Ocean Facts

Protecting Our Ocean and Coastal Economies:

Avoid Unnecessary Risks from Offshore Drilling

Healthy oceans are critically important to marine life and to coastal communities whose economies rely on tourism and fishing. Opening up new offshore areas to drilling risks permanent damage to our oceans and beaches without reducing our dependence on oil. When oil spills occur they can bring catastrophic harm to marine life and devastating losses for local businesses. Even routine exploration and drilling activities bring harm to many marine species. The Administration and Congress must work together to assess the environmental impacts of offshore drilling before making key decisions about offshore oil and gas activities in new areas or Alaska.

For more information, please contact:

Melissa Waage
(202) 289-2395 or

Alison Chase
(212) 727-4551

NRDC
THE EARTH'S BEST DEFENSE

www.nrdc.org/policy

September 2009

Ocean Facts

Protecting Our Ocean and Coastal Economies:
Avoid Unnecessary Risks from Offshore Drilling

Offshore Drilling Poses Serious Environmental Risks

Expanded offshore drilling poses the risk of oil spills ruining our beaches from Florida to Maine and along the Pacific Coast, bringing harm to those who live, work, and vacation along the coasts, as well as harming habitats critical to plants and animals.

Oil spills can quickly traverse vast distances. For example, when powered by the Gulf of Mexico's Loop Current, an oil spill in the eastern Gulf of Mexico could affect Florida's Panhandle beaches and even travel around the Florida Keys to wreak havoc on estuaries and beaches from the Everglades to Cape Canaveral.[1] Contamination from the massive 1989 *Exxon Valdez* oil spill reached shorelines nearly 600 miles away; if the spill had occurred on the East Coast, it would have extended from Massachusetts to North Carolina.[2]

In September 2008, Hurricane Ike destroyed oil platforms, tanks, and pipelines throughout the Gulf of Mexico, releasing at least a half-million gallons of crude oil.[3] During Hurricanes Katrina and Rita there were 125 spills from platforms, rigs, and pipelines on the ocean's Outer Continental Shelf, releasing almost 685,000 gallons of petroleum products.[4] Worse yet, if you include the land-based infrastructure that supports offshore drilling, the damage from these two hurricanes includes 595 spills releasing millions of gallons of oil.[5]

Oil Spills Inflict Devastating Economic Losses Upon Coastal Communities

Oil spills exact a serious toll on coastal economies, including our approximately $35 billion commercial fishing and $60 billion ocean and coastal tourism and recreation industries.[6] The damage and clean up costs following the *Exxon Valdez* spill were so extensive that Exxon paid out more than one billion dollars to the federal and state governments for damages and clean up costs—and still owes fishermen, Alaska Natives, business owners, and others a billion dollars to redress the spill's harm.[7]

In another example of economic and environmental damage, a July 2008 accident between a chemical tanker and an oil barge discharged more than 270,000 gallons of fuel oil, closing a huge swath of the Lower Mississippi River to vessel traffic for several days. The Port of New Orleans, located at the center of the world's busiest port complex, was shut down and residents were asked to conserve water when water intakes were closed to prevent contamination of drinking water.[8]

Offshore Drilling Puts Coastal Economies at Risk

Value of Tourism to Selected Coastal States

State	Dollars in Billions	Related Jobs
California	93.8	928,700
Florida	62	948,700
Georgia	15.4	211,800
Maine	13.6	176,633
Massachusetts	12.5	125,300
New Jersey	37.6	480,800
North Carolina	15.4	187,200
Oregon	7.9	88,900
South Carolina	16	208,083
Virginia	16.5	206,900
TOTAL	**290.7**	**3,563,016**

Source: NRDC, *Testing the Waters: 2007*, page 29.
Available at: http://www.nrdc.org/water/oceans/ttw/ttw2007.pdf

2008 Selected Commercial Fishing Landings

State	Dollars
California	113,428,651
Florida	169,710,382
Georgia	12,522,967
Maine	287,451,524
Massachusetts	399,623,296
New Jersey	168,652,696
New York	57,252,874
North Carolina	86,814,770
Oregon	103,096,365
South Carolina	17,474,726
Virginia	145,552,643
Washington	230,482,711
TOTAL	**1,792,063,605**

Source: National Marine Fisheries Service, Annual Commercial Landings by State in 2008.
Available at http://www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html

© Clinton Bauder

Oil Spills Have Lasting Ecological Impacts

According to the National Academy of Sciences, current cleanup methods can only remove a small fraction of the oil spilled into the ocean, leaving the remaining oil to continue affecting ocean ecosystems over time.[9] Scientists investigating the long-term impacts of the *Exxon Valdez* spill estimate that nearly 20,000 gallons of oil from that spill remain in Prince William Sound, continuing to harm threatened and endangered species and undermine their recovery.[10] Marine mammals, sea birds, fish, shellfish, and other sea life are extremely vulnerable to oil pollution and the long-term toxic effects can impair reproductive success for generations. Studies have shown that tiny amounts of oil—as little as one part per billion—can harm pink salmon and cause their eggs to fail.[11]

Spills Aside, Drilling Operations are a Major Source of Pollution

In addition to environmental damage from oil spills, the routine operations associated with offshore drilling produce many toxic wastes and other forms of pollution. For example, each drill well generates tens of thousands of gallons of waste drilling muds (materials used to lubricate drill bits and maintain pressure) and cuttings.[12] Drilling muds contain toxic metals such as mercury, lead, and cadmium that may bioaccumulate and biomagnify in marine organisms, including in our seafood supply.[13]

The water that is brought up from a given well along with oil and gas, referred to as "produced water," contains its own toxic brew of benzene, arsenic, lead, toluene, and varying amounts of radioactive pollutants. Each oil platform can discharge hundreds of thousands of gallons of this produced water daily, contaminating both local waters and those down current from the discharge.[14] An average oil and gas exploration well spews roughly 50 tons of nitrogen oxides, 13 tons of carbon monoxide, 6 tons of sulfur oxides, and 5 tons of volatile organic chemicals.[15]

Drilling Exploration Activities Harm Marine Life

Seismic surveys designed to estimate the size of an oil and gas reserve generate their own environmental problems. To carry out such surveys, ships tow multiple airgun arrays that emit thousands of high-decibel explosive impulses to map the seafloor.[16] The auditory assault from seismic surveys has been found to damage or kill fish eggs and larvae and to impair the hearing and health of fish, making them vulnerable to predators and leaving them unable to locate prey or mates or communicate with each other. These disturbances disrupt and displace important migratory patterns, pushing marine life away from suitable habitats like nurseries and foraging, mating, spawning, and migratory corridors.[17] In addition, seismic surveys have been implicated in whale beaching and stranding incidents.[18]

Offshore Drilling Results in Onshore Damage

Offshore drilling requires the construction of significant onshore infrastructure such as new roads, pipelines, and processing facilities, which are often built on formerly pristine beaches. Thanks in part to drilling operations, Louisiana is losing roughly 24 square miles of coastal wetlands each year, eating away at natural storm barriers and increasing the risks of storm damage, including damage from oil spills.[19]

Increased Offshore Drilling Will Not Lower the Price of Oil

According to the Department of Energy's Energy Information Administration, drilling in areas previously closed to oil and gas drilling by Presidential and Congressional actions "would not have a significant impact on domestic crude oil and natural gas production ... before 2030 [the end of the analysis period]." Even then, "Because oil prices are determined on the international market … any impact on average wellhead prices is expected to be insignificant."[20]

Tales of Texas Tar Balls

In the aftermath of an oil spill—or as the result of leaks during routine operations—oil floating in the ocean undergoes a process called weathering, drying up to form tar balls that range in size from a dime to a dinner plate. These sticky chunks of oil can be very difficult to clean up on the beach—or remove from the bottom of your feet. Read "Tales of Texas Tar Balls" from NRDC's Rob Perks on the NRDC blog Switchboard at http://switchboard.nrdc.org/blogs/rperks/tales_of_texas_tar_balls_and_o.html.

Ocean Facts

Protecting Our Ocean and Coastal Economies:
Avoid Unnecessary Risks from Offshore Drilling

Offshore drilling will not lower energy costs, reduce our dependence on foreign oil, or create millions of new jobs the way that investing in clean renewable energy will. Rather than trying to drill our way out of this problem, we must act now to become less dependent on oil and increase our supply of renewable and sustainable energy sources.

"Our $35 billion economy is driven by tourism and the use of the shore."

New Jersey Governor
Jon Corzine

June 18, 2008,
Associated Press

Recommendations for Managing Offshore Resources

Offshore oil and gas drilling poses serious risks to the environmental and economic health of our ocean resources and coastal communities. If the Administration continues to consider offshore drilling, it is critical that we fully consider these impacts before opening up any new areas to drilling. We also should suspend new leasing and any drilling and seismic activities on existing leases in the Beaufort and Chukchi Seas until we have the necessary information to make sensible energy policy decisions.

The Administration should work with Congress to request the following:

- **an assessment from the National Academy of Sciences (NAS) of the impact that offshore oil and gas leasing would have on coastal and ocean ecosystems, taking into account the other stressors these ecosystems are already facing.**

It is important that the independent NAS review consider all relevant information, including from academic scientists, coastal states, and natural resource agencies such as the National Oceanic and Atmospheric Administration, in addition to data that exists within the Department of the Interior.

- **an assessment by the Government Accounting Office of the impacts of OCS leasing and development on the price and supply of oil and gas.**

The Administration should not open up new offshore lands to oil and gas drilling until the findings of these assessments are available. In the Beaufort and Chukchi Seas, there should be a "time out" on all oil and gas activities until an Arctic conservation and development plan is prepared by a presidentially appointed interagency task force.

[1] Gibson, William. "Offshore drilling: A current danger." *Sun Sentinel* 17 Jun. 2009; "Special Report: Inside the Loop Current." *St. Petersburg Times* Accessed 12 Aug. 2009; Muller-Karger, Frank. Personal Interview. 17 Jun. 2009.
[2] *Exxon Valdez* Oil Spill Trustee Council. 1994. *Exxon Valdez Oil Spill Restoration Plan.* p. 1.
[3] Cappiello, Dina, Frank Bass and Cain Burdeau. "500,000 Gallons Of Oil Spilled Due To Ike." *Associated Press* 5 Oct. 2008.
[4] Minerals Management Service. "Setting the Record Straight: Estimated Oil Spills As a Result of Hurricanes Katrina and Rita." Last updated 20 Jun. 2007. Accessed 22 Aug. 2008.
[5] Cappiello, Dina. "Spills from hurricanes staining the coast: Industry says there was no way to prepare for spills." *Houston Chronicle* 13 Nov. 2005.
[6] National Marine Fisheries Service. 2009. *Fisheries of the United States 2008.* p. 79; U.S. Commission on Ocean Policy. 2004. *An Ocean Blueprint for the 21st Century.* p. C-24.
[7] *Exxon Valdez* Oil Spill Trustee Council. "Settlement." Accessed 28 Aug. 2009. http://www.evostc.state.ak.us/facts/settlement.cfm; "Court rules Exxon owes a billion in damages, interest." *Anchorage Daily News* 15 Jun. 2009.
[8] National Oceanic and Atmospheric Administration. "New Orleans Spill Incident: Barge DM932." Last updated 15 Dec. 2008. Accessed 12 Aug. 2009. http://response.restoration.noaa.gov/topic_subtopic_entry.php?RECORD_KEY%28entry_subtopic_topic%29=entry_id,subtopic_id,topic_id&entry_id(entry_subtopic_topic)=749&subtopic_id(entry_subtopic_topic)=8&topic_id(entry_subtopic_topic)=1; NOAA. "Tanker and Barge Collision in New Orleans, LA Update July 23, 1:00 p.m. EDT." 23 July 2008. Accessed 12 Aug. 2009. http://response.restoration.noaa.gov/book_shelf/1729_Mississippi%20River%20DM%20932%20Report%202%20LA.pdf; Vargas, Ramon Antonio and Chris Kirkham. "Tugboat operators involved in collision not properly licensed." *The Times-Picayune* 23 Jul. 2008. Accessed 12 Aug. 2009. http://www.nola.com/news/index.ssf/2008/07/ap_collision_closes_mississipp.html.
[9] National Research Council. 2003. *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope.* Washington, DC: National Academies Press. p. 7.
[10] Walsh, Bryan. "Still Digging Up *Exxon Valdez* Oil, 20 Years Later." *Time* 4 Jun. 2009.
[11] National Research Council. 2003. *Oil in the Sea III: Inputs, Fates, and Effects.* Washington, DC: National Academies Press. pp. 127-128; Australian Maritime Safety Authority. "The Effects of Maritime Oil Spills on Wildlife Including Non-Avian Marine Life." Last updated 8 May 2002. Accessed 13 Aug. 2009. http://www.amsa.gov.au/Marine_Environment_Protection/National_Plan/General_Information/Oiled_Wildlife/Oil_Spill_Effects_on_Wildlife_and_Non-Avian_Marine_Life.asp#4gen.
[12] MMS, 2001. *Gulf of Mexico OCS Oil and Gas Lease Sale 181, Final Environmental Impact Statement.* Vol. I, p. IV-28; MMS. 2008. *Beaufort Sea and Chukchi Sea Planning Areas: Oil and Gas Lease Sales 209, 212, 217, and 221, Draft Environmental Impact Statement.* Vol. II, Chapter 4.4, p. 4-409.
[13] Patin, Stanislav. "Waste Discharges During the Offshore Oil and Gas Activity." Based on *Environmental Impact of the Offshore Oil and Gas Industry.* East Northport: EcoMonitor Pub., 1999. http://www.offshore-environment.com/discharges.html.
[14] MMS. 2001. *Gulf of Mexico OCS Oil and Gas Lease Sale 181, Final Environmental Impact Statement.* Vol. I, pp. IV-30-IV-32; Patin, Stanislav. "Waste Discharges During the Offshore Oil and Gas Activity." Based on *Environmental Impact of the Offshore Oil and Gas Industry.* East Northport: EcoMonitor Pub., 1999. http://www.offshore-environment.com/discharges.html.
[15] MMS. 2001. *Gulf of Mexico OCS Oil and Gas Lease Sale 181, Final Environmental Impact Statement.* Vol. I, p. IV-39.
[16] Hildebrand, John A., "Impacts of Anthropogenic Sound" in J.E. Reynolds et al. (eds), *Marine Mammal Research: Conservation beyond Crisis.* 2005. The Johns Hopkins University Press. p. 106. http://cetus.ucsd.edu/Publications/Publications/HildebrandJHU2005.pdf.
[17] MMS. 2008. *Beaufort Sea and Chukchi Sea Planning Areas: Oil and Gas Lease Sales 209, 212, 217, and 221, Draft Environmental Impact Statement.* Vol. II, Chapter 4.4, pp. 4-41-4-42.
[18] Hildebrand, John A., "Impacts of Anthropogenic Sound" in J.E. Reynolds et al. (eds), *Marine Mammal Research: Conservation beyond Crisis.* 2005. The Johns Hopkins University Press. p. 117. http://cetus.ucsd.edu/Publications/Publications/HildebrandJHU2005.pdf; Siebert, Charles. "Watching Whales Watching Us." *New York Times* 12 Jul. 2009.
[19] Boesch, Donald. "The awful price of coastal ruin." *Baltimore Sun* 1 Sept. 2005.
[20] Energy Information Administration. 2007. *Annual Energy Outlook 2007: Impacts of Increased Access to Oil and Natural Gas Resources in the Lower 48 Federal Outer Continental Shelf.* Accessed 8 Jun. 2009. http://www.eia.doe.gov/oiaf/aeo/otheranalysis/ongr.html.

