



Dr. James Kendall, Chief Scientist of the Minerals Management Service (MMS), recently returned from a five-month detail to the National Oceanic and Atmospheric Administration's Office of Ocean Exploration and Research (NOAA-OER), a science partner of MMS. Dr. Kendall's primary focus at OER was coordinating the drafting of the strategic plan for the U.S. Extended Continental Shelf Project.

Article 76 of the United Nations Convention of the Law of the Sea (UNCLOS) enables coastal States to establish their continental shelves beyond 200 nautical miles and control those living and nonliving resources on and beneath the sea bed, including clams, crabs, scallops, and sponges, but rights to conventional (non-sedentary) fish stocks beyond 200 nautical miles are not included. While not yet a party to UNCLOS, the U.S. accepts the substantive provisions of Article 76 as reflecting customary international law.



Below: MMS Outer Continental Shelf Planning Areas. Right: *Ocean Exploration: Discovery and Offshore Stewardship* available online.

Above: Anadarko's Independence Hub platform installed at the world-record water depth of 2,439 m (8,002 ft). Photo courtesy of Anadarko Petroleum Corporation.

In May 2007, the Interagency Committee on Ocean Science and Resource Management Integration (ICOSRMI) established the Extended Continental Shelf (ECS) Task Force. The Task Force is to coordinate the preparation of the necessary documentation to establish the outer limit of the U.S. ECS. The U.S. ECS is estimated to exceed one million square kilometers and potentially include energy and mineral resources with an estimated value in excess of $1 trillion. The actual documentation process involves describing a natural prolongation of the continental landmass beyond 200 nautical miles, as determined by a set of formulae and a thorough analysis of geologic, geomorphology, and tectonic history.

Dr. Kendall described this detail as "a once in a lifetime assignment." It required directly linking such diverse disciplines as applied and basic research, exploration, and mapping to the stewardship of our Nation's ocean resources. Dr. Kendall was also asked during his tenure at NOAA-OER to author a paper for a special issue of *Oceanography* devoted to Ocean Exploration. In this issue, Dr. Kendall and his co-authors describe the unexpected benefits of utilizing exploration as a tool to support better resource stewardship, as well as how MMS and its partners are forging ahead. To explore MMS's role in Ocean Exploration, visit *Ocean Exploration: Discovery and Offshore Stewardship* online at www.tos.org/oceanography/issues/issue_archive/issue_pdfs/20_4/20.4_kendall_et_al.pdf.

FOR MORE INFORMATION:

Special Interagency OAP Issue
Website: www.gomr.mms.gov/homepg/regulate/environ/ocean_science/mms_ocean_06_sep_oct.pdf

NOAA Ocean Explorer
Website: http://oceanexplorer.noaa.gov/

SSDC drilling system, Beaufort Sea Alaska.

Working in the Ice

In the early 1980s, exploration drilling for oil and gas began in Alaskan Arctic waters. Now, 20-plus years later, cold region exploration continues the search to find ways of safely extracting the valuable resources below the ice-covered waters of the Arctic.

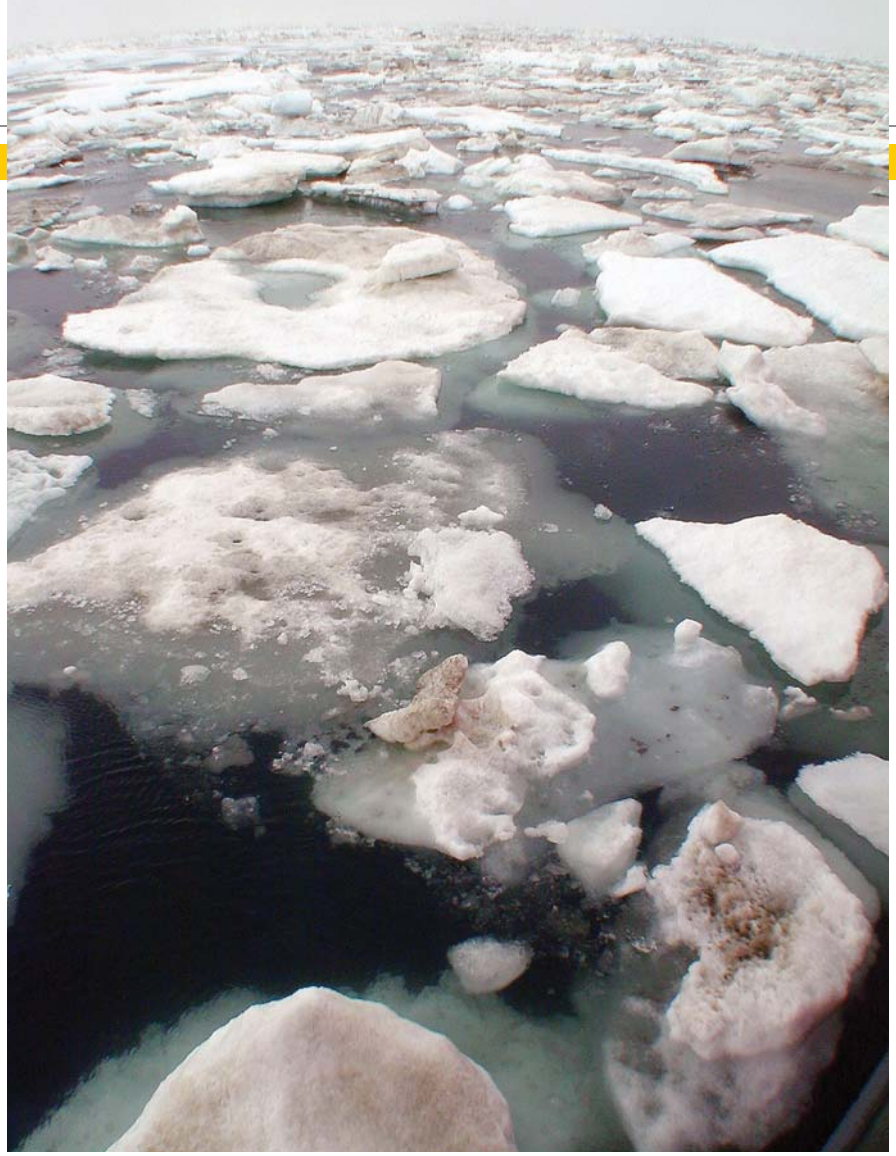
As the Minerals Management Service (MMS) continues to manage and identify new resources for the Nation's domestic energy supply, it travels into colder and deeper waters with many development and

operational challenges. To aid in the study of these environments, the MMS's Technology Assessment and Research (TAR) Program conducts assessments to determine ways to advance project development in the cold-water regions.

To date, TAR has conducted 53 Arctic research projects. Of these, two recently completed studies are helping guide current and future Arctic development. Project 577: *Design Options for Offshore Pipelines in the U.S. Beaufort and Chukchi Seas,* and Project 584: *Arctic Offshore Technology Assessment of Exploration and Production Options for Cold Regions of the U.S. Outer Continental Shelf,* have provided valuable information on recommended design and development options. These assessments can help make oil and gas development in the Arctic areas possible as well as less hazardous. The many types of structures and technologies studied include

- ice islands;
- gravel islands;
- bottom-founded structures;
- fixed structures;
- floating structures;
- subsea facilities;
- pipelines and flowlines; and
- export terminals.

Further study and technical advances will help MMS ensure that the majestic Arctic environment is protected as oil and gas operations advance into the deeper, ice-covered waters of the Outer Continental Shelf.



Above: A jumble of ice. In just a few days, ice conditions and extent varied widely as the U.S. Coast Guard icebreaker *Healy* moved northward over its cruise track from Barrow, Alaska, during the 2002 Western Shelf-Basin Interactions research cruise. Here the sea is covered with broken fragments of sea ice, which forced researchers to be cautious when placing scientific instruments over the *Healy's* side. Credit: Peter West, The National Science Foundation.

FOR MORE INFORMATION:

TAR Arctic Research

Website: www.mms.gov/tarprojectcategories/ice.htm

Website: www.mms.gov/tarprojects/577.htm

Website: www.mms.gov/tarprojects/584.htm

Alaska OCS Region

Website: www.mms.gov/alaska/fo/INDEX.HTM

SHELLING OUT FOR THE SHORE

CIAP
Coastal Impact Assistance Program

Funds Protection of Louisiana's Shoreline

MMS Director Randall Luthi and former Louisiana Governor Kathleen Blanco at the Louisiana Coastal Impact Assistance Program signing ceremony along the Blind River in St. James Parish.

As the Minerals Management Service (MMS) pursues its ongoing mission of protecting the ocean environment, the agency also recognizes the importance of safeguarding the shorelines of the coastal States involved in the development of oil and gas resources. The Coastal Impact Assistance Program (CIAP) allows MMS to authorize use of approximately $1 billion to conserve, protect, and restore these shoreline environments.

Established by the Energy Policy Act of 2005, CIAP mandates MMS to disburse $250 million for each fiscal year (FY) 2007 through 2010 to six eligible Outer Continental Shelf (OCS) producing States (Alabama, Alaska, California, Louisiana, Mississippi, and Texas) and 67 coastal political subdivisions (CPS's; boroughs, counties, and parishes); all funds will be disbursed through a noncompetitive grant process. In order to receive CIAP funds, a State, in coordination with its CPS's, is required to submit a coastal impact assistance plan (Plan) prior to July 1, 2008, which MMS must approve. Each Plan must include a list of projects the State and its CPS's anticipate submitting for grant funding; all projects must comply with one of the five authorized uses below:

1. projects and activities for the conservation, protection, or restoration of coastal areas, including wetlands;
2. mitigation of damage to fish, wildlife, or natural resources;
3. planning assistance and the administrative cost of complying with CIAP;
4. implementation of a federally-approved marine, coastal, or comprehensive conservation management plan; and
5. mitigation of the impact of OCS activities through funding of onshore infrastructure and public service needs.

Projects submitted under authorized uses 3 and 5 together may not total more than 23 percent of the amounts received by a State or CPS for any one fiscal year. Once a State's Plan is approved, the State and its CPS's may submit grant applications for funding at www.Grants.gov.

The MMS, on November 29, 2007, approved the Louisiana CIAP Plan. Louisiana and its CPS's, which consist of 19 coastal parishes, have been allocated 52.60% of the FY 2007 and 2008 CIAP funds or $127,547,898.57 for each of the fiscal years. As per the Act, the State retains 65% of this allocation ($82,906,134.07), while its CPS's share the other 35% ($44,641,764.50). The Plan covers all four years of fiscal allocations (FY 2007-2010); the FY 2007 allocation was used as an estimate for the FY 2009 and 2010 allocations, which will be announced by MMS on or before April 15, 2009. The Plan identifies 114 Tier 1 projects and 54 Tier 2 projects, which are backup projects. Proposed projects fall within the following major categories: enhanced management of Mississippi River water and sediment; protection and restoration of critical land bridges; barrier shoreline restoration and protection; interior shoreline protection; marsh creation with dredged material; coastal forest conservation initiative; and infrastructure projects to mitigate onshore OCS impacts.

The MMS remains dedicated to maintaining the conservation of the natural coastal resources and the ocean environment. Providing funding for these conservation projects through programs such as CIAP will allow restoration and lasting protection of Louisiana's shoreline environments.

For more information:

CIAP

Website: www.gomr.mms.gov/homepg/whatsnew/newsreal/2007/071129.pdf

Website: www.mms.gov/offshore/CIAPmain.htm

Website: www.mms.gov/offshore/CIAP/PDFs/FAQs041007.pdf

Louisiana CIAP Progress

Website: http://dnr.louisiana.gov/crm/ciap/ciap.asp

HARVESTING THE DEEP

Marine Biotechnology Research and Potential

Approximately 71 percent of the Earth's surface is covered by oceans. The Minerals Management Service (MMS) manages over 1.76 billion acres of these offshore lands and has an enormous responsibility to protect the ocean environment while also exploring the valuable resources held within. These ocean resources provide new and exciting possibilities, from recovery of domestic oil and gas supplies to scientific discoveries in marine biology. Marine organisms have the potential for a wide range of uses, and of these, biotechnology research is a growing field of study.

Marine biotechnology is the harvesting of living marine organisms for research and industrial use. Many of these species contain compounds with the potential for pharmaceutical applications, such as new medicines for antibiotics or the treatment of cancer. With increased interest in the uses of marine bioproducts, MMS has conducted studies to assess the potential ecological impacts on the harvesting of the desired organisms and their habitats. The MMS scientists have also explored the use of oil and gas production platform habitats as an alternative to disturbing the natural reefs. If these platforms can function as a harvestable source for the bioproducts, then fewer organisms will need to be obtained from their natural environment.

The MMS has conducted these studies through its Coastal Marine Institute (CMI) initiative, part of the Environmental Studies Program, where MMS and coastal universities jointly carry out research projects related to the marine environment. The biotechnology studies were accomplished with cooperative agreements with Louisiana State University (LSU) and the University of California at Santa Barbara (UCSB). The project at UCSB ended in 2004 (final report in 2008), contributing information to MMS from the Pacific waters where platform habitats contain a marine community of over 50 species of algae and invertebrates. At LSU, the field sampling is also complete, having collected biofouling community (a layer of attached organisms) samples from platform legs at various depths. The data collected from these two projects will greatly assist MMS in determining if the platform communities can be shown to be a ready source for bioproducts.

Typical encrusting bryozoan and anemones on platform leg. Photo by Gregory S. Boland.

The stunning leafy green algae *(Anadyomene lacerata).* From *Voyage To Inner Space–Exploring the Seas With NOAA,* located in the Gulf of Mexico, West Bank, Flower Garden Banks NMS. Photo courtesy NURC/UNCW and NOAA/FGBNMS.

There are many possible exciting pharmaceutical uses for marine-derived compounds. Bryozoans (small moss-like organisms) have compounds found to fight the growth of cultured cancer cells, and it also has potential for battling non-Hodgkin's lymphoma and lymphocitic leukemia. In addition, compounds from mollusks include hypotensive agents, cardioactive substances, muscle relaxants, antibiotics, antiviral agents, and antitumor agents. Many other organisms like these exist with the vast potential for highly beneficial medical and industrial products. It is of great importance to MMS to balance the collection of these valuable resources with protection of the ocean environment from which they come, and through data from these studies, MMS and its partners are equipped to make the best decisions possible.

FOR MORE INFORMATION:

MMS Resources

Website: www.gomr.mms.gov/homepg/regulate/environ/studies/turning_to_the_sea.html

Website: www.gomr.mms.gov/homepg/whatsnew/newsreal/2000/000927.html

Website: http://www.mms.gov/mmab/Archives/policy-committee-archives/Meetings/Fall00/turgeon/turgeon.PPT

CMI Studies

Website: www.coastalresearchcenter.ucsb.edu/cmi/biotech.htm

Website: www.gomr.mms.gov/homepg/regulate/environ/ongoing_studies/gm/GM-92-42-84.html

Website: www.mms.gov/eppd/sciences/esp/profiles/pc/PC-00-02-10.htm

NOAA

Website: www.nurp.noaa.gov/Biotech.htm

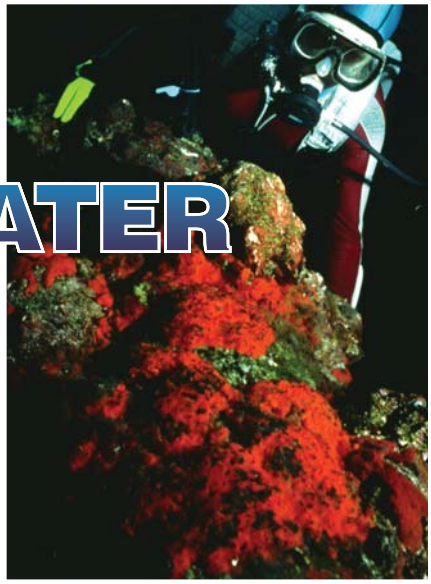
Website: www.oar.noaa.gov/oceans/t_biotech.html

RIGS-TO-REEFS PROGRAM CREATES NEW HABITATS FOR UNDERWATER SPECIES

The responsibility of securing domestic energy for the Nation is an important task charged to the Minerals Management Service (MMS), and just as great is the duty to protect the environment while new oil and gas development is pursued. The best situation occurs when oil and gas production creates benefits to both the economy and the environment, and this is exactly what takes place as a result of the Rigs-to-Reefs (RTR) program, where oil and gas structures that are no longer producing are kept in the marine environment to be used as artificial reefs.

Policy and Background

The first planned RTR conversion took place in Florida in 1979 with the relocation of an Exxon experimental subsea template from offshore Louisiana to a permitted artificial reef site off Apalachicola, Florida. Interest increased in this alternative form of platform disposal, and in 1983 the Department of the Interior formed the Recreational and Environmental Enhancement for Fishing in the Sea (REEFS) task force to promote an artificial reef program on a national level. The National Fishing Enhancement Act (NFEA) was passed in 1984 and established national artificial reef standards and tasked the Department of Commerce with developing a national artificial reef plan. The NFEA has the following goals:



Diver exploring coral growing on rig legs.

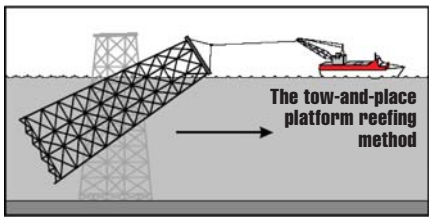
1. recognition of social and economic values in developing artificial reefs;
2. establishment of national standards for artificial reef development;
3. creation of a National Artificial Reef Plan (NARP) under the leadership of the U.S. Department of Commerce; and
4. establishment of a reef-permitting system under the U.S. Army Corps of Engineers.

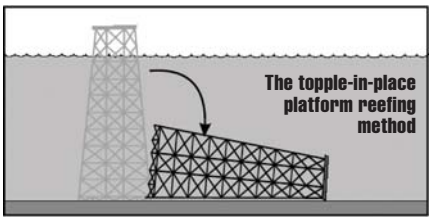
The NARP was written in 1985 to allow states to plan, construct, and manage artificial reefs within and seaward of their jurisdictions. The plan recognizes oil and gas structures as suitable materials for artificial reef development. Subsequently, MMS developed the following RTR policy:

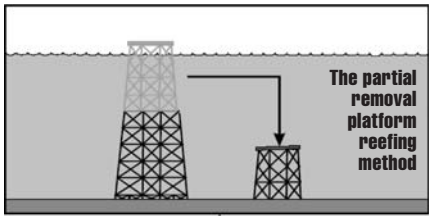
The MMS supports and encourages the reuse of obsolete offshore petroleum structures as artificial reefs in U.S. waters. The structure must not pose an unreasonable impediment to future mineral development. The reuse RTR plan must comply with the artificial reef permitting requirements of the U.S. Army Corps of Engineers and the criteria in the National Artificial Reef Plan. The State agency responsible for managing marine fisheries resources must accept liability for the structure before MMS will release the Federal lessee from obligations in the lease instrument.

Functions and Benefits

Petroleum structures are artificial habitats, and whether placed intentionally as an artificial reef or working petroleum structure, they have been found to increase the algal and invertebrate biomass and to significantly increase the numbers and species of fish. But when that structure becomes obsolete, it is typically removed from the environment, taking away the habitat that it created and disrupting those organisms residing at the site. To prevent this disruption, oil and gas companies can choose to donate the reef to a coastal State by one of three methods: tow-and-place, topple-in-place, or partial







removal (see diagram). The RTR benefits platform owners by eliminating the high cost of transporting the platform for disposal, and States benefit as the platform develops into an area that enhances commercial and recreational fishing, tourism, and the biological community. The States also benefit through cost-sharing with industry. Typically, industry donates half of its realized savings to the State.

The populations that result from the recycled structures are called platform communities. At these areas, fish densities have been found to be 20 to 50 times higher than in open water and support over 10,000 fish per platform. In addition to fish, the platforms are also home to many other forms of sea life; barnacles and mussels dwell on the hard surfaces, and sea turtles are often found close by. The result is a complex food chain formed in environments that did not previously have the characteristics to support a natural reef community. The benefits to the nearby coastal communities are substantial. For example, 75 percent of recreational fishing trips in Louisiana visit one or more rig sites for the excellent fishing.

The platforms are an ideal choice for artificial reefs. Their size, density, and open design attract fish to the structures where they can swim easily through the circulating water, and they are very stable during storm events.

Gulf of Mexico (GOM) Region

Currently, there are multiple ongoing studies to examine the RTR program in the GOM. In the northern GOM alone, there are approximately 4,000 operating oil and gas platforms where the Outer Continental Shelf is mostly soft sediment. These platforms provide the hard surface needed to create coral communities. Subsequently, these artificial reef corals are being studied through MMS and the Coastal Marine Institute (CMI) at Louisiana State University (LSU). In addition, MMS is also partnering with LSU's CMI to examine whether artificial reef fishes have an increased chance of survival in comparison with those living in natural reef habitats. Another study is looking at the ecological effects of removing large numbers of petroleum structures from the GOM.

Pacific Region

In southern California, the populations of fish living in platform communities are subjects of several research projects. With many areas off the coast becoming overfished, the increased population of fish at artificial reefs could be very valuable to the Pacific Region. Ongoing studies are helping to determine if the platforms could serve as rockfish nurseries, which are a variety of fish with eight species already declared overfished by the National Oceanic and Atmospheric Administration. The study will add important data concerning fish dwelling in the platform habitats and will help to encourage more decommissioned platforms to be designated as artificial reefs.

For more information:

Rigs-to-Reefs

Website: www.gomr.mms.gov/homepg/regulate/environ/rigs-to-reefs/information.html

Website: www.gomr.mms.gov/homepg/regulate/environ/rigs-to-reefs/artificial-reefs.html

Website: www.gomr.mms.gov/PDFs/2000/2000-073.pdf

Website: www.gomr.mms.gov/homepg/whatsnew/stories/940318.html

International Year of the Reef

Website: www.iyor.org/default.asp

Platform Communities

Website: www.gomr.mms.gov/homepg/regulate/environ/platform_communities.html

Conclusion

Obsolete oil and gas platforms put to use as artificial reefs have been thriving in the GOM. The positive effect on the environment, coastal States, and the oil and gas industry is exciting for MMS, whose mission is to provide America with the benefit of offshore resources while at the same time protecting the ocean environment. Now forming the world's largest artificial reef complex, Rigs-to-Reefs is a remarkable success story for MMS.

The **International Coral Reef Initiative** designated 2008 as the International Year of the Reef (IYOR 2008). IYOR 2008 is a worldwide campaign to raise awareness about the importance of coral reefs and to motivate individuals to help protect them.

The goals for IYOR 2008 are to:

- strengthen awareness about the ecological, economic, social, and cultural value of coral reefs and associated ecosystems;
- improve understanding of the critical threats to coral reefs and generate both practical and innovative solutions to reduce these threats;
- generate urgent action at all levels to develop and implement effective management strategies for conservation and sustainable use of these ecosystems.

Find out more at www.iyor.org/about/.

Safe Resource Development Has Its Rewards

The mission of the Minerals Management Service (MMS) is to manage the ocean energy and mineral resources on the Outer Continental Shelf (OCS). Safety is a top priority for MMS in the monitoring of oil and gas activities across the 1.76 billion acres of Federal offshore land.

The MMS requires thorough inspections of offshore operations and facilities to safeguard the environment and preserve the natural marine resources. Field inspections are performed seven days a week by inspectors, engineers, geologists, geophysicists, and physical and environmental scientists. Annual announced inspections plus numerous unannounced inspections to ensure clean and trouble-free oil and gas operations are conducted at hundreds of offshore oil and gas platforms.

For complete inspections, MMS uses a four-step process:

- Review operator records to verify completion of all required operator-performed inspections, tests, and training since the last complete MMS inspection.
- Visually inspect all safety and pollution-prevention devices.
- Test or demonstrate the operation of critical safety and pollution-prevention devices to ensure that they are properly installed and operable. Witness critical pressure and/or operational tests.
- Inspect for operations safety throughout the facility, looking for unsafe conditions, spills, leaks, and environmental effects.

The 2007 SAFE award winners are as follows:

New Orleans

High Activity	Anadarko Petroleum Corporation
Moderate Activity	Anglo-Suisse Offshore Partners, LLC
Production Contractor	Baker Energy, Inc.

Houma

High Activity	Chevron USA, Inc.
Drilling Contractor	Pride Offshore
Production Contractor	Danos & Curole Marine Contractors, Inc.

Lafayette

High Activity	Anadarko Petroleum Corporation
Moderate Activity	Energy Resource Technology, Inc.
Drilling Contractor	Rowan Drilling Company, Inc.
Production Contractor	Evans Operating, LLP

Lake Charles

High Activity	Chevron USA, Inc.
Moderate Activity	Nippon Oil Exploration USA, Ltd.
Drilling Contractor	Transocean Inc. High Island I
Production Contractor	Wood Group Production Services

Lake Jackson

High Activity	Anadarko Petroleum Corporation
Moderate Activity	GOM Shelf, LLC
Drilling Contractor	Noble Drilling, US

Pacific Region SAFE Award

Moderate Activity	Pacific Energy Resources, Ltd.

MMS inspection of an offshore platform.

Partial inspections are also performed, comprising randomly selected portions of records and devices to be reviewed.

Each year MMS presents the Safety Award for Excellence (SAFE) Program to recognize the companies and industry professionals who go above and beyond the inspection requirements. Awards are given to high-activity operators, moderate-activity operators, drilling contractors, and production contractors. Additional industry awards include Corporate Leadership, Mineral Revenues Stewardship, and Safe Operations and Accurate Reporting. This year, MMS marks the 10th anniversary of the Industry Awards Program and the 25th anniversary of the SAFE Program.

The commitment to safety by the oil and gas operators and contractors, along with the highly qualified MMS inspectors who monitor their operations, help MMS protect the ocean environment while managing the development of resources to secure America's future energy supply.

FOR MORE INFORMATION:

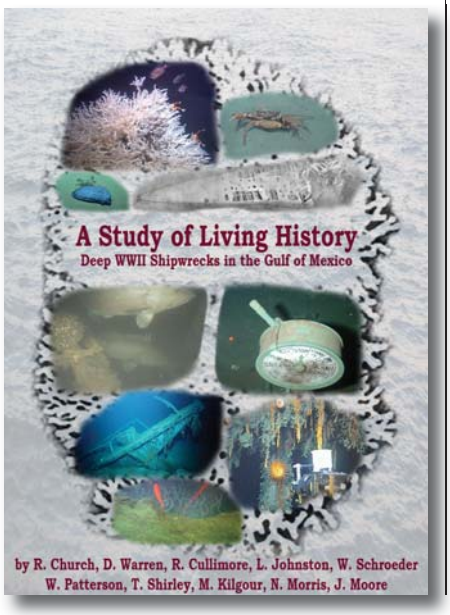
Industry Awards Program
Website: www.mms.gov/awards/

SAFE Program
Website: www.mms.gov/awards/SAFEcriteria.htm

MMS Receives Award for Study of Shipwrecks as Artificial Reefs

Deep-sea wrecks act as artificial reefs, attracting far more species of plants and animals than expected, marine scientists report in a new award-winning study just released by the Minerals Management Service (MMS). The finding indicates that oil and gas production platforms in deep water are likely to serve as hard surfaces, supporting hundreds of life forms.

The MMS and the National Oceanic and Atmospheric Administration's (NOAA) Office of Ocean Exploration and Research funded this study. This project represents the first time that these two agencies have partnered through the National Oceanographic Partnership Program (NOPP). This resourceful partnership earned NOPP's Excellence in Partnering Award.



"The biological analyses conducted during this investigation concluded that as petroleum exploration and production expands into deeper Gulf waters, platforms potentially could provide a habitat for marine life," said Lars Herbst, Regional Director of the MMS Gulf of Mexico Region.

The Deep Wrecks Study is also obtainable as a book, titled *A Study of Living History: Deep WWII Shipwrecks in the Gulf of Mexico*, and is available for purchase online at www.lulu.com/content/1714012.

FOR MORE INFORMATION:

Press Release

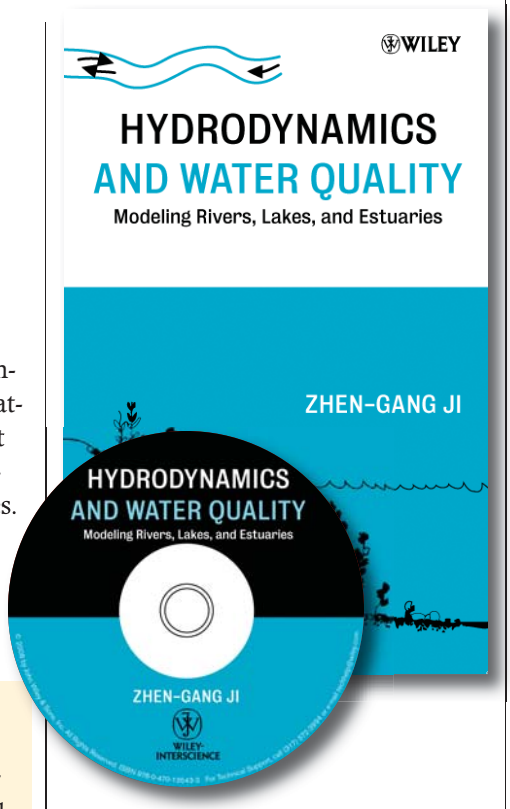
Website: www.mms.gov/ooc/press/2007/press0517.htm

The MMS Portfolio: Published Professionals

The Minerals Management Service (MMS) employs a long list of professionals who are experts in engineering, geophysics, geology, biology, oceanography, environmental science, and many other fascinating fields. From their extensive research comes a wealth of knowledge available for MMS, its partners, and the public, so it is exciting for MMS when these studies result in published material.

Dr. Zhen-Gang (Jeff) Ji, an oceanographer and numerical modeler at MMS, has recently published *Hydrodynamics and Water Quality: Modeling Rivers, Lakes, and Estuaries,* a reference book for water quality professionals and graduate students in related fields. With over 20 years of experience in surface water modeling, Dr. Ji uses his expertise to illustrate ways to solve environmental problems in surface waters with actual case studies, and he also works on oil-spill-risk analysis for the MMS's offshore program.

There are over 1,700 professionals employed by MMS, each dedicated to safeguarding the environment and managing responsible development of America's energy resources. If you are interested in a career with MMS, visit the website for job opportunities at www.mms.gov/ooc/jobopp.html.



A companion CD includes a modeling package and electronic files.

FOR MORE INFORMATION:

To Purchase

Website: www.amazon.com/Hydrodynamics-Water-Quality-Modeling-Estuaries/dp/0470135433/ref=sr_1_1?ie=UTF8&s=books&qid=1200583040&sr=1-1

MMS
A steward of the ocean environment

John Rodi
Deputy Regional Director

NEW WAVES
Late-Breaking News & Information

MMS Gulf of Mexico Region Names Two to Management Positions

New Appointees Will Bring More Than 50 Years of Federal Energy Experience

Mike Prendergast
Chief of Staff

The Minerals Management Service (MMS), Gulf of Mexico OCS Region's Director Lars Herbst announced the appointments of two staff members to management positions in the regional office in New Orleans, Louisiana.

John Rodi has been appointed to the post of Deputy Regional Director; second highest position in the regional office. John has worked for MMS for 27 years in the energy policy field. He began his career as a staff economist and later worked as a leasing specialist. Most recently, he served in the position of Leasing Program Manager. John holds a BA degree in Economics from Tulane University and an MA degree in Economics from the University of New Orleans.

"John's wealth of experience in the leasing program will be helpful as we continue to manage the Gulf of Mexico's OCS oil and gas resources and move forward into our newest mission of Alternative Energy," Herbst said.

Mike Prendergast has been named Chief of Staff. Mike has been with MMS for 24 years. After receiving his BS degree in Petroleum Engineering from the University of Southwestern Louisiana, he started with MMS as a reservoir engineer in the Reserves Section. He has subsequently held several positions related to energy development and resource assessment throughout his MMS career. "Mike's valuable background in resource evaluation and his past experience in the Regional Director's Office will be extremely helpful as we tackle future challenges," Herbst said.

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