

Conversation Contents

Energy and Ecology in Alaska

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NEWS NOTES ON SUSTAINABLE WATER RESOURCES

Energy and Ecology in Alaska

<https://pubs.usgs.gov/of/2018/1003/ofr20181003.pdf>

Pearce, J.M., Flint, P.L., Atwood, T.C., Douglas, D.C., Adams, L.G., Johnson, H.E., Arthur, S.M., and Latty, C.J., 2018. *Summary of Wildlife-Related Research Coastal Plain of the Arctic National Wildlife Refuge, 2002-2017*. U.S. Geological Survey Open File Report.

In 2002, the USGS published a summary of terrestrial wildlife research that was conducted from the 1980s to 2001 in the 1002 Area of the Alaska National Wildlife Refuge (ANWR). That report focused primarily on wildlife within the coastal plain of the 1002 Area, but it also included information from adjacent areas of the Arctic Coastal Plain where oil development took place during the preceding 30 years. A new USGS publication provides an update of the 2002 report by summarizing recent (2002-2017) scientific literature from studies conducted within the 1002 Area, as well as terrestrial and coastal ecosystems elsewhere on the Arctic Coastal Plain that are relevant to the 1002 Area.

The new report summarizes the results of numerous studies, conducted by the USGS and others, in and adjacent to the 1002 Area of ANWR. The report provides an update on earlier research summaries on caribou, forage quality and quantity, polar bears, muskoxen, and snow geese. The report also provides information on new research related to climate, migratory birds, permafrost, coastal erosion, coastal lagoons, fish, water resources, and potential effects of industrial disturbance on wildlife. From this literature review, the authors noted evidence for change in status of some wildlife and their habitats, and lack of change for others. For example, in the 1002 Area, muskox numbers have decreased and the Porcupine caribou herd has exhibited variation in use of the area during the calving season. Polar bears are now more common onshore in summer and fall because of declines in sea ice in the Beaufort Sea. In a study spanning 25 years, there were no significant changes in vegetation quality and quantity, soil conditions, or permafrost thaw in the coastal plain of the 1002 Area. Based on studies from the central Arctic Coastal Plain, there are persistent and emerging uncertainties about the long-term effects of energy development for caribou. In contrast, recent studies that examined direct and indirect effects of industrial activities and infrastructure on birds in the central Arctic Coastal Plain found little effect for the species and disturbances examined, except for the possibility of increased predator activity near human developments.

This study will also be linked on the 2018 Reports Page 02 of the Sustainable Water Resources Site at <https://sites.google.com/site/sustainablewaterresources/>

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Government Web Site, <https://acwi.gov/>

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