



FACT SHEET

THE FATE OF THE ARCTIC FROM OFFSHORE OIL BLOWOUTS

NRDC recently commissioned a modeling study that shows the extraordinary risks posed by a plausible oil well blowout in the U.S. Arctic Ocean. The research shows that a vast area could be damaged in such a blowout, even if the spill were controlled far more rapidly than the 2010 Deepwater Horizon disaster in the Gulf Coast.

President Obama must act now to ensure that drilling in our fragile Arctic Ocean never happens—not next year, not in five years, not ever.

SPILLED OIL WOULD LIKELY SPREAD WIDELY, WORST OF ALL FOR LATE SEASON WELL FAILURES

Even with conservative parameters drawn from industry and agency sources, our model predicts a high likelihood of widespread impacts from oil releases in a series of credible spill scenarios. These impacts occur even on the implausible assumption that spill response measures would work as well as they did in the 2010 Deepwater Horizon disaster in the Gulf of Mexico, although Arctic conditions are far harsher and it is far harder to mobilize responders.

Our analysis showed oil spreading widely even when blowouts were capped quickly and relief wells drilled in record time. Yet, some of the worst impacts were from a well failure in October in the Chukchi Sea, when it is too late to control due to the onset of winter pack ice. That scenario has a projected **100 percent likelihood of shoreline impacts** in Alaska and Russia. Under the same scenario in the Beaufort Sea, to the east, both Alaskan and Canadian coastlines **were shown to be almost certain** to be oiled.

THE STAKES ARE TOO HIGH

Areas at risk from an Arctic oil spill include the coastline of the pristine and iconic Arctic National Wildlife Refuge, home to the greatest density of polar bear maternity dens in the United States. Also threatened is sensitive shoreline habitat for nursing beluga whales, ice seals, and many other species. Offshore, oil is likely to cover highly productive and vulnerable marine areas that Obama protected by presidential order just last year. These areas include Barrow Canyon, an important stopping place for migrating whales and high densities of summering seabirds like shearwaters, eiders, and loons. They also include Hanna

Shoal, a critical area for the Pacific walrus and ice seals, as well as the polar bears that feed on them.¹ All three Chukchi scenarios showed a 60 percent or greater chance that oil would reach this area. Canadian and Russian marine areas are under threat as well, and so is the biologically and economically critical Bering Strait.

We can't afford to gamble with these precious resources.

All spills modeled for the Chukchi Sea showed chances that the Chukchi Coast would be oiled. This area has been identified by experts as a Super Ecologically and Biologically Significant Area (EBSA) and described as “a wonder of nature.”² The damage to the habitat of iconic and endangered wildlife in this range would be catastrophic. The endangered bowhead whales' migratory route passes directly through the Chukchi areas at risk.³

Under the October Chukchi release scenario, there is a 20 percent chance of oil reaching Wrangel Island, which sits between the Chukchi and East Siberian Seas. Wrangel is another Super EBSA and was designated as a UNESCO World Heritage Site for its biological diversity, unmatched by any land in the high Arctic. It boasts the largest population of Pacific walrus, the highest density of polar bear dens, and the northernmost nesting ground for 100 migratory bird species (many of which are endangered). And, it is a major feeding ground for the gray whale, which migrates from Mexico.

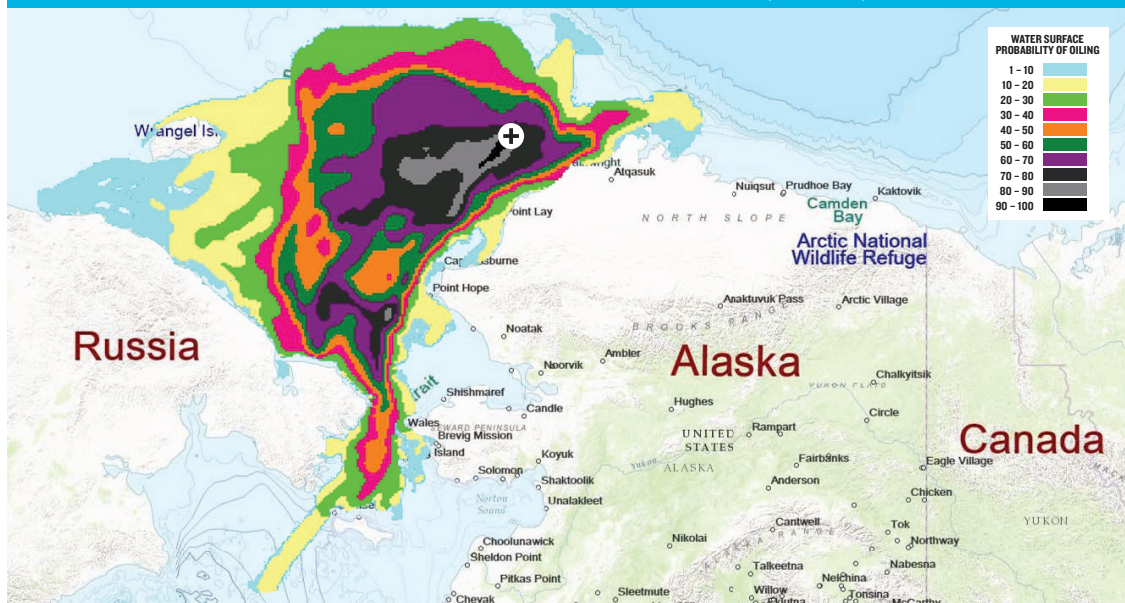
According to the Bureau of Ocean Energy Management's (BOEM) Draft Second Environmental Impact Statement (EIS) for the Chukchi Sea Planning Area, external exposure to oil for marine mammals could lead to “irritation, inflammation, or necrosis of skin; chemical burns of skin, eyes, mucous membranes; inhalation of toxic fumes with

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CHUKCHI SEA UNCONTROLLED RELEASE SCENARIO (OCTOBER)



OUR METHODS

Using the state of the art, industry-standard OilMap modeling software, our study analyzed the likely trajectories of oil spills at two sites where the federal government previously sold leases, one in the Chukchi Sea and one in the Beaufort. For both sites, we simulated three release scenarios: (1) an August event capped in ten days, (2) a July blowout stopped with a relief well drilled in 33 days, and (3) an October release not controlled before the onset of winter pack ice. (OilMap only models oil movement until winter pack ice has reached 80 percent cover.) We ran the model 100 times for each scenario, using randomly selected start times and the associated wind and oceanographic data from five years of historical data. We produced maps showing how likely any given area is to be oiled, under these assumptions.

In the Chukchi spill scenarios, the range of possible marine impacts extends over 800 miles from east to west, and over 900 miles from north to south, covering an area greater than 300,000 square miles. In the Beaufort Sea spill scenarios, the range of possible marine impacts extends over 600 miles from east to west, and over 150 miles from north to south, and covers an area of more than 30,000 square miles.

potential short- and long-term respiratory effects” while ingestion of oil could lead to “inflammation, ulcers, bleeding, damage to liver, kidney, and brain tissues.” Any of the previous impacts could lead to “reduced fitness, injury, or death.”⁴

The risk to polar bears is especially great, according to BOEM’s EIS, which explains, “OCS [Outer Continental Shelf] operations might pose a relatively high spill risk to polar bear aggregations and, therefore, to the polar bear population as a whole.”⁵

THE ARCTIC CAN’T WAIT: PRESIDENT OBAMA MUST ACT NOW

In November, President Obama issued a five-year ban on offshore drilling in the Atlantic and the Arctic. Good, but not enough. We need permanent protection, especially with President-elect Trump threatening to massively ramp up fossil fuel production the minute he enters the White House.

We know how quickly coastlines and precious marine areas can be destroyed by oil spills and drilling pollution. Our research shows that spills in this harsh, unpredictable environment are almost guaranteed to cause widespread damage that could be felt for generations.

This is one decision the President can make right now that will protect our coasts from Big Oil’s advances no matter what Trump wants.

Endnotes

- 1 Speer, L., and Laughlin, T., “Workshop Report: IUCN/NRDC Workshop to Identify Areas of Ecological and Biological Significance or Vulnerability in the Arctic Marine Environment.”
- 2 Speer, L., and Laughlin, T., “Workshop Report: IUCN/NRDC Workshop to Identify Areas of Ecological and Biological Significance or Vulnerability in the Arctic Marine Environment,” (April 7, 2011) available at https://www.nrdc.org/sites/default/files/oce_11042501a.pdf; see pgs. 8-9.
- 3 Bureau of Ocean Energy Management, “Draft Second Supplemental Environmental Impact Statement, Volume 1” United States Department of Interior (October 2014), available at https://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Leasing_and_Plans/Leasing/Lease_Sales/Sale_193/Lease_Sale_193_DraftSSEIS_voll.pdf.
- 4 Bureau of Ocean Energy Management, “Draft Second Supplemental Environmental Impact Statement, Volume 1.”
- 5 Ibid.