Fact Sheet on Offshore Oil Drilling

For decades, U.S. coastlines were protected from expanded offshore oil drilling by a federal moratorium that enjoyed bipartisan support. Unfortunately, in 2008, President George W. Bush lifted the White House moratorium, and Congress followed suit by allowing a federal ban on new drilling to expire. In 2016, the Obama administration finalized a 5-Year Oil and Gas Leasing Program for 2017-2022 that protected the Atlantic, Pacific, Eastern Gulf of Mexico and Arctic from new offshore drilling lease sales. This decision was informed by years of scientific assessment and public input, and lauded as a major victory for the ocean environment and coastal communities.

However, in 2018, the Trump administration was quick to renege on the approved 5-Year Leasing Program, and announced plans to expand offshore drilling in the Atlantic, Pacific, Gulf of Mexico and Arctic Ocean. This drastic proposal opens over 90% of the Outer Continental Shelf to new drilling and puts our nation's coastal communities, beaches, surf breaks and marine ecosystems at risk of a catastrophic oil spill. While President Trump and the Department of Interior finalize their plan for expanded offshore oil drilling, Congress, governors, and coastal communities need to speak out about the threat of offshore oil drilling.

The Surfrider Foundation is opposed to offshore oil drilling in new areas. Our nation's ocean, waves and beaches are vital recreational, economic and ecological treasures that will be polluted by an expansion of offshore oil drilling. Instead of advocating for transient and environmentally harmful ways to meet America's oil needs, we should seek

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a comprehensive and environmentally sustainable energy plan that includes energy conservation.

Offshore oil drilling and oil spills critically impact pristine marine ecosystems and lead to the industrialization of our coastlines. While there are numerous environmental problems associated with oil drilling, there are also negative economic impacts that we simply cannot afford. This fact sheet is intended to outline potential impacts of offshore oil drilling, and dispel myths that have been put forth by oil drilling proponents.

Ultimately, America cannot drill our way out of an oil consumption problem. We must look toward sustainable solutions that protect our natural resources, rather than drill for fossil fuels off our coasts. It is in the best interest of our environment and economy to develop a sustainable "energy portfolio" that includes renewable sources and conservation. It's imperative that our nation's leaders shift away from an old mindset of relying on fossil fuels. Climate change will not wait for us to 'rebuild our energy portfolio'. Oil drilling and continued use of fossil fuels only exacerbate the impacts of climate change, and keep us trapped in a backwards frame of mind. The answers for sustainable energy are already in front of us—and offshore drilling is not part of the answer.

ENVIRONMENTAL IMPACTS

There are serious environmental impacts associated with each stage of offshore drilling. While some impacts may not be as visible, there are a myriad of consequences that local communities and elected officials must know about before considering new oil drilling. As the Surfrider Foundation is concerned about the environmental ramifications of drilling, we have chosen to highlight the most harmful impacts for this fact sheet.

- **Oil Exploration—Seismic Surveys: Seismic surveys, also referred to as 'air gun blasting,' are conducted to locate and estimate the size of an offshore oil reserve. In order to map the seafloor, ships use 'airgun arrays' to emit high-decibel explosive impulses. The noise from seismic surveys can harm and kill marine life. High decibels are known to reduce the presence of zooplankton, impair fish eggs and larvae, and temporarily if not permanently deafen adult and juvenile marine mammals. Without the ability to hear, fish and marine mammals can struggle to communicate, navigate, avoid predators, and locate prey. These disturbances can also disrupt important migratory patterns, forcing marine life away from suitable habitats meant for foraging and mating. In addition, seismic surveys have been implicated in whale beaching and stranding incidents.[1]**

- **Drilling and Processing Oil–Drilling Muds: The process of drilling releases thousands of gallons (2,700 tonnes) of polluted water and chemical based drilling fluids, known as "drilling muds." These muds contain toxic substances, such as benzene, zinc, arsenic, radioactive materials and other contaminants used to lubricate drill bits and maintain pressure. Pending the level of toxicity, these muds are legally allowed to be released back into the marine environment.[2] High concentrations of metals have been found around drilling platforms in the Gulf of Mexico.[3]**

- **Drilling and Processing Oil–Air Pollution: In 2008, over 60,000 tons of nitrogen oxides (NO_x) and 50,000 tons of volatile organic compounds (VOCs) were released from U.S. offshore oil platforms.[4] NOx and VOC's can directly harm human health, and cause water quality deterioration, smog, contribute to climate change, and more.[5] Air pollution is also a problem at oil refineries, especially in California, where the refining of lower quality oil emits 37% more greenhouse gas emissions than higher quality, light crude oil from Texas.[6]**

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[1] NRDC. 2017. Protecting Our Ocean and Coastal Economies: Avoid Unnecessary Risks from Offshore Drilling.
[2] Committee on Oil in the Sea. 2003. Oil in the sea III: inputs, fates and effects. Divisions of Earth and Life Studies and Transportation Research Bard, National Research Council of the National Academies.
[3] Mineral Management Service. 2001. Gulf of Mexico OCS Oil and Gas Lease Sale 181, Final Environmental Impact Statement. US Department of Interior.
[4] Muller N.Z. 2014. Air Pollution Damages from Offshore Energy Production. International Association for Energy Economics. *The Energy Journal*, Vol. 35, No. 4, Pp. 39-60.
[5] National Service Center for Environmental Publications. 1998, NO_X: How Nitrogen Oxides Affect the Way We Live and Breathe. US EPA, Office of Air Quality Planning and Standards.
[6] Mernit, J.L. 2017. Why Does Green California Pump the Dirtiest Oil in the US? *Yale Environment 360*.

- **<u>Oil Spills</u>: Oil spills are an unavoidable part of offshore oil drilling. Each year, about 880,000 gallons of oil are sent to the ocean from North American offshore oil drilling platforms, and that's just during normal operations.[7] Natural disasters can also prompt spills. When Hurricane Katrina whipped through the Gulf of Mexico, she destroyed over 100 platforms and caused the release of 8 million gallons of oil, the largest spill in the U.S. since the Exxon Valdez.[8] In 2004, Hurricane Ivan also damaged platforms in the Gulf of Mexico, triggering an oil spill that is still spewing oil today! The "Taylor spill" has been leaking 300 to 700 barrels of oil every day off the coast of Louisiana for the past 14 years, and there is currently no fix in sight.[9]**

From 1995 to 2010, the U.S. Mineral Management Service recorded almost 500 spills in the Gulf of Mexico and the Pacific Ocean (including spills of toxic chemicals related to drilling).[10] Since 1969, there have been at least 44 large oil spills (over 10,000 barrels of oil each) in our nation's marine waterways.[11] This means that we can expect a spill of over 10,000 barrels, or 420,000 gallons, of oil every 13 months.

[7] Committee on Oil in the Sea. 2003. Oil in the sea III: inputs, fates and effects. Divisions of Earth and Life Studies and Transportation Research Bard, National Research Council of the National Academies.
[8] Sever, M. 2006. After Katrina. *GEOTIMES.*
[9] Fears, D. 2018. A 14-year-long Spill in the Gulf of Mexico Verges on Becoming One of the Worst in U.S. History. *The Washington Post.*
[10] Bureau of Safety and Environmental Enforcement. 2014. Petroleum Spills by Size. US Department of Interior.
[11] NOAA Office of Response and Restoration. 2017. Largest Oil Spills Affecting U.S. Waters Since 1969.

As demonstrated by the 2010 Deepwater Horizon disaster, oil spills have the potential to damage entire ecosystems. BP's Deepwater Horizon oil spill released approximately 200 million gallons of oil into the Gulf of Mexico, fouling beaches and coastal wetlands from Louisiana to Florida; killing birds, fish, and marine mammals; and devastating the recreation and fishing-based coastal economies of the Gulf States. Oil spills can also take many years to clean up. Nearly 20 years after the 1989 Exxon Valdez spill off Alaska, more than 26,000 gallons of oil still remain in shoreline soils.[12]

- **<u>Onshore Environmental Impacts</u>: Oil production requires massive onshore infrastructure for transportation, storage, processing, and delivery. As such, local communities can experience onshore environmental problems because of offshore drilling. To transport oil to processing plants, pipelines and roads are often built through coastal wetlands and beaches, causing severe rates in the loss of habitat functionality and acreage.[13] Local communities are directly impacted by the reduction in habitat, as it results in the loss of "ecosystem services," including protection from shore break and sea level rise, water purification, shoreline stabilization, and habitat for coastal and marine wildlife that may be crucial for industries reliant on tourism and recreation.[14] As such, the oil industry externalizes the costs of air, water and land pollution at the expense of our environment and coastal economies.**

[12] MacAskill, E. 2007. 18 years on, Exxon Valdez oil still pours. *The Guardian.*
[13] Bosch, D.F. 2005. The Aweful Price of Coastal Ruin. *The Baltimore Sun.*
[14] Washington State Department of Ecology. N.D. Functions and Values of Wetlands. *Access Washington.*

ECONOMIC IMPLICATIONS

Before scrutinizing 'oil drilling myths,' it's important to examine economic arguments that prove our coastal communities are the mainstay of the U.S. economy and will undoubtedly suffer if new drilling occurs. The potential of catastrophic oil spills, continued contribution to climate change, and the eyesore of an industrialized coastline, could do significant harm to coastal communities and surrounding regions.

The National Ocean Economics Program reports on the importance of economic contributions from coastal states, which encompass over 80% of the nation's population, GDP and employment. Additionally, the ocean economy's[15] tourism and recreation industry singlehandedly provides the largest amount of jobs (71%) to the U.S. economy. In fact, ocean tourism and recreation provides 12 times the amount of jobs than the offshore oil industry.[16] In the event of a spill, the tourism and recreation industry is likely to experience severe economic damages, threatening the health and livelihood of coastal populations, and due to the nation's reliance on coastal areas, the U.S. economy as a whole.

GDP Value Added by Coastal/Ocean Tourism and Recreation Related Industries (US Dollars, Billions)		
State	**Coastal Leisure & Hospitality[17]**	**Ocean Recreation & Tourism[18]**
California	**$104.3**	**$22.3**
Florida	**$55.1**	**$18.5**
New Jersey	**$17.4**	**$3.5**
New York	**$57.9**	**$21.5**
Washington	**$16.1**	**$4.1**
All Coastal States	**$578.1**	**$115.7**

Table 1. Value Added by Coastal/Ocean Tourism and Recreation Related Industries.
Annual GDP contribution (in $US billion) of the coastal economy's leisure and hospitality industry, and the ocean economy's recreation and tourism industry in 2015 for select states and nationwide.

[15] The report defines "ocean economy" as: ocean resources that have a direct or indirect input of goods and services to an economic activity.
[16] Kildow, J.T., Colgan, C.S., Johnston, P., Scorse, J.D., & Farnum, M.G. 2016. State of the US Ocean and Coastal Economies – 2016 Update. National Ocean Economics Program. Middlebury Institute of International Studies, Monterey *Center for the Blue Economy*.
[17] National Ocean Economics Program. 2017. 2015 CoastalEconomy. Middlebury Institute of International Studies, Monterey *Center for the Blue Economy*.
[18] National Ocean Economics Program. 2017. 2015 OceanEconomy. Middlebury Institute of International Studies, Monterey *Center for the Blue Economy*.

In addition to impacting tourism and recreation, drilling can disrupt fishing industries. Seismic surveys, rig construction, spills and drilling muds may displace fishermen. The fishing industry is another pillar of our U.S. economy that we cannot afford to jeopardize.

Fishing Generated Income Impacts in 2015 (US Dollars, Millions)		
Region	**Commercial Fishing[19]**	**Recreational Fishing[20]**
North Atlantic	$2,403	$1,191
Mid-Atlantic	$821	$2,685
South Atlantic	$681	$3,788
Alaska	$2,338	$362
West Coast	$1,670	$1,956
Gulf of Mexico	$2,194	$7,415

Table 2. Fishing Generated Income Impacts in 2015. Annual economic impacts (in $US million) from the seafood industry and recreational fishing expenditures by US region.

FACTS VS. FICTION

Secretary of the Interior Ryan Zinke recently said, "The Gulf is a vital part of [the Trump Administration's] strategy to spur economic opportunities for industry, states and local communities, to create jobs and homegrown energy and to reduce our dependence on foreign oil."[21] Let's use this statement as a basis to start identifying and remedying the myths of the offshore oil and gas industry:

MYTH: Offshore drilling will "spur economic opportunities for industry, states, and local communities to create jobs."

REALITY: Offshore oil and gas development could actually harm industries that depend on a healthy coast and ocean, and provide more jobs and income to local economies. This is most notable in the Gulf of Mexico, where for every state besides Texas, the ocean-dependent sectors of tourism, recreation and fishing provide the largest employment contributions.[22]

[19] National Marine Fisheries Service. 2017. Fisheries Economics of the United States: Economics and Sociocultural Status and Trends Series. US Department of Commerce, NOAA Tech. Memo. NMFS-F/SPO-170. Indicator: Economic impacts of the seafood industry, value added without imports.
[20] Ibid, 2017, Indicator: Economic impacts of the recreational fishing expenditures, value added.
[21] Fears, D. 2017. Trump's new Gulf of Mexico oil and gas drilling proposal looks a lot like Obamas. *The Washington Post.*
[22] National Ocean Economics Program. 2017. 2015 OceanEconomy. Middlebury Institute of International Studies, Monterey *Center for the Blue Economy*.

	Economic Contributions of Fishing, Tourism and Recreation Sectors in Gulf of Mexico[23]			
	Fishing, Tourism & Rec (Million $)	Fishing, Tourism & Rec (Jobs)	% of State's Ocean GDP	% of State's Ocean Jobs
Florida	$8,947	201,574	76%	88%
Alabama	$781.2	19,010	36%	64%
Texas	$2,210	50,536	2%	26%
Louisiana	$2,722	53,500	18%	48%
Mississippi	$729.1	17,211	35%	53%
Gulf of Mexico	$15,390	341,834	12%	57%

Table 3. Annual percent of total ocean economy GDP contributions and job opportunities of U.S. Gulf states in 2015. Sectors that are most likely to be harmed from offshore oil and gas. Industries include living resources (fishing and aquaculture), ocean tourism and ocean recreation.

Additionally, a 2015 economic analysis found that the development of offshore wind would provide more jobs (an estimated 91,000 more jobs) and produce twice the energy when compared to the development of offshore oil.[24] Alternative offshore energy developments might actually provide more benefits to "industry, states, and local communities" through greater employment opportunities and cleaner energy production.

MYTH: Expanding offshore drilling will "spur…homegrown energy and reduce our dependence on foreign oil."

REALITY: Many people are surprised to find out that the U.S. is both the largest consumer and producer of oil in the world! And even though the U.S. consumes more oil than it produces, the nation actually exports oil. This means that the U.S. currently has "homegrown" oil that it would rather export to other countries, in exchange for importing heavier foreign oil.[25] Since it's both quantity and quality driving the imports, there is no reason to expect new offshore oil drilling to cause this "reliance on foreign oil" to change.

The U.S. produces 14.46 million barrels of petroleum every day (15% of the world's production), and though it consumes 19.53 million barrels of petroleum every day (20%

[23] National Ocean Economics Program. 2015 OceanEconomy. 2017. Middlebury Institute of International Studies, Monterey *Center for the Blue Economy*.
[24] Menaquale, A. 2015. Offshore Energy by the Numbers: An Economic Analysis of Offshore Drilling and Wind Energy in the Atlantic. Oceana.
[25] U.S. Energy Information Administration. 2018. Frequently Asked Questions: What countries are the top producers and consumers of oil? Independent Statistics and Analysis.

of the word's consumption),[26] the U.S. imported 10.1 million barrels every day in 2017. This means that the nation not only imported the oil necessary to meet demand, but it imported extra in order to swap out 6 million barrels daily of U.S. produced petroleum because of the quality.[27] The reason? U.S. oil refineries were designed to process heavy oil, but the oil produced in the U.S. is mainly light, so to save the oil industry money by avoiding refinery updates, U.S. oil giants actually export some the higher quality light oil in exchange for importing the heavier, dirtier oil (heavier oil releases more pollutants like NO_x and VOCs during processing).[28]

Finally, the U.S. is currently experiencing its lowest dependence on oil in a long time, as net imports are at a 30-year low,[29] importing less than 20% of the total US consumption.[30] If we focus on reducing our consumption and investing in renewable storage capacity, instead of increasing national oil production, we can reduce this dependence even more.

MYTH: Offshore drilling will ensure our nation's long-term energy needs.

REALITY: Even under the best-case scenario, America's offshore oil reserves in the Atlantic and Pacific would provide us only 758 days, or about 25 months-supply of oil at our current rate of consumption.[31] A recent study conducted by Surfrider staff used BOEM technically recoverable offshore oil estimates[32] and U.S. Energy Information Administration on national daily oil consumption[33] to quantify these estimates. Findings are similar to a similar analysis that focused on economically recoverable oil and gas.[34] Both studies show that new drilling will not significantly help long-term energy needs. Two years of oil is not worth risking the future health of our marine environments and coastal economies for decades to come.

- **The North and Mid-Atlantic contain a small amount of oil. At 2016 usage and recent prices, the region contains about 4.2 billion barrels of oil, which would supply the nation with oil for 212 days (about 7 months).**
- **The South Atlantic contains an even smaller amount of oil. At recent prices the area is estimated to contain approximately 0.55 billion barrels of oil, which would supply the nation with oil for only 28 days.**

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[26] U.S. Energy Information Administration. 2018. Frequently Asked Questions: What countries are the top producers and consumers of oil? Independent Statistics and Analysis.
[27] U.S. Energy Information Administration. 2018. Oil Crude and Petroleum Products Explained. Independent Statistics and Analysis.
[28] ConocoPhillips. 2015. Why Importing and Exporting Oil Makes Sense. *The Washington Post.*
[29] Patton, M. 2016. U.S. Dependence on Oil Hits 30 Year Low. *Forbes Contributor.*
[30] U.S. Energy Information Administration. 2018. Oil Crude and Petroleum Products Explained. Independent Statistics and Analysis.
[31] BOEM. 2014. Assessment of Undiscovered Technically Recoverable Oil and Gas Resources of the Nation's Outer Continental Shelf, 2011(Includes 2014 Atlantic Update). U.S. Department of Interior.
[32] Ibid, 2014.
[33] US Energy Information Administration. 2018. How Much Oil in Consumed in the United States?
[34] Gravitz, M., Cosgove, S. & Kirby, M. 2009. Oceans Under the Gun: Livings Seas or Drilling Seas? Environment America Research and Policy Center.

- **In California, at recent prices and usage, there is an estimated 9.8 billion barrels of oil off California's coastline, which would supply the nation with approximately 500 days of oil (16.5 months).**
- **In the Pacific Northwest, Washington and Oregon only have a minuscule amount of oil, 0.4 billion barrels, and would supply the nation with just 20 days of oil.**

MYTH: Advances in drilling technology make offshore drilling "safer".

REALITY: New technology is far from safe, as proven by numerous spills including the latest spill off Australia. Using "state of the art" technology flaunted by oil companies, an oil rig blew and spilled somewhere between 400 barrels (oil company estimate) and 2,000 barrels per day (Australia Department of Resources estimate), for over two months.[35]

Oil drilling proponents claim that "subsea drilling" can be done safely and out of sight. However, an investigative report exposed that subsea drilling installations are almost entirely used in depths greater than 5,000 feet.[36] Waters in the Atlantic and Pacific are only a few hundred feet deep. For example, certain areas of the Pacific OCS are estimated at 650 feet.[37] Most waters off the coast of Florida run no deeper than 100 feet.[38]

Finally, in the wake of storms with unprecedented strength, how can we be so sure that new rigs will be able to withstand winds and storm surge associated with another Hurricane Irma-like storm, or worse? We already know that current platforms are not safe in the face of powerful storms. This was illustrated in the Gulf of Mexico when Hurricane Ivan, Katrina and Rita damaged a combined total of over 113 platforms, 457 pipelines, and spilled roughly 750,000 gallons of oil.[39] One such rig damaged during Hurricane Ivan in 2004, has been leaking oil for the past fourteen years! Even today, the Taylor Spill continues to spew up to 700 barrels of oil into the waters off of Louisiana every single day, with no fix in sight. [40]

MYTH: Offshore oil drilling reduces the harmful pollution caused by natural tar seepage

REALITY: This is a common myth promoted by the oil industry. The environmental risks and damage caused by offshore oil and gas development far outweigh any potential environmental benefits of reduced natural tar seepage. Natural seepage of tar is in no way comparable to the impacts and risks of human offshore oil and gas development, which include direct harm to marine mammals during exploration, frequent oil spills, release of toxic drilling muds, a potential catastrophic oil spill, and extensive onshore habitat loss for the construction and

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[35] ABC News. 2009. Oil leaking five times faster than thought..
[36] Wallace, J. 2009. Faulty Promises in bid to drill off Florida? *Herald Tribune.*
[37] Sanctuary Integrated Monitoring Network. N.D. Continental Shelf. National Marine Sanctuaries, National Ocean Service, National Oceanic and Atmospheric Administration. U.S. Department of Commerce.
[38] Wallace, J. 2009. Faulty Promises in bid to drill off Florida? *Herald Tribune.*
[39] Sturgis, S. 2015. The Katrina oil spill disaster: a harbinger for the Atlantic Coast? *Facing South.*
[40] Fears, D. 2018. A 14-year-long Spill in the Gulf of Mexico Verges on Becoming One of the Worst in U.S. History. *The Washington Post.*

operation of support structures. Though the amount of natural tar seepage can be surprisingly high, this seepage happens slowly, allowing the natural ecosystem to "adapt or even thrive in the tar's presence". [41]

MYTH: Economic benefits of offshore drilling "outweigh the risks."

REALITY: In most instances, risk assessments of offshore drilling fail to take into consideration the economic risk to our beaches and coastlines. As discussed above, our coastlines are single-handedly the biggest revenue generators for the U.S. economy. Our nation's ocean, waves and beaches are vital recreational, economic and ecological treasures that will be polluted by an increase in offshore oil drilling.

Why bother with such risk? Images of oiled marine life, soiled coastlines, and massive oil slicks have been permanently etched into our hearts and minds over the years. America needs to conserve energy, protect our natural resources, and look for innovative ways to build a sustainable 'energy portfolio.' Offshore oil drilling is simply not the answer.

[41] Committee on Oil in the Sea. 2003. Oil in the sea III: inputs, fates and effects. Divisions of Earth and Life Studies and Transportation Research Bard, National Research Council of the National Academies.