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[EXTERNAL] Comments on Coastal Plain EIS

1 message

Bernadette Demientieff <bernademientieff76@gmail.com>

Wed, Mar 13, 2019 at 2:46 PM

To: mnhayes@blm.gov, blm_ak_coastalplain_EIS@blm.gov

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Submitting comments on behalf of the Gwich'in Nation. Please add to EIS

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*"In no case may a people be deprived
of their own means of subsistence."
International Covenants on Human Rights*

March 13, 2019

Submitted via email

Nicole Hayes
Project Manager
Attn: Coastal Plain Oil and Gas
Leasing Program EIS
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Re: Comments on the Arctic National Wildlife Refuge Coastal Plain Oil and Gas Program Draft Environmental Impact Statement, 83 Fed. Reg. 67,337 (Dec. 28, 2018).

Dear Ms. Hayes,

We write to provide comments on the Bureau of Land Management's (BLM) Draft Environmental Impact Statement (DEIS or draft EIS) for the Coastal Plain Oil and Gas Leasing Program, Alaska.

The Gwich'in Steering Committee, founded in 1988, is the unified voice of the Gwich'in Nation speaking out to protect the Coastal Plain of the Arctic National Wildlife Refuge. We represent the communities of Arctic Village, Venetie, Fort Yukon, Beaver, Chalkyitsik, Birch Creek, Canyon Village, Circle, and Eagle Village in Alaska, and Old Crow, Fort McPherson, Tsiigehtchic, Aklavik, and Inuvik in Canada. Our work is to protect the Coastal Plain from oil and gas activities, including objecting to any process that may allow or facilitate such activities. Protecting the Porcupine Caribou Herd is vital to our human rights and our food security. We have worked for decades to protect the Coastal Plain and plan to engage all Gwich'in people in this process to speak out to protect our way of life.

Protection of the birthing and nursing grounds on the Coastal Plain is a human rights issue to the Gwich'in Nation and is upheld by the U.N. Declaration on the Rights of Indigenous Peoples and its International Covenant on Civil and Political Rights, which states, "by no means shall a people be deprived of their own means of subsistence." This principle must be respected. Oil and gas activities on the Coastal Plain are an affront to our human rights and our way of life.

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We will continue to work to protect the Coastal Plain from oil and gas activities, including objecting to any process that may allow or facilitate such activities.

We call the Coastal Plain “Iizhik Gwats’an Gwandaii Goodlit” — “the Sacred Place Where Life Begins.” This name demonstrates the great significance of this area to the Gwich’in people. We are caribou people. We believe that we each have a piece of caribou in our heart and the caribou have a piece of us in their heart, so we take care of the caribou and the caribou take care of us. The caribou are the foundation of our culture and our spirituality — they provide food, clothing, and tools, and are the basis of our songs, stories, and dances. They are our history; they are our future.

The ancestral homeland of the Gwich’in people follows the migratory route of the Porcupine Caribou Herd, which sustains our way of life. Our elders recognized that oil development in the Porcupine Caribou Herd’s calving grounds — the Coastal Plain of the Arctic Refuge — was a threat to the Gwich’in people. The Gwich’in nation speaks with one voice to protect the Coastal Plain, expressed in a formal resolution, Gwich’in Niintsyaa.¹ This resolution calls on the United States to recognize the rights of the Gwich’in to continue our way of life and to permanently protect the Coastal Plain. We come together every two years to reaffirm our commitment to protecting the Coastal Plain, and convened last summer in Tsiigehtchic do to so.

With direction from our elders, the Gwich’in Steering Committee has worked for three decades to protect this sacred place. It is our basic human right to continue to feed our families on our ancestral lands and practice our traditional way of life. Protecting the Coastal Plain is protecting our identity and our human rights. For us, this is a matter of physical, spiritual, and cultural survival. The Gwich’in stand united to defend the Coastal Plain.

Oil and gas leasing, exploration, and development will impact the quality, health, and availability of our traditional subsistence resources, such as caribou, fish, and birds. We know that oil and gas activities will also impact air, water, and lands, and in turn, our health and social well-being. We have watched as other areas on the North Slope dramatically changed because of industrial development. These changes continue to become more widespread and intense with every passing year, as development expands, altering places that used to support indigenous communities and ways of life.

The U.S. Department of the Interior (Interior) officials have rushed and continue to expedite this process with the stated goal of holding a lease sale at the end of this year. To meet this arbitrary deadline, BLM plans to release the Final EIS sometime between July–September, a critical time for our communities to engage in subsistence harvest. A rushed process is insufficient to understand the impacts to our human rights and culture or to hear from all of the people that will be impacted by this decision. We denounce any process that will cut out Gwich’in participation or marginalize our concerns. BLM must not rush this process.

¹ Attachment 1.

We oppose this rushed timeline and any oil and gas activities on the Coastal Plain. We provide these comments expressing our issues and concerns as BLM failed to conduct an adequate National Environmental Policy Act (NEPA) review process. Our comments must be addressed before BLM can move forward.

BLM Failed to Ensure Meaningful Tribal and Public Participation.

The Gwich'in Steering Committee and the Gwich'in Nation are attempting to play an active role in the process for any oil and gas leasing or other activities on the Coastal Plain, but BLM's rushed timeline and lack of a transparent process have made our engagement all but impossible.

After BLM announced the comment period on this Draft EIS would only last the minimum of 45 days, closing on February 11, 2019 and taking place over the winter holiday season, we formally requested a 77-day extension to submit comments — until Monday, April 29, 2019. The extension was necessary to ensure meaningful participation and to accommodate our communities' subsistence hunting and fishing harvests. The ability to conduct outreach to our tribal members takes considerable time given the realities of village travel and communications across two nations.

We also pointed out that additional time was necessary to ensure that we can educate our tribal members about the proposal and provide them the opportunity to participate. This is the first time that the Coastal Plain could be offered for lease. Making sure that our members understand the content of BLM's DEIS that was published as well as BLM's process for holding a lease sale on the Coastal Plain is vital information to bring to our communities so that our people can meaningfully engage.

We also requested an extension to allow for additional time for BLM to translate the DEIS into Gwich'in, so that our elders and tribal members who speak our native language can better participate in the process. Many of our leaders and elders speak Gwich'in as their first language. Despite our early and repeated requests for translation of these materials, BLM provided some resources for the Arctic Village Council to undertake translation which was completed on March 10, 2019 — a mere three days before the close of the public comment period. Moreover, only a portion of the EIS was translated into Gwich'in, such as the sections on cultural resources, subsistence uses and resources, and ANILCA 810. Critically, we do not have a translated version of the analysis of impacts to caribou, public health, birds, sociocultural systems, or climate change, which are vitally important to our communities. While we appreciate that BLM provided such resources, translated materials were necessary during the entirety of comment period to allow for meaningful review and comment. We also requested that translators be available to assist with questions and comments at all public events and meetings. It is gravely concerning that BLM apparently failed to translate many important scoping comments from Gwich'in into English so that they could be incorporated into the agency's

analysis.² BLM thus ignored important input from affected communities during scoping, and has made continued participation by these communities and our members exceedingly difficult.

BLM established a seven-week comment period over the winter holiday season, when workplaces, including federal offices, are closed and many people travel to visit family. Having the comment period include the holiday season effectively shortened the comment period by a number of days. Our ability to engage was also seriously affected by the government shutdown. BLM staff were not available to answer questions or respond to information requests. The shutdown also led to confusion over when public meetings would be held on the Draft EIS, due to BLM's efforts to schedule these meetings with our communities when agency staff should not have been working. The manner in which these hearings were scheduled and held was disrespectful to our communities, as described in more detail below. BLM extended the public comment period by a mere 30 days, despite our need for the additional two months we requested to engage our communities, and despite the fact that the government shutdown lasted 35 days. This entire process was confusing and goes against the purpose of the hearings which is to engage and inform tribal members about the content of the DEIS, answer questions, and collect our public comments.

Further, DOI's rejection of our extension request is counter to the crucial role of public participation to the EIS process, and the agency's actions fast-tracking this entire process speak louder than its words. BLM denied our request for additional time to comment during scoping, as well. BLM's repeated refusals to respect our reasonable requests are disrespectful to the Gwich'in who are deeply concerned about the potential for oil and gas activities on the Coastal Plain and who have a right to weigh in on this process. BLM has failed to ensure adequate time and opportunity to allow for robust participation by those that will be most impacted by the decision — Alaska Natives and Canadian First Nations members.³ The speed with which BLM is moving forward has and will continue to impair the Gwich'in tribes' ability to meaningfully participate.

Our requests for meetings to be held in every Gwich'in community, as every community may be impacted by oil and gas leasing on the Coastal Plain, were also summarily rejected. BLM only held hearings on the Draft EIS in three Gwich'in communities: Arctic Village, Venetie, and Fort Yukon. As described in more detail below, none of these public meetings were ANILCA 810 hearings, which is yet another slight to the Gwich'in people. All of these public meetings were scheduled with very little notice, forcing communities to scramble to prepare. We had very little time to prepare our tribal members by educating them on the content of the Draft EIS and BLM's process. We also were unable to make arrangements for Gwich'in people from communities with no meetings — such as Beaver, Circle, Birch Creek, Stevens Village, Chalkyitsik, Old Crow, Tsiigehtchic, and Fort McPherson — to travel in order for their voices to be heard. Finally, these hastily planned meetings did not provide adequate time for tribal and community members to provide testimony. Indeed, the meeting in Fort Yukon was only two hours long, in the middle of the work day, when many members could not attend. Such meetings

² See e.g., Transcript from Venetie scoping meeting, at 19-20 (Jun. 12, 2018).

³ 40 C.F.R. §§ 1500.2(d), 1506.6.

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only pay lip service to BLM and DOI's obligation to provide meaningful opportunities for the most affected public to participate in its process.

In addition, the Gwich'in Steering Committee submitted a FOIA request on January 23, 2019, requesting communications and records concerning the Agreement between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Herd and the U.S.-Canada International Porcupine Caribou Board.⁴ These records are now overdue in violation of FOIA. Our intent was to use the disclosed records to further inform our people and develop these comments on draft EIS. By withholding the requested records, BLM further inhibits our ability to engage in this process.

Moreover, as we reminded BLM and DOI in our scoping comments, they must engage in constructive and meaningful government-to-government consultation with all Gwich'in tribes. DOI is obligated to reach out to every tribal council that is part of the Gwich'in Nation for purposes of government-to-government consultation and consult with all potentially affected tribal governments who wish to do so. BLM has failed to fulfill its government-to-government obligations.

As Gwich'in people we live in many small villages across a vast area extending from northeast Alaska to the northern Yukon and Northwest Territories in Canada. Though the Inupiat community of Kaktovik is the only community located on the Coastal Plain, our Gwich'in communities are located within the traditional range for the Porcupine Caribou Herd and will be impacted by any oil and gas activities on the Coastal Plain.⁵ Additionally, there is a large network of food sharing that exists between all Gwich'in villages, and caribou is an important part of that practice. All Gwich'in communities will, therefore, be impacted in many way by any oil and gas activities on the Coastal Plain. However, BLM has not meaningfully engaged with all of our potentially affected communities.

Tribal governments for every affected community within Alaska and Canada should have been contacted for government-to-government consultation. BLM does not provide a list of the tribal governments that the agency reached out to for purposes of government-to-government consultation. The DEIS merely lists the seven government-to-government consultation meetings which took place, one of which was in Anchorage.⁶ It is concerning that only seven government-to-government meetings took place for an oil and gas leasing program that will significantly and permanently impact the way of life for communities across a broad geographic area. Moreover, there is no indication that BLM contacted any communities in Canada for purposes of consultation or public meetings. This is egregious, particularly in light of the fact that Canadian users account for the vast majority — in the past up to 85 percent — of the harvest of the

⁴ OS-2019-00378.

⁵ Gwich'in Steering Committee, Primary Habitat of the Porcupine Caribou Herd Map, attachment 2.

⁶ DEIS vol. 2 at C-3.

Porcupine Caribou Herd.⁷ BLM has repeatedly failed to listen carefully to the Gwich'in Nation and take the time to conduct the necessary analysis to comply with its federal and international legal obligations. BLM failed to engage the Alaska Natives and Canadian First Nations peoples who will be most impacted by this decision.

In addition, in its scoping letter, the Gwich'in Steering Committee reminded BLM of its requirement to prepare a robust analysis under Title VIII of the Alaska National Interest Lands Conservation Act (ANILCA), and hold hearings in the likely event that oil and gas leasing on the Coastal Plain will significantly restrict subsistence use of the Gwich'in. Instead, the DEIS section 810 evaluation finds that Gwich'in communities will not experience significant restrictions on subsistence uses, even after the Gwich'in expressed significant concerns related to food security and cultural identity. BLM does not find significant restrictions for any Gwich'in communities, and fails to even consider Canadian villages. Due to these incorrectly limited findings, the agency did not hold ANILCA 810 hearings in any Gwich'in communities. The failure to hold ANILCA 810 hearings further exacerbates DOI and BLM's process that ignore the traditional knowledge and human rights of the Gwich'in.

BLM must revise its DEIS and issue new ANILCA 810 findings. Once the agency does so, we anticipate any scientifically sound analysis will find significant restrictions on subsistence for Gwich'in communities. At that time, BLM must schedule and hold 810 hearings in all affected Gwich'in communities.

BLM's DEIS Does not Contain Important and Updated Scientific Information and Must be Revised and Reissued.

Besides failing to collect or consider traditional knowledge of the Gwich'in people, as described throughout this letter, the agency did not take the time it needed to collect or study the best available scientific information. In its rush to lease the Coastal Plain, BLM relies on outdated or geographically irrelevant information for its DEIS. Making matters worse, BLM does not explain why it failed to gather this information or how the agency can reasonably move forward to leasing the Coastal Plain without needed research and studies.

For BLM to evaluate impacts to the Coastal Plain, NEPA requires that if there is incomplete information relevant to reasonably foreseeable significant adverse impacts and the information is "essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant," the information must be gathered and included in the EIS.⁸ This requirement helps "insure the professional integrity, including scientific integrity, of the discussions and analyses" in an EIS.⁹ BLM should be insuring that available data is gathered and analyzed before it considers authorizing leasing on the Coastal Plain, and doing new studies and

⁷ DEIS vol. 1 at 3-168. We note that BLM does not have updated subsistence use information for all Gwich'in communities, which may impact this figure.

⁸ 40 C.F.R. § 1502.22(a); *see also* 43 C.F.R. § 46.125.

⁹ 40 C.F.R. § 1502.24.

research if necessary. The agency failed to do so, calling into question the findings and analysis throughout the DEIS.

We pointed out in scoping and in our testimony both in scoping and at the DEIS stage that there is a substantial amount of baseline data missing or out of date that BLM had to address before the public can fully understand the potential impacts from oil and gas activities on the Coastal Plain. BLM's failed to address or obtain this lacking information making its draft EIS deficient, therefore the BLM should issue a revised document.

Additional information is required in many critical areas to fully evaluate the impacts of oil and gas activities on the Coastal Plain to the Gwich'in people. BLM also needs this information to develop necessary stipulations or Best Management Practices (BMPs) for leasing or subsequent oil and gas activities. These areas include, but are not limited to: air quality; birds; fish; water resources; snow cover; caribou use, including calving and post-calving habitat, seasonal ranges, and migration routes, and impacts of oil and gas activities on herd behavior and population dynamics; cultural resources and a completed inventory; vegetation and wetlands mapping; human health and food security; subsistence use patterns and mapping; and climate change impacts to the Coastal Plain. Several of these resource issues are discussed in more detail below.

BLM failed to obtain missing and/or updated information about these issues and other issues before proceeding with the DEIS. This renders BLM's baseline information regarding the affected environment incomplete and calls into question the analysis of impacts and development of mitigation measures. While BLM purports to comply with NEPA's mandate, the agency does not in fact do so. BLM states that "where information is missing, this EIS complies with 40 CFR 1502.22."¹⁰ In order for BLM to be able to move forward in the face of missing or incomplete information, the agency is required to take specific steps.¹¹ But nowhere in the draft EIS does BLM actually identify information or data gaps or make the required findings to allow it to move forward in the face of that missing or incomplete information. Much of the information necessary to assess the potentially significant impacts of the leasing program is missing, and BLM must comply with the applicable regulation when assessing the leasing program in the face of this missing information.

We also note that much of the existing information for the Arctic Refuge is likely out of date to due climate change; the environment and resources of the Arctic Refuge are not the same as they were 30, 20, or even 10 years ago because of climate change, and will not be the same in 5 or 10 years, or the timespan of a lease and oil and gas project. BLM does not appear to have factored this into its impacts analysis or consideration of missing or incomplete information.

BLM's draft EIS for the Coastal Plain oil and gas leasing program contains numerous gaps in information and analysis that seriously frustrate public review and understanding. Certain

¹⁰ DEIS vol. 1 at 3-2.

¹¹ 40 C.F.R. § 1502.22(b); *Native Village of Point Hope v. Salazar*, 730, F. Supp. 2d 1002, 1017–18 (D. Alaska 2010).

highly significant issues that affect the Gwich'in people, such as pre-leasing seismic operations, impacts to public health, and a quantitative analysis of air quality impacts are largely missing from the draft EIS. Many other issues, such as impacts to caribou and other wildlife, impacts to water resources, and vegetation and permafrost, are only partially addressed, with key elements of the draft EIS analysis missing, incomplete, inaccurate, inconsistent with the best available science, or otherwise inadequate. The significant and numerous information and analytical gaps render BLM's draft EIS "so inadequate as to preclude meaningful analysis" and review by the public, and therefore necessitate a revised draft EIS.¹² To remedy the extensive gaps in information and analysis, a revised draft EIS is necessary.

BLM Failed to Address our Concerns Regarding Impacts to Caribou.

As Gwich'in People, we rely heavily on the Porcupine Caribou Herd for our survival. The Coastal Plain of the Arctic Refuge is vitally important to us because it is *Iizhik Gwats'an Gwandaii Goodlit* — "the Sacred Place Where Life Begins." Every year, the Porcupine Caribou Herd migrates hundreds of miles across Alaska and Canada, returning in the spring to the Coastal Plain to give birth, forage on nutrient rich plants to replenish themselves, and seek insect relief. Our ancestral homelands follow the migratory route of the Porcupine Caribou Herd, and Porcupine Caribou have provided sustenance for our people for thousands of years. Just as the Gwich'in rely upon the caribou, every Porcupine caribou member relies on this ecologically unique land that is the Coastal Plain of the Arctic Refuge to get its start in life.

Another way that the DEIS marginalizes the Gwich'in voice is by not fully addressing the Gwich'in Steering Committee's previous scoping comments.¹³ We raised the many unknowns about Porcupine Caribou Herd and the things that influence their population and behavior. BLM should use great care and a cautionary approach when considering authorizing oil and gas activity that will impact our caribou. BLM cannot properly determine impacts without more studies on the risk of development to caribou on the Coastal Plain. BLM has not done any new studies for its EIS process. Instead, the agency relies on outdated information or makes assumptions based upon the behavior of other caribou herds in Alaska. We also requested that researchers performing the draft EIS studies should work with their communities to collect information in an unobtrusive manner and incorporate traditional knowledge. This has not been done. BLM's analysis entirely ignores Gwich'in knowledge and input, despite the fact that we have been the land managers of this area for millennia. The Gwich'in are the first scientists of this land.

BLM's findings for the Porcupine Caribou Herd are particularly concerning due to the fact that the DEIS's caribou studies do not use traditional knowledge, the best available science and improperly minimize impacts to caribou. For example, the DEIS does not place the Porcupine Caribou Herd in the context of the global condition of caribou populations, ignoring

¹² See 40 C.F.R. § 1502.9(a).

¹³ Gwich'in Steering Committee, Scoping Comments re: Notice of Intent to Prepare an Environmental Impact Statement for the Coastal Plain Oil and Gas Leasing Program (June 19, 2018).

the risks posed by global declines of caribou. In addition, the DEIS omits important baseline studies, does not explain its assumptions when analyzing road, pipeline, air traffic, noise and human activity impacts on caribou, and the sources of data used to understand distribution of the herd are not transparent. Further, impacts are insufficiently considered, including development like seismic exploration and road effects, which would greatly alter the current condition of the Porcupine Caribou Herd's habitat. Understanding how the Porcupine Caribou Herd will be affected is essential to analyzing subsistence impacts for availability and distribution, which are essential to understanding harvest opportunities. The caribou studies need to incorporate the best-available science in order to accurately discern impacts to subsistence.

Further, the BLM must account for the fact that the Porcupine Caribou Herd's range is currently without any major transportation networks and the herd have not had any previous exposure to oil and gas infrastructure in the calving and nursery grounds. The fact that impacts "are expected to be more intense"¹⁴ for this herd is acknowledged, but not considered and actually analyzed throughout the impacts analysis, including complete omission in the subsistence discussion. There is little evidence that caribou actually habituate to infrastructure, as BLM assumes in the DEIS. Rather, infrastructure could displace caribou availability farther from the project area, and generally alter migratory paths. The Coastal Plain is critical for caribou post-calving because it provides greater concentrations and prolonged availability of plants that allow caribou to gain weight during the brief summer months, increasing winter survival and subsequent-year reproduction.¹⁵ Impacts that cause the caribou to move into the Brooks Range, where plant nitrogen is lower and available for a shorter amount of time, could hurt their calving success and population growth. There are also more predators in the Brooks Range, and any shift of the caribou into this area during calving could result in decreased calf survival, impacting the overall health of the herd. BLM's lackluster caribou analysis does not sufficiently examine the impacts from and oil and gas program to caribou and, therefore, to subsistence, in a meaningful way.

The Draft EIS suggests that 49 percent of the total area that could be offered for leasing is also sensitive calving grounds for Porcupine Caribou. This number, however, vastly underestimates the value of the Coastal Plain to the caribou, who use virtually all of the area during calving, post-calving and summer seasons. The Porcupine Caribou Herd uses the Arctic Refuge throughout the year, including using the Coastal Plain for calving, insect relief, and other summer habitat.¹⁶ Even in years in which calving was concentrated in Canada, the herd has used the Arctic Refuge Coastal Plain for food and insect relief while raising their young after

¹⁴ DEIS vol. 1 at 3-169.

¹⁵ Barboza, P.S., Van Someren, L.L., Gustine, D.D., Bret-Harte, M.S. 2018. The nitrogen window for arctic herbivores: plant phenology and protein gain of migratory caribou (*Rangifer tarandus*). *Ecosphere* 9, e02073.

¹⁶ Caikoski, J.R. 2015. Units 25A, 25B, 25D, and 26C caribou. Chapter 15, pages 15-1 through 15-24 [In] P. Harper and L. A. McCarthy, editors. Caribou management report of survey and inventory activities 1 July 2012–30 June 2014. Alaska Department of Fish and Game, Species Management Report ADF&G/DWC/SMR-2015-4, Juneau

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– Old Crow– Tsiigehtchic – Fort McPherson

calving.¹⁷ We know this as Gwich'in people, and BLM recognizes this fact in its own maps of the Herd's historic movements. It is inappropriate for the Draft EIS to artificially downplay how broad of a scope of the area which will be impacted and minimize the importance of the *entire* Coastal Plain to the Porcupine caribou.

The DEIS also recognizes that oil and gas activities moving the herd away from the Coastal Plain would be detrimental and cited a study predicting an eight percent decline in calf survival from displacement.¹⁸ The DEIS also recognizes that impacts to calf survival and herd growth will reduce numbers of the Porcupine Caribou Herd, leading to reduced harvest success among the Iñupiaq, Gwich'in, and Inuvialuit caribou hunters.¹⁹ While the agency makes these findings, BLM fails to quantify, or further analyze these effects. Further, the DEIS acknowledges that the potential for disturbance and displacement of caribou could cover up to 633,000 acres (40 percent of the Coastal Plain). Despite this, BLM offers a wholly insufficient solution to mitigate the impact: suspension of "major construction activities" — but not drilling — for a single month of the year from May 20–June 20th. BLM fails to actually analyze the effectiveness of this proposed measure. This is very worrisome, especially considering that Arctic caribou populations have decreased significantly in the last twenty years. Moreover, our climate is changing and we do not yet know how shifts in the seasons may eventually alter caribou calving. BLM cannot claim that it meaningfully considered mitigation measures to protect the caribou.

BLM also failed to consider the cumulative impacts from development and other activities in other areas in the Arctic and what that might mean for the Porcupine Caribou Herd, as development to the west has already caused changes to the migratory patterns and health of the caribou herds there. BLM should include an analysis of how subsistence resource abundance and habitat quality have been impacted by a changing Arctic and expanding oil and gas activities. Additionally, BLM must discuss how a changed climate is expected to impact caribou in the future. These analyses should be coupled with the cumulative industrial impacts of oil development on the North Slope. Currently, BLM's cumulative analysis consists of the broad statement that climate change "could influence the rate or degree of potential impacts."²⁰ In addition, the baseline analysis only finds that "climate change could contribute to resource availability caused by development in and around the program area, further reducing their availability to subsistence users."²¹ These statements are too broad and general to capture the real

¹⁷ Griffith, B., Douglas, D.C., Walsh, N.E., Young, D.D., McCabe, T.R., Russell, D.E., White, R.G., Cameron, R.D., Whitten, K.R. 2002. The Porcupine caribou herd. Pages 8-37 [In] Douglas, D.C., Reynolds, P.E., Rhode, E.B., editors. Arctic Refuge coastal plain terrestrial wildlife research summaries. U.S. Geological Survey, Biological Resources Division, Biological Science Report USGS/BRD/BSR-2002-0001.

¹⁸ "Anything that moves the herd away from the Coastal Plain has been shown to be detrimental to calf survival and thus, population growth of the herd; in fact, it would likely halt population growth. Additionally, other potential calving areas to the east have a higher density of predators and less suitable vegetation." DEIS vol. 1 at 3-114–15.

¹⁹ DEIS vol. 1 at 1-173.

²⁰ DEIS vol. 1 at 3-178.

²¹ DEIS vol. 1 at 3-168.

impacts that are already happening across the North Slope of Alaska. The best available science and traditional knowledge demonstrates that climate change is already impacting caribou and other important subsistence resources like fish and marine mammals. Instead of conducting an analysis specific to how the Porcupine Caribou Herd could be impacted by climate change, BLM instead relies on ambiguous statements to merely acknowledge potential impacts. BLM's analysis must be revised. BLM's analysis should incorporate the best available climate science, including site specific analysis for all communities. BLM must analyze impacts to communities along the migratory path of the Porcupine Caribou Herd who will experience reduced subsistence harvest opportunities if the migratory path of the herd is altered or shifts. BLM's cumulative impacts analysis lacks rigor and fails to meaningfully account for climate change and increased industrial activity on the North Slope.

In sum, BLM did not fully analyze all reasonably foreseeable direct, indirect, and cumulative impacts of all phases of oil and gas development on the Coastal Plain and throughout the herd's migratory route the Porcupine Caribou Herd. BLM failed to use the best available scientific information or traditional knowledge to assess those potential impacts. BLM errs by not incorporating and utilizing traditional knowledge when developing the DEIS. The Gwich'in people's understanding of the Coastal Plain and its relationship with the health of the land goes far beyond the passing mention in the DEIS, which only superficially recognizes that "any development in the program area would have devastating effects on the population of the PCH and other resources, such as migratory birds, that have key habitat in the coastal plain."²² The Gwich'in of Alaska and Canada are culturally and spiritually connected to the Porcupine Caribou Herd, and their knowledge of the Coastal Plain as calving and post-calving habitat should be incorporated in caribou studies. Merely recognizing, but not addressing and incorporating available scientific insights from the people who have lived in and relied on the area for a millennia is unacceptable. The Draft EIS therefore ignores significant and permanent impacts to the Porcupine Caribou Herd.

BLM Fails to Meaningfully Analyze Impacts to Birds.

More than 150 species of birds have been documented on the Coastal Plain, many of which find vital habitat for foraging, nesting, migratory staging, and overwintering.²³ Migratory ducks and geese are important to Gwich'in people and to the many indigenous peoples and hunters along the Pacific Flyway. Compromising this vital ecosystem and food source is unacceptable.

The DEIS fails to identify and address the important data gaps related to the Coastal Plain's bird populations and the potential impacts of oil and gas development on them, including failing to incorporate traditional knowledge. The data on bird species densities on the Coastal Plain are broadly incomplete and existing, completed surveys are limited.²⁴ New, additional

²² DEIS vol. 1 at 3-173.

²³ CCP EIS at Appendix F.

²⁴ See John M. Pearce, et al., U.S. Department of the Interior, U.S. Geological Survey, Summary of Wildlife-Related Research on the Coastal Plain of the Arctic National Wildlife Refuge, Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

surveys should be designed specifically for the project being considered and should be a required before any leasing may take place. For breeding waterbirds specifically, there is a need to better understand those species' distributions and abundances within the Coastal Plain in relation to varying habitat types.²⁵ Relatedly, while populations of Snow Goose and Black Brant appear to be increasing on the North Slope,²⁶ studies on any new resulting patterns in the distribution of these species during nesting and migratory staging are not completed. Shorebirds also require more study of their populations, particularly studies on the cumulative effects of oil and gas development,²⁷ and the potential for shifting habitats due to coastal erosion, shifting river deltas, and the loss of lagoons and barrier islands.²⁸ We know that our coast lines are eroding across northern Alaska, but the effects on marine, lagoon, and coastal ecology and this have not been thoroughly studied in the context wildlife habitat in the Coastal Plain or across the North Slope, making those effects on birds unknown. Finally, changes to migratory patterns of birds is an area of needed study, particularly on the Coastal Plain. While some migratory birds may adjust to changing seasonal patterns, we don't know how any shifts in resource availability or migratory timing will reverberate through a bird species' life history and the potential resulting impact that could have on the Gwich'in. The agency must complete studies and gather traditional knowledge to address these areas of missing information before it can adequately analyze impacts to birds from oil and gas leasing.

In addition to failing to address these data gaps, BLM's draft EIS downplays the importance of the Coastal Plain to birds, is missing important information, and conducts a poor analysis of the impacts that oil and gas development will have on birds. Moreover, this DEIS section is poorly organized, and presents information specific to certain birds directly alongside information on birds in general, making it incredibly difficult for people in our communities to piece together BLM's description of bird populations and impacts.

Further, BLM's analysis of the impacts of an oil and gas program on the birds that use the Coastal Plain is inadequate and must be revised. The DEIS contains almost no discussion about

Alaska, 2002-17, Open-File Report 2018-1003 [2018 USGS Report] (2018), at 14 ("only about one-third of the 1002 Area is currently surveyed, and what is surveyed falls within the low-density strata. Surveys within the low-density strata have far fewer transects that are farther apart and thus have little power to detect and determine trends of breeding and non-breeding migratory birds.").

²⁵ See John Pearce, USGS 2018-2019 Activities in the North Slope Borough: Presentation to the North Slope Borough Planning Commission November 29th, 2018, Utqiagvik (powerpoint presentation), at slide 22.

²⁶ But see James S. Sedinger, Thomas V. Riecke, Alan G. Leach, and David H. Ward, The Black Brant Population is Declining Based on Mark Recapture, *The Journal of Wildlife Management*, DOI: 10.1002/jwmg.21620 (2018).

²⁷ See "primary conservation objectives" in Alaska Shorebird Group. 2019. Alaska Shorebird Conservation Plan. Version III. Alaska Shorebird Group, Anchorage, AK

²⁸ Gibbs, A. E. and B. M. Richmond. 2017. National Assessment of Shoreline Change - Summary Statistics for Updated Vector Shorelines and Associated Shorelines Change Data for the North Coast of Alaska, U.S.-Canadian Border to Icy Cape. Reston, VA.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

which species will be most impacted. Where the DEIS does provide some analysis on the impacts to birds, the review is brief, lacks scientific justification, and is overall inadequate.

We know by looking at other areas of the North Slope that gravel roads can cause profound change to bird habitat due to dust, gravel spray, thermokarsting, and by creating impoundments. Yet the DEIS barely mentions how dust could harm habitat and thus negatively affect the productivity of nesting birds, and also fails to adequately analyze impacts to birds from other oil and gas infrastructure. The DEIS also downplays how oil spills and spills of other contaminants could harm birds and their habitat, impacts from winter activities like construction, habitat loss from hydrological changes, and impacts from aircraft traffic.

BLM's cumulative impacts analysis is likewise defective, because it ignores impacts from seismic activity, melting sea ice, marine traffic, and impacts to migratory birds along their routes. The DEIS also downplays impacts from climate change and accumulating infrastructure on the North Slope, including activity in land owned by private corporations or by the State of Alaska, and activity in the National Petroleum Reserve-Alaska. These cumulative impacts are critically important for BLM to consider, and its failure to do so renders its analysis inadequate.

In sum, BLM's description and analysis of an oil and gas program on birds is insufficient and inadequate. The Gwich'in rely on many species of birds that migrate through our communities. BLM must ensure that it has the necessary information regarding the myriad species that use the Coastal Plain to actually evaluate the impacts to birds. Doing so requires substantial revision of the DEIS.

BLM Fails to Meaningfully Analyze Impacts to Subsistence.

Protecting the Porcupine Caribou Herd is vital to our human rights and our food security. Subsistence is a way of life for the Gwich'in people that includes hunting, fishing, and gathering activities. All of these activities are vital to the preservation of our communities and our culture. Subsistence resources have important nutritional, economic, cultural, and spiritual importance in the lives of the Gwich'in. The DEIS fails to consider the significant subsistence impacts in many affected communities, does not incorporate traditional knowledge or the best available science throughout the DEIS, arbitrarily limits the scope to post-leasing activities, does not adequately consider effects on numerous, important subsistence species, and fails to analyze impacts on subsistence hunters.

Four Gwich'in communities (Arctic Village, Chalkyitsik, Fort Yukon, and Venetie) are in or relatively close to Arctic Refuge and use the Refuge for their subsistence way of life. But all Gwich'in villages, including those in Canada, have geographic or cultural ties to the Coastal Plain and its subsistence resources. As described above, any oil and gas leasing and activities on the Coastal Plain will impact the Porcupine Caribou Herd and have broad geographic impacts to the Gwich'in people that BLM has failed to fully analyze. Despite this, BLM arbitrarily limits its analysis of subsistence impacts to four communities: Kaktovik, Nuiqsut, Arctic Village, and

Venetie.²⁹ It is disrespectful for the Draft EIS to entirely ignore Canadian Gwich'in who rely so heavily upon the Porcupine Caribou Herd as well as our other Gwich'in communities in Alaska.³⁰ Additionally, this analysis does not comply with international treaty obligations, which requires consultation and input from the Porcupine Caribou Board to consider the interests of both Alaskan and Canadian Porcupine Caribou subsistence users.³¹ Even for villages considered in the Draft EIS, BLM did not adequately assess whether oil and gas leasing on the Coastal Plain would significantly restrict subsistence uses in potentially affected communities.

The Gwich'in have direct traditional knowledge that has not been solicited or considered, as described above. BLM must obtain traditional knowledge through government-to-government consultation, ANILCA section 810 hearings, and other outreach efforts, and incorporate findings throughout not only subsistence section of the DEIS, but all other relevant sections of the DEIS.

Additionally, BLM relies on outdated and geographically limited subsistence use data in its baseline analysis, calling its findings into question. BLM heavily relies on data from Steven R. Braund and Associates covering 1996–2006, but which only covers Barrow, Nuiqsut, and Kaktovik. This data is 13 years out of date as of the time of the DEIS comment period and does not include any Gwich'in communities. This is unacceptable. BLM ignored our clear requests during scoping to update its studies and information on subsistence use. BLM further failed to accurately consider impacts from the loss of subsistence use areas. While generalized maps of subsistence use areas were included with the DEIS, BLM did not consider the impacts to those areas. BLM should overlay each development scenario with these areas, to determine how subsistence use areas will be impacted through changes in land use designation, rights, and avoidance. Subsistence-use area loss should then be quantified. The BLM's existing maps are inadequate because they fail to depict specifically where subsistence resources and practices may be compromised and are based on the 13-year outdated information.

BLM also failed to consider the significant and permanent harm from seismic damage and other infrastructure to our lands and wildlife. We strongly oppose seismic exploration on the Coastal Plain, whether it takes place before or after leases are issued. BLM improperly limits the scope of its subsistence analysis in the same way it improperly limited the scope of its ANILCA 810 analysis: BLM only looks at post-lease activities that include seismic and drilling exploration, development, and transportation.³² BLM should not limit its analysis of the impacts to only post-leasing activities and needs to include the full range of impacts to subsistence use that could occur from the program. This includes from any proposals to conduct pre-leasing seismic exploration on the Coastal Plain, such as SAExploration's proposal that is now being considered for the winters of 2020–2021 and 2021–2022.

²⁹ DEIS vol. 2 Appendix E at E-3.

³⁰ DEIS vol. 1 at 3-168; DEIS vol. 2 at M-27 to M-32.

³¹ Agreement Between the Government of Canada and the Government of the United States of America on the Conservation of the Porcupine Caribou Herd, E100687 - CTS 1987 No. 31 (July 17, 1987), available at <http://www.treaty-accord.gc.ca/text-texte.aspx?id=100687>.

³² DEIS vol. 2 Appendix E at E-2.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

Additionally, BLM misinterprets the Tax Act in a way that allows far more development and impacts on the Coastal Plain than what was authorized by Congress. For instance, BLM improperly excluded other forms of infrastructure and activities from what it considered as part of its 2,000 acres of impacts. BLM's interpretation of this provision includes pipeline supports, but not the actual pipelines themselves, which could cross large areas of the Coastal Plain and have the potential to divert caribou away from key areas and cause other changes to the lands and waters of the Coastal Plain. But BLM does not include other infrastructure and activities like gravel mining under this provision. Gravel mining has severe sound and other environmental impacts that could deter caribou and other species from important habitat areas. BLM's deficient analysis of the full range of resource impacts from the broad scope of activities likely to occur on the Coastal Plain and to nearby areas means BLM has dramatically underestimated the potential impacts from the oil and gas program and related activities to subsistence. BLM needs to revise and reissue its DEIS to ensure it actually takes into consideration the full range of potential impacts for purposes of its subsistence analysis.

In addition to caribou, fish and waterfowl are important to our subsistence harvest and impacts to all of these resources were not carefully evaluated. BLM's overall analysis of specific subsistence resources is also insufficient. The DEIS fails to consider the extensive resources used for subsistence by communities reliant upon Arctic Refuge resources. Appendix M provides known levels of subsistence harvest for Kaktovik, Nuiqsut, Venetie, and Arctic Village.³³ But analysis of impacts on these resources is substantially lacking, and BLM does not look beyond these four communities to consider all Gwich'in communities. The DEIS provides very little consideration of any resource besides caribou and marine mammals, even though Gwich'in rely on a range of resources as part of our subsistence way of life. As described above, BLM fails to accurately consider impacts to birds, and the DEIS barely mentions impacts to the subsistence harvest of birds in the DEIS. The few sentences where impacts to bird harvest are considered merely state that infrastructure could displace waterfowl from nesting and other habitat, and that noise and traffic impacts would be local. Such conclusory statements do not constitute meaningful analysis, and completely ignore potential impacts to bird populations and their corresponding impacts to the Gwich'in people.

Moreover, there are also numerous impacts to fish that are not adequately considered. For instance, in 2009, the *only* year for which study data were available, fish made up 37% of the total subsistence harvest for Venetie.³⁴ The draft EIS acknowledges that non-salmon fish, including Dolly Varden and Bering cisco, are important subsistence resources and that there

³³ DEIS vol. 2 at Appendix M. *See also* DEIS Vol 1 at 3-165 "Overview of Subsistence Uses" stating that "based on 3 years of limited data, Arctic Village residents harvested an average of 51 pounds of non-salmon fish per capita, and 6 pounds of migratory birds per capita." (emphasis added).

³⁴ "Venetie data are limited to one comprehensive study of all subsistence resources for the 2009 study year...Large land mammals constitute approximately half of the subsistence harvest in terms of edible pounds. Also important are harvests of salmon, fish other than salmon, and migratory birds." DEIS vol. 1 at 3-166.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

could be subsistence impacts under Alternatives B and C.³⁵ But, the DEIS brushes aside these potential effects by stating that impacts will be mitigated by Lease Stipulations and ROPs.³⁶ BLM provides no analysis to support why the Lease Stipulations and ROPs will effectively protect fish habitat. In sum, BLM's analysis of impacts to our subsistence resources is wholly insufficient.

Subsistence use areas vary among communities that utilize the resources of the Arctic Refuge, and seasonally within communities. Though BLM identifies the annual cycle of subsistence resource harvesting in the Draft EIS for some Gwich'in communities,³⁷ BLM does not identify how these resources may be impacted by oil and gas activities associated with this leasing program during these particular times of year, and does not look at all Gwich'in communities. BLM failed to explain how the leasing program will impact resources and practices during each month. Subsistence users generally rely on healthy subsistence resources being present in traditional use areas at specific times, and some harvesters are often limited in their ability to access resources beyond traditional use areas at the expected times of year.³⁸ Even if the potential impact to wildlife resources may be slight, changes in resource access and availability, including perceived changes in fish and wildlife health due to development, may affect subsistence.³⁹ Further, harvest cycle analysis must include and account for climate change impacts to the subsistence harvest and resulting limits to subsistence resources availability.

Additionally, the DEIS does not fully account for the impacts of increased aircraft traffic to harvesting of caribou and other resources. Both airplane and helicopter traffic reduce subsistence harvest opportunities by diverting caribou and negatively impacting birds. Air traffic patterns are difficult to foresee and can cause "acute stress and disruption" to subsistence hunters.⁴⁰ Subsistence activities are critical to our food security and our culture. We know that in Nuiqsut, aircraft traffic is considered by many to be the most common impact to caribou, and may divert or delay their movements.⁴¹ The DEIS underestimates the potential impacts to caribou from increased aircraft. Second, the DEIS does not even identify airport locations, so our tribal members cannot give meaningful consideration to the different alternatives. It is impossible to really consider the impacts from aircraft traffic patterns when it is unknown what the flight patterns will look like and where planes and helicopters might land. The DEIS underestimated impacts to our subsistence way of life from increased air traffic and resulting impacts to the Porcupine Caribou Herd's health and migration path.

Further, BLM has failed to adequately analyze how our systems of sharing and trading of resources between communities will be impacted by oil and gas leasing. The complete loss or reduction of resources in one community may impact the exchange of resources with other

³⁵ DEIS, vol. 2 Appendix E at E-5.

³⁶ DEIS, vol. 2 Appendix E at E-5. "

³⁷ DEIS vol. 2 at Appendix M.

³⁸ Point Thompson FEIS vol. 3 at 5-602.

³⁹ *Id.*

⁴⁰ GMT-1 FSEIS vol. 1 at 437.

⁴¹ DEIS vol. 1 at 3-170.

Gwich'in communities. Existing sharing networks distribute food widely, and communities are able to receive resources from friends and relatives that they are otherwise unable to obtain. When availability of subsistence foods decreases, sharing might also decrease as households experience reduced harvests and availability. The DEIS merely mentions that reduced harvests could disrupt sharing networks, but there is no real consideration of effects or analysis of impacts. BLM merely states that changes would occur and "disruptions of social connections could thus increase vulnerability in communities."⁴² The DEIS should look at specific communities sharing practices and the relative wealth of households to accurately determine impacts from reductions in trading and sharing of resources, and how that will impact Gwich'in culture and our way of life. The potential impacts to these social networks must be explained in much greater detail and actually analyzed; simply acknowledging it is insufficient.

Additionally, when subsistence users are unable to engage in subsistence activities or their opportunities are limited, the ability to pass on traditional knowledge about subsistence activities to our youth also becomes limited. As discussed above, opportunities and availability of subsistence areas may become limited because of harm to the Porcupine Caribou Herd through infrastructure, other disturbances during the calving, post-calving, or insect relief periods, alterations to the migration path, and reduced subsistence resources, all of which also may impact sharing networks. The initial reduction of traditional use areas will limit the ability to pass on traditional knowledge to our younger generations and traditional use and knowledge of the use areas will be lost. This impact to our way of life will be permanent, and the loss of knowledge alone is a significant subsistence and cultural impact that BLM failed to analyze.

Finally, protecting the Coastal Plain and our subsistence way of life is a human rights issue for the Gwich'in. The United Nations International Covenant on Economic, Social and Cultural Rights states that "In no case may a people be deprived of its own means of subsistence."⁴³ The United States became a signatory on October 5, 1977. The draft EIS fails to consider the human rights of the Gwich'in and evaluate the fact that impacts to subsistence from an oil and gas program directly impacts our human rights, and the United States' ability to comply with international mandates to protect and respect our human rights.

By failing to use traditional knowledge, utilizing outdated data, and not considering our sharing networks, BLM fails to fully account for our reliance on the Porcupine Caribou Herd and our cultural and spiritual reliance on subsistence resources. Any impacts to the Porcupine Caribou Herd will significantly affect our subsistence way of life, BLM should recognize that this is a human rights issue for us as Gwich'in People, and revise the draft EIS with current and comprehensive subsistence data and a robust analysis in order to account for the impacts to our resources and human rights.

BLM Fails in its Obligations under ANILCA Section 810.

⁴² DEIS vol. 1 at 3-175.

⁴³ U.N. International Covenant on Economic, Social, and Cultural Rights, G.A. Res. 2200A, pt. I, art. 1.3 (Jan. 3, 1976), *available at* <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

BLM's ANILCA section 810 finding with respect to the Gwich'in is flawed. BLM wholly failed to prepare a robust analysis under Title VIII of ANILCA. Oil and gas leasing on the Coastal Plain will significantly restrict subsistence use and resources for the Gwich'in. Section 810 of ANILCA sets out the procedure for considering actions that would significantly restrict subsistence use and requires that agencies can only authorize that action if it finds it is necessary and if the adverse effects are minimized. While we question if any mitigation can be sufficient to protect our subsistence resources, to comply with the law, BLM was legally required to analyze a range of potential mitigation measures in its DEIS and to set out what steps it will take to minimize the serious impacts to subsistence uses and resources.

Despite the fact that we have expressed significant concerns related to food security and our subsistence way of life, in the DEIS section 810 evaluation, BLM finds that Gwich'in communities will not experience significant restrictions on subsistence uses. BLM does not find significant restrictions for any Gwich'in communities, nor even consider Canadian villages in its analysis. This is patently incorrect and unacceptable.

Due to these incorrect and limited findings, the BLM and DOI only held a public subsistence hearing in Kaktovik during the Draft EIS comment period, and did not hold ANILCA 810 hearings in any Gwich'in communities. These findings are contrary to science and BLM's own discussion elsewhere in the Draft EIS that recognize potential impacts to caribou. The Gwich'in of Alaska and Canada are culturally and spiritually connected to the Porcupine Caribou Herd, which in turn relies on the Coastal Plain for calving and post-calving habitat. Because of this connection, protecting the Coastal Plain is vital to our human rights and food security. Despite acknowledging that oil and gas can have impacts on caribou, BLM concludes that there will not be an impact on the subsistence resources for the Gwich'in. This ignores the traditional knowledge and human rights of the Gwich'in. BLM must revise its ANILCA 810 analysis, reissue the Draft EIS, and schedule 810 hearings in all potentially affected communities including Arctic Village, Venetie, Fort Yukon, Beaver, Circle, Birch Creek, Canyon Village, Chalkyitsik, Circle, and Eagle Village in Alaska, and Old Crow, Fort McPherson, Tsiigehtchic, Aklavik, and Inuvik in Canada.

Legal Requirements

Title VIII of ANILCA recognizes that subsistence uses are a public interest and provides a framework to consider and protect subsistence uses in agency decision-making processes.⁴⁴ Section 810 sets forth a procedure through which effects to subsistence resources must be considered and provides that "actions which would significantly restrict subsistence uses can only be undertaken if they are necessary and if the adverse effects are minimized."⁴⁵

ANILCA section 810 consists of a two-tiered process evaluating impacts. The federal agency first makes an initial finding, referred to as the "tier-1" determination, in determining

⁴⁴ 16 U.S.C. §§ 3111–3126.

⁴⁵ *Amoco Production Co. v. Village of Gambell, Alaska*, 480 U.S. 531, 544 (1987).
Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

whether to withdraw, reserve, lease, or otherwise allow the use, occupancy, or disposition of land.⁴⁶ The agency is required to “evaluate the effect of such use, occupancy, or disposition on subsistence uses and needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes.”⁴⁷ As part of this determination, BLM must consider the cumulative impacts⁴⁸ and analyze:

- 1) Reductions in the abundance of subsistence resources caused by a decline in the population or amount of harvestable resources;
- 2) Reductions in the availability of resources used for subsistence purposes caused by alteration of their normal locations, migration, or distribution patterns; and;
- 3) Limitations on access to subsistence resources, including from increased competition for the resources.⁴⁹

If the agency, after conducting the tier-1 analysis, determines that the activity will not “significantly restrict subsistence uses,”⁵⁰ then the agency issues a Finding of No Significant Restriction and the requirements of ANILCA Section 810 are satisfied. However, if the agency makes the initial determination that the action may “significantly restrict subsistence uses,” the agency must then conduct a “tier-2” analysis.⁵¹

Under tier-2, if a proposed action would significantly restrict subsistence uses, BLM can only adopt that action if it finds that the restriction on subsistence is necessary and consistent with sound public lands management principals; involves the minimal amount of public lands necessary to accomplish the purpose of the use, occupancy or disposition of public lands; and takes reasonable steps to minimize the adverse impacts to subsistence uses and resources from any use.⁵² Thus, ANILCA Section 810 imposes procedural requirements as well as substantive restrictions on the agency’s decisions.⁵³ The agency must provide notice to local and regional councils and hold hearings in potentially affected communities.⁵⁴ Under BLM’s guidance, if the action “may” restrict subsistence uses, BLM is required to take a precautionary approach and comply with the notice and hearing procedures in Section 810.⁵⁵

⁴⁶ ANILCA § 810(a), 16 U.S.C. § 3120(a).

⁴⁷ ANILCA § 810(a), 16 U.S.C. § 3120(a); *Hanlon v. Barton*, 470 F. Supp. 1446, 1448 (D. Alaska 1988).

⁴⁸ *Sierra Club v. Penfold*, 664 F. Supp 1299, 1310 (D. Alaska 1897), *aff’d*, *Sierra Club v. Penfold*, 857 F.2d 1307 (9th Cir. 1988).

⁴⁹ State Director, Bureau of Land Mgmt., Instruction Memorandum No. AK-2011-008: Instructions and Policy for Compliance with Section 810 the Alaska National Interest Lands Conservation Act (ANILCA) (Jan. 14, 2010) [hereinafter Instruction Memorandum].

⁵⁰ 16 U.S.C. § 3120(a).

⁵¹ *Kunaknana v. Clark*, 742 F.2d 1145, 1151 (9th Cir. 1984); *Hanlon*, 470 F. Supp. at 1448.

⁵² 16 U.S.C. § 3120(a)(1)–(3).

⁵³ *Sierra Club v. Marsh*, 872 F.2d 497, 502–03 (9th Cir. 1989).

⁵⁴ 16 U.S.C. § 3120(a).

⁵⁵ BLM Instructional Memorandum at 6-2.

BLM fails to adequately analyze the overall impacts to subsistence users and improperly limited the scope of its analysis

Overall, BLM's section 810 findings are arbitrary and contrary to the information before the agency. BLM does not find significant restrictions for any Gwich'in communities, nor even consider Canadian villages in its analysis.

BLM acknowledges that subsistence harvesting and sharing patterns for "22 Alaskan communities and seven Canadian user groups are relevant if post-lease oil and gas activities changes caribou resource availability or abundance for those users."⁵⁶ Despite this, BLM arbitrarily limits its ANILCA 810 analysis of subsistence impacts to four communities: Kaktovik, Nuiqsut, Arctic Village, and Venetie.⁵⁷ BLM did not adequately assess whether oil and gas leasing on the Coastal Plain would significantly restrict subsistence uses in the remaining Gwich'in villages, as required by ANILCA 810.

BLM also arbitrarily and improperly limits the scope of its ANILCA 810 analysis in the same way it improperly limited the scope of its NEPA analysis: BLM only looks at post-lease activities that include seismic and drilling exploration, development, and transportation.⁵⁸ BLM should not limit its analysis of the impacts to only post-leasing activities and needs to include the full range of direct, indirect, and cumulative impacts to subsistence use that could occur from the program. This includes from any proposals to conduct pre-leasing seismic exploration on the Coastal Plain, as discussed above. BLM needs to revise and reissue its Draft EIS to ensure it actually takes into consideration the full range of potential impacts to subsistence for purposes of its 810 analysis.

BLM also claims that, at each decision stage, BLM retains the authority to approve, deny, or reasonably condition any proposed on-the-ground activities based on compliance with applicable laws and policies. This is not consistent with the interpretation BLM has taken with regard to its leases elsewhere (i.e., the NPR-A), which in turn has led to serious and unmitigated impacts to the community of Nuiqsut. For example, in the context of the GMT-2 decision near the community of Nuiqsut in the NPR-A, BLM refused to adopt the no action alternative, instead claiming that the lease waived the agency's right to later say no to development projects — regardless of how serious the impacts were to subsistence and other resources. If BLM's assertion in the draft EIS is that it retains the authority to later say no to projects, BLM needs to clarify in the draft EIS and any proposed lease terms so it is absolutely clear that a lease does not grant the right to conduct any future activities and that BLM retains the authority to fully prohibit any later proposals. Without clearly retaining this authority, BLM cannot ensure compliance with Section 810.

⁵⁶ DEIS vol. 1 at 3-167.

⁵⁷ DEIS vol. 2 Appendix E at E-3.

⁵⁸ DEIS vol. 2 Appendix E at E-2.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

BLM also appears to bypass conducting a meaningful analysis of impacts by stating that until BLM receives and evaluates a request for an “exploration permit, permit to drill, or other authorization that includes site-specific information about a particular project, impacts of actual exploration and development that might follow lease issuance are speculative, as so much is unknown as to location, scope, scale, and timing of that exploration and development.”⁵⁹ In its analysis of the cumulative impacts to caribou abundance, BLM also states that impacts would be “minor due to the speculative locations of future proposed infrastructure.”⁶⁰ Speculative does not equal minor; the uncertainty about the exact location of infrastructure does not mean that the impacts to subsistence would be minor, particularly if that infrastructure is ultimately located in sensitive areas or disrupts migration patterns or obstructs migration corridors. BLM cannot circumvent doing a robust analysis of the potential impacts merely because the impacts are potentially speculative at this stage. BLM needs to analyze the full range of potential impacts to determine if it might cause impacts to subsistence, and needs to follow a precautionary approach in making those determinations.

BLM’s analysis of impacts to subsistence access is also wholly inadequate. The agency talks about impacts to subsistence use areas in such a cursory and vague way that there is no indication the agency actually took a meaningful look at the ways in which access could be impacted. The 810 analysis concludes “[l]egal and physical access to subsistence resources may be altered, depending on the locations of CPFs and industry-established safety areas; however it is likely that large-scale access to subsistence resources would be maintained.”⁶¹ BLM appears to dismiss what it acknowledges will be impacts to subsistence by writing them off as unclear at this point since it does not know the exact infrastructure location. That is contrary to Section 810 and its purpose. BLM cannot write off impacts by concluding it does not know the exact location well enough to analyze them; it needs to actually take the time to analyze all potential impacts to subsistence, including cumulative impacts. BLM’s conclusion that it is “likely” that access will be maintained on a large scale is also not sufficient. BLM’s conclusion that it is “likely” on a wholly undefined “large-scale” that there will not be impacts is unsupported and meaningless. BLM cannot ignore the significance of these impacts by viewing them on such a large scale that effectively hides the impacts; it needs to look at what those impacts could look like at both local and broader scales. When the agency is evaluating the potential impacts to subsistence, if the action “may” restrict subsistence uses, BLM is required to take a precautionary approach and comply with the notice and hearing procedures in Section 810.⁶² BLM failed to follow that precautionary approach with these findings, contrary to Section 810 and BLM’s guidance.

BLM’s overall analysis of specific subsistence resources is also insufficient. As discussed in more detail in the next section, oil and gas leasing on the Coastal Plain is likely to have significant impacts on the Porcupine Caribou Herd, which will in turn restrict the abundance and availability of the herd for subsistence use. In the draft EIS, BLM states that “[d]evelopment

⁵⁹ DEIS vol. 2 Appendix E at E-2.

⁶⁰ DEIS vol. 2 Appendix E at E-18.

⁶¹ DEIS vol. 2 Appendix E at E-9.

⁶² BLM Instructional Memorandum at 6-2.

would not significantly affect the availability of caribou for subsistence use.”⁶³ This assumption erroneously assumes that caribou will still be present in the area despite the high likelihood of disturbance from noise and human activity. It is also at odds with the information in the DEIS and scientific knowledge that indicates that caribou will likely be deflected and migration altered by industrial development. BLM also fails to explain how the fully waivable lease stipulations, ROPs, and mitigation measures will ensure that caribou will not be deterred from the Coastal Plain and still be available to Gwich’in hunters.

BLM further assumes that hunters will be able to adapt to the changes occurring around them.⁶⁴ BLM cannot rely on the potential for adaptation to bypass a positive subsistence finding under Section 810. How BLM foresees hunters adapting should be described. We know that BLM did not discuss this with our communities so it is unclear what BLM is basing this assumption on. It is also necessary to consider that all hunters may not be able to adapt because of factors like increased cost of travel to more distant subsistence use areas and the need for better machinery to do so, which is not necessarily available to everyone that may be impacted. BLM should analyze and describe the limitations of adaptation to changed subsistence practices, resources, and conditions on the landscape.

BLM’s failure to make a positive finding for Gwich’in communities cannot absolve the agency of its obligation under tier-2 of ANILCA 810. Under tier-2, if a proposed action would significantly restrict subsistence uses, BLM can only adopt that action if it finds that the restriction on subsistence is necessary and consistent with sound public lands management principals; involves the minimal amount of public lands necessary to accomplish the purpose of the use, occupancy or disposition of public lands; and takes reasonable steps to minimize the adverse impacts to subsistence uses and resources from any use.⁶⁵ BLM’s evaluation of the availability of other lands for the purposes sought to be achieved and analysis of other alternatives that would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence are also wholly inadequate. BLM’s analysis of the availability of other lands provides only a cursory summary of the Tax Act and concludes that the alternatives would fulfill the purpose of the statute.⁶⁶ BLM’s evaluation of alternatives that would reduce or eliminate the use of lands needed for subsistence similarly states that the action alternatives would meet the purpose of the Tax Act and notes that some of the alternatives would result in less land being available for leasing.⁶⁷ This is not a meaningful evaluation of the ways in which BLM can reduce impacts to subsistence. The 810 analysis fails to recognize that BLM is in no way obligated to open the entire Coastal Plain to leasing. BLM has not only the ability to further limit the areas it offers for lease, but an obligation under Section 810 to only allow an action if it involves the minimal amount of public lands necessary to accomplish the purpose.⁶⁸ BLM’s cursory evaluation and apparent assumption that there is no difference between the different

⁶³ DEIS vol. 2 Appendix E at 7.

⁶⁴ See, e.g., DEIS vol. 1 at 3-177.

⁶⁵ 16 U.S.C. § 3120(a)(1)–(3).

⁶⁶ See, e.g., DEIS, vol. 2 Appendix E at E-10.

⁶⁷ See, e.g., DEIS, vol. 2 Appendix E at E-10.

⁶⁸ 16 U.S.C. § 3120(a)(1)–(3).

alternatives and how they relate to subsistence impacts goes against the requirements of Section 810 and fails to provide a meaningful evaluation of how BLM can minimize the impacts to subsistence users.

Additionally, while BLM says that it will conduct the required analysis under subsections (a)(3)(A), (B), and (C) of Section 810 in the final analysis is insufficient because it does not provide affected communities the opportunity to review and comment on BLM's analysis and proposed measures before they are adopted. It is critically important that BLM release preliminary findings and recommendations in a revised 810 analysis so that the agency can receive input on them before the agency finalizes them.

Overall, BLM's analysis of the potential impacts to subsistence use is arbitrary, fails to consider the full range of potential impacts, and fails to comply with the requirements of Section 810 and BLM's guidance. The direct and indirect impacts to any of these subsistence resources necessitates a positive finding for purposes of Section 810. BLM's preliminary evaluation is so faulty that it inhibits participation by the communities that could be affected. BLM should issue a revised preliminary evaluation correcting these deficiencies and re-release it when the agency issues the revised draft EIS that is also necessary.

BLM fails to adequately analyze impacts to the Porcupine Caribou Herd and Gwich'in subsistence users.

For all development alternatives, BLM acknowledges some portion of the herd's calving area will be subject to leasing and surface occupancy, and the likely result is displacement and a decline in calf survival.⁶⁹ Although the restrictions on surface occupancy and leasing are superficially more stringent for Alternative C and Alternatives D1 and D2, all of BLM's proposed action alternatives would result in some level of displacement impacts on calving caribou.⁷⁰ Alternative B is particularly concerning, as it contemplates two central processing facilities, one of which could be located in the calving area for the Porcupine Caribou Herd.⁷¹ BLM concludes that there would be similar impacts under each of the alternatives because there would be only 2,000 acres of disturbance in the program area.⁷² This ignores the fact that there are likely to be very different impacts depending on where and when BLM allows infrastructure and industrial activity. It is also based on BLM's faulty and restrictive interpretation of the 2,000-acre limitation. Regardless, BLM needs to analyze these differences and how they will impact subsistence, and cannot rely solely on the direct footprint of development. As explained above, the impacts of oil and gas development are felt far beyond the direct footprint of oil and gas projects.

BLM's assertions that these impact will be minimal is in error. Any impacts to the Porcupine Caribou Herd on the Coastal Plain will be felt throughout their range in Alaska, the

⁶⁹ DEIS vol. 2 Appendix E at E-6–E-9.

⁷⁰ DEIS, vol. 2 Appendix E at E-11–E-14.

⁷¹ DEIS, vol. 2 Appendix E at E-8.

⁷² See, e.g., DEIS, vol. 2 Appendix E at E-13.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

Yukon, and Northwest Territories and will result in a significant restriction to subsistence resources. BLM acknowledges the importance of caribou to 22 communities,⁷³ yet states that “Kaktovik, Arctic Village, and Venetie are the only communities that may be *appreciably affected* by changes in the abundance or availability of PCH caribou.”⁷⁴ This conclusion is unsupported. There is again no explanation for BLM’s wholesale failure to consider subsistence impacts to all other Gwich’in communities.

BLM’s own guidance states that the agency should err on the side of protection.⁷⁵ This is particularly important because “the intent of Title VIII of ANILCA is to protect subsistence use, and . . . the Section 810 process has the ultimate goal of identifying ways in which impacts to subsistence can be minimized through the Notice and Hearings process.”⁷⁶ Indeed, the threshold to hold hearings is that there “may” be impacts. BLM has not erred on the side of protection in its 810 analysis. Instead, BLM has chosen to ignore the significant direct and indirect impacts to the Gwich’in, including the ways in which impacts to some communities will ripple out to other communities in light of community sharing practices. As discussed next, contrary to BLM’s Section 810 findings, there are likely to be significant impacts to both the abundance and availability of resources available for subsistence purposes.

The Oil and Gas Program Will Have Significant Impacts to the Porcupine Caribou Herd, and Thus Abundance of Subsistence Resources for the Gwich’in.

Notwithstanding BLM’s failure to look at all Gwich’in communities, for the two Gwich’in communities considered under ANILCA 810, Arctic Village and Venetie, BLM incorrectly finds there will not be significant restrictions to the abundance of resources available for subsistence use. Factors that can contribute to a reduction in abundance include adverse impacts on habitat, direct impacts on the resource, increased harvest, and increased competition from non-subsistence harvesters.⁷⁷ As discussed above, there are likely to be significant adverse impacts to the Porcupine Caribou Herd from the oil and gas program. Activities associated with the oil and gas program will potentially cause a reduction in the Porcupine Caribou Herd’s population, leading to a decline in the amount of harvestable resources. The draft EIS acknowledges that there will be adverse impacts on the Porcupine Caribou Herd and its habitat in multiple places, and yet still somehow finds there will not be significant impacts to subsistence in its ANILCA 810 analysis.⁷⁸ It is unclear how BLM avoids finding a reduction in abundance of

⁷³ DEIS, vol. 2 Appendix E at E-3.

⁷⁴ *Id.*

⁷⁵ *Id.* at 6-3.

⁷⁶ *Id.* at 6-3.

⁷⁷ State Director, Bureau of Land Mgmt., Instruction Memorandum No. AK-2011-008: Instructions and Policy for Compliance with Section 810 the Alaska National Interest Lands Conservation Act (ANILCA) (Jan. 14, 2010) [hereinafter Instruction Memorandum] at 4.

⁷⁸ DEIS vol. 2 at E-8 (indicating that, by placing infrastructure in the high-use calving area, BLM finds that “calving would most likely shift to the east or southeast,” to areas with suboptimal forage); *id.* (“More surface development within this area could result in greater displacement of maternal caribou during calving, and thus could contribute to lower pregnancy rates and lower

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

the Porcupine Caribou Herd, based on even the limited information in its own DEIS. This must be more clearly explained.

BLM also ignores substantial evidence from studies and traditional knowledge that disturbance to caribou in the calving and nursery grounds will have serious impacts to the herd, including reductions in calf survival. Drilling on the Coastal Plain threatens the caribou migrations and would cause lower birth rates, risking everything we hold dear. Caribou rely on stored body fat and energy reserves to get them through the long, difficult winter. The post-calving period is crucial to providing nourishment for growing calves and replenishing depleted body reserves. The Coastal Plain is critical for caribou post-calving as it provides greater concentrations and prolonged availability of plant nitrogen compared to the nearby Brooks Range.⁷⁹ This nitrogen is a limiting resource for caribou that allows them to gain weight during the brief summer months, increasing winter survival and subsequent-year reproduction.⁸⁰ Furthermore, key limiting minerals needed by caribou also appear to be more available on the Coastal Plain than in other seasonally-used areas.⁸¹ BLM finds that “[c]aribou would be displaced from areas that no longer have suitable forage, but displacement is not expected to be widespread.”⁸² This statement ignores the important science behind why the Porcupine Herd calves on the Coastal Plain and how displacement could lead to great calf mortality. Disturbance to the herd’s calving and post-calving area and important food sources would likely cause a decline in the population and amount of harvestable resources. BLM also fails to explain why displacement will not alter migration paths.

Furthermore, all alternatives recognize there could be vehicle collision mortality, altered movement patterns from linear infrastructure, and air traffic impacts to the Porcupine Caribou Herd.⁸³ These impacts are not adequately considered in BLM’s ANILCA 810 analysis. For example, BLM appears to focus on only those components that it considers to be part of the 2,000 acre limitation. BLM does not address or account for impacts from all infrastructure, such as the raised pipelines, or other activities, such as gravel mining and seismic exploration. Seismic exploration on the Coastal Plain will have significant additional effects on subsistence. SAExploration’s proposal seeks to pursue exploration across the entire calving grounds of the Porcupine Caribou Herd. This proposal and other seismic exploration on the coastal plain have the potential to destroy or alter large swaths of vegetation and habitat that are vital to the Porcupine Caribou Herd and other species. Disturbance will amplify detrimental subsistence

calf survival rates.”); DEIS vol. 1 at 3-117 (indicating in the DEIS that dust generation during creation of gravel roads and travel upon those roads “may add toxic metals to roadside vegetation that mammals forage”); *cf.* DEIS vol. 2 at E-7 (indicating in the draft EIS that caribou responses to aircraft can affect subsistence hunters, recognizing that “[r]esidents of Nuiqsut consistently highlight aircraft disturbance of caribou as a concern and state that aircraft activity makes animals more wary and harvest more difficult”).

⁷⁹ Barboza et al. 2018.

⁸⁰ Barboza et al. 2018.

⁸¹ Oster et al. 2018.

⁸² DEIS vol. 2 Appendix E at E-8.

⁸³ DEIS vol. 2 Appendix E at E-8.

impacts from leasing, exacerbating the potential decline in the population resulting from impacts to calving habitat.

BLM's reliance on the DEIS's mitigation measures is misplaced. As an initial matter, it appears that all stipulations, ROPs, and mitigation measures can be waived, exempted, or modified. Therefore, their ability to provide protections is questionable at best. BLM also fails to adequately analyze the effectiveness of the mitigation measures, further calling into question their effectiveness. Regardless, the proposed measures are insufficient. For instance, Stipulation 6 seeks to protect habitat of both the Porcupine and Central Arctic Herds by minimizing disturbance and hindrance of movements.⁸⁴ However, for its requirements and standards, it simply points to ROP 23 for Alternatives B and C, with only the addition of suspension of major construction activities using heavy equipment for a short period under Alternative D. This means that this stipulation does not provide any independent protection for caribou movements across the Coastal Plain. (It is unclear what "major construction activity" means.) Stipulation 7 seeks to protect the "PCH primary calving habitat area." However, BLM has not supported the delineation of that area in the DEIS with any level of robust scientific justification.

Additionally, areas outside of the areas identified by BLM as the most commonly used concentrated calving areas are still very important for caribou for post-calving needs as well as calving. BLM needs to protect all calving and post-calving habitat, as well as protect migration corridors and movements. Protecting only the "primary calving area" as restrictively and improperly defined by BLM will provide little protection in some years, potentially increasing calf mortality and threatening the caribou population. This is especially a concern if warming conditions under climate change leads to "a western shift in concentrated calving areas," as the DEIS indicates.⁸⁵

Because of the importance of the Porcupine Caribou Herd to all Gwich'in communities, in both Canada and the U.S., any impacts with the potential to decrease the population and harvestable resources will have a significant effect to all Gwich'in communities. BLM failed to account for the potential impacts to abundance, as well as how that will have an even broader impact to these communities in light of sharing practices. BLM's finding of no significant restriction to the abundance of subsistence resources for all Gwich'in communities that rely on the Porcupine Caribou Herd is arbitrary and contrary to science and the record before the agency.

The Oil and Gas Program Will Have Significant Impacts to the Availability of Subsistence Resources for the Gwich'in.

Oil and gas leasing on the Coastal Plain would cause reductions in the availability of resources used for subsistence purposes. Under BLM's 810 guidance, reductions in availability are caused by factors such as alterations to resources' locations, migration, or distribution patterns.⁸⁶ Any disturbance to the Porcupine Caribou herd in its calving and post-calving grounds

⁸⁴ DEIS vol. 1 at 2-11.

⁸⁵ DEIS vol. 1 at 3-110.

⁸⁶ Instruction Memorandum, *supra*, at 5.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

and insect relief areas would very likely result in alteration of their movements. Any such change in the migration patterns of the Porcupine Caribou Herd is particularly problematic for subsistence activities for the Gwich'in people. The Gwich'in of Alaska and Canada are heavily dependent on the Porcupine Caribou Herd, so much so that their communities trace the historic migratory route of the herd through the Gwich'in traditional homelands. These facts more than satisfies BLM's guidance that it make a positive finding if there "may" be an impact.

Movement is central to life for barren-ground caribou, including the Porcupine Caribou Herd. Barren-ground caribou are renowned for their long-distance migrations, covering thousands of kilometers each year in some of the longest overland movements in the world.⁸⁷ These migrations allow caribou to take advantage of resources that change over space and time, such as moving to areas with greater winter food availability and shelter and then returning to calving grounds with lower densities of predators.⁸⁸ Changes to migratory patterns for the Porcupine herd could have serious impacts on the herd's availability to Gwich'in subsistence hunters throughout the Gwich'in homelands.

The hypothetical development scenario description states, without scientific analysis, "[i]n caribou areas, potential roads would be built on north-south and east-west orientations to the extent possible to limit interference with caribou migration. Figure B-2, Conceptual Layout of a Caribou Area Stand-alone Oil Development Facility, shows how the hypothetical layout could be adjusted for caribou mitigation if deemed appropriate by permitting agencies."⁸⁹ Figure B-2 depicts a slightly different layout of the roads radiating out from the Central Processing Facility to additional "satellite" drill sites, but no explanation is provided for assumptions about why it would be expected have a differing impact on caribou compared with Figure B-1. Furthermore, no analysis was provided for how a major road and transportation system and infield roads would affect caribou movements. BLM instead relies on the erroneous conclusion that caribou would simply "forage within the total footprint of a [central processing facility and its associated well pads]" to dismiss the idea that infrastructure would impact the availability of the Porcupine Caribou Herd.⁹⁰ There has been extensive research on negative impacts of roads associated with the Trans-Alaska Pipeline and the Prudhoe Bay oilfield complex to the Central Arctic Herd.⁹¹ As noted above, habituation is unlikely. BLM needs to address these issues using strongly supported scientific information, and fully consider impacts to caribou movement, which would directly impact availability for subsistence use.

Furthermore, all alternatives recognize vehicle collision mortality, altered movement patterns from linear infrastructure, and air traffic impacts to the Porcupine Caribou Herd.⁹² Although BLM finds some of these impacts can be mitigated with timing and surface limitations,

⁸⁷ Fancy et al. 1989; Bergman et al. 2000.; Schaefer and Mahoney. 2013.

⁸⁸ Dau. 2011.; Joly. 2012.; Person et al. 2007

⁸⁹ DEIS vol. 2 Appendix B at B-13.

⁹⁰ DEIS vol. 2 Appendix E at E-6.

⁹¹ E.g., Cameron et al. 1979.; Cameron and Whitten. 1980.; Dau and Cameron. 1986.; Cameron et al. 1992.; Nelleman and Cameron. 1996.; Nelleman and Cameron. 1998.; Cameron et al. 2005.

⁹² DEIS, vol. 2 Appendix E at E-8.

BLM acknowledges that mitigation measures merely minimize, and do not eliminate impacts to subsistence.⁹³ BLM does not attempt to explain what the shortcomings of these mitigations measures may be in terms of restrictions on subsistence availability. BLM also does not adequately account for the fact that the mitigation measures are potentially subject to waivers, exceptions, and modifications. The effectiveness of any mitigation measures is in part directly tied to whether or not it is enforceable or could be waived. BLM needs to account for the potential waiver of these provisions as part of its subsistence analysis, as that could negate any of the purported protections and benefits of such provisions.

Changes to the Porcupine Caribou Herd's migration route will have significant repercussions for Gwich'in communities, who are already having to travel farther to hunt caribou as their migration shifts because of climate change. BLM's 810 analysis lacks robust science and falls far short of its duties to discern, address, and mitigate against any impacts to the availability of subsistence resources.

BLM fails to adequately account for cumulative impacts in the ANILCA Section 810 analysis.

BLM's cumulative analysis falls far short of adequately considering the impacts of other past, present, and reasonably foreseeable future actions in conjunction with oil and gas leasing on the Coastal Plain. Under ANILCA 810, "the purpose of the cumulative effects analysis is to determine the effects of the proposed action and alternatives together with other past, present, and reasonably foreseeable future actions."⁹⁴ A positive finding in the cumulative case triggers the notice, hearing, and determination requirements of ANILCA Section 810(a).⁹⁵

As pointed above, BLM arbitrarily limits the scope of its 810 analysis to four communities, thus ignoring the impacts of its proposed action along with cumulative impacts that will occur for the other Gwich'in communities in Alaska and Canada. This must be remedied in the revised 810 evaluation.

BLM also seems to characterize future development on the Coastal Plain as a cumulative impact itself rather than a direct and indirect impact of its proposed lease sales. Besides being illogical, this assumption leads to BLM focusing primarily on direct and indirect impacts to subsistence uses, rather than taking a hard look at the cumulative impacts of other reasonably foreseeable future actions.

Past and present actions included in the cumulative case that have affected subsistence uses and resources as recognized by BLM are:

- Oil and gas exploration, development, and production on the North Slope
- Transportation

⁹³ DEIS, vol. 2 Appendix E at E6–E8.

⁹⁴ Instruction Memorandum at 7.

⁹⁵ Instruction Memorandum at 7.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

- Subsistence activities
- Recreation and tourism
- Scientific research
- Community development
- Climate change⁹⁶

BLM lists the following as reasonably foreseeable future actions:

- Road and pipeline between Kaktovik and the Dalton Highway/Trans-Alaska Pipeline
- Oil and gas development in the Colville-Canning Area
- Oil and gas activity in the vicinity of Alpine.⁹⁷

Noting these actions in passing does not constitute a meaningful cumulative impacts analysis. As discussed throughout these comments, BLM has repeatedly failed to fully discuss the potential impacts from both the leasing program and other activities in the region to a broad range of potential resources and uses, including to subsistence and key resources such as caribou that are vital to subsistence. BLM needs to substantially revise its overall analysis of the potential cumulative impacts in the preliminary evaluation and reissue it to ensure that it fully accounts for these impacts for purposes of both NEPA and its Section 810 analysis.

In describing impacts of oil and gas development, BLM focuses on impacts resulting from oil and gas development activities on the Coastal Plain. There is absolutely no discussion of the three reasonably foreseeable future actions identified by BLM. BLM completely failed to analyze or even discuss impacts from development activities in the Colville-Canning Area, Alpine, a road and pipeline between Kaktovik and the Dalton Highway/Trans-Alaska Pipeline. BLM also limits its discussion on development in Alpine to *existing* oil and gas development activities. This does not adequately account for the potential cumulative impacts to subsistence users or reasonably foreseeable projects, such as ConocoPhillips' Willow project near Nuiqsut.

Besides oil and gas development across the North Slope, BLM must also consider all reasonably foreseeable future actions that may impact the Porcupine Caribou Herd throughout its migratory range. BLM should not arbitrarily limit the scope of its analysis to the geographic area on or immediately adjacent to the Coastal Plain. BLM must consider any impacts to the herd from activities south of Brooks Range and within Canada.

BLM's ANILCA 810 analysis also fails to meaningfully account for climate change, which will exacerbate the cumulative impacts for all subsistence activities. Climate change is reshaping the Arctic landscape, and needs to be considered in light of changing migration patterns and intensity of current effects to subsistence. Currently, the only consideration in the 810 analysis provides:

⁹⁶ DEIS vol. 2 Appendix E at E-16.

⁹⁷ DEIS vol. 2 Appendix E at E-16.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

Climate change is an ongoing factor considered in cumulative effects analyses on the North Slope. Climate change could affect the habitat, behavior, distribution, and populations of fish and wildlife within the program area. It could also impact access to these resources. The trends in climate change that were described in BLM 2018a are expected to continue.⁹⁸

BLM's climate change analysis lacks rigor and is incomplete. It completely ignores the very real impacts which are already happening across the North Slope and Alaska. As discussed elsewhere in these comments, the traditional knowledge and the best available science demonstrates that climate change is already impacting important subsistence resources like caribou, fish, and marine mammals. Instead of conducting an analysis specific to how subsistence use in this area could be impacted by climate change, BLM instead relies on the decision document for the Greater Mooses Tooth Two development to bypass providing any meaningful analysis of the impacts of climate change.⁹⁹ The GMT-2 analysis relates to a landscape hundreds of miles away with different resources and use patterns and does not contain an analysis of the potential impacts of climate change specific to the Coastal Plain and its subsistence resources. BLM's ANILCA Section 810 analysis must be focused on the landscape and resources under consideration, and the subsistence users that will be impacted.

In conclusion, BLM needs to substantially revise its 810 analysis to fully account for the broad range of impacts that warrant a positive finding for significant restrictions to subsistence for all Gwich'in communities, which rely on the Coastal Plain and its resources. We have repeatedly expressed our concerns that oil and gas leasing will significantly restrict our subsistence way of life as Gwich'in, and BLM's conclusion in its 810 analysis for the Gwich'in ignores our traditional knowledge and human rights. BLM must revise its ANILCA 810 analysis, reissue the Draft EIS, and schedule 810 hearings in all potentially affected communities.

BLM Failed to Consider the Coastal Plain's Historical and Cultural Importance to the Gwich'in.

There is significant information missing for BLM to be able to accurately describe cultural and archeological resources of the Coastal Plain and for the agency to be able to accurately analyze the impacts of an oil and gas program on these resources. BLM needs to do extensive studies in order to make informed decisions protecting cultural resources and comply with National Historic Preservation Act (NHPA) Section 106.¹⁰⁰ NHPA Section 106 requires the BLM to [i]dentify historic properties and assess the effects of the undertaking on such properties.¹⁰¹ Completing an accurate review and analysis of cultural and archeological resources will require a revised EIS.

⁹⁸ DEIS vol. 2 Appendix E at E-19.

⁹⁹ DEIS vol. 2 Appendix E at E-19.

¹⁰⁰ 36 C.F.R. § 800.8.

¹⁰¹ 36 C.F.R. § 800.8(c)(1)(ii).

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

Oil and gas activities in the Arctic Refuge have the potential to affect historic places and cultural resources of the Gwich'in. This may result from a wide range of oil and gas and industrial activities, including ground disturbance during seismic exploration, drilling, and excavation of gravel for construction of permanent facilities.¹⁰² Therefore, BLM must consult as part of this process and fully comply with the requirements in the NHPA to determine how proposed activities could impact cultural resources listed on, *or eligible for inclusion in*, the National Register of Historic Places. Because only limited areas of the Arctic Refuge have been studied for cultural resources, the vast majority of lands may contain cultural resources that are unknown. The potential to discover unknown sites is high in the Arctic Refuge and BLM must conduct a survey prior to issuing any leases. As part of these cultural resource inventories, BLM should consider whether locations are eligible for listing in the National Register of Historic Places based on their significance to the Gwich'in people. Property is eligible for inclusion in the Register if it meets criteria specified in the National Register's Criteria for Evaluation ("Criteria").

The NHPA requires agencies to ensure that properties listed or eligible to be listed on the National Historic Register are preserved to maintain their historic, archaeological, architectural, and cultural values.¹⁰³ BLM must, therefore, consult with the Alaska SHPO and tribes as part of this process and fully comply with the requirements in the NHPA's implementing regulations to determine how proposed activities could impact cultural resources listed on, or eligible for inclusion in, the National Register of Historic Places. BLM did not properly evaluate the impacts of an oil and gas program on all cultural and archeological resources.

BLM cannot engage in cultural resource protection without surveys and a baseline understanding of the resources. The EIS is deficient as it presents an incomplete picture of the Coastal Plain's prehistoric and historic sites; the agency cannot sufficiently protect the unknown. Information currently available is outdated, insufficient, and incomplete. A full, comprehensive study of the Coastal Plain's cultural resources, including specific consideration archeological resources and historic resources is required to make informed decisions and to comply with the NHPA.¹⁰⁴

BLM must document our broader cultural ties to the Coastal Plain. Ethnographic resources also require protections, including ethnographic landscapes, traditional cultural properties, Native American sacred sites, and intangible cultural resources (e.g. oral traditions, indigenous knowledge, and traditional skills).¹⁰⁵ Currently BLM recognizes "the Gwich'in people have cultural and ethnographic ties to the program area, as evidenced by cultural sites, traditional and contemporary uses, oral histories, and current beliefs and values."¹⁰⁶ Additionally

¹⁰² See BLM NPR-A Final IAP/EIS, Vol. 4, 98-102 (discussion of oil and gas exploration and development activities which may impact paleontological resources).

¹⁰³ 54 U.S.C. § 306102(b)(2).

¹⁰⁴ 36 C.F.R. § 800.8.

¹⁰⁵ DEIS vol. 1 at 3-154.

¹⁰⁶ DEIS vol. 1 at 3-156–3-157.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

the EIS states that [a]ny potential impacts on [*Iizhik Gwats'an Gwandaii Goodlit*, “The Sacred Place Where Life Begins”] would constitute a cultural effect” on the Gwich'in people.¹⁰⁷ Deference should be given to our millennia of traditional knowledge. The current lack of research must be remedied before BLM allows any disruption or oil and gas activities that could potentially harm the Coastal Plain as a significant ethnographic cultural resource. BLM identified that the Gwich'in people in Arctic Village and Venetie requested consultation, specifically on ethnographic knowledge.¹⁰⁸ The NHPA requires BLM to meaningfully comply, not only with regard to the communities of Arctic Village and Venetie's requests, but BLM must pursue consultation for all Gwich'in communities along the historic migration path of the Porcupine Caribou Herd.¹⁰⁹

The consultation process and these studies are critical to ensure that our cultural and religious heritage is protected. BLM must perform obtain the necessary information and conduct the required surveys to accurately analyze the impacts of an oil and gas program on cultural resources. By not completing these surveys, BLM fails to comply with NEPA and Section 106 NHPA, and cannot adequately consider the impacts of the proposed alternatives it has set forth in the EIS.¹¹⁰

Leasing on the Coastal Plain Is an Environmental Justice and Human Rights Issue.

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.¹¹¹ At the core of this definition is equal access to the decision-making process to have a healthy environment in which to live, learn, and work.¹¹² Oil and gas leasing, exploration, development, and production as an environmental justice issue for the Gwich'in. BLM's environmental justice analysis fails to sufficiently evaluate whether the leasing program will have “disproportionately high and adverse human health or environmental effects ... on minority populations and low-income populations.”¹¹³ BLM's analysis is deeply flawed and fails to account for the full scope of potential impacts to the Gwich'in from all phases of oil and gas activities and fails to consider impacts to all potentially affected communities. BLM must revise its analysis and reissue a draft EIS.

Executive Order No. 12898 requires that all federal agencies “make achieving environmental justice part of its mission by identifying and addressing, as appropriate,

¹⁰⁷ DEIS vol. 1 at 3-156.

¹⁰⁸ DEIS vol. 1 at 3-155.

¹⁰⁹ 36 C.F.R. § 800.8(c)(3).

¹¹⁰ 36 C.F.R. § 800.8(c)(1)(ii).

¹¹¹ U.S. Env'tl. Prot. Agency, Env'tl. Justice, <https://www.epa.gov/environmentaljustice> (last visited June 1, 2018).

¹¹² *Id.*

¹¹³ E.O. 12898, Fed. Actions to Address Env'tl. Justice in Minority Populations and Low-Income Populations.

disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” BLM has failed to do so.

Communities associated with the Arctic Refuge are rural, contain many low-income households, minority populations of Alaska Natives, and retain subsistence lifestyles in a mixed, subsistence cash-income economy. Continued traditional and cultural uses of our lands and waters contribute to the physical and spiritual well-being of Gwich'in people and communities helping to maintain our close relationship to the land. Oil and gas development activities would result in the gradual loss, decline, or change in subsistence resources upon which Gwich'in depend. This would place a disproportionate weight of any adverse effects on low-income and/or minority populations.

All of the Gwich'in communities dependent upon the Coastal Plain's resources — in Alaska and Canada — meet the criteria as for being minority or low-income populations, as these are primarily communities of indigenous people with a subsistence-cash economy. As such, all of these communities should have been considered in BLM's environmental justice analysis. BLM recognizes that “environmental justice impacts related to potential adverse impacts on subsistence resources extend well beyond the immediate program area, and they encompass the social and cultural value of subsistence resources (and their uses), as described in ANILCA, as well as the value of direct reliance on these resources for physical sustenance.”¹¹⁴ Despite this, BLM arbitrarily limits its environmental justice analysis to four communities: Kaktovik, Nuiqsut, Arctic Village, and Venetie.¹¹⁵ Thus, BLM did not adequately assess whether oil and gas leasing on the Coastal Plain would significantly impact minority populations and low-income populations, as required by relevant executive orders and BLM's own guidance.

Further, BLM downplays the potential environmental justice impacts from oil and gas leasing by relying on its own flawed analysis throughout the DEIS to justify its findings. As described above, BLM improperly limits its analysis to post-leasing activities to avoid analyzing harm from seismic exploration, and ignores the extent of pipelines and gravel mines that may occur in the Refuge as a result of oil and gas activities. BLM correctly notes that Council on Environmental Quality (CEQ) guidance directs the agency to consider any multiple or cumulative effects on human health and the environment, even if certain effects are not in the control or subject to the discretion of the agency.¹¹⁶ BLM further notes that impacts to economy, subsistence, sociocultural, and public health and safety are largely, if not exclusively, also of importance to environmental justice.¹¹⁷ BLM then briefly summarizes its conclusions from these sections of its DEIS. However, BLM failed to adequately analyze impacts to subsistence, sociocultural systems, the economy, and public health in the Draft EIS. These flawed analyses result in BLM's inadequate discussion and analysis of environmental justice impacts.

¹¹⁴ DEIS vol. 1 at 3-195.

¹¹⁵ DEIS vol. 2 Appendix E at E-3.

¹¹⁶ CEQ, Env'tl. Justice Guidance Under the National Env'tl. Policy Act, 1997

¹¹⁷ DEIS vol. 1 at 3-196.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

Critically, we note that BLM should have also considered impacts to cultural resources, visual resources, acoustics and soundscapes, air quality, fish, birds, and caribou in terms of importance to environmental justice. These additional resources and issues have the potential to significantly impact Gwich'in communities dependent upon the Arctic Refuge. Thus, BLM failed to consider many of the factors that determine environmental justice impacts.

In the cumulative effects portion of its environmental justice discussion, BLM recognizes that on the North Slope “decades of oil exploration and development conducted by the federal government and industry . . . [have] directly affected habitat use and behavior of subsistence species and resulted in additive impacts on subsistence resources, harvest patterns, and users. These effects have altered livelihoods and ways of life and account for some of the social disruptions seen in villages today.”¹¹⁸ BLM does not, however, fully analyze how such similar direct and indirect impacts may affect Gwich'in communities that rely on Coastal Plain resources, which has been historically not been impacted by oil and gas development. BLM fails to take a hard look at the ways in which Gwich'in communities would be similarly impacted by oil and gas leasing development in the Arctic Refuge, merely relying on conclusory statements which cite to other findings in its DEIS.

We note that where BLM does correctly find a potential negative effect, the agency still falls far short of providing a meaningful analysis under NEPA to meet its environmental justice obligations. BLM acknowledges “[c]ommunities that are most likely to experience negative sociocultural impacts would be those that experience impacts on subsistence, while not having increased income or employment opportunities, such as Arctic Village and Venetie; therefore, the action alternatives would constitute a disproportionate, adverse impact on the environmental justice communities of Arctic Village and Venetie.”¹¹⁹ It is unclear whether this statement is tied only to cumulative impacts or to the direct and indirect impacts of oil and gas leasing and development on the Coastal Plain. BLM should clarify this. BLM must also explain why this finding does not include all of the Gwich'in communities, whose subsistence way of life is closely tied to the resources of the Coastal Plain. Additionally, BLM must explain how this conclusion is consistent with its flawed ANILCA 810 findings, which do not find a significant restriction on subsistence uses for Arctic Village or Venetie and wholly fail to consider all of the Gwich'in communities.¹²⁰

Despite this finding of disproportionate, adverse impact on the environmental justice communities of Arctic Village and Venetie, BLM discusses no mitigation measures whatsoever to address impacts. This is contrary to CEQ guidance, which states that “agencies should elicit the views of the affected populations on measures to mitigate a disproportionately high and adverse human health or environmental effect on a low-income population, minority population, or Indian tribe and should carefully consider community views in developing and implementing

¹¹⁸ DEIS vol. 1 at 3-201.

¹¹⁹ *Id.*

¹²⁰ See DEIS vol. 2 Appendix E at E-10, E-19 (finding that the action alternatives will not result in a significant restriction to subsistence uses, and finding that the cumulative case may significantly restrict subsistence uses and needs *solely* for the community of Kaktovik).

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

mitigation strategies.” The environmental justice analysis contains absolutely no discussion of how BLM intends to mitigate this finding, contrary to CEQ guidance. The only stipulations and ROPs mentioned are those relevant to other resource categories such as subsistence and public health. BLM wholly failed to consider specific mitigation measures to address disproportionate, adverse impacts to environmental justice in Gwich’in communities.

Finally, BLM has failed to meaningfully engage communities in this NEPA process, worsening the environmental justice implications of its proposed leasing program. Despite recognizing that “Federal agencies also are required to give affected communities opportunities to provide input into the environmental review process, including the identification of mitigation measures,”¹²¹ BLM has repeatedly failed to engage affected Gwich’in communities. As described in detail above, BLM’s timeframes for review of the draft EIS are insufficient to allow for meaningful public involvement. Ensuring that the public has sufficient time to receive and review all of the documents and understand their relationship to what is being proposed is essential to the public’s ability to analyze and provide meaningful comments to the agency on the project. Rushing the analysis and public review is not consistent with BLM’s obligations when considering an issue which will gravely impact minority and low-income populations. In addition to its hasty timeframes, BLM has not coordinated with all affected communities in Alaska to hold public meetings or government-to-government consultation. Further, there is no indication that BLM contacted any communities in Canada for purposes of consultation or public meetings. And BLM never translated any of its materials into Gwich’in.

Overall, BLM’s environmental justice analysis is deeply flawed and contrary to the evidence. BLM needs to substantially revise its entire DEIS to fully account for the broad range of direct, indirect, and cumulative impacts to all potentially affected Gwich’in communities, which warrants a finding for significant impacts to environmental justice.

The Gwich’in remain as committed as ever to protecting the Coastal Plain. Given the potentially far-reaching impacts to our way of life and the need to mitigate against impacts to subsistence and other resources, the Gwich’in Steering Committee must be an active and engaged entity in these review processes. However, BLM limited our ability to engage meaningfully in these important decisions by charging forward with this process in roughly a single year, despite the tax bill allowing four years until the first lease sale. Despite promising a robust, scientifically sound review process, the administration has repeatedly cut corners at every step of this process by placing arbitrary deadlines and limitations on its environmental review. We do not believe that this process is sufficient to understand and analyze the impacts to our human rights and culture or to hear from all of the people impacted by this decision.

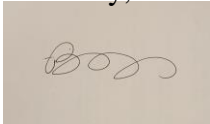
The Arctic Refuge is not just a piece of land with oil underneath; it is the heart of the Gwich’in people and our way of life. Rather than recklessly rushing to lease the Coastal Plain, DOI and BLM should listen to the Gwich’in Nation and ensure that our concerns are fully

¹²¹ DEIS vol. 1 at 3-196.

Arctic Village Fort Yukon -Venetie - Yukon Flats
– Old Crow– Tsiigehtchic – Fort McPherson

addressed. We oppose any and all oil and gas activities on the Coastal Plain, because no government process that allows oil and gas activities will be sufficient to protect the Coastal Plain and our way of life. Thank you for your consideration of these comments.

Sincerely,



Bernadette Demientieff
Executive Director

CC:

Ted Murphy, Acting State Director, U.S. BLM, t75murph@blm.gov

Greg Siekaniec, Regional Director, U.S. FWS, greg_siekaniec@fws.gov

Joe Balash, Assistant Secretary of Land and Minerals Management, U.S. DOI,
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Gwich'in Niintsyaa 2016

Resolution to Protect the Birthplace and Nursery Grounds of the Porcupine Caribou Herd

WHEREAS:

For thousands of years, the Gwich'in People northeast Alaska and northwest Canada, have relied on caribou for food, clothing, shelter, tools and life itself, and today the Porcupine (River) Caribou Herd remains essential to meet the nutritional, cultural and spiritual needs of our People; and

WHEREAS:

The Gwich'in have the inherent right to continue our own way of life; and that this right is recognized and affirmed by civilized nations in the international covenants on human rights. Article 1 of the International Covenant of Civil and Political Rights, ratified by the U.S. Senate, reads in part:

"...In no case may a people be deprived of their own means of subsistence"; and

WHEREAS:

The health and productivity of the Porcupine Caribou Herd, and their availability to Gwich'in communities, and the very future of our People are endangered by proposed oil and gas exploration and development in the calving and post-calving grounds in the Arctic National Wildlife Refuge; and

WHEREAS:

The entire Gwich'in Nation was called together by our Chiefs in Arctic Village June 5-10, 1988 to carefully address this issue and to seek the advice of our elders; and

WHEREAS:

The Gwich'in people of every community from Arctic Village, Venetie, Fort Yukon, Beaver, Chalkyitsik, Birch Creek, Stevens Village, Circle, and Eagle Village in Alaska; from Old Crow, Fort McPherson, Tsiigehtchic, Aklavik, and Inuvik in Canada have reached consensus in their traditional way, and now speak with a single voice; and

WHEREAS:

The Gwich'in people and Chiefs of our communities have met biennially since 1988 to re-affirm this position guided by the wisdom of our elders; and this summer met in Arctic Village, Alaska, and now re-affirm our position.

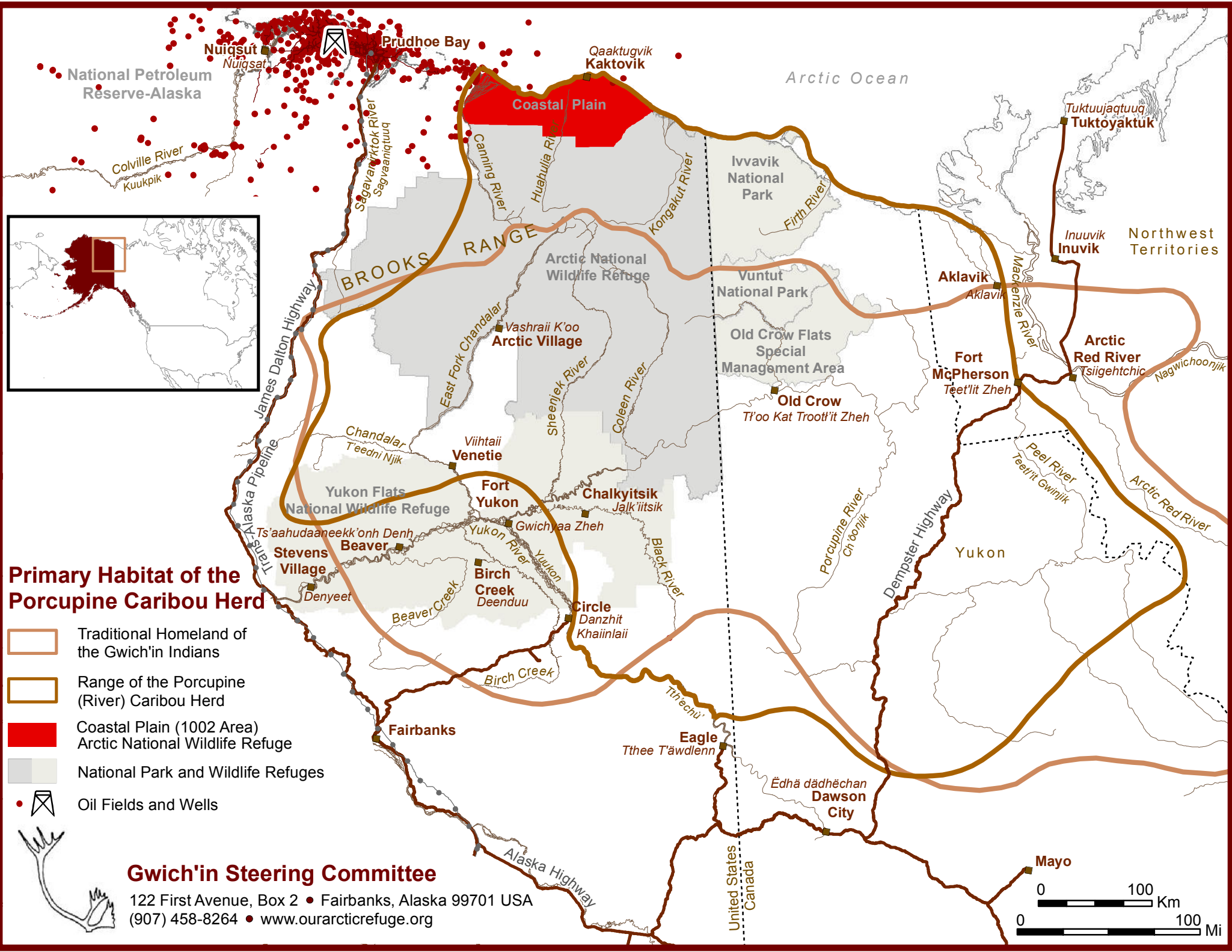
NOW THEREFORE BE IT RESOLVED:

That the United States President and Congress recognize the rights of the Gwich'in People to continue to live our way of life by prohibiting development in the calving and post-calving grounds of the Porcupine Caribou Herd; and

BE IT FURTHER RESOLVED:

That the 1002 area of the Arctic National Wildlife Refuge be made Wilderness to protect the sacred birthplace of the caribou.

Passed unanimously this 26th Day of July, 2016 in Arctic Village, Alaska.



Primary Habitat of the Porcupine Caribou Herd

- Traditional Homeland of the Gwich'in Indians
- Range of the Porcupine (River) Caribou Herd
- Coastal Plain (1002 Area) Arctic National Wildlife Refuge
- National Park and Wildlife Refuges
- Oil Fields and Wells

Gwich'in Steering Committee

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A MORAL CHOICE FOR THE UNITED STATES

The Human Rights Implications for the Gwich'in
of Drilling in the Arctic National Wildlife Refuge

Gwich'in Steering Committee
The Episcopal Church*
Richard J. Wilson, Professor of Law and Director of the
International Human Rights Law Clinic at American University*

Front cover photo: Daniel Tritt in Arctic Village, Alaska (Masako Cordray)
Contents page photo: Myra Thumma in Venetie, Alaska (Masako Cordray)
Banner photo, p. iii: Arctic National Wildlife Refuge coast (Subhankar Banerjee)
Banner photo, p. 4: Arctic Village cabins in winter (Brooke Tone Boswell)
Banner photo, p. 18: Caribou cows and calves in misty calving grounds (Subhankar Banerjee)
Conclusion photo, p. 23: Gwich'in elder Jonathon Solomon (Brooke Tone Boswell)
Banner photo, p. 24: Caribou walking on the Coastal Plain (Masako Cordray)
Back cover photo: Caribou on the Coastal Plain with Brooks Range as background (Ken Whitten)

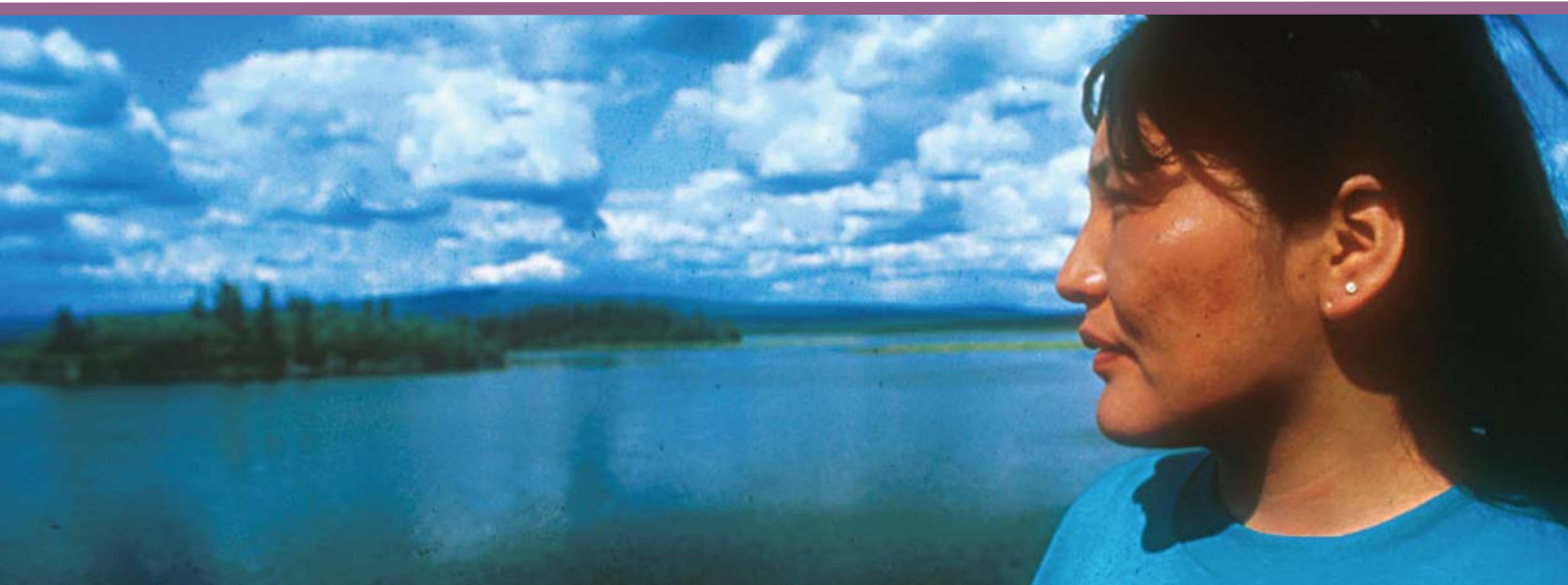
This report was prepared with the assistance of: Rebecca Bernard, Mike Steeves, and Leigh Currie, Trustees for Alaska; Lori Spicher, Esq.; Ken Whitten; Pamela A. Miller; Subhankar Banerjee; and Brooke Tone Boswell.

*The Episcopal Church, USA has a deep and special relationship with the Gwich'in Nation of Northeast Alaska/Northwest Canada. More than 150 years ago Anglican and subsequently Episcopal missionaries traveled to Fort Yukon, Alaska, to establish a mission there. Today more than 90 percent of the Gwich'in are Episcopalian. They represent one of the few Native Anglican Nations in the world.

*Institutional affiliation included for identification purposes only.

CONTENTS

EXECUTIVE SUMMARY	iii
I. INTRODUCTION	4
II. THE GWICH’IN RELY ON THE PORCUPINE CARIBOU HERD FOR THEIR CULTURAL AND PHYSICAL SURVIVAL	6
III. OIL DEVELOPMENT IN THE COASTAL PLAIN WOULD SEVERELY HARM THE PORCUPINE CARIBOU HERD	9
IV. THE INEVITABLE DECLINE IN THE PORCUPINE CARIBOU HERD THAT WOULD RESULT FROM OIL AND GAS EXPLOITATION IN THE COASTAL PLAIN OF THE ARCTIC NATIONAL WILDLIFE REFUGE WOULD VIOLATE THE HUMAN RIGHTS OF THE GWICH’IN	18
V. CONCLUSION	23
NOTES	24





EXECUTIVE SUMMARY

The US Congress is again considering opening the Coastal Plain of the Arctic National Wildlife Refuge to oil and gas drilling. The proposal threatens to violate the internationally recognized human rights to culture, subsistence, health, and religion of the Gwich'in people of northeastern Alaska and northwestern Canada. Since time immemorial, the Gwich'in have relied physically, culturally and spiritually on the Porcupine Caribou Herd that calves each spring on the Coastal Plain. The herd and its birthing and nursery grounds are so significant to the Gwich'in that they call the Coastal Plain *Izhik Gwats'an Gwandaii Goodlit*, "The Sacred Place Where All Life Begins."

For the Gwich'in, a long-term decline in the herd's population or a major change in its migration would be physically and culturally devastating. For thousands of years, the Gwich'in have relied on the caribou as their primary food source, and despite the inroads of modern civilization, that remains true today. The caribou are also deeply intertwined with Gwich'in culture—as Gwich'in leader Sarah James has said, "The Gwich'in are caribou people Our whole way of life as a people is tied to the Porcupine caribou. It is in our language, and our songs and stories." Further reductions in the size of the herd could make it difficult or impossible for the Gwich'in to continue the connection they have maintained with the caribou for millennia.

The Coastal Plain, and in particular the so-called "1002 area" that is the focus of the oil exploration and development proposal, is vital calving and post-calving habitat for the Porcupine Caribou Herd. The area offers nutritious vegetation during a vulnerable part of the caribou's life cycle, as well as protection from predators and shelter from harassing swarms of insects. Researchers have shown that caribou calf survival rates drop significantly when the herd is unable to calve on the Coastal Plain; indeed, the drop in calf

survival rates is enough to stop herd growth or, more importantly, to prevent the herd from recovering from the current 15-year decline in the herd's population.

Research has shown that oil drilling activity in critical caribou calving habitat, such as the Coastal Plain, displaces female caribou and calves, diminishing calf survival rates. For the Porcupine, displacement from the best calving grounds would be extremely damaging because there are no alternatives that provide the same essential protections, and the herd is already in a population decline. The stress of opening their prime calving and post-calving grounds to oil exploration and development—particularly when added to the current stress on the herd brought on by global climate change—will very likely lead to a long-term decline in the herd.

International law requires the United States to protect the fundamental human rights of Native groups like the Gwich'in to culture and religion, their own means of subsistence, and health. International human rights tribunals have ruled that governments are obligated to prevent environmental harm that would undermine these rights. For example, the United Nations' Human Rights Committee held that a government violated indigenous people's rights to culture and subsistence when it permitted oil and gas development that would destroy the people's traditional hunting and trapping areas.

Because of the impact of drilling on the Porcupine Caribou Herd, opening the Coastal Plain of the Arctic National Wildlife Refuge would deal a serious blow to the ability of the Gwich'in to continue their subsistence culture that is reliant on the Porcupine Caribou Herd. Loss of this culture would violate the internationally recognized human rights of the Gwich'in to their own means of subsistence, to culture, to health, and to religion.



THE [GWICH'IN] BELIEVE THAT A BIT OF HUMAN HEART IS IN EVERY CARIBOU, AND THAT A BIT OF CARIBOU IS IN EVERY PERSON. ANY THREAT TO THE ANIMAL IS A THREAT TO THE GWICH'IN. AS ONE GWICH'IN WOMAN EXPLAINS: "THE CARIBOU ARE OUR LIFE. WE MUST SAFEGUARD THEM FOREVER."

"IT IS OUR BELIEF THAT THE FUTURE OF THE GWICH'IN AND THE FUTURE OF THE CARIBOU ARE THE SAME."

I. INTRODUCTION

To drilling proponents, it is the "1002 area."¹ To the Gwich'in people, it is *Izhik Gwats'an Gwandaii Goodlit*, "The Sacred Place Where All Life Begins."² The Coastal Plain of the Arctic National Wildlife Refuge, in particular the 1002 area, plays a critical role in the continued physical and cultural survival of the Gwich'in, one of the northernmost indigenous peoples in North America. The connection between the Gwich'in and the Coastal Plain of the Arctic Refuge is the Porcupine Caribou Herd, which is the primary food source for the Gwich'in and the heart of their culture. The herd migrates hundreds of miles each year to give birth to the

next generation of caribou in "The Sacred Place Where All Life Begins"—possibly the only place on earth that can sustain the herd's calving activities. A proposal under consideration by the US Congress to open the 1002 area to oil exploration and development threatens both the caribou and the Gwich'in.

The Gwich'in live south of the Brooks Range where their villages are strategically located along the herd's migration paths,³ and they depend on the herd for their essential physical, cultural, social, economic and spiritual needs.⁴ As Gwich'in Darius Kassi explains,

The Coastal Plain is critical to successful calving and calf survival of the Porcupine River Caribou Herd. (Subhankar Banerjee)



I wouldn't be sitting here talking to you now if it wasn't for Porcupine Caribou. It's our life. It is what we've lived for and what all our life revolves around Eighty percent plus of our diet is caribou intake. It is important to our people. It is not only important for food. It is important for spiritual, cultural, emotional and physical reasons. It is our lifestyle—a lot of it rotates around the caribou I don't think there are any English words that can express how important, all consuming, the protection of this herd is.⁵

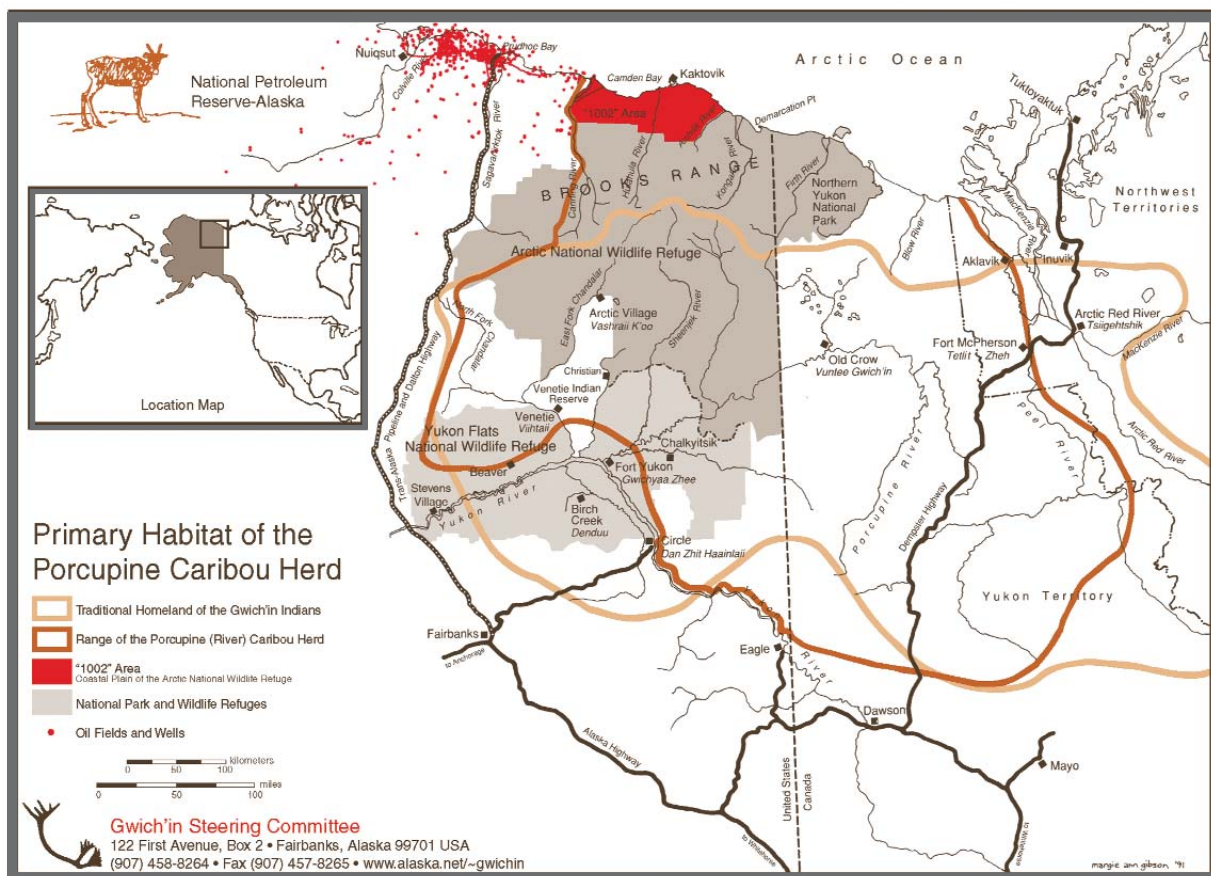
This report demonstrates that opening the Coastal Plain of the Arctic National Wildlife Refuge to oil drilling would severely harm the health of the beleaguered Porcupine Caribou Herd. According to one biologist, if the herd's numbers fall much further, "the Gwich'in may have to consider cutting down on the 4000 animals they usually hunt in a year."⁶ The harvest, so critical to Gwich'in physical and cultural survival, would cease to provide a reliable means of subsistence or to sustain the way of life that has defined the Gwich'in culture for millennia.

International law requires the United States to protect indigenous peoples' cultures, subsistence, and ways of life as fundamental aspects of human rights. Where these rights are dependent on maintaining a healthy environment, as they are for the Gwich'in, governments are obliged to protect the environment. The proposal being considered by the US Congress to open the 1002 area of the Coastal Plain to oil drilling would violate that



obligation, by putting the Porcupine Caribou Herd—and the Gwich'in nation that depends on it—at risk.

Gwich'in woman with her baby (Masako Cordray)



The proposal for oil exploration and development in the Arctic Refuge involves the 1002 area, which is prime calving and post-calving ground for the Porcupine Caribou Herd. (Gwich'in Steering Committee)



“The Gwich’in are caribou people Our whole way of life as a people is tied to the Porcupine caribou. It is in our language, and our songs and stories.”

Gwich'in youth perform the Caribou Skin Hut Dance at the 2005 Gwich'in Gathering in Fort Yukon. (Brooke Tone Boswell)

II. THE GWICH'IN RELY ON THE PORCUPINE CARIBOU HERD FOR THEIR CULTURAL AND PHYSICAL SURVIVAL

“The Gwich’in are caribou people Our whole way of life as a people is tied to the Porcupine caribou. It is in our language, and our songs and stories.”⁷

In mythic times, it is said among the Gwich'in, the people and the caribou lived together in harmony. Eventually, however, the people began to hunt the caribou. But the bonds between the hunter and the hunted only grew stronger. For thousands of years, the Gwich'in have depended on the animal not only for food, shelter, tools, and clothing but as a source of spirituality. The [Gwich'in] believe that a bit of human heart is in every caribou, and that a bit of caribou is in every person. Any threat to the animal is a threat to the Gwich'in. As one Gwich'in woman explains: “The Caribou are our life. We must safeguard them forever.”⁸

The Gwich'in continue to use ceremonial songs and dances to tell the creation story. “When the dance is fulfilled, it is in essence a spiritual walk between the two and the Gwich'in and caribou are one again.”⁹

The Gwich'in live in 15 villages in northeastern Alaska and northwestern Canada: in Alaska, these are Arctic Village, Venetie, Chalkyitsik, Stevens Village, Birch Creek, Circle, Beaver, Canyon, Eagle, and Fort Yukon; in Canada, they are Fort McPherson, Inuvik, Aklavik, Tsiigehtchic (Arctic Red River), and Old Crow.¹⁰ The Gwich'in presently number 7,000 to 9,000 people.¹¹ Western anthropological evidence suggests that the Gwich'in have occupied their ancestral lands and harvested caribou for more than 20,000 years; the Gwich'in believe it has been this way since time immemorial.¹²

The Porcupine Caribou Herd is the central food source for the Gwich'in people,¹³ providing much of the protein for people in these villages.¹⁴ Caribou is also the most nutritious food available to the Gwich'in.¹⁵ In the Prudhoe Bay area of Alaska's North Slope, where intensive oil development began in the 1970s, the reduction of traditional subsistence hunting due to disruption of food species led to an “increased incidence of cancer and diabetes and disruption of traditional social systems.”¹⁶ In the remote Gwich'in villages, caribou is also the most reliable long-term food source, because other wild sources are less dependable and groceries cost twice as much

as they do in the city.¹⁷ Caribou is an essential part of the Gwich'in diet.

In addition to food, the caribou have provided the Gwich'in with medicine, clothing, shelter, and various tools such as awls and skin scrapers.¹⁸

The caribou is also central to the culture and spirituality of the Gwich'in:

Reliance on traditional and customary use (now termed "subsistence") of the Porcupine Caribou Herd is a matter of survival. Beyond the importance of our basic needs, the caribou is central to our traditional spirituality. Our songs and dances tell of the relationship that we have to the caribou. The caribou is a part of us.¹⁹

When the herd nears a village on its annual migration to the Coastal Plain, the entire Gwich'in community prepares to harvest food for the year. During the harvest, the Gwich'in use their vast store of traditional knowledge and take the opportunity to pass on that knowledge along with Gwich'in cultural values to the younger generation:

This is the time when the life lessons are taught to the younger generation of the Gwich'in people. The women and grandmothers teach the younger women and girls very important traditional skills. The girls are taught the proper names of the animal parts and proper methods of taking care of the meat. They also learn the techniques of tanning the hides for clothing, what part of the animal is used for certain tools, such as needles, hooks, tanning tools and sinew. The elder women tell the younger ones of the family lineage and ties It is an important time of learning the functions of the tribe.

The men and grandfathers teach the ... hunting skills needed: the methods of stalking and taking the animal, the value of sharing what is taken, the

names and memory of the hunting lands and lessons of timing. The young are taught to handle the kill with great care and respect, and to give proper thanks to the Creator for the gift. This teaches the young men of their responsibility to the tribe as a provider.²⁰

The connection between the Gwich'in and the caribou continues today, as the Porcupine Caribou Herd continues to provide the Gwich'in with basic necessities:

Today, Gwich'in community members continue to rely on the caribou to meet both their subsistence and spiritual needs. The hunting and distribution of caribou meat also enhances their social interaction and cultural expression Caribou skins are used for winter boots,

James Gilbert with his granddaughter in Arctic Village. (Robert Gildart)



The young are taught to handle the kill with great care and respect, and to give proper thanks to the Creator for the gift. This teaches the young men of their responsibility to the tribe as a provider.

slippers, purses, bags, and other items of Native dress. Bones continue to be used as tools. Songs, stories, and dances, old and new, reverberate around the caribou further strengthening Gwich'in cultural life.

The historical respect for the [caribou] reflected in stories and legends included the importance of using all parts of the animal (avoiding waste), cooperation, and sharing. This traditional caribou management belief system has continued into the present by legislating modern game management practices among themselves and through the establishment of an International Porcupine Caribou Commission.²¹

Young hunters look for caribou. (Roy Corral)

The significance of the Porcupine Caribou Herd to the Gwich'in people of Alaska and Canada is memorialized in an international Agreement on the Conservation of the Porcupine Caribou Herd (Porcupine Caribou Agreement).²² The agreement acknowledges that "generations [of] certain people" rely on the Porcupine Caribou Herd "to meet their nutritional, cultural and other essential needs and will continue to do so in the future."²³ It also recognizes the importance of Porcupine Caribou Herd habitat, aims to protect subsistence uses of the herd, and "enables users of Porcupine Caribou to participate in the international co-ordination of the conservation of the Porcupine Caribou Herd and its habitat."²⁴ For these reasons, the governments of the United States and Canada agreed that "the Porcupine Caribou Herd, including such areas as calving,



post-calving, migration, wintering and insect relief habitat ... should be conserved according to ecological principles and that actions for the conservation of the Porcupine Caribou Herd that result in the long-term detriment of other indigenous species of wild fauna and flora should be avoided.”²⁵ The two nations also agreed that they “will take appropriate action to conserve the Porcupine Caribou Herd and its habitat.”²⁶

The Gwich’in have taken numerous steps to protect the caribou. They were actively engaged in the negotiations of a Porcupine Caribou Management Agreement among Canadian federal and provincial governments and tribal councils.²⁷ In 1988, leaders from all the Gwich’in villages gathered and reached an agreement in their traditional way to protect the birthplace and nursery grounds of the caribou by fighting attempts to open the Coastal Plain to drilling.²⁸

The Gwich’in people’s thorough knowledge of the herd makes them highly sensitive to changes in herd biology, as demonstrated by the fact that the Gwich’in of Old Crow, Canada, called off their caribou hunt in 2000.²⁹ During that year, deep and long-lasting snow prevented the Porcupine Caribou Herd cows from reaching the Coastal Plain in time to deliver their calves, and Gwich’in people in Old Crow “reported that calves a few days old were forced to swim the mighty Porcupine River. Appalled, the Gwich’in called off hunting for the season.”³⁰

In the words of Gwich’in elder Jonathon Solomon of Fort Yukon, Alaska, “It is our belief that the future of the Gwich’in and the future of the Caribou are the same.”³¹ Harm to the Porcupine Caribou Herd is harm to the Gwich’in culture and millennia-old way of life.

III. OIL DEVELOPMENT IN THE COASTAL PLAIN WOULD SEVERELY HARM THE PORCUPINE CARIBOU HERD

The 1002 area targeted for oil exploration and development is irreplaceable calving and post-calving habitat for the Porcupine Caribou Herd. Drilling in the area would leave the herd without adequate habitat, almost certainly leading to the long-term decline of the herd.



A. The calving grounds and insect relief areas in the Coastal Plain are critical to the Porcupine Caribou Herd

A majestic caribou bull surveys his surroundings. (USFWS)

The Porcupine Caribou Herd is named for the Porcupine River, which the herd crosses in spring and fall during its annual migration. The herd is one of four barren-ground caribou herds in America’s Arctic. The herds are distinguished from one another by their spring calving grounds, and the Porcupine herd’s calving ground is the “Sacred Place Where Life Begins,” also known as the “1002 area” or, more broadly, the “Coastal Plain.”³² The herd currently numbers around 120,000 animals, but those numbers have been in decline since 1989, when the herd numbered nearly 180,000 animals.³³

Of the four arctic barren-ground caribou herds, the Porcupine herd has the lowest capacity for growth.³⁴ According to a study by the US Geological Survey, this low capacity for growth indicates that “the Porcupine Caribou Herd has less capacity to accommodate anthropogenic, biological, and abiotic stresses than other Alaskan barren-ground herds.”³⁵ For example, if everything else remained the same, an approximate 4.6% reduction in calf survival would be enough to prevent Porcupine Caribou Herd growth



Pregnant caribou rely on specific nutrients in cotton grass, shown here as ground cover, for nursing new born calves on the Coastal Plain. (Subhankar Banerjee)

under the best conditions observed to date or to prevent recovery from the current decline.³⁶ Other barren-ground herds could continue to grow despite a similar reduction in calf survival.

The Porcupine Caribou Herd likely selects the 1002 area as its calving grounds because the area provides an optimal combination of availability of high quality forage and insect relief areas,³⁷ early snowmelt, and less dense predator population.³⁸ The Coastal Plain is “the most biologically productive part of the Arctic Refuge for wildlife and is the center of wildlife activity.”³⁹ The high quality forage available on the Coastal Plain is crucial to the reproductive health of the herd.⁴⁰ When they arrive at the Coastal Plain calving grounds in spring, the female caribou have used up nearly all of their body fat reserves.⁴¹ Their nutritional needs, however, are highest during the weeks during and immediately after calving, and the high quality forage available on the Coastal Plain is thus essential during this time.⁴²

In a 1993 report, the International Porcupine Caribou Board identified habitats critical to the Porcupine Caribou Herd based on their relationship with critical periods in the herd’s life cycle.⁴³ The report ranked the calving period as the most important and vulnerable in the herd’s life cycle, and identified the 1002 area as embracing the “majority of the primary concentration area” of the herd during this period.⁴⁴

The report identified the time period immediately after calving as another critical period for the herd because of the high energy demands of lactating females, and thus the need for highly nutritious forage, and again identified the 1002 area as the most important place for the herd to be during this time.⁴⁵ The caribou cows rely upon the Coastal Plain vegetation to store fat and protein for the next winter and spring, during which these resources will nourish first a new fetus and then the calf.⁴⁶ Only well-fed cows can ensure that calves survive and are fertile enough to conceive the next generation.⁴⁷ “The size of the calf in autumn is directly related to its size at birth and to the mother’s size at the end of June. This means that if the cows are in poor condition when they provide milk to the calves in June, there is little opportunity for the calves to compensate.”⁴⁸ The high quality forage available on the Coastal Plain is therefore absolutely critical to the long-term health of the herd.

As the International Porcupine Caribou Board report demonstrates, it is the 1002 area specifically, not just the Coastal Plain in general, that is critical to calf survival and thus the long-term health of the herd. On the Coastal Plain, the female caribou tend to calve together in “concentrated calving areas,” and

The Porcupine Caribou Herd is the central food source for the Gwich’in people, providing much of the protein for people in these villages.

these occur mostly in the 1002 area.⁴⁹ These concentration areas have been “deemed to be the most important calving areas because (1) they support most of the parturient females [those that are pregnant or accompanied by very young calves⁵⁰] and their calves, and (2) they are the areas having the highest caribou densities.”⁵¹ Studies have shown a significantly higher rate of survival for calves born in concentrated calving areas than for those born in areas never used as a concentrated area, likely due to the nutritious forage and low predation risk.⁵² Researchers believe that “this strong link between food for cows and calf survival is the reason that calving cows concentrate annually in the region of most rapid plant growth” and why it is so important to the continued productivity of the herd that calving cows be able to freely select the best calving grounds for the year.⁵³ Much of this important Porcupine caribou land lies within the 1002 area that is targeted for drilling. According to the International Porcupine Caribou Board, areas of concentrated calving use occupy virtually the entire 1002 area.⁵⁴ As shown below in Part III.B, oil development would likely displace

caribou calving away from these critical areas. The importance of the 1002 area is underscored by the poor calf survival rate in the years the herd has been unable to calve there. In 2000 and 2001 the Porcupine Caribou Herd females were unable to reach the calving grounds due to unusually late springs.⁵⁵ This resulted in a much reduced calf survival rate for those years: only about 60% of calves survived, compared with a typical survival rate of 75%.⁵⁶ Even with unrestricted access to the best habitat for calving, an average of 25% of the newborn calves die in their first month of life.⁵⁷ Fifty-two percent of this mortality is attributed to birth defects and poor nutrition, while 48% is due to predation.⁵⁸ If calving were to shift away from the Coastal Plain and into the foothills and mountains to the south, the baseline mortality would likely increase not only because of reduced access to the best forage, but also because of higher predator concentrations outside of the calving grounds.⁵⁹

The 1002 area is critical not only to females and their calves, but to the entire Porcupine Caribou Herd. The area is predictably used by nearly the entire herd during the

The migration of the Porcupine Caribou Herd is one of the largest and most impressive animal migrations in North America, covering hundreds of miles each year. (Subhankar Banerjee)





It is the 1002 area specifically ... that is critical to calf survival and thus the long-term health of the herd.

The Coastal Plain provides critical grazing habitat for the Porcupine herd. (Ken Whitten)

postcalving season, even in years where a lower percentage of the herd calves on the Coastal Plain.⁶⁰ One reason for this is that the Coastal Plain provides important insect relief habitat to the herd in the post-calving period, before the herd moves inland during the fall rut. Caribou must be able to obtain relief from insects: "Insects substantially affect energy balance by reducing food intake and by increasing energy expenditure."⁶¹ When the animals are being harassed by insects they will run erratically or stand head down to avoid larval infestation, at the expense of foraging opportunity.⁶² "Access to insect-relief habitat and forage during this period may be critical to herd productivity."⁶³

The Coastal Plain provides the herd with cooler, windier areas along the coast where harassment is less severe.

Once the year's calving and post-calving period is over, the Porcupine Caribou Herd eventually leaves for its winter range in eastern Alaska and the Yukon Territory.⁶⁴ This migration covers a linear distance of up to 400 miles, although the actual number of miles traveled each year by an individual animal may be closer to 3,000.⁶⁵

The US Fish and Wildlife Service aptly summed up the situation when it stated, in response to the question whether the calving grounds are essential to the survival of the herd:

Yes. Each spring, pregnant female caribou begin long migrations towards their traditional calving grounds. Their instinct to reach these areas is very strong, and enables them to travel through deep snow and storms, and to cross rivers flooding with icebergs to

The Coastal Plain is used by the Porcupine Caribou Herd almost exclusively during calving and postcalving, and disturbance of this important portion of the caribou's life cycle would have broad ramifications.

reach the calving grounds at just the right time. ... In summary, it is the special conditions of the calving grounds which improve the survival of calves and ultimately the entire herd.⁶⁶

B. Oil and gas drilling would inevitably interfere with the Porcupine Caribou Herd's use of their calving grounds and insect relief areas.

Biologists who have studied the effects of oil development on caribou agree that these activities displace animals away from development areas.⁶⁷ Indeed, "[a]voidance of petroleum development infrastructure by parturient caribou during the first few weeks of the lives of calves is the most consistently observed behavioral response of caribou to development."⁶⁸ Reactions to disturbance will vary with animal characteristics, but cows with newborn calves are the most sensitive.⁶⁹ This is important because the Coastal Plain is used by the Porcupine Caribou Herd almost exclusively during calving and postcalving, and disturbance of this important portion of the caribou's life cycle would have broad ramifications.⁷⁰ "Disturbance to cow-calf groups on the calving grounds could interfere with bond formation and [could] increase calf mortality."⁷¹

Most of these studies have focused on the Central Arctic Caribou Herd, which occupies the Prudhoe Bay area of Alaska's North Slope, where intensive oil development began in the 1970s.⁷² Studies have found that oil development on Alaska's North Slope disturbed Central Arctic herd calving. For instance, construction of the Trans-Alaska Pipeline substantially reduced use of the pipeline corridor by caribou cows and calves.⁷³ As to calving, only a portion of the

calving grounds used by the Central Arctic herd was affected by the Prudhoe Bay development, and the initial Prudhoe Bay development area was apparently never a concentrated or highly preferred calving area like the 1002 area.⁷⁴ Nevertheless, the little calving that had been occurring in the development area ended after significant development began.⁷⁵

More recently, caribou have responded to expanded development within several oil fields by shifting their concentrated calving almost entirely away from the development areas, largely abandoning even isolated undisturbed areas within the larger development region.⁷⁶ As scientists found in a 1998 study, "the extent of avoidance greatly exceeds the physical 'footprint' of an oil-field complex."⁷⁷

Over 125 species of birds from six continents and all fifty states migrate to the Coastal Plain for nesting, molting, feeding and rearing their young. The highly threatened buff-breasted sandpiper that migrates from South America is shown here in a courtship display. (Subhankar Banerjee)



After 1987, the Central Arctic herd showed a slowed growth rate when compared to the Teshekpuk Lake Herd, the most ecologically comparable herd in Alaska.⁷⁸ Biologists believe the reduction in growth resulted from the shift of the Central Arctic herd away from the oilfield, which began at the same time.⁷⁹ A slowdown in growth is to be expected given that the parturition rates of female caribou “in regular contact with oil-field infrastructure ... were lower than those of undisturbed females.”⁸⁰

In addition, caribou in the Central Arctic herd were often “deflected” by infrastructure, and occasionally went significant distances out of their way to avoid it. “Deflections of up to 20 miles, during which caribou ran or trotted, have been observed in the central Arctic.”⁸¹ The effect is exacerbated when groups of caribou are large, and when the caribou are being harassed by insects, especially mosquitoes. “Large mosquito-harassed groups had particular difficulty negotiating road-pipeline corridors.”⁸²

The majestic Brooks Range towers over the quiet serenity of the Coastal Plain. (Pamela A. Miller)

The effects of oil-field development accumulate with effects of insect harassment by impairing movements between coastal and inland habitats. Possible consequences of these disturbances include reduced nutrient

The Porcupine herd “may be particularly sensitive to development within the 1002 portion of the calving ground.”

acquisition and retention throughout the calving and midsummer periods, poorer condition in autumn, and a lowered probability of producing a calf in the following spring.⁸³

Thus, the studies showed impacts of oil development to Central Arctic herd from displacement away from calving areas, reduced parturition rates, and impaired movement between habitats, all of which led to reduced herd health and reproduction rates.

These studies are useful in identifying the potential impacts of oil development on the Porcupine Caribou Herd; there are, however, important differences between the two herds that may exacerbate the effects of drilling on the Porcupine herd. In particular, scientists have concluded that for a number of reasons the Porcupine herd “may be particularly sensitive to development within the 1002 portion of the calving ground.”⁸⁴ First, the herd is especially sensitive because of its already low productivity.⁸⁵ Second, the shift of concentrated calving areas away from development that would inevitably occur would remove calving from the best calving habitat that affords the best calf survival rate.⁸⁶ This was not true for the Central Arctic herd, for which the oil development area around Prudhoe Bay was not a crucial calving area.⁸⁷

Third, there is a “lack of high-quality alternate calving habitat” for the Porcupine Caribou Herd.⁸⁸ The herd has typically used calving areas in Canada and away from the Alaska Coastal Plain only when the Arctic Refuge Coastal Plain, including the 1002 area, was unavailable due to late snowmelt.⁸⁹ Forage quality on the Canadian portions of the calving





Caribou cross a river during their annual migration. (Amy Gulick)

ground is substantially lower than on the Arctic Refuge Coastal Plain and 1002 portions of the calving ground, and calf survival was correspondingly lower in these years.⁹⁰ Finally, there is a strong link between free movement of females and calf survival.⁹¹ This relationship is based on both access to the highest quality foraging habitats and decreased exposure to predation during calving.⁹² If calving grounds are displaced due to development, June calf survival for the Porcupine Caribou Herd will decline, and the effect will increase with displacement distance.⁹³

Biologists have used modeling as well as observations derived from the Central Arctic herd studies to predict the likely effects on the Porcupine Caribou Herd of oil development in the 1002 area. A 1987 Interior Department study based on assumptions derived from Central Arctic herd studies estimated that full development of the 1002 area would result in similar disturbance in approximately 37 percent of the total concentrated calving areas within the 1002 area,⁹⁴ although this prediction is likely to underestimate the extent and scope of impacts.⁹⁵ More recently, the US Geological Survey developed a model, also based on lessons derived from the Central Arctic herd studies, to predict the effects of 1002 area development on the Porcupine herd. Using conservative assumptions, the US Geological

Survey predicted that full development of the 1002 area would likely result in complete displacement of concentrated calving away from the 1002 area, with a resulting 8.2% increase in calf mortality.⁹⁶

The simulations indicated that a substantial reduction in calf survival during June would be expected under full development of the 1002 Area. Eighty-two percent of observed calving distributions would have been displaced and the average distance of these displacements would have been 63 km (range 16-99 km). This would have yielded a net average effective displacement of 52 km and an expected mean reduction in calf survival of 8.2%⁹⁷

An 8.2% reduction in calf survival is well above the estimated 4.6% growth rate decline sufficient to halt growth of the herd and/or prevent recovery from the current population decline.⁹⁸

In addition to reducing the survival of calves, the Interior Department has concluded that development of the 1002 area may generally limit the herd's ability to move freely, which would reduce access to important insect-relief, forage, and predator-avoidance habitats.⁹⁹

Several investigators have described inhibited passage of caribou through developed areas due to linear oil-development facilities and associated activities. This is of concern in the 1002 area because the probable main pipeline/haul road route would bisect the area, rather than run parallel to caribou movements as it does in the Prudhoe Bay development.¹⁰⁰

The largest groups of caribou within the Central Arctic herd are considerably smaller than the post-calving aggregations of the Porcupine Caribou Herd, which can number up to 80,000.¹⁰¹ As the Interior Department concluded, “If the larger [Porcupine Caribou Herd] groups react negatively, as [some researchers] suggest, there could be significant exclusion of [the herd] from coastal areas.”¹⁰²

Decreased access to insect relief habitat because of inhibited movement is of particular concern. “If caribou are delayed or prevented from free access to insect-relief habitat, the result may be deterioration in body condition with consequences of decreased growth, increased winter mortality, and lowered herd productivity. ... Postcalving aggregations could be inhibited from moving between inland feeding areas and coastal or mountainous insect-relief habitats within and

to the south of the 1002 area as a result of development.”¹⁰³ Although some studies have shown that caribou will seek out roads and drilling pads for relief from flies, this will not likely aid the Porcupine Caribou Herd because the caribou have usually left the 1002 area before fly season.¹⁰⁴ “The primary source of insect harassment for the [Porcupine Caribou Herd] while on the 1002 area is generally the swarms of mosquitoes early in the summer season. Large groups of mosquito-harassed caribou do not readily pass beneath elevated pipelines.”¹⁰⁵ If caribou movement is inhibited by roads or pipeline development, the herd’s use of 52 percent of estimated insect-relief habitats, including as much as 80 percent of the coastal habitat, could be reduced.¹⁰⁶

Thus, scientific studies over the past two decades show the potential for a serious long-term problem for the Porcupine Caribou Herd if the 1002 area is developed. First, all studies agree that development displaces caribou cows from their preferred calving areas.¹⁰⁷ Second, this displacement leads to decreased calf survival.¹⁰⁸ Finally, those Central Arctic herd females that were in regular contact with oil field infrastructure had lower reproduction rates.¹⁰⁹ This information led to a predicted 8.2% decline in the growth rate of the Porcupine herd if full development of the 1002 area occurs.¹¹⁰ This predicted decline is almost

At present, Prudhoe Bay oil fields span across 1,000 square miles of Alaska’s North Slope, with 500 miles of roads and pipelines, 200 exploration and production drill pads, 4800 exploratory and production wells, 36 gravel mines, 2 airports and numerous other forms of industrial infrastructure.
(Pamela A. Miller)



double the rate at which the population of the herd would inevitably begin to decline. Because the Porcupine herd has a low capacity for growth to begin with, and has been experiencing a population decline for the past 15 years, the addition of oil development in the best calving habitat could prevent a reversal of this population decline, leading to a long-term substantial reduction in the size of the herd.

Finally, it is important to consider that the Arctic Climate Impact Assessment has recently concluded that climate change is already placing additional stresses on the Porcupine Caribou Herd, and that “[t]he Porcupine Caribou Herd appears to be more sensitive to the effects of climate change than other large herds.”¹¹¹ Warmer weather, earlier snowmelt, earlier break-up of river ice, and changes in the freeze-thaw cycles have already affected the health of the animals and the pattern of their annual movements.¹¹² As Gwich’in Steven Mills from Old Crow commented, “If I were a caribou, I’d be pretty confused right now.”¹¹³ The increased stress on the herd from climate change makes the herd even more vulnerable to new disruptions like oil and gas development in the herd’s primary calving and post-calving habitat.

As early as 1987, the US Department of the Interior concluded that “[m]ajor effects on the [Porcupine Caribou Herd] could result if the entire 1002 area were leased,” even with a complete and effective set of mitigation measures in place.¹¹⁴ “If this major effect occurred, it would manifest itself as a widespread, long-term change in habitat availability or quality which would likely modify natural abundance or distribution of the [Porcupine Caribou Herd] in the 1002 area”¹¹⁵ This early warning assumes heightened significance given the persistent population decline in the herd over the last 15 years.¹¹⁶

Opening the Coastal Plain of the Arctic National Wildlife Refuge to oil drilling would very likely lead to a long-term decline in the Porcupine Caribou Herd. The already declining herd would experience lower calf survival rates, leading to a steeper drop in the herd’s population and ultimately a smaller herd with a smaller range. “A change in distribution of the herd, shifting generally to



Opening the Coastal Plain of the Arctic National Wildlife Refuge to oil drilling would very likely lead to a long-term decline in the Porcupine Caribou Herd.

the east for example, could result in up to a 100% loss of the animals to subsistence hunters in Arctic Village and Venetie.”¹¹⁷ Such a change in herd distribution or migration patterns could be devastating to the Gwich’in villages that are now strategically located along the herd’s migration corridor. Additionally, with the declining population of the herd, the Gwich’in could be forced to curtail their critical harvest and cultural activities involving the herd. According to one biologist, if the herd’s numbers fall much further, “the Gwich’in may have to consider cutting down on the 4000 animals they usually hunt in a year.”¹¹⁸ The harvest, so central and critical to the Gwich’in physical and cultural survival, would cease to provide a reliable means of subsistence or to sustain the way of life that has defined the Gwich’in culture for millennia.

Newly-born caribou calves greatly depend on their mothers for survival. (USFWS)

IV. THE INEVITABLE DECLINE IN THE PORCUPINE CARIBOU HERD THAT WOULD RESULT FROM OIL AND GAS EXPLOITATION IN THE COASTAL PLAIN OF THE ARCTIC NATIONAL WILDLIFE REFUGE WOULD VIOLATE THE HUMAN RIGHTS OF THE GWICH'IN.

“[P]rotection for indigenous populations constitutes a sacred commitment of [nations].”¹¹⁹ This is a norm of customary international law, recognized and shared by the international community as a whole.¹²⁰ Indigenous peoples’ human rights are often inseparable from their environment. “Indeed, it can be said that all environmental degradation has a direct impact on the human rights of the indigenous peoples dependent on that environment.”¹²¹

The Porcupine Caribou Herd is the most critical of the Gwich'in community resources, feeding their social, cultural, and physical needs. The Porcupine herd is the central figure in the Gwich'in religion, culture, spirituality, and oral history, as well as their primary source of food. The herd plays a central role in the Gwich'in creation story. Indeed, the Gwich'in believe that the caribou's heart is part human, and that the Gwich'in heart is part caribou. The herd is the single most critical natural resource to the cultural and physical survival of the Gwich'in.

Although the Gwich'in do not occupy the Coastal Plain as a living area, its protection is nonetheless essential to Gwich'in human rights. The Gwich'in refer to the Coastal Plain as “The Sacred Place Where All Life Begins” because of its critical role in the life cycle of the caribou. Much like churches and synagogues, which have a cultural and spiritual significance separate from use and occupation, the Coastal Plain holds a sacred and symbolic place in Gwich'in religion and culture.

The rights of the Gwich'in to culture, subsistence, health, and religion are intertwined with the Porcupine herd and the Coastal Plain. Protecting the human rights of the Gwich'in thus requires protecting the Porcupine Caribou Herd and the Coastal Plain of the Arctic National Wildlife Refuge.

A. The Right of the Gwich'in to Culture

The International Covenant on Civil and Political Rights provides that ethnic minorities “shall not be denied the right ... to enjoy their own culture.”¹²² The Charter of the Organization of American States obligates the government of each nation in the Americas “to preserve and enrich the cultural heritage of the American peoples.”¹²³ In fact, nearly every international human rights agreement requires the protection of cultural rights.¹²⁴

International courts and tribunals have long recognized that environmental degradation caused by a State's action or inaction can violate the human right to the benefits of culture, especially in the context of indigenous cultures.¹²⁵ “[T]he close ties of indigenous people with the land must be recognized and understood as the

Young girls in the town of Venetie, Alaska. (Masako Cordray)



fundamental basis of their cultures, their spiritual life, their integrity, and their economic survival.”¹²⁶ For example, the Inter-American Commission on Human Rights noted that where the granting of mining concessions on indigenous lands would have “negative consequences for [the indigenous peoples’] culture,” such concessions violated the peoples’ rights,¹²⁷ as well as the nation’s obligations under the Organization of American States Charter.¹²⁸ As the Commission has stated, “the use and enjoyment of the land and its resources are integral components of the physical and cultural survival of the indigenous communities.”¹²⁹ Moreover, the “subsistence economy and traditional activities ... such as hunting, fishing, trapping and gathering, shall be recognised as important factors in the maintenance of [indigenous] cultures.”¹³⁰

The UN Human Rights Committee has likewise recognized that degradation of natural resources may violate indigenous peoples’ right to culture:

[C]ulture manifests itself in many forms, including a particular way of life associated with the use of land resources, especially in the case of indigenous peoples. That right may include such traditional activities as fishing or hunting and the right to live in reserves protected by law. The enjoyment of those rights may require positive legal measures of protection and measures to ensure the effective participation of members of minority communities in decisions which affect them The protection of these rights is directed towards ensuring the survival and continued development of the cultural, religious and social identity of the minorities concerned, thus enriching the fabric of society as a whole.

[O]ne or other aspect of the right ... to enjoy a particular culture may consist [of] a way of life which is closely associated with territory and use of its resources. This may particularly be true of members of indigenous communities constituting a minority.¹³¹



“[T]he close ties of indigenous people with the land must be recognized and understood as the **fundamental basis** of their cultures, their spiritual life, their integrity, and their economic survival.”

Applying these principles, the Committee has held that oil and gas exploitation in Canada that exacerbated threats to the way of life and culture of the Lubicon Band deprived the Band of their means of subsistence and their right to self-determination, and violated the Band’s right to culture.¹³²

The inevitable decline in the Porcupine Caribou Herd that would result from oil and gas drilling in the Arctic National Wildlife Refuge

Arctic Village children tanning a caribou skin.
(Brooke Tone Boswell)

Earnest Erick, Evon Peters, and Don Stevens in the Gwich'in Drum Sing Dance for the Arctic Refuge vigil in 2005, Washington, DC. (Brooke Tone Boswell)



would prevent the Gwich'in from engaging in such cultural and spiritual practices as hunting, resource use, educating youth about their religion and resource use, and using traditional knowledge. Because the spiritual connection with the herd is so central to the Gwich'in culture, damage to the herd would endanger the very identity of the Gwich'in as a people.

The migration time, when the herd passes through the Gwich'in villages, is an important time in Gwich'in culture, not only for harvesting food for the year, but for passing on knowledge to the younger generations: "This is the time when the life lessons are taught to the younger generation of the Gwich'in people."¹³³ Hunting skills, food preparation techniques, clothing- and tool-making, as well as knowledge about family lineages and lessons about respect for the animals are all passed down during this time.¹³⁴ Without the annual hunt, these opportunities would be lost. The US Government has a clear obligation to respect, protect, and foster the Gwich'in culture. Opening the "Sacred Place Where All Life Begins" to oil drilling would violate that

obligation and the fundamental right of the Gwich'in to culture.

B. The Right of the Gwich'in to Their Own Means of Subsistence

The International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights each provide that "[i]n no case may a people be deprived of its own means of subsistence."¹³⁵ In the context of indigenous peoples, the right of a people to its own means of subsistence has gained the status of a general principal of international law and a customary human right.¹³⁶

The right to culture may also require protecting a people's means of subsistence.¹³⁷ In the Lubicon Lake case, the UN Human Rights Committee stated that the granting of oil and gas concessions that were destroying the Band's traditional hunting and trapping areas violated the right to culture because they "threaten[ed] the [subsistence] way of life of the Lubicon Lake Band."¹³⁸

The US Government has an international obligation to recognize and protect the subsistence uses of the Porcupine Caribou Herd by the Gwich'in. Oil drilling in the Coastal Plain of the Arctic National Wildlife Refuge would breach this duty.

Gwich'in villages are isolated and people rely on wild game for their nutritional needs and to maintain their health.¹³⁹ The inevitable decline in the Porcupine Caribou Herd that would result from oil and gas drilling on the Coastal Plain of the Arctic National Wildlife Refuge would prevent the Gwich'in from satisfying their subsistence needs by harvesting from the herd, thus violating their right to their own means of subsistence.

The US Government has an international obligation to recognize and protect the subsistence uses of the Porcupine Caribou Herd by the Gwich'in. Oil drilling in the Coastal Plain of the Arctic National Wildlife Refuge would breach this duty.

C. The Right of the Gwich'in to Health

Under international law, “[e]very person has the right to the preservation of his health.”¹⁴⁰ The Constitution of the World Health Organization recognizes that “[t]he enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being.”¹⁴¹

“The right to health is an inclusive right, containing freedoms ... and entitlements, such as the rights to adequate nutrition.”¹⁴² The UN Committee on Economic and Social Rights explained that the right to “the highest attainable standard of physical and mental health”

is not confined to the right to health care. On the contrary, ... the right to health embraces a wide range of socio-economic factors ... and extends to the underlying determinants of health, such as food and nutrition, ... and a healthy environment.¹⁴³

International law recognizes the close relationship between environmental harm and the right to health, especially in the context of indigenous peoples.¹⁴⁴ UN Special Rapporteur Fatma Zohra Ksentini identified the right to health as a fundamental right and analyzed the effects of the environment on that right.¹⁴⁵ She found that, under customary international law, “everyone has a right to the highest attainable standard of health.”¹⁴⁶ The UN Special Rapporteur on the right to health, Paul Hunt, also noted that the right to health gives rise to an obligation on the part of a State to ensure that environmental degradation does not endanger human health.¹⁴⁷

In *Yanomami Indians v. Brazil*, the Inter-American Commission on Human Rights recognized that harm to people resulting from environmental degradation violated the right to

Caribou meat is a staple of the traditional Gwich'in diet. (Carol Hoover)



The inevitable damage to the Porcupine herd that would result from oil drilling in the Coastal Plain of the Arctic National Wildlife Refuge would damage the ability of the Gwich'in to practice and manifest their religion, violating their right to religion.

The Raven Dance invokes the centuries-old relationship between Gwich'in, raven and caribou. Hunters are taught to always leave behind the parts of the caribou that they cannot use, so as to share with other creatures, and to keep the earth clean. (Subhankar Banerjee)

health in Article XI of the American Declaration on Human Rights.¹⁴⁸ The Brazilian government's failure to prevent environmental degradation stemming from road construction and subsequent development of Yanomami indigenous lands caused an influx of pollutants and resulted in widespread disease and death. The Inter-American Commission found that "by reason of the failure of the Government of Brazil to take timely and effective measures [on] behalf of the Yanomami Indians, a situation has been produced that has resulted in the violation, injury to them, of the ... right to the preservation of health and to well-being."¹⁴⁹ In another case, the Commission noted that the right to health and well-being in the context of indigenous people's rights was so dependent on the integrity and condition of indigenous land that "broad violations" of indigenous property rights necessarily impacted the health and well-being of the indigenous people.¹⁵⁰

Because the Gwich'in rely so heavily on the Porcupine herd for their nutritional needs, decline in the herd would result in a shortage of subsistence food. Store-bought food is very expensive in remote villages and is not nearly as nutritious as traditional foods. In other parts of Alaska, reduced consumption of traditional foods and higher consumption of nonsubsistence food, such as shortening, lard, butter, and bacon, have increased the rates of cancer and diabetes, and have disrupted traditional social systems.¹⁵¹ Thus, even if caribou could be replaced with other sources, the effect would be detrimental to the health of the Gwich'in.

Opening the Coastal Plain of the Arctic National Wildlife Refuge to oil drilling would violate the US Government's duty not to degrade the environment to the point that the health of a people is threatened. The proposed drilling in the Sacred Place Where All Life Begins would violate the right of the Gwich'in to health.

D. The Right of the Gwich'in to Practice Their Religion

The International Covenant on Civil and Political Rights guarantees "the right to freedom of thought, conscience and religion. This right shall include freedom [of everyone] to have or to adopt a religion or belief of his choice, and freedom, either individually or in community with others and in public or private, to manifest his religion or belief in worship, observance, practice and teaching."¹⁵² Every other major international human rights agreement also guarantees this right.¹⁵³ Interpretations of these agreements as they apply to indigenous peoples emphasize the importance of protecting sacred sites and spiritual symbols, practices and ceremonies.¹⁵⁴



The Inter-American Commission on Human Rights has recognized that the right to religion cannot be adequately protected unless traditional land and sacred sites are likewise protected.¹⁵⁵ The UN Human Rights Committee has noted that the right to religion is “closely associated with territory and use of its resources” and that “[t]his may particularly be true of members of indigenous communities.”¹⁵⁶

The Porcupine herd is one of the most potent and critical spiritual symbols in the Gwich'in religion. The herd is part of the Gwich'in creation story. Ceremonial dances and songs continue to highlight the spiritual connection between the Gwich'in and the herd. The inevitable damage to the Porcupine herd that would result from oil drilling in the Coastal Plain of the Arctic National Wildlife Refuge would damage the ability of the Gwich'in to practice and manifest their religion, violating their right to religion.

The “Sacred Place Where All Life Begins” is a sacred site. As the birthplace of the greatest Gwich'in spiritual symbol, the Coastal Plain is important for the herd, but it has independent spiritual significance as well. The Coastal Plain thus plays a central role in the spiritual life of the Gwich'in. Harm to the Porcupine Caribou Herd through oil drilling would violate the right of the Gwich'in to practice their religion.

V. CONCLUSION

The Porcupine Caribou Herd is the central feature in the Gwich'in way of life. The birthing ground of the herd, the “Sacred Place Where All Life Begins,” is likewise a sacred site to the Gwich'in, both for the sustenance it gives the herd and for its independent religious significance to the Gwich'in. Oil drilling in the Coastal Plain of the Arctic National Wildlife Refuge would unavoidably damage both the plain and the herd, violating the fundamental human rights of the Gwich'in to culture, subsistence, health, and religion. “It would be comparable to the historically genocidal acts that brought the Plains buffalo to the brink of extinction, and violated the very heart of the Plains Tribes’ ancestral way of life.”¹⁵⁷



In the words of Gwich'in elder Jonathon Solomon, “It is our belief that the future of the Gwich'in and the future of the Caribou are the same.” Harm to the Porcupine Caribou Herd is harm to the Gwich'in culture and way of life.



NOTES

1. The "1002 area," named for the section of the Alaska National Interest Lands Conservation Act (ANILCA) that called for a continuing inventory of its resources, see 16 U.S.C. § 3142, is that part of the Arctic National Wildlife Refuge Coastal Plain that lies between the Canning River to the west and the Aichilik River to the east. USGS Geological Survey, *Arctic Refuge Coastal Plain, Terrestrial Wildlife Research Summaries*, USGS/BRD/BSR-2002-0001 at 2 (Mar. 2002) (hereinafter *USGS Report*).
2. See Gwich'in Steering Committee website at <http://www.gwichinsteeringcommittee.org/index.html> (last visited Sept. 7, 2005).
3. See Figure 1 page 5, indicating the substantial overlap between the Traditional Homeland of the Gwich'in Indians and the range of the Porcupine caribou herd, available at <http://www.gwichin.org/map-pch.pdf> (last visited Sept. 8, 2005); Fred Pearce, *Sink or Swim*, in *New Scientist* at 16 (Aug. 5, 2000) (hereinafter *New Scientist*) (Gwich'in villages all lie along the Porcupine Caribou Herd migration route).
4. Arctic National Wildlife Refuge, Alaska: Hearings Before the Committee on Energy & Natural Resources of the United States Senate, 100th Cong. at 313 (1987) (Tanana Chiefs Conference, Inc., Resolution No. 87-65) (noting that Arctic Village, Venetie, and Old Crow "are extremely dependent upon the population and distribution of the Porcupine Caribou herd as a matter of economics, nutrition, and cultural heritage[.]").
5. Darius Kassi, quoted in Erin Sherry and Vuntut Gwitchin First Nation, *The Land Still Speaks: Gwitchin Words About Life in Dempster County* at 180 (1999) (hereinafter *The Land Still Speaks*).
6. *New Scientist* at 16 (quoting Don Russell, a Canadian biologist with the International Porcupine Caribou Management Board).
7. Arctic Coastal Plain Leasing: Hearing Before the Committee on Resources of the House of Representatives, 104th Cong. at 185 (1995) (Statement of Sarah James of Arctic Village, Alaska).
8. The Editors of Time-Life Books, *Hunters of the Northern Forest* at 162 (Time-Life Books 1995).
9. Written Statement Submitted by the International Indian Treaty Council to the UN Commission on Human Rights at ¶ 8–10 (1999), available at <http://www.unhchr.ch/Huridocda/Huridoca.nsf/TestFrame/cb3fb9823f87142780256740003a3f45?Opendocument> (last visited Sept. 26, 2005) (hereinafter "IITC Statement").
10. Arctic Coastal Plain Leasing: Hearing Before the Committee on Resources of the House of Representatives, 104th Cong. at 59 (1995) (Statement of Sarah James); <http://www.alaska.net/~gwichin/culture1.html> (last visited Sept. 7, 2005).
11. See Gwich'in Steering Committee website at <http://www.alaska.net/~gwichin/culture1.html> (last visited Sept. 7, 2005); Gwich'in Council International website at <http://www.gwichin.org/gwichin.html> (last visited Sept. 7, 2005).
12. See *Hunters of the Northern Forest* at 30; Gwich'in Council International website at <http://www.gwichin.org/gwichin.html> (last visited Sept. 7, 2005).
13. TCC Resolution, *supra* note 4; M. Lynne Corn, *Arctic National Wildlife Refuge: Background and Issues* at 87 (Congressional Research Service Report for Congress, May 15, 2003) (hereinafter *2003 CRS Report*) ("Caribou is the main food source for Arctic Village, Venetie, and other Gwich'in villages.").
14. Sarah James Statement, *supra* note 7, at 185.
15. Arctic National Wildlife Refuge, Alaska: Hearings Before the Committee on Energy & Natural Resources of the United States Senate, 100th Cong. at 295 (1987) (Statement of Sarah James, Arctic Village, Alaska, discussing study that found caribou has highest nutritional value of foods consumed in each village).
16. National Academy of Sciences, *Cumulative Environmental Effects of Oil and Gas Activities on Alaska's North Slope* at 139 (2003) available at <http://www.nap.edu/books/0309087376/html> (last visited Aug. 18, 2005) (hereinafter *National Academy of Sciences*) ("Higher consumption of nonsubsistence food, such as shortening, lard, butter, and bacon, and reduced consumption of traditional foods ... have increased the incidence of diabetes.").
17. Arctic National Wildlife Refuge, Alaska: Hearings Before the Committee on Energy & Natural Resources of the United States Senate, 100th Cong. at 286 (1987) (Statement of Lincoln Tritt, Chief, Arctic Village, Alaska).
18. *The Land Still Speaks* at 222-230 (describing various uses of caribou).
19. Gwich'in Steering Committee website at <http://www.alaska.net/~gwichin/index2.html> (last visited Aug. 18, 2005).
20. IITC Statement at ¶ 8–10.
21. *The Arctic National Wildlife Refuge: A Special Report/ The People in and around the Arctic Refuge/The Gwich'in of Alaska and Canada*, at <http://arcticcircle.uconn.edu/ANWR/anwrgwichin.html> (last visited Sept. 8, 2005).
22. Agreement on the Conservation of the Porcupine Caribou Herd, July 17, 1987, U.S.-Can., T.I.A.S. No. 11259, art. 4.
23. *Id.* at 1.
24. *Id.*
25. *Id.*, preamble.
26. *Id.*, art. 3(a).
27. See Darius Kassi Statement, in *The Land Still Speaks* at 180 ("We spend an enormous amount of our energy negotiating international agreements like the Porcupine Caribou Management Agreement, protecting our land so the caribou can have some place to go.").
28. Sarah James, *We Are the Ones Who Have Everything to Lose, in Arctic Refuge: A Circle of Testimony* at 4 (compiled by Hank Lentfer and Carolyn Service 2001).
29. *New Scientist* at 16.
30. *Id.*
31. Jonathon Solomon, Chairman, Gwich'in Steering Committee, in *Protect the Sacred Place Where Life Begins: Iizhik Gwats'an Gwandaii Goodlit* (Gwich'in Steering Committee).
32. Arctic National Wildlife Refuge, Alaska, *Coastal Plain Resource Assessment: Report and Recommendation to the Congress of the United States and Final Legislative Environmental Impact Statement*, United States Department of the Interior, Apr. 1987 at 24 (hereinafter *FLEIS*) ("caribou have calved on the 1002 area every year for which detailed records have been kept (1972-86)"); see also *supra* note 1 (explaining distinction between 1002 area and Coastal Plain).
33. *USGS Report* at 13.
34. The maximum long-term growth rate for the Porcupine Caribou Herd was 4.9% during the 1970s and 1980s, *USGS Report* at 14, compared with maximum growth rates of 10.8% for the Central Arctic herd, 13% for the Teshekpuk Lake herd, and 9.5% for the Western Arctic herd, *id.* at 34. Since 1989, the Porcupine Caribou Herd has been in decline. *Id.* at 13.
35. *Id.* at 34.
36. *Id.* (citing Walsh et al., *Evaluating growth of the Porcupine caribou herd using a stochastic model*, 59 *Journal of Wildlife Management* 262–72 (1995)).
37. As explained in more detail below, the ability to gain relief from insects is crucial to caribou survival.
38. *USGS Report* at 24–25; International Porcupine Caribou Board, *Sensitive Habitats of the Porcupine Caribou Herd* at 14 (January 1993) (hereinafter *International Board Report*).
39. *FLEIS* at 46.
40. *National Academy of Sciences* at 107.
41. *Id.* at 108.
42. *Id.*
43. *International Board Report* at 3.
44. *Id.* at 14-15.
45. *Id.* at 17-18.
46. *National Academy of Sciences* at 108.
47. *Id.*
48. D.E. Russell & P. McNeil, *Summer Ecology of the Porcupine Caribou Herd*, Porcupine Caribou Management Board at 6 (2nd ed. 2005) (hereinafter *Summer Ecology*).
49. *FLEIS* at 24; *International Board Report* at 14 (map).
50. *USGS Report* at 11.

51. *FLEIS* at 24.
52. Calf survival is 83.8% for those born in concentrated areas versus 73.9% for those born in never-before-used areas (based on data from 1983-1994). *USGS Report* at 32-33.
53. *Summer Ecology* at 10.
54. *International Board Report* at 14.
55. *USGS Report* at 17.
56. *Summer Ecology* at 8.
57. *Id.* at 7; see also *International Board Report* at 14 (50% of first year mortality occurs within the first month).
58. *Summer Ecology* at 7.
59. *Id.* (higher predator concentrations).
60. *FLEIS* at 25.
61. *National Academy of Sciences* at 107.
62. *Id.*
63. *FLEIS* at 25.
64. *International Board Report* at 21.
65. US Fish and Wildlife Service Alaska website at <http://arctic.fws.gov/carcon.htm> (last visited Aug. 17, 2005).
66. *Id.*
67. *FLEIS* at 119.
68. *USGS Report* at 34.
69. *FLEIS* at 119.
70. See generally *International Board Report* at 14-19 (use of Coastal Plain during calving and post-calving).
71. *FLEIS* at 119.
72. *National Academy of Sciences* at 106 (location of CAH).
73. Raymond D. Cameron et al., *Caribou Distribution and Group Composition Associated with Construction of the Trans-Alaska Pipeline, Canadian Field-Naturalist* 93(2): 155-162, at 161 (1979).
74. *FLEIS* at 121.
75. *Id.* Despite the shift in calving locations, the overall population of the CAH nevertheless increased between 1978 and 1985. *Id.* Some researchers contend that this lack of reduction in productivity or consequent population decline is because “(1) suitable alternative high-quality habitat appears available; (2) the CAH has been displaced from only a part of its calving grounds to areas already used for calving; and (3) overall density of CAH caribou on their calving grounds (even after displacement) is much lower than the density of other Alaskan Arctic caribou herds.” *Id.* These ameliorating factors are all absent for the Porcupine Caribou Herd. See *USGS Report* at 30.
76. *USGS Report* at 29-30.
77. C. Nellemann & R.D. Cameron, *Cumulative impacts of an evolving oil-field complex on the distribution of calving caribou*, *Can. J. Zool.* 76: 1425-1430, at 1429 (1998).
78. *USGS Report* at 29-30.
79. *Id.* at 30.
80. *National Academy of Sciences* at 116.
81. *FLEIS* at 122.
82. *National Academy of Sciences* at 110 (citations omitted).
83. *Id.* at 116.
84. *USGS Report* at 34.
85. *Id.* at 13-14.
86. *Id.* at 34.
87. *FLEIS* at 121.
88. *USGS Report* at 34.
89. *Id.*
90. *Id.*
91. *Id.*
92. *Id.*
93. *Id.*
94. *Id.* at 120.
95. According to the Interior Department, “It is important to note that the Milne Point field [the subject of one of the CAH studies from which the *FLEIS* derived its predictions] is the smallest development on the North Slope.... Under full leasing, most roads in the 1002 area would be expected to have much greater traffic.... Thus, predicted results in the 1002 area, using the Milne Point study as a basis, are likely to be conservative.” *Id.*
96. *USGS Report* at 30-31.
97. *Id.* at 31.
98. See discussion of 4.6% growth rate decline, *supra* n. 36 and accompanying text.
99. *FLEIS* at 122.
100. *Id.* (internal citations omitted).
101. *Id.*
102. *Id.*
103. *Id.*
104. *Id.*
105. *Id.* (internal citations omitted).
106. *Id.* at 123.
107. *FLEIS* at 119.
108. *USGS Report* at 30-31.
109. *National Academy of Sciences* at 116.
110. *USGS Report* at 31.
111. *Arctic Climate Impact Assessment, Impacts of a Warming Arctic* at 71 (2004).
112. *Id.* at 72; see also *New Scientist*, *supra* note 3 at 16 (statement by Arctic Village elder Trimble Gilbert that the caribou migration has changed and the herd no longer crosses the Porcupine River at the village).
113. *Id.* (quoting Stephen Mills, Old Crow, Canada).
114. *FLEIS* at 123.
115. *Id.*
116. See *USGS Report* at 13 (noting population decline).
117. Arctic National Wildlife Refuge, Alaska: Hearings Before the Committee on Energy & Natural Resources of the United States Senate, 100th Cong. 309 (1987) (Statement of the Tanana Chiefs Conference, Inc., on Further Exploration and Oil Development in the 1002 Area of the Arctic National Wildlife Refuge).
118. *New Scientist*, at 16 (quoting Don Russell, a Canadian biologist with the International Porcupine Caribou Management Board).
119. Resolution of the IACHR on the Problem of Special Protection for Indigenous Populations, Inter-Am. C.H.R., OEA/Ser.L/V/II.29, doc. 38, rev. (1972), quoted *The Human Rights Situation of the Indigenous People in the Americas*, 1, n.1, OEA/Ser.L/V/II.108 Doc. 62 (October, 2000), available at <http://www.cidh.org/indigenas/toc.htm> (“In that resolution the Commission called on the member states ‘to implement the recommendations made by the Inter-American and Indianist Conferences... and, in particular, the provisions contained in Article 39 of the Inter-American Charter of Social Guarantees.’”); see also Report on the Situation of Human Rights of a Segment of the Nicaraguan Population of Miskito Origin (“Miskito Report”) 76, Inter-Am. C.H.R., OEA/Ser.L/V/II.62, doc. 10, rev. 3 (1983) at p. 81 § 2-B-15.
120. Case of Mary and Carrie Dann (“Dann”) Report No. 75/02, Case 11.140 (United States), Annual Report of the IACHR 2002 (2002) at ¶ 127, available at <http://cidh.org/annualrep/2002eng/USA.11140.htm> (last visited September 7, 2005) (“In acknowledging and giving effect to particular protections in the context of human rights of indigenous populations, the Commission has proceeded in tandem with developments in international human rights law more broadly.”); Report on the Human Rights Situation in Ecuador (“Ecuador Report”), OEA/Ser.L/V/II.96, Ch. 10, available at <http://cidh.org/countryrep/ecuador-eng/index%20-%20ecuador.htm> (last visited September 7, 2005) (“Within international law generally, and inter-American law specifically, special protections for indigenous peoples may be required for them to exercise their rights fully and equally with the rest of the population. Additionally, special protections for indigenous peoples may be required to ensure their physical and cultural survival – a right protected in a range of international instruments and conventions.”); Case of The Mayagna (Sumo) Awas Tingni Community v. Nicaragua. Judgment of August 31, 2001 (“Awas Tingni”) Inter-Am. Ct. H.R., (Ser. C) No. 79 (2001) at ¶ 151 available at http://www.corteidh.or.cr/seriecpdf_ing/seriec_79_ing.pdf (last visited September 7, 2005) (interpreting the American Convention’s protection of “property” to mean protection of property rights as understood by the indigenous community involved: “As a result of customary practices, possession of the land should suffice for indigenous communities lacking real title to property of the land to obtain official recognition of that property.”); Case of Maya Indigenous Communities of the Toledo District and Belize (“Belize Maya”), Case 12.053, Inter-Am. Com. H.R. Report 40/04 (2004) at ¶ 94, available at <http://www.cidh.org/annualrep/2004eng/Belize.12053eng.htm> (last visited Sept. 7, 2005) (giving “due regard to the particular principles of international human rights law governing the individual and collective interests of indigenous peoples”); Yanomami Indians v. Brazil, Case 7615 (Brazil), Inter-Am. C.H.R. ¶ 7, 9, OEA/Ser.L/V/II.66 doc. 10 rev. 1 (1985), available at <http://www.cidh.org/annualrep/84.85eng/Brazil7615.htm> (last visited September 7, 2005) (“International law in its present state...recognizes the right of ethnic groups to special protection...for all those characteristics necessary for the preservation of their cultural identity.... [T]he Organization of American States has established, as an action of priority for the member states, the preservation and strengthening of the cultural heritage of these ethnic groups and the struggle against the discrimination that invalidates their members’ potential as human beings through the destruction of their cultural identity and individuality as indigenous peoples.”).
121. Ksentini, Fatma Zohra, *Review of Further Developments in Fields*

with which the Sub-Commission has been Concerned: Human Rights and the Environment: Progress Report, U.N. C.H.R., Sub-Commission on Prevention of Discrimination and Protection of Minorities, 44th Sess., Agenda Item 4, at ¶ 27, para. 94, U.N. Doc. E/CN.4/Sub.2/1992/7 (1992) at 27. The right to a healthy environment is also a customary international right outside the context of indigenous peoples. See Ecuador Report, *supra* note 120, at 88-92; International Covenant on Economic, Social and Cultural Rights (ICESCR), Dec. 16, 1966, I.L.M. 360, 365, 993 U.N.T.S. 3, art. 12(2) (signed by United States on Oct. 5, 1977); Convention on the Rights of the Child, Nov. 20, 1989, art. 6, 28 I.L.M. 1448, 1577 U.N.T.S. 3, art. 29(e) (signed by United States on Feb. 16, 1995); Additional Protocol to the American Convention on Human Rights in the Area of Economic Social and Cultural Rights (Protocol of San Salvador), Nov. 14, 1988, art. 11, O.A.S.T.S. No. 69, 28 I.L.M. 156; African Charter on Human and Peoples' Rights, at 63 ("[a]ll peoples shall have the right to a generally satisfactory environment favorable to their development."); African Charter on the Rights and Welfare of the Child, entered into force Nov. 29, 1999, art. 14(2)(c), OAU Doc. CAB/LEG/24.9/49, art. 14 § 1(c) ("to ensure the provision of ... safe drinking water."); Charter of Fundamental Rights of the European Union, Sept. 28, 2000, 2000 O.J. (C 364), art. 37 ("A high level of environmental protection and the improvement of the quality of the environment must be integrated into the policies of the Union and ensured in accordance with the principle of sustainable development."); Convention on Biological Diversity, entered into force Dec. 29, 1993, preamble, 31 I.L.M. 818, 1760 U.N.T.S. 79; North American Agreement on Environmental Cooperation, Sept. 14, 1993, Preamble cl. 8, 32 I.L.M. 1482 (1993); Rio Declaration on Environment and Development, U.N. ESCOR, principles 1, 14, U.N. Doc. A/CONF.151/26 (Vol. I) (1992) ("Rio Declaration") ("Human beings ... are entitled to a healthy and productive life in harmony with nature."; recognizing the importance of controlling "any activities and substances that cause severe environmental degradation."); U.N. General Assembly Resolution 45/94, U.N. GAOR, 45th Sess., U.N. Doc. A/45/749 (1990) ("[A]ll individuals are entitled to live in an environment adequate for their health and well-being."); U.N. General Assembly Resolution 55/107, U.N. GAOR, 55th Sess., 3(k), U.N. Doc. A/Res/55/107 (2000) ("affirming that a democratic and equitable international order requires, inter alia, the realization of ... the entitlement of every person and all peoples to a healthy environment"); U.N. Commission on Human Rights Resolution 2000/62, U.N. ESCOR, 56th Sess., ¶ 3(k), U.N. Doc. E/CN.4/RES/2000/62 (2000) ("a democratic and equitable international order requires, inter alia, the realization of ... [t]he right to a healthy environment for everyone.");

122. International Covenant on Civil and Political Rights (ICCPR), art. 27, Dec. 16, 1966, 6 I.L.M. 368, 999 U.N.T.S. 171, 174 (ratified by United States, June 8, 1992).

123. Charter of the Organization of American States, arts. 2(f), 3(m), 30, 48, available at <http://cidh.org/Basicos/charter.htm> (last visited September 7, 2005) (Member States are "individually and jointly bound to preserve and enrich the cultural heritage of the American peoples").

124. See, e.g., Universal Declaration of Human Rights, art. 27, G.A. Res. 217A (III), U.N. GAOR, 3rd Sess., U.N. Doc. A/810 (1948) ("Everyone has the right freely to participate in the cultural life of the community...."); ICESCR, *supra* note 121, art. 12 ("The States Parties ... recognize the right of everyone ... [t]o take part in cultural life...."); American Declaration of the Rights and Duties of Man ("American Declaration") art. 13, Organization of American States (O.A.S.) Res. XXX (1948), reprinted in Basic Documents Pertaining to Human Rights in the Inter-American System, OEA/Ser.L/V/I.4 rev.8 (May 2001), available at <http://cidh.org/Basicos/basic2.htm> (last visited September 7, 2005) ("Every person has the right to take part in the cultural life of the community...."); American Convention on Human Rights, Nov. 22, 1969, art. 16, 9 I.L.M. 673, 676, 1144 U.N.T.S. 123, reprinted in Basic Documents Pertaining to Human Rights in the Inter-American System, OEA/Ser.L/V/I.4 rev.8 (May 2001), available at <http://cidh.org/Basicos/basic3.htm> (last visited September 7, 2005) ("Everyone has the right to associate freely for ideological, religious, political, economic, labor, social, cultural, sports, or other purposes.");

125. See, e.g., Belize Maya *supra* note 120 at ¶ 120 ("It has been the Commission's longstanding view that the protection of the culture of indigenous peoples encompasses the preservation of the aspects linked to productive organization, which includes, among other things, the issue of ancestral and communal lands" (quotation omitted).).

126. Awasth, *supra* note 120 at ¶ 149; see also Hunter, Salzmann & Zaelke, *International Environmental Law and Policy* (2d ed. 2001), at 1310; see also Ecuador Report, *supra* note 120, at ch. 9 ("Certain indigenous peoples maintain special ties with their traditional lands, and a close dependence upon the natural resources provided therein—respect for which is essential to their physical and cultural survival.").

127. Yanomami, *supra* note 120 at 5-6.

128. *Id.* See also Miskito Report, *supra* note 119 at ¶ II.B.15 ("[S]pecial legal protection is recognized for the use of ... all those aspects related to the preservation of their cultural identity. To this should be added the aspects linked to productive organization, which includes, among other things, the issue of the ancestral and communal lands. Non-observance of those rights and cultural values leads to a forced assimilation with results that can be disastrous.").

129. Belize Maya, *supra* note 120 at ¶ 154-156.

130. Convention concerning Indigenous and Tribal Peoples in Independent Countries ("ILO Convention No. 169"), art. 23.1 (June 27, 1989), 72 ILO Official Bull. 59, reprinted in 28 I.L.M. 1382, available at <http://www.unhchr.ch/html/menu3/b/62.htm> (last visited September 7, 2005); see also Dann, *supra* note 120 at ¶ 131 (noting the importance of interpreting the American Declaration in a manner that "safeguard[s] the integrity, livelihood and culture of indigenous peoples through the effective protection of their individual and collective human rights," because doing so respects "the very purposes underlying the Declaration").

131. General Comment No. 23: The rights of minorities, United Nations H.R.C., 50th Session, ¶ 7, 9, U.N. Doc. CCPR/C/21/Rev.1/Add.5 (1994), available at [http://www.unhchr.ch/tbs/doc.nsf/\(Symbol\)/fb7fb12c2fb8bb21c12563ed004df111?OpenDocument](http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/fb7fb12c2fb8bb21c12563ed004df111?OpenDocument) (last visited Sept. 7, 2005).

132. *Id.* at ¶ 33.

133. IITC Statement, *supra* note 9, at ¶ 8-10.

134. *Id.*

135. ICCPR, *supra* note 122, at art. 1(2); ICESCR, *supra* note 121 at art. 1; see also Draft Declaration on the Rights of Indigenous People, ("Draft U.N. Declaration") U.N. C.H.R., Sub-Commission on Prevention of Discrimination and Protection of Minorities, 45th Sess., U.N. Doc. E/CN.4/SUB.2/RES/1994/45 (1994), available at [http://www.unhchr.ch/huridocda/huridoca.nsf/\(Symbol\)/E.CN.4.SUB.2.RES.1994.45.En?OpenDocument](http://www.unhchr.ch/huridocda/huridoca.nsf/(Symbol)/E.CN.4.SUB.2.RES.1994.45.En?OpenDocument) (last visited September 7, 2005); Proposed American Declaration on the Rights of Indigenous Peoples ("Proposed American Declaration") art. 18.4, OEA/Ser.L/V/II.110 Doc. 22, (Mar. 1 2001) available at <http://www.cidh.org/indigenas/indigenas.en.01/index.htm> (last visited September 7, 2005). The Inter-American Commission has specifically noted that many of the provisions of the Proposed Declaration, "including aspects of Article [18], reflect general international legal principles developing out of and applicable inside and outside of the inter-American system and to this extent are properly considered in interpreting and applying the provisions of the American Declaration in the context of indigenous peoples." Dann, *supra* note 120 at ¶ 129.

136. See ILO Convention 169, *supra* note 130, art. 14.1 (protecting the right of indigenous peoples to their own means of subsistence and their right of access to lands they do not own, but "to which they have traditionally had access for their subsistence and traditional activities"); Proposed American Declaration, *supra* note 135, art. 28 (guaranteeing indigenous peoples the "right to an effective legal framework for the protection of their rights ... with respect to traditional uses of their lands, interests in lands, and resources, such as subsistence").

137. ILO Convention 169, *supra* note 130, at art. 23.1 (the "subsistence economy and traditional activities ... such as hunting, fishing, trapping and gathering, shall be recognised as important factors in the maintenance of their cultures and in their economic self-reliance and development").

138. Bernard Ominayak and the Lubicon Lake Band v. Canada, U.N. HRC, 45th Sess., Supp. No. 40, at ¶ 33, U.N. Doc. CCPR/C/38/D/167/1984 139.

139. See IITC Statement, *supra* note 9, at ¶ 12.

140. American Declaration, *supra* note 124, at art. XI. See also Protocol of San Salvador, *supra* note 121, at art. 14 (interpreting the right to health as ensuring "the enjoyment of the highest level of physical, mental and social well-being"); Universal Declaration of Human Rights, *supra* note 124, at art. 25(1) (guaranteeing each person's right to "a standard of living adequate for the health and well-being of himself and his family"); ICESCR, *supra* note 121, at art. 12 (recognizing "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health"); African Charter on Human and Peoples' Rights, *supra* note 121, at art. 16 ("Every individual shall have the right to enjoy the best attainable state of physical and mental health.").

141. Constitution of the World Health Organization, July 22, 1946, 14 U.N.T.S. 185, 186 (signed by United States July 22, 1946).

142. Hunt, Paul, *Right of Everyone to the Highest Standard of Physical and Mental Health: Addendum, Mission to Peru* ("Peru Report"), ¶ 6, U.N. Doc. E/CN.4/2005/51/Add.3 (2005).

143. U.N. Committee on Economic, Social and Cultural Rights, Substantive Issues Arising in the Implementation of the International

Covenant on Economic, Social and Cultural Rights, CESCR General Comment 14, 22nd Sess., at ¶ 4, U.N. Doc. E/C.12/2000/4 (2000). The Committee further states that victims of a violation of the right to health should have access to remedies at the both national and international levels and should be entitled to adequate reparation. *Id.* at ¶ 59.

144. *See, e.g.,* Stockholm Convention on Persistent Organic Pollutants, available at http://www.pops.int/documents/convtext/convtext_en.pdf (last visited September 7, 2005) (seeking “to protect human health and the environment.”); World Health Organization Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes, art. 1, U. N. Doc MP.WAT/AC.1/1999/1 (1999), available at <http://www.euro.who.int/Document/Peh-chp/ProtocolWater.pdf> (aiming “to promote at all appropriate levels, nationally as well as in transboundary and international contexts, the protection of human health and well-being, both individual and collective”); Rio Declaration, *supra* note 121, princ. 145 (recognizing importance of controlling “any activities and substances that ... are found to be harmful to human health”).

145. Drawing from various international human rights documents and national constitutions, the Special Rapporteur found that, under customary international law, “everyone has a right to the highest attainable standard of health.” Ksentini Final Report, *supra* note 121, at ¶ 176-187.

146. *Id.* at ¶ 176

147. Peru Report, *supra* note 142 at ¶ 54.

148. Yanomami, *supra*, note 120 at 8.

149. *Id.*

150. Belize Maya, *supra* note 120 at ¶ 156.

151. *National Academy of Sciences*, *supra* note 16 at 139.

152. ICCPR, *supra* note 122, art. 18.

153. *See, e.g.,* American Declaration, *supra*, note 124, art. 3 (“Every person has the right freely to profess a religious faith, and to manifest and practice it both in public and in private.”); American Convention, *supra* note 124, art. 12 (protecting “the right to freedom of conscience and of religion”); International Convention on the Elimination of All Forms of Racial Discrimination, Article 5(d)(vii)(ix) (guaranteeing “the right of everyone freedom of thought, conscience and religion”).

154. *See, e.g.,* Proposed American Declaration *supra*, note 135, at art. 10.3 (“[S]tates shall adopt effective measures to ensure that [indigenous peoples’] sacred sites ... are preserved, respected and protected... [and] shall encourage respect by all people for the integrity of indigenous spiritual symbols, practices, sacred ceremonies, expressions and protocols.”); Draft UN Declaration, *supra* note 135, art. 13 (protecting rights “to manifest, practice, develop and teach their spiritual and religious traditions, customs and ceremonies... to the use and control of ceremonial objects; and the right to the repatriation of human remains” and requiring states to “take effective measures... to ensure that indigenous sacred places... be preserved, respected and protected”).

155. The violation of the Maya’s right to religion was therefore “subsumed within the broad violations of [the right to property].” Belize Maya, *supra* note 120, at ¶ 155.

156. General Comment No. 23: The rights of minorities (Art. 27): 08/04/94. CCPR/C/21/Rev.1/Add.5 3.2, available at <http://www.unhchr.ch/tbs/doc.nsf/0/fb7b12c2fb8bb21c12563ed004df111?Opendocument> (last visited September 7, 2005).

157. Written Statement Submitted by the International Indian Treaty Council, a Non-Governmental Organization in Special Consultative Status, United Nations Commission on Human Rights, E/CN.4/2003/NGO/106 (Mar. 12, 2003) available at <http://www.unhchr.ch/huridocda/huridoca.nsf/2848af408d01ec0ac1256609004e770b/8b49cfc8c17656ac1256d020031bafb?OpenDocument>.



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