



# Harmful 3-D Seismic Exploration threatens the Arctic National Wildlife Refuge

With the passage of the Tax Cuts and Jobs Act in 2017, Congress mandated an oil and gas leasing program on the coastal plain of the Arctic Refuge, allowing development in an area that has been protected for decades. The first lease sale was held by the Trump administration in January 2021, and future sales are possible under the 2017 Tax Cut law. On top of leasing threats, the current program also opens the Coastal Plain to seismic exploration. These activities would bring convoys of thumper trucks and bulldozers to the Coastal Plain, potentially devastating America's largest and wildest wildlife refuge.

## Past Seismic Exploration Proposals

Once the Arctic Refuge was opened to oil and gas development, the U.S. Department of the Interior received applications to conduct 3-D seismic exploration from Kaktovik Inupiat Corporation (KIC) contracting with SAExploration. KIC was unable to move forward at the time because it did not obtain the required permits from the U.S. Fish and Wildlife Service within the required timeframe. Since then, the Alaska Industrial Development and Economic Authority, which purchased leases via the January 2021 lease sale, has also stated it intends to conduct seismic exploration soon. A potential exploration plan could still be proposed this fall, for early 2026.



Looking out to the Refuge east of the canning river. Indentations in the ground from vehicles that rove and repeatedly depress the land, and affect the flow of surface water. Seismic testing has not been permitted in the Refuge up to this point; this image was not taken directly in the Refuge.

- Historically, Arctic Refuge seismic proposals have envisioned two teams of 150–160 workers, massive mobile camps to accommodate and transport workers, giant sleds, tractors, fuelers, incinerators, temporary airstrips and other industrial equipment.
- Seismic exploration requires crossing the Coastal Plain with multiple 90,000-pound thumper trucks sending vibrations into the ground to map out oil and gas resources.

## The Realities of Seismic Activity

The Alaska National Interest Lands Conservation Act, passed in 1980, provided for a time-limited exploration program on the Coastal Plain. That [2-D seismic exploration](#)

[program](#) gouged more than a thousand miles of trails across the coastal Plain of the Arctic Refuge. Scars from this limited program are still visible today.



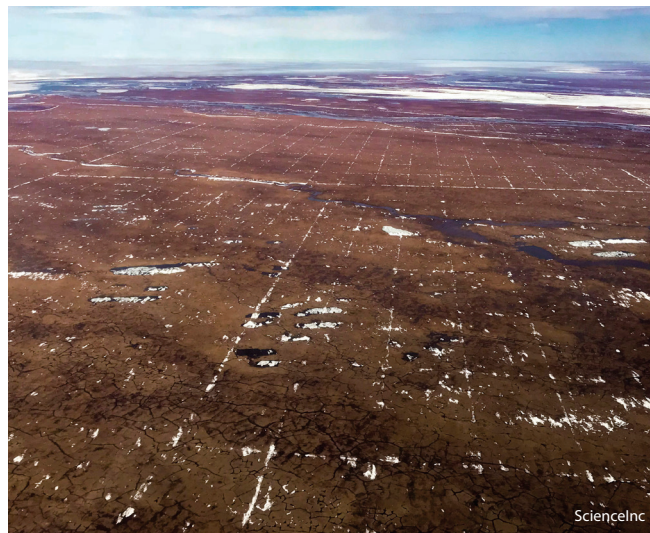
Any proposed 3-D seismic exploration would likely be more damaging to the Arctic Refuge when compared to 2-D programs from the 1980s. Modern techniques for 3-D seismic utilize heavier vibration trucks, bulldozers and dozens of other heavy vehicles that could result in significant damage to the tundra. While 2-D seismic lines spaced vehicles 3-12 miles apart, 3-D seismic surveys generally require a dense grid pattern — generally only about 660 feet apart.

## Additional Concerns About Seismic Activity

- Winter seismic activities require sufficient snow cover to minimize impacts to the fragile tundra. There are serious questions about whether the Coastal Plain has sufficient snow cover to support winter travel and protect sensitive vegetation.
- Seismic activity can contribute to permafrost melt, which in turn leads to thermokarst erosion and water quality impacts.

## Impacts to Wildlife

- Seismic activities may cause **pregnant and nursing mothers to abandon their dens and their cubs**, according to research by polar bear expert Dr. Steven C. Amstrup. There is also the potential for dens to be impacted directly, run over by a seismic vehicle, killing the bears inside.



Looking back towards the Refuge and Dead Horse, across the Canning River and before the coast, covered in sea ice. Seismic testing has not been permitted in the Refuge up to this point; this image was not taken directly in the Refuge.

- According to an environmental assessment for 3-D seismic surveys: “impacts occur despite existing stipulations on operations, and cannot be further mitigated, given the types of equipment currently used.”
- The Coastal Plain of the Arctic Refuge is one of the most important onshore denning areas for polar bears in the United States. 77% of the Coastal Plain is designated as critical habitat for the polar bears.
- Research shows that infrared technology for finding polar bear dens prior to destructive seismic activity misses 55% of dens.
- Compounding this threat, the impacts of climate change have caused sea ice to recede further from the Alaska coast, pushing more and more polar bears to den on the Coastal Plain.
- Musk oxen and some caribou also overwinter on the Coastal Plain. Seismic activities can cause them to expend their limited energy resources fleeing from industrial activities or preparing to defend themselves by circling.
- Predators such as wolves, wolverines and foxes would also expend limited energy trying to avoid industrial activities.

## Bottom Line

Seismic exploration and other oil-and-gas-related activities are incompatible with the purposes and values that the Arctic Refuge was established to protect. **We urge you to oppose this, and any other, attempt to allow oil and gas activities on the Coastal Plain of the Arctic Refuge.**

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