

MIMS OCEAN SCIENCE

VOLUME 5 ISSUE 3

JULY/AUGUST/SEPTEMBER 2008

THE SCIENCE & TECHNOLOGY JOURNAL OF THE MINERALS MANAGEMENT SERVICE

Alternative Energy and Alternate Uses: Leases and Proposed Regulations

North Pacific Right Whale

North Aleutian Basin Scoping Meetings

Oceanographic Study of Bristol Bay

Preserving and Respecting U.S. Maritime History in the Atlantic

Biotechnology and Marine Organisms on Southern California Offshore Platforms



MMS *OCEAN SCIENCE* is published quarterly by the Minerals Management Service to communicate recent ocean science and technological information and issues of interest related to offshore energy recovery, ocean stewardship, and mineral revenues.



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ABOUT THE COVER

Top Left: North Pacific right whale. Credit: Brenda Rone, NOAA.

Top Right: *U-701*, showing forward deck gun, ammunition pot, and saddle tank. Credit: Battle of the Atlantic Expedition 2008.

Middle Right: Secretary of the Interior Dirk Kempthorne and Gulf of Mexico Regional Director Lars Herbst greet MMS employees before Western Gulf of Mexico Lease Sale 207.

Main Photo: Jack-up boat and crane barge preparing to decommission a platform.

Back Page: Background platform image by Gregory S. Boland.

All photos courtesy of Minerals Management Service unless otherwise noted.

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The Minerals Management Service (MMS) is responsible not only for managing the Nation's oil, natural gas, and mineral resources in Federal waters (about 1.76 billion acres of submerged lands) but also for regulating alternative energy development on the Outer Continental Shelf (OCS), according to Section 388 of the Energy Policy Act of 2005. Alternative energy includes, but is not limited to wind, wave, solar, underwater current, and the generation of hydrogen.

The MMS has formed the Office of Offshore Alternative Energy Programs (OAEP) to meet new statutory requirements and to respond to this program's unique needs.

The OAEP will develop and implement policy, analysis, and overall management of the OCS alternative energy leasing and operations program, and ensure compliance with departmental goals. The MMS may also issue leases, easements, and rights-of-way for OCS project activities that make "alternate use" of existing OCS facilities. These "energy-related purposes or for other authorized marine-related purposes" include offshore aquaculture, research, education, recreation, and support for offshore operations and facilities.

The MMS is developing proposed regulations to encourage safe and environmentally responsible development of resources and alternate use of facilities on the OCS.



NEW MMS ORGANIZATION: OFFICE OF OFFSHORE ALTERNATIVE ENERGY PROGRAMS

Photo of a wind turbine. Stock photo courtesy of Schatz Publishing.

This new arena presents many challenges because, in the U.S., most of the systems are still in the prototype-testing phases. The Technology Assessment and Research Program, the research element of MMS's regulatory program, plays a major role in meeting these challenges.

As its responsibilities increase, MMS continues to sponsor cutting-edge research into methods and tools to protect environmental and cultural resources. These responsibilities are inherent in pioneering new ways to narrow the gap between the amount of energy our Nation uses and the amount of energy produced from OCS sources.

FOR MORE INFORMATION

MMS Office of Offshore Alternative Energy Programs

www.mms.gov/offshore/AlternativeEnergy/index.htm

MMS Fiscal Years 2009–2011 Studies Development Plan: Alternative Energy

www.mms.gov/offshore/AlternativeEnergy/Assets/PDFs/AE_SDP_2009_2011_FINAL.pdf

Leases and Proposed Regulations

To help meet America's needs for newer and cleaner sources of energy, the Minerals Management Service (MMS) is continuing to make progress in regulating alternative energy development on the Outer Continental Shelf (OCS). The OCS has the potential of providing massive amounts of clean, renewable energy derived from wind, wave, ocean current, solar, and hydrogen production. As offshore technology continues to mature and as our Nation's energy needs continue to grow, the OCS will become an important component in a diversified portfolio of renewable energy.

In an effort to be more responsive to stakeholders and industry, MMS announced an Interim Policy in November 2007 to "jumpstart" the activities of the Alternative Energy Program. The Interim Policy allows developers to gather basic resource data and perform technology testing activities through the issuance of limited leases. The limited leases are issued for only 5 years and will not allow for commercial generation of electricity nor convey future rights for commercial development. The MMS believes that limited leases are an important component of the Alternative Energy Program because they give developers an opportunity to collect data and test technology while MMS completes its rulemaking process. The Interim Policy will effectively end once final rules are in place, and developers can



Wave power, an alternative energy source. Photo courtesy of the National Renewable Energy Laboratory.

then seek rights to full commercial development through the regulatory process.

In response to the Interim Policy, MMS has received over 45 nominations identifying areas for limited leasing off the east and west coasts. The MMS reviewed these nominations and identified 16 areas for priority consideration. In April 2008, MMS published the priority areas in the *Federal Register* and, as required by the Energy Policy Act of 2005, asked the public to identify competitive interest in those areas. The public notice also provided an opportunity for MMS to collect public comments and relevant environmental information about the identified areas.

The MMS received no competing nominations for proposed lease areas off the Mid-Atlantic. As a result, MMS will be moving forward with a noncompetitive lease process for 10 areas: 6 off New Jersey, 1 off Delaware, and 3 off Georgia (all for wind power resource assessment).

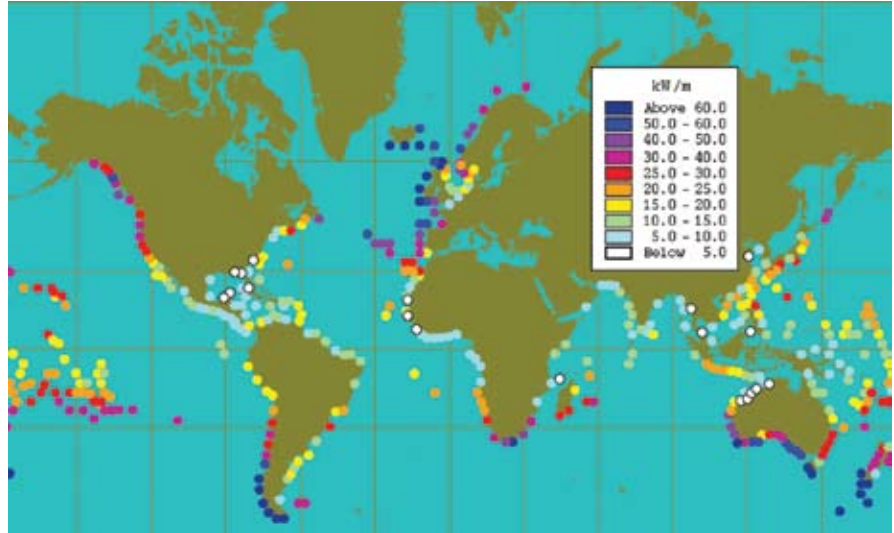
Three of the four proposed project areas off the southeast coast of Florida (all for ocean current technology testing and resource data collection) received competing nominations. However, after further discussions between the parties, at least one of the competing companies in each of those areas is relinquishing its nomination, thus allowing MMS to move forward with the noncompetitive leasing process.



Wave energy conversion device, *OPT PowerBuoy*, point absorber. From “Wave and Tidal Energy: What’s Happening?” study by Robert Thresher. Photo courtesy of the National Renewable Energy Laboratory.

for all four of the proposed lease areas off southeast Florida.

Two proposed lease areas are off the coast of California: one off Mendocino County and the other off Humboldt County (both for wave energy technology testing and resource data collection). The MMS received no competing nominations in the Mendocino area but did receive a competing nomination for the Humboldt County proposed lease area. The MMS is investigating whether the competing companies for the Humboldt lease area are interested in collaborating under a single lease. The MMS also received numerous comments about potential space-use conflicts and environmental issues for both of these locations and will work closely with stakeholders as the leasing process proceeds.



Global Wave Energy Resource Distribution. “Wave and Tidal Energy: What’s Happening?” study by Robert Thresher. Photo courtesy of the National Renewable Energy Laboratory.



Offshore wind farm. Photo courtesy of DONG Energy.

On July 9, 2008, MMS published a draft proposed rule, “Alternative Energy and Alternate Use of Existing Facilities on the Outer Continental Shelf.” The rule will set forth a comprehensive regulatory framework for alternative energy development and production

activities on the OCS, as well as the alternate uses of facilities already existing on the OCS. The public comment period on the proposed rule ended September 8, 2008, and the final rule is expected to be completed by the end of the year.

FOR MORE INFORMATION

MMS Alternative Energy Programs

www.mms.gov/offshore/AlternativeEnergy/index.htm

MMS Alternative Energy Regulatory Development and Policy

www.mms.gov/offshore/AlternativeEnergy/RegulatoryInformation.htm

TECHNOLOGY ASSESSMENT AND RESEARCH (TAR) PROGRAM ADDRESSES NEW CHALLENGES

With new offshore energy production in our Nation's future and the challenges of energy production in new environments, the Minerals Management Service (MMS) continues to fund research on innovations and technologies that improve equipment functioning and help protect human safety and the ocean environment.

The Technology Assessment and Research (TAR) Program, the research element of the MMS's regulatory program, was established to ensure that industry operations on the Outer Continental Shelf (OCS) use the best available and safest technologies. The program's objectives are to promote new technology and safety by funding collective research with industry, academia, and other government agencies, and disseminate findings through public forums.

The TAR Program has two components. The Operational Safety and Engineering Research (OSER) program addresses technological issues associated with the spectrum of operations, from the drilling of exploration wells to the removal and decommissioning of platforms and related facilities. The Oil Spill Response Research (OSRR) program's activities cover a wide range of oil-spill response issues to improve the knowledge and technologies used for the detection, containment, and cleanup of oil spills that may take place on the OCS.

The OSER program is expanding to address technological issues of alternative energy projects and alternate uses of existing oil and gas facilities on the OCS. Alternative energy and alternate uses are challenging because, in the U.S., most of the systems are still in the prototype-testing phases.

The TAR Program has a well-established process to identify, fund, and administer research and



Remote-sensing experiments to detect oil in and under ice, conducted at Svea, Norway.

development projects that deal with OSER and OSRR issues. Research teams identify research topics to be addressed in the upcoming fiscal year. Topics can be a critical operation problem, undesirable condition, incident, new technology risk, safety alert, old rule, or catastrophic nature event. Each topic has an identifiable obstacle that needs to be addressed, investigated, revised, or solved. Topics with the highest rankings and urgency are chosen to meet research needs and are included in the selection process for future funding. Almost all TAR projects are selected through a competitive bidding process.

In July 2008, the TAR Program called for papers on specific research topics. The OSER topics include the study of wind farm/turbine accidents; design standards to ensure structural safety/reliability/

survivability of OCS wind farms; flexible flowlines; risk analysis of drilling subsea wells with dual gradient mud in wellbore and risers (compared with conventional drilling); and in-line inspection of low-pressure, low-volume, in-service gas pipelines to detect wall loss.

The OSRR topics include technologies to advance Arctic mechanical oil-spill response; identifying opportunity windows for the effective use of chemical dispersants on OCS crude oils; Ohmsett testing of technologies to detect, locate, recover submerged and sunken oil; methods to improve *in situ* burn residue cleanup; equipment to less destructively access marsh environments; and Ohmsett testing of wave energy technologies. The MMS will begin funding research projects to address these technological issues in the first quarter of Fiscal Year 2009.

FOR MORE INFORMATION

MMS Technology Assessment and Research (TAR) Program

www.mms.gov/tarphone/index.htm

National Oil Spill Response Test Tank Facility, Ohmsett, New Jersey

www.ohmsett.com/index.html

TAR projects

www.mms.gov/tarphone/

NORTH PACIFIC RIGHT WHALE



The North Pacific right whale (*Eubalaena japonica*) is one of the rarest stocks of baleen (filter-feeding) whales in the world. Because it is listed as endangered under the Endangered Species Act and as depleted by the Marine Mammal Protection Act, the North Pacific right whale has high priority for recovery efforts.

These large whales inhabit the Pacific Ocean, particularly between 20° and 60°N latitude. Before heavy exploitation by commercial whalers, concentrations were found in the Gulf of Alaska, eastern Aleutian Islands, south-central Bering Sea, Sea of Okhotsk, and Sea of Japan.

Right whales' distinguishing features include a stocky body, generally black coloration, no dorsal fin, large head (about 1/4 of the body length), strongly bowed lower lip, and callosities (raised patches of roughened skin) on the head. Adults are about 50-60 feet (15-18 meters) long and can weigh more than 70 tons (140,000 pounds). They are slow-swimming and sometimes congregate in coastal waters.

Right whales were first protected by the 1931 Convention for the Regulation of Whaling. However, neither Japan nor the Soviet Union signed this agreement. The North Pacific population was devastated

One of the biggest threats to whales is entanglement in fishing gear.

by extensive illegal Soviet catches in the 1960's. During 1965-1999 there were 82 sightings in the entire eastern North Pacific; most were in the Bering Sea and adjacent areas of the Aleutian Islands.

There are no reliable estimates of the current abundance of North Pacific right whales, but the eastern population is widely regarded as being well below a hundred animals. Over the past 40 years, most sightings in the eastern North Pacific have been of single whales. In the last few years, small groups of right whales have been sighted, but there were no confirmed sightings of calves in the 20th century, and only a few in recent years. In 2006, the National Marine Fisheries Service designated two



North Pacific right whale. Photo courtesy of Brenda Rone, NOAA.

areas as North Pacific right whale critical habitat: one in the Gulf of Alaska and one in the Bering Sea.

NOAA and MMS Research Program

The Minerals Management Service (MMS) and the National Marine Mammal Laboratory of the National Oceanic and Atmospheric Administration (NOAA) place great importance on the protection of this species. In the summer of 2008, they launched a collaborative research program to study these whales in the Bering Sea, north of Alaska's Aleutian Islands.

The 2008 portion of the study began on July 22nd. Aerial surveys flew out of Sand Point, Alaska, when not grounded by bad weather or volcanic activity. The aerial survey located six right whales in Bristol Bay. The cruise portion of the survey began on August 2nd.

The three-year, \$5 million research program will use advanced equipment, successful in previous studies of North Atlantic right whales, to gather data about the whales' seasonal distribution, abundance, and habitat use. The final report is due in September 2010. Analyzed data will help MMS make informed decisions about potential oil and gas leases in the area and to minimize and mitigate impacts to the habitat and species residing there.

An oil and gas lease sale in the southern Bering Sea will not be held until 2011. This will allow time for data collection and analysis and a thorough environmental assessment of marine organisms living in the area that could be adversely affected by offshore operations.

Kingdom:	<i>Animalia</i>
Phylum:	<i>Chordata</i>
Class:	<i>Mammalia</i>
Order:	<i>Cetacea</i>
Suborder:	<i>Mysticeti</i>
Family:	<i>Balaenidae</i>
Genus:	<i>Eubalaena</i>
Species:	<i>japonica</i>

FOR MORE INFORMATION

MMS Alaska Region, Protected Species Studies

www.mms.gov/alaska/ess/ongoing_studies/protected_species/pro_species.HTM

NOAA's National Marine Mammal Laboratory, facts about right whales

www.fakr.noaa.gov/protectedresources/whales/nright/

NORTH ALEUTIAN BASIN SCOPING MEETINGS

The Minerals Management Service (MMS) held scoping meetings in August and September 2008 at seven locations in the Bristol Bay area. The MMS staff gathered information and answered questions from interested parties about a proposed Outer Continental Shelf (OCS) lease sale in the North Aleutian Basin planning area. Public participation helps focus issues to be considered for evaluation in the draft environmental impact statement (EIS) that is expected to be available in 2010.

The North Aleutian Basin planning area includes most of the southeastern part of the Bering Sea OCS, including all of Bristol Bay. The Basin is about 100 miles (161 kilometers) wide and 400 miles (694 kilometers) in length, and reached depths of 20,000 feet (6,096 meters).

The offshore area of the North Aleutian Basin is considered to have important hydrocarbon reserves, especially natural gas. The area is also important habitat for many species and globally significant habitat for birds and marine mammals, including a number of federally listed species.

Studies about environmental, socioeconomic, and other topics contribute to evaluation of the potential effects of specific lease actions, exploration activities, and development and production plans.

The MMS carries out or funds ongoing research for just these reasons. For instance, in 2006, MMS sponsored the North Aleutian Basin Information Status and Research Planning Meeting and has since published a report of the proceedings. In 2007, with the University of Alaska in Fairbanks, MMS began work with Rutgers University on adapting an ice-ocean circulation modeling study.

Also, MMS is collaborating with the National Marine Mammal Laboratory of the National Oceanic and Atmospheric Administration to study the endangered North Pacific right whale in the

Bering Sea. Upcoming studies will examine salmon life cycles, the red king crab, juvenile fish, and seabirds and waterfowl.

The Draft EIS for Lease Sale 214 will be available in 2010. Lease Sale 214 is scheduled for late 2011, under the Final 2007-2012 Oil and Gas Leasing Program.

Current data and information are crucial so that MMS can make sound decisions that help protect the ocean environment and secure the Nation's domestic energy supply.

*Bering
Sea*

*Aleutian
Basin*

From 1973 through 2007, MMS has funded \$300 million in environmental studies related to Alaskan waters.

FOR MORE INFORMATION

Map of North Aleutian Basin Planning Area

www.mms.gov/alaska/cproject/NAB214/NAB214_map.pdf

Proceedings of the North Aleutian Basin Information Status and Research Planning Meeting

www.mms.gov/alaska/reports/2007rpts/2007_031/2007_031a.pdf

OCEANOGRAPHIC STUDY OF BRISTOL BAY

Alaska

Bristol Bay

Each year since 2000, MMS's Alaska Region has funded over \$45 million for between 30 and 40 new and ongoing active environmental studies.

FOR MORE INFORMATION

Literature and Information Related to the Natural Resources of the North Aleutian Basin of Alaska (OCS Study MMS 2007-066)

www.mms.gov/alaska/reports/2007rpts/2007_066.pdf

In preparation for a potential lease sale in the North Aleutian Basin, the Minerals Management Service (MMS) is gathering information that will prepare for production operations in the area and also contribute to protecting the marine habitat and its resident species.

In addition to collaborating with the National Marine Mammal Laboratory on a three-year study of the North Pacific right whale, the MMS has contracted with Rutgers University to modify an ice-ocean circulation model for specific oceanographic conditions of Alaska's Bristol Bay. Other study efforts of the area are scheduled for 2009.

The new study will be based on the Regional Ocean Modeling System, which has a significant peer-reviewed record of use in the Gulf of Alaska and Bering Sea.

"Understanding the circulation within Bristol Bay will be important for us as we evaluate a possible oil and gas lease sale in the offshore waters of the North Aleutian Basin," said MMS Regional Director John Goll.

The North Aleutian Basin is considered to have important hydrocarbon reserves, especially natural gas. It is also home to a variety of birds and marine mammals, including a number of federally listed species, such as the North Pacific right whale.

Rutgers will provide model results (wind, ice, and surface water speed and direction and extent of ice cover) as a 1986-2006 hindcast simulation and will document the study results through a model manual, final report, and in a peer-reviewed journal publication.



North Pacific right whale (*Eubalaena japonica*). Photo courtesy of John Durban, NOAA.

SENIOR MARINE ARCHAEOLOGIST DAVE BALL

The Minerals Management Service (MMS) manages the mineral resources on 1.76 billion acres of the Outer Continental Shelf (OCS) with the talents and expertise of a number of people. Our focus in this issue is on Dave Ball, Senior Marine Archaeologist in the Gulf of Mexico OCS Region.

OS: What led you to become a marine archaeologist?

DB: It's the sense of discovery involved in seeing things that no one has seen for, in some cases, centuries, and then learning the story about the site, and sharing it with others. Plus, I figured since I'd have to work for at least 20 or 30 years, I might as well do something I enjoy.

OS: What is it that you do for MMS?

DB: Under the National Historic Preservation Act, MMS is required to take into account potential impacts to archaeological resources that may occur through any activities that the Agency funds or permits. I help ensure that these unique, nonrenewable resources are not impacted, while at the same time not being unnecessarily restrictive on industry.

So, a lot of my work takes place in front of a computer, but as senior marine archaeologist and Diving Safety Officer, I occasionally have an opportunity to participate in field projects.

Through the Environmental Studies Program, I've worked closely with colleagues and contractors on a variety of studies. Right now I'm responsible for two studies, one assessing the impacts of recent hurricane activity in the Gulf of Mexico on historic shipwrecks; and one to groundtruth submerged paleo-landforms that could be associated with early human occupation sites.

As Diving Safety Officer, I'm responsible for a team of divers that supports the Environmental Studies Program and also monitors industry compliance with environmental mitigations. Currently, the team is made up of archaeologists, biologists, and geologists.

OS: And how do you find shipwrecks and other sites?

DB: Most of the sites we've identified at MMS were discovered through industry surveys that are required as part of the permitting process. For example, a sonar target identified during surveys for the Mardi Gras line in 4,000 feet of water turned out to be the remains of



Archaeologist Dave Ball documenting conning tower of *U-701*. Photo courtesy of Battle of the Atlantic Expedition 2008.

a vessel that had been lost sometime between 1810 and 1820. It's great to be able to share the history of that time. A 3-week excavation was conducted last year, and the artifacts will soon be transferred to the State of Louisiana for exhibit.

OS: What are some of the projects you've worked on, other than the Mardi Gras shipwreck?

DB: I've worked on a range of projects since joining MMS in 1999: early 19th-century sailing vessels, mid-19th-century steamships, German submarines, and allied losses from World War II. Of course, I've also investigated many, many barges in the Gulf, as well.

OS: What do you find most rewarding, and what are the biggest challenges you face?

DB: I think that sharing the history of these sites is exciting, educating people and especially kids about history in the Gulf that they might not know about. Telling the stories—the Gulf Coast has a fascinating history. One of the oldest sites I've worked on was La Salle's flagship from 1686, *la Belle*, in Matagorda Bay, Texas; the artifacts were in very good condition. Right now the University of Florida is working on the Tristan de Luna fleet, off Pensacola, from 1554. That's pretty exciting.

The biggest challenge is protecting these resources. There's a lot of looting and destruction that goes on that we don't always witness. It's sad because, in the case of the German U-boats, these are war graves, owned by the German government. Teaching people to honor the past while preparing for the future is a big part of what our work is about.

FOR MORE INFORMATION

Mardi Gras Shipwreck

<http://www.flpublicarchaeology.org/mardigras/>

PRESERVING AND RESPECTING



The ocean holds an abundance of resources, from oil and gas resources to complex underwater communities.

It is also home to U.S. maritime history, resting on the ocean floor. The Minerals Management Service (MMS), in compliance with the National Historic Preservation Act of 1966, helps protect these priceless historical sites on the Outer Continental Shelf (OCS). Doing so shares history that might otherwise be forgotten.

One collaborative multiyear project documents historically significant sites associated with the World War II “Battle of the Atlantic” off the North Carolina coast. The project’s mission is to

U.S. MARITIME HISTORY IN THE ATLANTIC

collect data from the sites and identify potential impacts on the vessels. The Graveyard of the Atlantic, as the area is called, is the final resting place of German U-boats, British naval vessels, and U.S. Merchant Marine ships lost during World War II.

The July 2008 expedition documented the condition of three German U-boats: the *U-85*, *U-352*, and *U-701*. The expedition was exciting not only for the participants. A number of media reported on the expedition. Senior Marine Archaeologist, Dave Ball, was one of several specialists interviewed by the Discovery Channel Science News.

Above: *U-352* forward deck gun mount; conning tower is in the background. Photo courtesy of Battle of the Atlantic Expedition 2008.

U-352 was a Type 7C U-boat, sunk on May 9, 1942, by the U.S. Coast Guard cutter *Icarus*. The survivors were the first German submariners captured by U.S. forces in the war. The sub has been looted for the past 30 years by souvenir hunters, even though the Navy had sealed all hatches.

U-85 was a Type 7B U-boat, sunk on April 13, 1942, by the U.S.S. *Roper*. It is the only such sub sunk in U.S. waters and the first sub sunk



Divers documenting port side of U-352. Photo courtesy of Battle of the Atlantic Expedition 2008.

off the U.S. coast during the war. Within days of its loss, the Navy recovered the 20-millimeter anti-aircraft gun. Sadly, over the years the site has been severely damaged by aggressive relic-hunters.

U-701 was a type 7C U-boat, sunk on July 7, 1942, by a U.S Army A-29 plane from the 396th Bomb Squadron. It was rediscovered in 2004. This is the most intact of the three U-boats, but it has suffered from looting in the last few years.

Because the sites are maritime war graves, divers used only non-invasive methods: mapping, photo, and video documentation. The data will contribute to the National Register of Historic Places nominations of the sites and will also help MMS develop monitoring programs for the sites.

Participants in this project, organized by the National Oceanic and Atmospheric Administration's (NOAA) Monitor Marine Sanctuaries, included specialists from NOAA's Maritime Heritage

Because the sites are maritime war graves, divers used only noninvasive methods. . . .

Program, the National Park Service Submerged Resources Center, MMS, East Carolina University Maritime Heritage Program, the University of North Carolina Coastal Studies Institute, and the State of North Carolina.

The MMS was invited to participate, in part, because of our experience documenting World War II casualties in the Gulf of Mexico under two previous MMS-funded studies.

In 2003 MMS participated in a NOAA Office of Ocean Exploration (OE) expedition to document the *U-166*, located in 5,000 feet (1,524 meters) of water in the Mississippi Canyon Area of the Gulf of Mexico. An episode of the History Channel's *Deepsea Detectives* was filmed during this one-week investigation.

In 2004 MMS partnered with NOAA OE, under the National Oceanographic Partnership Program, to document the artificial reef effect of World War II shipwrecks in deep water. This partnership included documenting five merchant vessel losses and additional documentation of *U-166* in water depths ranging from 400 to 6,500 feet (121 to 1,981 meters). These deepwater World War II shipwrecks were located as a result of MMS's permitting process. As part of the outreach for these two projects, the PAST Foundation developed web pages that include video clips and more information.

In 2005 MMS funded a study to ground-truth sidescan-sonar targets and prepare National Register of Historic Places nominations on potentially significant sites. This study included investigating two additional World War II merchant vessels: *Sheherazade* and *R.M. Parker, Jr.*

FOR MORE INFORMATION

"Archaeologists Seek to Preserve German U-Boats," National Public Radio, July 28, 2008

www.npr.org/templates/story/story.php?storyID=93000869

National Marine Sanctuaries Battle of the Atlantic

<http://sanctuaries.noaa.gov/missions/battleoftheatlantic/links.html>

About the Deepwrecks Project and U-166

www.pastfoundation.org/DeepWrecks/

WESTERN GULF OF MEXICO LEASE SALE 207

Secretary of the Interior Dirk Kempthorne officially opened the Western Gulf of Mexico Oil and Gas Lease Sale 207 on August 20, 2008, in New Orleans, Louisiana, by opening and reading the first bid. Joining Secretary Kempthorne were C. Stephen Allred, Assistant Secretary, Lands and Minerals Management, and Lars Herbst, Regional Director, Gulf of Mexico Region, and Randal Luthi, Director, Minerals Management Service (MMS).



Lease sale attendees review blocks receiving bids.

Lease Sale 207 included 13,400 blocks (approximately 18 million acres) in the Western Gulf of Mexico, which has not typically been as active in bidding as the Central Gulf. The blocks are located from 9 miles to about 250 miles (14 to 402 kilometers) offshore and are in depths that range from 16 feet to over 10,978 feet (5 to 3,346 meters). Depths greater than 1,000 feet (305 meters) are considered deep water; depths greater than 5,000 feet (1,600 meters) are considered ultra-deep.

The sale attracted \$487,297,676 in high bids. Fifty-three companies submitted 423 bids on 319 tracts off the Texas coast. The sum of all bids received

totaled \$607,134,968. Before awarding leases, MMS will evaluate each high bid on a block.

Approximately 17 percent of the blocks that received bids are in ultra-deepwater. The deepest block bid on is Alaminos Canyon, Block 783 in 9,767 feet (2,977 meters) of water. The block that received the highest bid was also in Alaminos Canyon; Statoil Gulf of Mexico

LLC bid \$61,110,000 for Block 380.

Lease sales provide qualified bidders the opportunity to bid upon and lease acreage in order to explore, develop, and produce energy on the OCS. However, it is just one step in a lengthy process to safely explore and develop offshore energy resources.

FOR MORE INFORMATION

Western Gulf Lease Sale 207 terms and information

www.gomr.mms.gov/homepg/lseale/207/wgom207.html

Map of Gulf of Mexico planning areas and active leases

www.gomr.mms.gov/homepg/lseale/mau_gom_pa.pdf

Deep Water: Where the Energy Is

www.mms.gov/Assets/PressConference11152004/MSGlossySingle_110404.pdf

UPDATED WHALES AND DOLPHINS POSTER

In conjunction with the August 2008 release of an important Minerals Management Service-sponsored study on sperm whales in the northern Gulf of Mexico, MMS released an updated edition of its popular poster, "Whales and Dolphins of the Gulf of Mexico." The poster has photographs of 12 cetacean species that are commonly found in the Gulf, along with interesting facts about each. Of the 78 cetacean species found worldwide, 28 are found in the Gulf; of those 28, 20 are year-round Gulf residents. Most people are familiar with the bottlenose dolphin, commonly seen in more shallow waters. However, fewer people know that endangered sperm whales live in the deeper waters of the Gulf. An updated Teacher's Companion to the poster will be released in 2009.



Dimensions
30" x 24"

Posters and other materials: www.gomr.mms.gov/homepg/lagniapp/lagniapp.html

To order posters and other materials by telephone: 1-800-200-GULF

BIOTECHNOLOGY



AND MARINE ORGANISMS

The Minerals Management Service (MMS) is responsible for managing over 1.76 billion acres of offshore lands. This entails balancing responsibly the development of the Nation's energy resources while protecting the ocean's natural environment.

The potential for harvesting marine organisms that hold valuable natural products has gained interest worldwide. However, harvesting sufficient quantities of such organisms for applied uses could have significant ecological impacts. The Outer Continental Shelf (OCS) offshore oil and gas platforms, which provide habitat for marine communities of over 50 species of



Deputy Secretary of the Interior Lynn Scarlett announces biotech study.

algae and invertebrates, may offer a feasible sustainable alternative.

When platforms are periodically cleaned for structural safety reasons, the organisms growing on them are removed. This untapped source of marine organisms for natural products research—and possibly for

Diadumene sp. Photo courtesy of University of California, Santa Barbara.

future harvesting—may eliminate direct ecological effects of harvesting on natural reefs. One example is the sustained harvesting of mussels from offshore oil platforms in the Southern California Bight for human consumption.

Studies of marine invertebrates have led to important pharmaceutical discoveries, such as anti-cancer and anti-inflammatory treatments and bio-adhesive applications. The MMS has conducted several studies related to marine biotechnology through its Coastal Marine Institute (CMI) Program, part of the Environmental Studies Program. The CMI Program was formed



Deputy Secretary of the Interior
Lynn Scarlett tours biotech lab.

through a Cooperative Agreement between MMS and the University of California at Santa Barbara (UCSB). (For more information about marine biotechnology research and potential, see *MMS Ocean Science* January/February/March 2008.)

This summer, MMS released an exciting report, *Advancing Marine Biotechnology: Use of OCS Platforms as Sustainable Sources of Marine Natural Products*, which resulted from a 5-year research initiative through its CMI Program.

The study focused on the biological potential, distribution, demographics, and genetics of selected marine organisms on seven offshore platforms in California's Santa Barbara Channel.

Results indicate that *Watersipora subtorquata* (an encrusting bryozoan) contains a red pigment, not previously described before in the literature, which is a viable candidate for further cell division studies. An organic extract from *Diadumene* sp. (an anenome) was found to inhibit proliferation in the human lung cancer cell line. Results of studies on crude extracts of *Diadumene* sp. and *Strongylocentrotus purpuratus*



Watersipora subtorquata. Photo courtesy of University of California, Santa Barbara.

(sea urchin) suggest that coumarins, such as dicoumarol, may be attractive for developing new cancer treatment drugs, including taxol and vincristine.

According to Deputy Secretary of the Interior Lynn Scarlett, "This first step in understanding the marine environment's potential for biomedical application is a testament to the vision of MMS's premier ocean science program and to the talented research team at UCSB."

Offshore oil and gas platforms may eventually provide not only needed energy for our Nation but also a renewable source of marine organisms suitable for biomedical applications.



Strongylocentrotus purpuratus. Photo courtesy of The Marine Laboratory.

FOR MORE INFORMATION

Advancing Marine Biotechnology study

www.mms.gov/omm/pacific/enviro/2008-Adv-Marine-Biotech-Study.pdf

Coastal Marine Institute

www.coastalresearchcenter.ucsb.edu/cmi/Main.html

MMS Ocean Science, January/February/March 2008

www.gomr.mms.gov/homepg/regulate/enviro/ocean_science/mms_ocean_08_jan_feb_mar.pdf

MMS: A steward of the ocean environment

NEW WAVES

Late-Breaking News & Information

New Leadership Selections

Greg Gould was selected as the new Associate Director of the Minerals Revenue Management program in June 2008 by MMS Director Randall Luthi. For the past four years, Gould was the Chief of the MMS's Environmental Division.

Gould's work with the Department of the Interior began in 1981 as a geologist with the Bureau of Land Management. In addition to his work as a Minerals Leasing Specialist with the MMS Atlantic OCS Region, Gould has worked in the MMS headquarters offices as a marine policy analyst with the Offshore Information Program, a physical scientist with the Civil/Criminal Penalties Program, and Chief of the Safety and Enforcement Branch in the Engineering and Operations Division.

A graduate of the Senior Executive Fellows Program of the John F. Kennedy School of Government at Harvard University, Gould holds a Bachelor of Science degree in geology from the State University of New York and a Master's degree in public administration from George Mason University.

Mike Saucier was recently selected as the new Regional Supervisor for Field Operations in the Gulf of Mexico OCS Region. Lars Herbst, Regional Director of the Gulf of Mexico OCS Region, announced his selection of Saucier in early July 2008.

Saucier holds a Bachelor of Science degree in petroleum engineering from Louisiana State University. He began his career with MMS in 1984 as a staff engineer in MMS's Houma District Office in Louisiana. In 1988 he became the District's drilling engineer and was promoted in 1995 to District Supervisor of the Houma District Office. He recently served as Deputy Regional Supervisor for District Operations in the Field Operations Office.

Saucier supervises a staff of 170 engineers, geoscientists, inspectors, and technicians responsible for safe and environmentally responsible oil and gas operations in the Gulf of Mexico region.

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