



# United States Department of the Interior

OFFICE OF THE SECRETARY  
Office of Environmental Policy and Compliance  
1689 C Street, Suite 119  
Anchorage, Alaska 99501-5126

**VIA ELECTRONIC MAIL, NO HARD COPY TO FOLLOW**

9043.1  
ER 17/0409  
PEP/ANC

November 14, 2017

Ellen Lyons  
U.S. Army Corps of Engineers  
Regulatory Division  
2175 University Avenue, Suite 201E  
Fairbanks, AK 99709

Subject: Draft Environmental Impact Statement (EIS) for the Nanushuk Project

Dear Ms. Lyons,

The U.S. Department of the Interior has reviewed the U.S. Army Corps of Engineers' Draft EIS for the proposed Nanushuk Project, received on September 5, 2017. We provide the following comments and recommendations in accordance with our authorities under the National Environmental Policy Act. Our concerns focus on the potential impacts to Arctic freshwater ecosystems.

This project proposes the placement of clean fill material into waters of the United States, including wetlands, and temporary discharges to waters of the United States. The landscape of the Arctic Coastal Plain is generally flat with landforms between drainages dominated by patterned ground, shallow lakes and ponds, and wetlands. The proposed construction of ice roads, gravel roads, and pads would result in filling approximately 288 acres of wetlands on the coastal plain, which would likely have impacts on surface water connectivity for fish assemblages.

Techniques for ice road construction and planning the alignment of ice roads does not appear to be described within the Draft EIS. The Department has concerns about the draining of shallow lakes for ice roads. We recommend that the Draft EIS include a discussion of anticipated ice road construction techniques and anticipated routes for them, especially when potential impacts to existing surface water features exist.

Recent work conducted by the Department's U.S. Geological Survey (USGS) scientists on the North Slope of Alaska have concluded that ongoing and anticipated effects of climate change and petroleum development on Arctic hydrology have important implications for Arctic freshwater ecosystems (e.g. reduced stream connectivity, earlier peak flows, and increased

evapotranspiration). These relevant publications, which can be accessed via the USGS Science in Alaska web portal (<https://alaska.usgs.gov/portal/>), are not currently cited in the document bibliography. The Department recommends that use and incorporation of the data and findings of these USGS publications in the development of the Final EIS would improve its technical quality and completeness. In particular, please consider the following paper, which USGS can provide upon request:

Laske, S. M., Haynes, T. B., Rosenberger, A. E., Koch, J. C., Wipfli, M. S., Whitman, M. & Zimmerman, C. E. 2016. Surface water connectivity drives richness and composition of Arctic lake fish assemblages. *Freshwater Biology* 61:1090–1104.

Thank you for the opportunity to review the Draft EIS. If there are any questions or comments, please contact J. Michael Norris, Senior Science Advisor for USGS, at [mnorris@usgs.gov](mailto:mnorris@usgs.gov).

Sincerely,

A handwritten signature in blue ink that reads "Philip C. Johnson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Philip Johnson  
Regional Environmental Officer - Alaska