

From: [REDACTED]
To: [Kaye, Roger](#)
Subject: Any Actions We Can Take??
Date: Thursday, November 2, 2017 10:07:16 PM

Hey Roger,

I'm following the news in regards to the proposed opening of the 1002 lands for drilling in the budget resolution. I'm curious if there are any immediate actions that can be taken by the public to help get this removed, sway congress members, etc.?

Thank you for your input,

[REDACTED]

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From: [US Arctic Research Commission](#)
To: christopher_putnam@fws.gov
Subject: Arctic Daily Update: November 3, 2017
Date: Friday, November 3, 2017 11:32:32 AM

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ARCTIC UPDATE



THE US ARCTIC RESEARCH COMMISSION DAILY EMAIL NEWSLETTER

November 3, 2017

Today's Events:

**** New this week **** [North Slope Science Initiative Science Technical Advisory Panel, Nomination Period Open October 25 - November 24, 2017](#) (Anchorage, Alaska USA). Nominations and applications currently are being accepted for new members to fill six vacant positions on the Science Technical Advisory Panel (STAP) for the North Slope Science Initiative (NSSI). The STAP is a federal advisory committee chartered to advise the NSSI Oversight Group on scientific matters including proposed inventory, monitoring, and research activities necessary for addressing the impacts of past, ongoing, and anticipated development activities on Alaska's North Slope and its associated marine environment. The Oversight Group is composed of senior representatives of federal, state, and local government entities that have management and regulatory responsibilities for development activities on the North Slope. More information on the North Slope Science Initiative is available [here](#).

Media

Alaskans Testify at US Senate Hearing on Drilling in ANWR. Numerous Alaskans testified Thursday before a U.S. Senate committee run by Alaska Sen. Lisa Murkowski about what it would mean to open the coastal plain of the Arctic National Wildlife Refuge to oil and gas drilling. A summary of the testimony and questions is available here: [Alaska Dispatch News](#)

Aboriginal Coalition Joins Clearwater to Obtain Arctic Surf Clam License. Thirteen Nova Scotia Mi'kmaq bands are partnering with Clearwater Seafoods to seek a license in the lucrative Arctic surf clam fishery, following a recent call by Ottawa for new entrants in a sector currently fished by Clearwater alone. The announcement of the "operational partnership" was made by Chief Terrance Paul, co-chairman of the Assembly of Nova Scotia Mi'kmaq Chiefs, The Canadian Press reported. [Fish Information & Services](#)

Russian Navy's Hydrographers Open 11 Islands in Arctic Over Five Years. Expeditions, organized by the Ministry of Defense's department of navigation and

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oceanography, over past five years opened eleven islands and six straits in the Arctic seas, the department's head, Captain First Rank Sergey Travin, said during celebration of the department's 190th anniversary. "Over past five years, our oceanographic research vessels went on more than 25 long voyages, where they opened eleven islands, six straits, nine capes and five bays," he said. [TASS](#)

Future Events

**** New this week ** [Arctic Seminar Series, November 8, 2017 \(Durham, New Hampshire USA\)](#).** This seminar will be a coordinated, group presentation by three members of the US Arctic Research Commission (USARC, www.arctic.gov), an independent federal agency. After a brief description of the USARC, including its purpose, duties, and efforts, John Farrell will discuss Arctic science and public policy, and will highlight recent developments. Jackie Richter-Menge will discuss her current efforts, such as highlighting the value of Arctic community participation in research, encouraging the value of interdisciplinary approaches, and highlighting opportunities to be come involved. Larry Mayer will give examples of work being done at UNH that are relevant to policy issues, such as the UN Convention on the Law of the Sea, the Siberian Arctic shelf as a natural gas resources and the "clathrate bomb" issue, Petermann Glacier and the rapid degradation of the Greenland Ice Sheet, Arctic marine charting using an autonomous surface vessel, and Swedish funding for Arctic collaboration.

[Polar Law Symposium 2017 and Rovaniemi Arctic Spirit, November 13-16, 2017 \(Rovaniemi, Finland\)](#).

The purpose of the Polar Law Symposium is to examine, in detail, the implications of the challenges faced by the Polar Regions for international law and policy and to make recommendations on appropriate actions by states, policy makers and other international actors to respond to these emerging and re-emerging challenges. The Rovaniemi Arctic Spirit Conference is integrated with the Polar Law Symposium, which will be organized by the Northern Institute for Environmental and Minority Law at the Arctic Center of the University of Lapland.



[Arctic Research Seminar with Courtney Carothers and Laura Zanotti: In a Climate of Change: Co-producing Knowledge and Community Researcher Relationships in the Leadership and Strength Project in Utqiagvik, Alaska, November 30, 2017 \(Washington, DC USA\)](#). Courtney Carothers is an associate professor of fisheries in the College of Fisheries and Ocean Sciences at the University of Alaska Fairbanks. She is an environmental anthropologist currently researching how fishery systems are being remade by enclosure and privatization processes and the total environment of change facing Arctic Indigenous communities. Her work explores human-environment relationships, cultural values, equity, and well-being. She has co-edited two books and published over 30 articles and book chapters on these topics. She currently serves on a number of boards and working groups, including: the SEARCH (Study of Environmental Arctic Change) Science Steering Committee, the North Pacific Research Board Science Panel, the Alaska Sustainable Salmon Fund Expert Panel, the State of Alaska's Salmon and People. This event is part of the ARCUS DC Arctic Research Seminar Series.

[AGU Fall Meeting, December 11-15, 2017 \(New Orleans, LA USA\)](#). Fall Meeting is the largest and preeminent Earth and space science meeting in the world. The 2017 Fall Meeting will take place in New Orleans, Louisiana,



offering attendees the chance to discover a new location that features world renowned cuisine, music, arts and culture, and provides access to vital scientific ecosystems. Fall Meeting will offer a unique mix of more than 20,000 oral and poster presentations, a broad range of keynote lectures, various types of formal and informal networking and career advancement opportunities, scientific field trips around New Orleans, and an exhibit hall packed with hundreds of exhibitors.

[Int'l Arctic Change 2017 Conf., December 11-15, 2017 \(Quebec, Canada\)](#)

ArcticNet invites the global Arctic research community to Arctic Change 2017! This conference will bring together Arctic researchers and students with Inuit, Northerners and government, industry and NGO stakeholders. The world's foremost Arctic scientists will present research findings and discuss impacts of climate change and modernization. With over 1500 participants expected, Arctic Change 2017 will be one of the largest trans-sectoral international Arctic research conferences held in Canada. We welcome students and early career researchers to participate in "Student Day" at the start of the Conference. See an excerpt from last year: [ArcticNet](#)



[ASM2016](#).

[ISAR-5 Fifth International Symposium on Arctic Research, January 15-18, 2018 \(Tokyo, Japan\)](#)

The fifth ISAR has been planned at the recommendation of the science steering committee of ISAR-4, which was held in Toyama, Japan in April 2015. The fifth ISAR will be devoted to discussions on environmental changes in the Arctic and their regional and global implications, to seek additional international scientific collaboration in this area by gathering, synthesizing and sharing information related to these changes occurring in the Arctic. Special emphasis will be placed on the fields of the social sciences and humanities, which were not included in the previous ISARs. ISAR-5 will consist of general sessions and special sessions. The general sessions will address the following topics: atmosphere; ocean and sea ice; rivers, lakes, permafrost, and snow cover; ice sheets, glaciers, and ice cores; terrestrial ecosystems; marine ecosystems; geospace; policies and economy; and social and cultural dimensions. Special sessions will be solicited on cross-cutting themes.

[2018 Arctic Frontiers: Connecting the Arctic, January 21-26, 2018 \(Tromsø, Norway\)](#)

Arctic Frontiers is an international arena on sustainable development in the Arctic. The conference addresses the management of opportunities and challenges to achieve viable economic growth with societal and environmental sustainability. Arctic Frontiers brings academia, government and business together to create a firmer foundation for decision-making and sustainable economic development in the Arctic. Join the Arctic Frontiers conference preparing the new Arctic future. The conference takes place the fourth week of January in the Norwegian city of Tromsø, known as the Gateway to the Arctic.

[Alaska Marine Science Symposium, January 22-26, 2018 \(Anchorage, Alaska.\)](#)

The Alaska Marine Science Symposium (AMSS) is Alaska's premier marine research conference. For over 20 years, it has brought together scientists, educators, resource managers, students, and the public to discuss marine research conducted in Alaskan waters. Over 700 people attend this 4-day long conference held annually in January. Each day of the conference highlights Alaskan marine ecosystems: Arctic

(Tuesday), Bering Sea & Aleutian Islands (Wednesday), and the Gulf of Alaska (Thursday). Research topics discussed range from ocean physics, fishes and invertebrates, seabirds, marine mammals, to local traditional knowledge. Website for 2018 meeting is [here](#).

[Alaska Forum on the Environment, February 12-16, 2018 \(Anchorage, Alaska\)](#)

AFE is a statewide gathering of environmental professionals from government agencies, non-profit and for-profit businesses, community leaders, Alaskan youth, conservationists, biologists and community elders. The diversity of attendees sets this conference apart from any other. The 2018 event will be our 20th year providing a strong educational foundation for all Alaskans and a unique opportunity to interact with others on environmental issues and challenges.



[The Effects of Climate Change on the World's Oceans, June 4-8, 2018 \(Washington, DC USA\)](#)

The 4th International Symposium will bring together experts from around the world to better understand climate impacts on ocean ecosystems - and how to respond. The event is hosted by a variety of groups including International Council for the Exploration of the Sea (ICES), North Pacific Marine Science Organization (PICES), Intergovernmental Oceanographic Commission of UNESCO (IOC), and Food and Agriculture Organization of the United Nations (FAO).



**** New this week ****

[International Conference on Arctic Margins \(ICAM\) VIII, June 11-14, 2018 \(Stockholm, Sweden\)](#)

The international Conference on Arctic Margins (ICAM) is a forum for earth scientists who study the Arctic. It was founded to help understand the little known Arctic geology and to foster cooperation and collaboration among Arctic researchers. There have been 7 meetings since its

inception in 1991. See [here](#) for more information.

[POLAR 2018, June 15-27, 2018 \(Davos, Switzerland\)](#)

POLAR2018 is a joint event from the Scientific Committee on Antarctic Research (SCAR) and the International Arctic Science Committee (IASC). The SCAR meetings, the ASSW and the Open Science Conference will be hosted by the Swiss Federal Institute for Forest, Snow and Landscape Research WSL under the patronage of the Swiss Committee on Polar and High Altitude Research. The WSL Institute for Snow and Avalanche Research SLF is organizing POLAR2018.



[17th International Congress of Circumpolar Health \(ICCH17\), August 12-15, 2018 \(Copenhagen, Denmark\)](#)

The ICCH congresses are held every third year in different locations in the circumpolar area and represent the largest scientific meetings worldwide on circumpolar health. The ICCH congresses serve as the primary source of information exchange and scholarly communication in issues relating to circumpolar health. More than 750 participants generally register and participate in each Congress, and more than 400 scientific papers or posters are usually presented.

[Arctic Biodiversity Congress, October 9-11, 2018 \(Rovaniemi, Finland\)](#). The second Arctic Biodiversity Congress is hosted by the Conservation of Arctic Flora and Fauna (CAFF), the biodiversity working group of the Arctic Council, and the Ministry of

the Environment, Finland. The second Arctic Biodiversity Congress will build on the success of the first Congress, held in 2014 in Trondheim, Norway, and will bring together scientists, policymakers government officials, Indigenous representatives, Traditional Knowledge holders, industry, non-governmental organizations, and others to promote the conservation and sustainable use of Arctic biodiversity.



US Arctic Research Commission



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From: [Carol Damberg](#)
To: [Mitch Ellis](#)
Subject: BOG Comments
Date: Monday, November 6, 2017 4:42:51 PM
Attachments: [BOG TALKING POINTS NOV 10 DraftMitch20171006.docx](#)

Mitch - Here is the draft of comments I developed. Let me know your edits or comments. I will be in ANILCA training Tues and Wed. at the Cambell Tract but could meet with you before after the training if needed. I will have some printed supporting materials available about each topic for us to reference if needed.

I did not bring up **b5 - DP (and not responsive)** - I thought that was more of an OSM topic – but I can insert if needed a small blurb like

b5 - DP (and not responsive)
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Let me know your thoughts - Super Fun Times Ahead!

Carol Damberg

U.S. Fish and Wildlife Service
Regional Subsistence Coordinator

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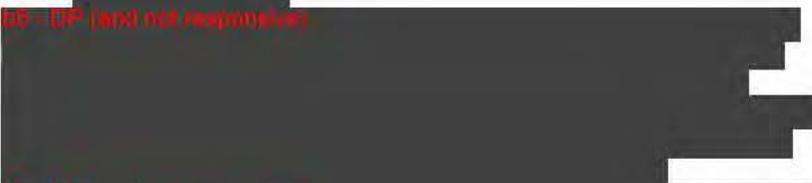
BOG TALKING POINTS NOV 10, 2017

Thank you for the opportunity to provide some updates on FWS topics. Greg is sorry he could not be here - but he is actually out hunting! If you do not have specific initial questions I can provide the Board with some updates we thought might be of interest.

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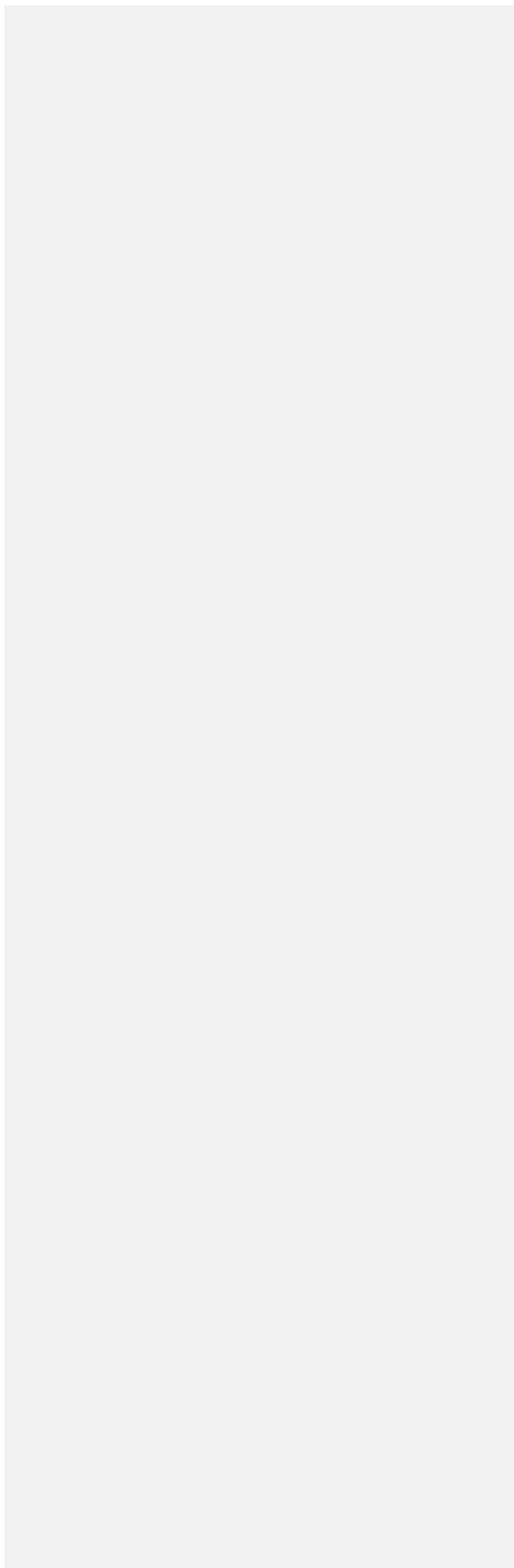
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From: [Gustine, Nicole](#)
To: [Stephanie Brady](#); [Tracy Fischbach](#); [Peter Wikoff](#); [Brian McCaffery](#); [John Martin](#); [Hansel Klausner](#)
Subject: CCP goals and objectives
Date: Tuesday, November 7, 2017 10:23:05 AM
Attachments: [RefugePurposesGoalsandObjectives.docx](#)

In an effort to make things a little easier I have created a one-stop shop for the CCPs in the region. Refuge purposes and CCP vision/goals/objectives have been listed alphabetically by refuge name. You'll notice that some refuges only have their purposes listed. Older CCPs followed a different format and did not have goals and objectives.

I've attached the document and also saved it in the Planning folder on the Realty drive in the following folder: 11_Multiple_Refuges\RefugePurposesGoalsandObjectives

Eventually it will be on our internal google site. Please let me know if you have any comments or suggestions. Thanks!

Sincerely,

Nicole Gustine, Refuge Specialist
U.S Fish and Wildlife Service
1011 E. Tudor Rd., MS-225
Anchorage, Alaska 99503
(907) 903-8819 - cell
Hours: Tue - Thurs 6am to 1pm

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2017

Region 7 Refuge Purposes and CCP Vision, Goals, and Objectives



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Alaska Maritime National Wildlife Refuge - 1988

Refuge Purposes

Section 303(1)(b) of the Alaska National Interest Lands Act (ANILCA) sets forth the following major purposes for which Alaska Maritime National Wildlife Refuge was established and shall be managed:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to marine mammals, marine birds, and other migratory birds; the marine resources upon which they rely; and bears, caribou, and other mammals;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents;
- (iv) to provide, in a manner consistent with subparagraphs (i) and (ii), a program of national and international scientific research on marine resources;
- (v) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.

Alaska Peninsula and Becharof National Wildlife Refuge - 2006

Refuge Purposes

The primary purposes of the Alaska Peninsula and Becharof Refuges are described in Section 302(1)(B) and Section 302(2)(B) of ANILCA. Purposes for the Alaska Maritime National Wildlife Refuge are described in Section 303(1)(B).

These purposes include the following (unless otherwise noted, the purposes apply to all units of the Refuges):

- *[Alaska Maritime]* to conserve fish and wildlife populations and habitats in their natural diversity, marine mammals, marine birds, and other migratory birds, the marine resources upon which they rely, bears, caribou, and other mammals
- *[Alaska Peninsula]* to conserve fish and wildlife populations and habitats in their natural diversity, including brown bears, the Alaska Peninsula caribou herd, moose, sea otters and other marine mammals, shorebirds and other migratory birds, raptors including bald eagles and peregrine falcons, and salmonids and other fish
- *[Becharof]* to conserve fish and wildlife populations and habitats in their natural diversity, including brown bears, salmon, migratory birds, the Alaska Peninsula caribou herd, and marine mammals and birds to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats to provide, in a manner consistent with the purposes set forth in preceding paragraphs, the opportunity for continued subsistence uses by local residents
- *[Alaska Maritime]* to provide, in a manner consistent with preceding paragraphs, a program of national and international scientific research on marine resources to ensure to the maximum extent practicable and in a manner consistent with the purposes set forth in preceding text, water quality and necessary water quantity within the refuge
- *[Becharof Wilderness Area]* to secure an enduring resource of wilderness, to protect and preserve the wilderness character of areas within the National Wilderness Resource Preservation System, and to administer this wilderness for the use and enjoyment of the American people in a way that will leave it unimpaired for future use and enjoyment as wilderness.

Refuge Vision

The Alaska Peninsula and Becharof Refuges will remain as they are today with healthy, natural populations of fish and wildlife living in primarily unaltered habitats. The Refuges will continue to provide local residents opportunities for subsistence use. The Refuges will be open to all people to engage in a variety of wildlife-dependent activities and to enjoy the spectacular setting and resources. Refuge management and outreach will be a model of effective collaboration among diverse public interests and public and private landowners and managers.

Refuge Goals and Objectives

The objectives listed beneath each goal are often applicable to more than one goal. In order to avoid unnecessary duplication, we have listed each objective only once, under the goal that represents the clearest connection. The ordering of the objectives is not intended to imply prioritization; in fact, the many objectives listed beneath Goal 2 have been clustered into rough categories of wildlife, habitat, and fish. Following each objective, we list those other goals the objectives are also designed to address.

Many of the objectives that are important for managing subsistence activities and public use of the Refuges require monitoring or improving our knowledge of the natural resources linked to the subsistence or public-use activities. For this reason, most of the objectives for subsistence or public use are listed beneath Goal 1 or Goal 2, the two of which are focused on improving our knowledge of the Refuges' biological resources and on conserving habitat for those resources.

Goal 1: Ensure quantity and optimal quality of naturally functioning habitats available on the Refuges for fish and wildlife populations in perpetuity, especially for salmonids, migratory birds, the Northern Alaska Peninsula caribou herd, moose, and brown bear.

The Refuge vision statement and purposes emphasize conserving populations and habitats in their natural diversity. Although fish and wildlife populations may fluctuate for a variety of reasons, if the habitats on which they depend are functioning naturally and available in their natural abundance and diversity, the opportunity exists for populations to thrive. As with many of the other refuges in Alaska, the size, remoteness, weather, and complexity of the Alaska Peninsula and Becharof Refuges make it challenging to collect data on species and habitats. Fulfilling this goal requires information about fish, wildlife, and plant populations and their relationship to the habitat. Almost all of the objectives stated under Goal 2 and Goal 4 are objectives that would also provide necessary information for achieving Goal 1.

1. Delineate marbled godwit nesting habitat and range in the Ugashik and Cinder drainages and vicinity by 2008 (also Goal 2).
2. Cooperate with the State of Alaska in developing an interagency study of traditional subsistence access prior to the Alaska National Interest Lands Conservation Act (ANILCA) and develop and implement methodology to formally monitor existing off-road vehicle impacts on refuge lands by 2010. Monitoring off-road impacts would be conducted to document damage to vegetative cover and soils in areas of significant use, including Big Creek, King Salmon River (near Egegik), Becharof Lake outlet, Yantarni Bay airstrip, and Port Heiden (also Goals 2, 3, and 7).
3. Monitor development of inholdings and uses of adjacent parcels to identify activities that could adversely affect refuge users and resources. Work with Service's Regional Office realty specialists to identify opportunities to acquire lands or interests in lands from willing sellers to further the goals of the refuge and the mission of the National Wildlife Refuge System. Additional assistance may be provided by working with other federal agencies, the state, Native corporations, and nongovernmental organizations.

Goal 2: Improve knowledge of fish and wildlife populations and their habitats in order to conserve species in their natural diversity, especially those that are identified in the refuge purposes, that have restricted populations, or that have been identified as species or populations of ecological interest.

The Refuges' objectives for wildlife under Goal 2 are directed toward monitoring a diverse group of species, including moose, caribou, wolves, bears, waterfowl, bald eagles, seabirds, shorebirds, and songbirds. This monitoring will provide valuable information for the ongoing management of wildlife populations on the Refuges as well as for responding to catastrophic events. These inventory and monitoring objectives will be incorporated in the wildlife inventory

plan and may be revised when the Refuges staff completes a formal review of the biological program. Successful completion of many objectives will require close cooperation or consultation with the Alaska Department of Fish & Game (ADF&G), other agencies, the academic community, residents with local knowledge, and/or others.

4. Complete the Refuges' wildlife inventory plan—which includes goals and objectives, priorities, and methods for wildlife monitoring and inventory—by October 2007 (also Goal 1).
5. Estimate moose density in the Refuges and vicinity, using professionally accepted methods, by 2008 (also Goals 1 and 3).
6. Contribute to international efforts to establish trends in migratory bird populations by inventorying and monitoring landbird populations (as scheduled in the wildlife inventory plan) for measures of abundance, reproduction, and habitat using methods such as Monitoring Avian Productivity and Survivorship (MAPS) program, point counts, Christmas bird counts, and fall migration monitoring (also Goal 1).
7. Evaluate the Mother Goose Lake MAPS sites, in coordination with Boreal Partners in Flight and the Institute for Bird Populations, to determine if MAPS monitoring should be continued periodically, reinitiated in the future, or initiated at a new location. Implement schedule as recommended (also Goal 1).
8. Cooperate with other land managers to inventory and monitor shorebirds in the Bristol Bay lowlands.
9. Cooperate with other land managers to monitor population trends of productivity of swans in the Bristol Bay lowlands.
10. Continue monitoring (as scheduled in the wildlife inventory plan) waterfowl staging in upper Bristol Bay drainages during spring to document the range and annual variation of species composition, abundance, and phenology (timing) for use as a baseline for long-term impacts from local development and for the transition into spring waterfowl hunting (also Goal 3).
11. Conduct year-round monitoring of waterfowl harvested by local villagers (also Goal 3).
12. Continue cooperation with ADF&G on inventory, monitoring, and research studies to maximize information available for the management of species such as moose, caribou, brown bear, and others (also Goals 1 and 3).
13. In cooperation with ADF&G, by 2010, develop methodology and begin gathering information on trapping effort, harvest, and areas within the Refuges (also Goals 3 and 6).
14. Survey caribou (as scheduled in the wildlife inventory plan) in Pacific drainages of the Chignik Unit to determine post-calving count and calf composition (also Goal 3).
15. Monitor Pacific coast murre colonies of Becharof Refuge for peak colony count and productivity in three of every 10 years in order to document recovery from the Exxon Valdez oil spill (also Goal 1).
16. Monitor bald eagle populations and productivity along the Pacific coast of the Refuges every five years and initiate inventory of eagles in Bristol Bay drainages and of other raptors throughout the Refuges by 2008.
17. Develop methodology and monitor wolf numbers and predation on caribou and moose in the Refuges and vicinity by 2008 (also Goal 3).

18. Monitor seabird colony numbers along the Pacific coast of the Refuges, in cooperation with the Alaska Maritime Refuge, every 10 years (also Goal 1).
19. Continue inventory and monitoring of rodent and insectivore distributions and trends on the Refuges.

Knowledge of wildlife habitat characteristics such as distribution, quality, function, and availability is an important first step in understanding changes in wildlife populations. The following objectives were established to develop the necessary information and tools for a basic understanding of wildlife habitat on the Refuges.

20. Complete development, by 2008, of a refuge-based geographic information system (GIS); hardware, software, and data layers) that provides managers and biologists with a basic capability for mapping available data (also Goal 1).
21. Assist the Service's Alaska regional botanist in completing the vegetation community classification for the Refuges (also Goal 1).
22. Determine range condition for the Northern Alaska Peninsula caribou herd by 2010 (also Goal 1).
23. Complete a habitat inventory plan that includes goals, objectives, priorities, and methods for habitat inventory and monitoring by December 2007 (also Goal 1).
24. Develop a map of major vegetation types and mosaics—incorporating soils, surficial geology, and water—for the Refuges and vicinity by 2010 (also Goal 1)
25. Develop habitat models and maps for caribou and moose on the Refuges and vicinity by 2012 (also Goal 1).
26. Develop habitat models and maps for additional species (following the completion of habitat maps for caribou and moose) using priorities established in the wildlife and habitat inventory plans at a rate of one habitat map per year (also Goals 1 and 3).
27. Complete reconnaissance of invasive plant and animal species near communities, ports, and other access points by 2010 (also Goal 1).
28. Determine, by 2006, whether caribou summering in Pacific drainages of the Ugashik Unit constitute a distinct subpopulation of the Northern Alaska Peninsula caribou herd (also Goals 1 and 3).
29. In cooperation with ADF&G and the National Park Service, conduct wildlife inventories, monitoring, and research on species—including caribou, moose, and brown bear—to increase information available for management (also Goal 3).
30. Continue working cooperatively with partners to complete ongoing studies and projects and initiate other high-priority projects identified during the Becharof Ecosystem Partnership Workshop (March 1997). Some of the highest-priority projects concern learning more about the population dynamics of the Northern Alaska Peninsula caribou herd; expanding resident and anadromous fisheries baseline data; completing vegetative cover and habitat mapping; monitoring water quality; and quantifying public uses (also Goals 1, 3, 6, and 7).
31. Work with partners to contribute to understanding of climatic changes and their effects on refuge resources.
32. Continue to operate Remote Area Weather Stations (RAWS) at Mother Goose Lake and Yantarni for collection of weather information.

The following objectives are designed to increase understanding of, and the ability to manage, important fish populations on the Refuges. The objectives address species and drainages that are important not only for subsistence, commercial, and recreation uses, but also for their contribution to the ecological integrity of the Refuges.

33. Evaluate Arctic grayling, lake trout, and Dolly Varden population structure and abundance in the Ugashik and Egegik drainages by 2006.
34. Evaluate coho salmon population structure and abundance in the Pacific coast and Bering Sea drainages by 2010 (also Goal 3).
35. Evaluate Chinook salmon population structure and abundance in the Bering Sea drainages by 2010 (also Goal 3).
36. Reevaluate rainbow trout population structure and abundance in the King Salmon River by 2008 (also Goal 3).
37. Conduct creel surveys of the winter fishery in the lower King Salmon River, Egegik drainage, by 2015 (also Goal 3).
38. Conduct creel surveys of the summer open-water fishery at the Ugashik Lakes by 2006 (also Goals 6 and 7).
39. Continue implementation of the Fisheries Management Plan of 1994 and update the plan by 2008 (also Goals 1 and 3).

Goal 3: Provide opportunities for local residents to continue their subsistence use of the Refuges, consistent with the subsistence priority and other refuge purposes.

The opportunity for continued subsistence use by local residents is one of the purposes for which the Refuges were established by ANILCA. Objectives for this goal are directed at working with local residents and others to understand subsistence uses and potential conflicts and to monitor subsistence resources for better management. Most of the objectives related to subsistence resources are listed under Goal 2.

40. Continue the Refuge Information Technician program to enhance information exchange with local communities on subsistence issues (also Goal 8).
41. Continue monitoring hunter activity in areas of potential conflict between local and outside hunters and investigate allegations of interference (also Goal 7).
42. Continue to participate in the fish and game regulation process through local fish and game advisory committees, the Alaska Boards of Fisheries and Game, the Subsistence Regional Advisory Council, the Alaska Migratory Bird Co-management Council, and the Federal Subsistence Board to facilitate information exchange and rule-making (also Goal 6).
43. Cooperate with the Federal Subsistence Board in making customary and traditional use determinations for refuge-area communities, including for finfish and beaver.
44. Expand law-enforcement activities to increase education and outreach, field patrols, and investigation of cases associated with the implementation of spring waterfowl hunting regulations (also Goal 8).

Goal 4: Improve baseline understanding of water resources on the Refuges to acquire and maintain the water quality and quantity necessary to conserve fish and wildlife populations and habitats in their natural diversity.

Objectives for water quality and quantity are directed at supporting Goals 1 and 4 and completing baseline studies and acquiring the necessary rights to protect water quality and quantity, as directed by the purposes of the Refuges, as established in ANILCA.

45. Complete or update an inventory and assessment of refuge water resources—including quantity, quality, use, and protection status—by 2008. (also Goal 1).
46. Based on the inventory and assessment (objective 45), complete, by 2010, a study plan to investigate the water resources of the Refuges to maintain the quality and quantity to protect the fish, wildlife, and habitats of the refuges in their natural diversity.
47. Analyze and determine water-rights needs on the Egegik drainage by 2007 and formally apply for them by 2009 (also Goal 1).
48. Complete water resource investigations and acquire water rights for waters identified in the water resource investigation plan (also Goal 1).
49. Continue limnological studies of Becharof and Ugashik lakes in cooperation with King Salmon Fisheries Research Office (also Goal 1).
50. Complete baseline water-quality studies of Refuges lakes and streams following the schedule identified in the water resources investigation plan (also Goal 1).

Goal 5: Preserve and enhance, in perpetuity, wilderness values of designated Wilderness, consistent with the establishing purposes.

Objectives directed at the Becharof Wilderness Area are designed to manage and understand the wilderness values.

51. Distribute information about Leave-No-Trace principles whenever information is requested about the Becharof Wilderness Area, and work with commercial guides to apply these principles when operating within designated Wilderness.
52. By applying the Leave-No-Trace principles, manage recreation settings within designated Wilderness to provide opportunities for solitude, self-reliance, and other characteristics that depend on a wilderness environment while not impairing other uses and values associated with wilderness.
53. Promote consistency, through interagency coordination, in wilderness management of the Becharof Wilderness and the adjacent designated Wilderness of Katmai National Park and Preserve.
54. Ensure appropriate uses (including administrative uses) of the Becharof Wilderness on an ongoing basis by expanding law enforcement within designated Wilderness and conducting the minimum-requirement analysis to all management activities.
55. Prepare a wilderness stewardship step-down plan within one year of release of national wilderness guidelines.

Goal 6: Provide opportunities for quality1 wildlife-dependent recreation, emphasizing short-term, low-density uses that require minimal facility development or habitat alteration.

The National Wildlife Refuge System Administration Act of 1966, as amended by the National Wildlife Refuge System Improvement Act, states that compatible wildlife-dependent recreation is a legitimate and appropriate general public use of the System and directs the Service to facilitate hunting, fishing, wildlife viewing and photography, and environmental education and interpretation on refuges, subject to restrictions or regulations as needed. Objectives that are designed to address the resources necessary to support wildlife-dependent recreation are listed under Goal 2. Other objectives that help to provide high-quality experiences are described along with Goals 7 and 8. General management direction of public use on the Refuges, including commercial uses, is described in Section 4.

56. By continuing to implement and strengthen the Refuges special use permit program—including improvement of permittee recording requirements—and increasing enforcement of and compliance with permit stipulations through increased field inspections, provide commercial visitor service opportunities for the public who would not or could not experience a safe, quality visit to the Refuges on their own (also Goal 8).

Goal 7: Provide opportunities for subsistence, recreational, and commercial users to enjoy and benefit from compatible activities on the Refuges in ways that minimize conflicts among user groups.

Section 804 of ANILCA states that subsistence will be the priority consumptive use of public lands in Alaska, consistent with the purposes for each unit. Fish and Wildlife Service policy describes quality recreation opportunities, in part, as creating minimal conflict with other wildlife-dependent recreation uses or refuge operations. The Refuges need to be aware of and address conflicts among refuge users. Many of the objectives in Goal 2 that consider harvest levels or monitor populations of fish and wildlife also provide important information for accomplishing this goal.

57. Expand the public-use monitoring program for all users of the Refuges. A special emphasis will be placed on annually monitoring all commercial-use activities and on establishing and/or expanding public-use monitoring camps on a scheduled basis at locations where potential exists for user conflicts, impacts, or declines in quality. A full-time, permanent pilot–resource manager position with collateral law enforcement duties, along with one or more seasonal positions, would be required to implement this objective (also Goals 6 and 8).
58. Field-check and update database of Alaska Native Claims Settlement Act (ANCSA) 17(b) easements, develop GIS maps of easements, establish signs onsite, and publish easement information as appropriate in coordination with realty specialists and local Native corporations (also Goal 6).
59. Expand profile of refuge law-enforcement activities. Law enforcement activities concerning protection of fish and wildlife resources will shift from patrols being conducted seasonally by collateral-duty refuge officers (typically incidental to other

missions) to dedicated law-enforcement patrols being conducted year-round by a full-time refuge law-enforcement officer (also Goals 3 and 6).

Goal 8: Conduct interpretive and environmental education programs that increase understanding and support for the System; development of a sense of stewardship for wildlife, cultural resources, and the environment; and enhanced visitor experiences.

60. Use the Refuge Information Technician program to conduct educational programs for local rural residents on resource conservation and protection, subsistence harvest developments, and recreational harvest management. Conduct at least one program per year in each of the 13 communities associated with the Refuges (also Goal 3).
61. Interpret Refuges resources and programs, provide educational material, and increase the quality of recreation experiences by fully implementing the interagency cooperative agreement to operate the King Salmon Visitor Center (KSVC), including maintaining responsibility for personnel and developing, upgrading, and maintaining permanent exhibits annually (also Goal 6).
62. Increase local children's awareness of the Refuges, wildlife, and conservation by utilizing the Refuge Information Technician program to visit, at least once a semester during the school year, the 10 village schools in the Bristol Bay and Lake and the Peninsula boroughs that are within or near the Refuges' boundaries; provide the other seven schools in the Lake and Peninsula Borough with educational materials and programs at least three times a year (during National Wildlife Refuge Week and for the Goose Calendar contest). Continue to develop programs for National Fishing Week celebration, International Migratory Bird Day, and other special events.
63. Conduct the cooperatively sponsored Spirit of Becharof Lake Ecosystem Science Camp for 10–15 refuge-area high school students annually, with assistance from Refuge Information Technician program personnel.
64. Inform people about natural, cultural, and recreational resources and opportunities on the Refuges and their responsible use by developing and publishing at least one new or revised refuge specific brochure annually and by maintaining a refuge Web site within one year of Plan approval (also Goals 6 and 7).

Goal 9: Conserve the special geological and cultural values of the Refuges.

65. Conduct a paleontological inventory with emphasis on Jurassic sediments within Becharof Lake drainage, Ugashik Lakes drainage, and Black Lake drainage by 2010.
66. Continue cultural resources management in partnership with Native corporations, universities, museums, and others in accordance with the Cultural Resource Guide.
67. Continue to work with the Alaska Volcano Observatory to further our knowledge of the volcanic resources of the Refuges.
68. Administer and protect cultural resources so that the sites, buildings, structures, and objects of aesthetic and cultural value are preserved and maintained for scientific study and/or public appreciation (also Goal 8).

Goal 10: Provide and maintain the facilities and equipment necessary to ensure a safe and secure environment for the visiting public and Service personnel.

Objectives for facilities management are directed at providing necessary buildings and other structures for administration of the Refuges in a safe manner.

69. Continue implementation of the administrative facility plan.
70. Continue an aggressive safety program.
71. Meet legal requirements for the administrative facilities of the Refuges (e.g., hazardous materials handling).
72. Establish a subheadquarters for the Chignik Unit by 2020.
73. Construct an administrative facility at the Yantarni Bay airstrip.

Arctic National Wildlife Refuge -2015

Refuge Purposes

Section 303(2)(B) of ANILCA set forth the following purposes for Arctic Refuge. ANILCA purposes are shown in italics.

(i) to conserve fish and wildlife populations and habitats in their natural divinity including, but not limited to, the Porcupine caribou herd (including participation in coordinating the Western Arctic caribou herd), polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds, and Arctic char and grayling

Consistent with the Refuge's original intent to be inclusive of all species, ANILCA Section 102(17) clarifies, "The term 'fish and wildlife' means any member of the animal kingdom . . . "

(ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats

This purpose recognizes the role the Refuge plays in meeting several treaty obligations related to conservation of the fish and polar bears that inhabit both Alaska and Canada, and the migratory birds shared by many nations (See Appendices A and F).

(iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents

ANILCA Title VIII provides a number of provisions to ensure that, consistent with other Refuge purposes, rural residents have the continued opportunity to use Refuge lands and resources to meet their physical, economic, traditional, and other needs (see Chapter 4, Section 4.4.4).

(iv) to ensure, to the Inaximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge

This purpose recognizes the protection of water resources is central to conservation of fish and wildlife and their encompassing ecological systems and processes. This purpose establishes an explicit, but unquantified, Federal reserved water right for surface waters and groundwater in the Refuge.

Designated Wilderness

ANILCA Section 702(3) designated 7.16 million acres, most of the original Range, as Wilderness. Section 102(13) of the act clarifies the term "wilderness" has "the same meaning as when used in the Wilderness Act." Although ANILCA recognized the unique conditions in Alaska and provided a number of exceptions to the Wilderness Act's provisions, the basic purposes of the Wilderness Act continue to apply. The Refuge's designated Wilderness is to remain "an area where the earth and its community of life are untrammled by man." The area is to remain natural and undeveloped, "retaining its primeval character and influence," and to provide "opportunities for solitude or a primitive and unconfined type of recreation, and be devoted to the public purposes of recreational, scenic, scientific, educational, conservation and historical use" (The Wilderness Act of 1964).

The purposes of the Wilderness Act are additional purposes of the designated Wilderness portion of the Refuge. The purposes of the Wilderness Act are to:

"Secure an enduring resource of wilderness; protect and preserve the wilderness character of areas within the National Wilderness Preservation System (NWPS); administer the NWPS for the use and enjoyment of the American people in a way that will leave these areas unimpaired for future use and enjoyment as wilderness; and gather and disseminate information regarding the use and enjoyment of wilderness areas."

Wild Rivers

ANILCA Sections 602(39)(42)(43) and 605(a) designated those portions of the Ivishak, Sheenjek, and Wind rivers within the boundaries of the Refuge as wild rivers pursuant to the Wild and Scenic Rivers Act, as amended by ANILCA Section 606. The purposes of the Wild and Scenic Rivers Act (1968) are to ensure:

"certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. "

Refuge Vision

This untamed arctic landscape continues to sustain the ecological diversity and special values that inspired the Refuge's establishment. Natural processes continue and traditional cultures thrive with the seasons and changing times; physical and mental challenges test our bodies, minds, and spirit; and we honor the land, the wildlife and the native people with respect and restraint. Through responsible stewardship, this vast wilderness is passed on; undiminished, to future generations.

Refuge Goals and Objectives

Goal 1: Ecological processes continue to shape the Refuge, and to the greatest degree possible, these processes remain free of the intent to alter the natural order, including the dynamics of fish and wildlife populations and their relationships with natural habitats.

Ongoing and Immediate Priorities (Years 1-3)

Objective 1.1: Refuge Management—Management programs will continue to support, protect, and maintain the Refuge's unique role as a benchmark for exceptional biological integrity, environmental health, and wildness in the National Wildlife Refuge System.

Objective 1.2: Inventory and Monitoring of Wildlife and Habitats—Upon Plan adoption, Refuge biologists will begin revising the Ecological Inventory and Monitoring (I&M) Plan for Arctic Refuge. The I&M Plan will be consistent with regional U.S. Fish and Wildlife Service (Service) guidelines, and will be finalized following the Ecological Review (see Objective 1.4).

Objective 1.3: Applied Research—Coincident with revision of the I&M Plan, Refuge biologists will prepare a Research Plan that identifies and prioritizes needs for applied research, and identifies potential cooperators.

Objective 1.4: Ecological Review—Within three years of Plan approval, Refuge staff will conduct an Ecological Review of the Refuge's biological program and draft I&M and Research plans.

Objective 1.5: Fire Management—Managers will maintain a fire management program on Arctic Refuge that allows wildland fires to continue their ecological role and that protects human life and, where appropriate, property and cultural resources.

Objective 1.6: Fish and Wildlife Management Proposals—Refuge staff will participate in State of Alaska Boards of Fisheries and Game and Federal Subsistence Board processes to ensure the Refuge’s purposes, goals, and objectives are considered in evaluation of proposals that could affect resources inside the boundaries of the Refuge.

Objective 1.7: Land Protection Plan—Within three years of Plan approval, complete an Arctic Refuge Land Protection Plan.

Short-term Priorities (Years 4-8)

Objective 1.8: Status of Rare Species—Within five years of Plan approval, efforts to identify and determine the status of rare species will be initiated, with special emphasis on those that are threatened, endangered, declining, or otherwise at risk.

Long-term Priorities (9+ years)

Objective 1.9: Long-term Ecological Monitoring—Within 10 years of Plan approval and following completion of the I&M Plan and acquisition of baseline inventories, Refuge biologists will implement necessary changes to the Refuge’s Long-term Ecological Monitoring Program to ensure relevancy and sustainability of long-term monitoring efforts.

Goal 2: The Refuge preserves its wilderness values and characteristics, maintains its natural state in unaltered condition, and designated Wilderness is managed consistent with the intent of the Wilderness Act and ANILCA.

[NOTE: Objectives 2.1 through 2.5 apply only to areas of the Refuge in designated Wilderness. Objectives 2.6 and 2.7 apply to lands in designated Wilderness and those under Minimal Management.]

Immediate Priorities (Years 1-3 and Ongoing)

Objective 2.1: Integrated Wilderness Management—Designated Wilderness will be managed comprehensively as a component of all programs that affect the designated area’s physical, biological, and experiential values.

Objective 2.2: Minimum Requirement Analysis—A Minimum Requirement Analysis (MRA) will be completed for all Refuge management activities in designated Wilderness.

Objective 2.3: Wilderness Training—All Refuge staff working in designated Wilderness will be required to complete Wilderness stewardship, MRA, and minimum impact methods training within two years of assuming their work duties in Wilderness.

Objective 2.4: Wilderness Stewardship Plan—Immediately upon approval of the Revised Plan, Refuge managers will initiate a multi-year planning process to develop a Wilderness Stewardship Plan for the Refuge’s designated Wilderness.

Objective 2.5: Administrative Facility at Lake Peters—Within two years of Plan approval, Refuge managers will complete required analyses to potentially remove one or more buildings at Lake Peters, and any identified building(s) will be removed within four years of Plan approval.

Objective 2.6: Monitoring Wilderness Characteristics— Refuge staff will monitor, through protocols developed in step-down plans, the characteristics commonly associated with designated Wilderness and other wildlands. These include Minimal Management areas and other areas that are essential components of the Refuge’s special values (Chapter 1, Section 1.5).

Objective 2.7: Restoration of Impaired Sites—Refuge staff will expand efforts to restore wilderness characteristics to sites in Wilderness and Minimal Management lands that have been impaired or degraded.

Goal 3: The ecological functions and natural flow regimes of the Refuge's aquatic ecosystems, including headwater streams, rivers, springs, wetlands, lakes, and lagoons, are documented and protected, and designated Wild Rivers and the Marine Protected Area are managed in a manner consistent with their special designations.

Ongoing and Immediate Priorities (Years 1-3)

Objective 3.1: Marine Protected Area—Marine waters of the Refuge within the National Marine Protected Areas (MPA) Network will be collaboratively studied and managed to protect the area’s natural heritage values and enhance public recognition of Arctic Refuge MPA through environmental education and outreach.

Objective 3.2: Water Rights—Refuge managers will establish legal protection for water quality and quantity to support Refuge purposes.

Objective 3.3: Water Resource Inventory and Assessment—Refuge staff will work with the Service’s regional Water Resource Branch to complete a water resource inventory and assessment within one year of Plan approval.

Short-term Priorities (Years 4-8)

Objective 3.4: Water Quality and Quantity—Refuge staff will monitor water quality and quantity at appropriate intervals at previously sampled sites and at additional locations to document baseline conditions and changes over time.

Objective 3.5: Comprehensive River Management Plans for designated Wild Rivers— Refuge staff will initiate a baseline resource assessment and Comprehensive River Management Plans (CRMP) for each currently designated wild river within five years of Plan completion and, for any newly designated rivers, within three years of their designation.

Goal 4: The Refuge, in consultation with appropriate parties, addresses concerns about proposed actions that may substantially or directly affect subsistence or cultural resources, rural subsistence or cultural uses, or the rights of tribes.

Ongoing and Immediate Priorities (Years 1-3)

Objective 4.1: Formal Consultation—Refuge managers will consult with Alaska Native tribes and Native corporations in government-to-government fashion at least annually on all proposed actions and Refuge uses that may affect the tribes or corporations.

Objective 4.2: Subsistence Opportunities—Refuge managers will provide opportunities for continued subsistence uses essential to the physical, economic, traditional, cultural, and social existence of federally qualified rural residents. We do this through working with local communities, advisory groups, and tribes and by participating in Federal and State regulatory processes (ANILCA Section 801(1)).

Objective 4.3: Refuge Information Technician (RIT) Program—Refuge managers will continue to enhance regular communications in Arctic Village, Kaktovik, and other rural communities through the RIT Program and will seek funding to place an RIT in Venetie and Fort Yukon within five years.

Objective 4.4: Village Harvest Monitoring Programs—Within two years of Plan approval, Refuge staff will work with partners to expand and implement annual community-based subsistence monitoring programs for harvest of fish and wildlife by residents of Arctic Village, Venetie, Kaktovik, and Fort Yukon.

Objective 4.5: Manage Subsistence Use Data—Refuge staff will establish a managed network of compiled historical and contemporary subsistence use data for use in making subsistence-related decisions on Refuge lands and waters.

Short-term Priorities (Years 4-8)

Objective 4.6: Historical Access—Within six years of Plan approval, Refuge staff will begin a historical access study, in cooperation with local tribal governments, Native communities, elders, and the State of Alaska, to understand the historical access patterns and inform management decisions on access.

Goal 5: The Refuge provides a range of opportunities for wildlife-dependent and wilderness-associated recreational activities that emphasize adventure, independence, self-reliance, exploration, and solitude or primitive and unconfined recreation while protecting the Refuge's natural conditions and special values.

Ongoing and Immediate Priorities (Years 1-3)

Objective 5.1: Access for a Range of Visitor Opportunities—Refuge managers will continue to provide access for a range of compatible recreational activities, including hunting, fishing, wildlife observation, photography, camping, backpacking, river floating, and mountaineering.

Objective 5.2: Visitor Independence, Self-reliance, and Freedom—Consistent with resource protection, Refuge managers will continue to maximize opportunities for visitors to experience independence, self-reliance, and freedom by minimizing on-site contacts and acknowledging that in wilderness, there can be risk.

Objective 5.3: Adventure, Challenge, Exploration, and Discovery—Consistent with resource protection and visitor safety, Refuge managers will perpetuate opportunities for visitors to experience adventure, challenge, exploration, discovery, and a sense of the unknown by minimizing placement of recreational facilities on Refuge lands.

Objective 5.4: Visitor Use Management Plan—Refuge staff will complete a Visitor Use Management Plan (VUMP) that evaluates a range of management options and provides visitor opportunities while protecting, sustaining, and where necessary, restoring the natural conditions and special values of Arctic Refuge.

Objective 5.5: Commercial Visitor Services—Refuge managers will continue to authorize commercial visitor services to facilitate wildlife-dependent and other compatible public recreation activities such as transportation services and guided backpacking, hunting, fishing, and float trips.

Objective 5.6: Visitor Management Coordination with Neighbors—Refuge staff will continue to coordinate with landowners, in and adjacent to the Refuge, to increase respect for private lands and to encourage a conservation ethic and stewardship behaviors in both visitors and landowners.

Objective 5.7: Coordinated Law Enforcement—Managers at Arctic Refuge will work with Refuge officers and other authorities to strengthen and unify their law enforcement efforts on Refuge lands and waters to promote conservation stewardship.

Objective 5.8: Visitor Study—Refuge staff will maintain long-term data that informs Service leadership and Refuge managers about why people visit Arctic Refuge, what they experience, and their preferences.

Short-term Priorities (Years 4-8)

Objective 5.9: Aircraft Landing Impacts—Refuge managers will implement strategies to address impacts to sensitive vegetation caused by aircraft landings on Refuge lands.

Goal 6: The effects of climate change on Refuge resources are evaluated through research, monitoring, and local traditional knowledge, and these effects are considered in Refuge management decisions.

Ongoing and Immediate Priorities (Years 1-3)

Objective 6.1: Effects of Climate Change—Coincident with revision of the I&M Plan, Refuge biologists will evaluate potential effects of climate change on Refuge resources, and incorporate study of these effects into the revised I&M program.

Objective 6.2: Consider Climate Change and Non-climate Stressors—Refuge managers will consider climate change and other non-climate stressors when making management and administrative decisions.

Objective 6.3: Collaboration on Climate Change—Refuge managers and scientists will maintain and enhance their involvement in broad-scale programs studying the effects of climate change in arctic and subarctic environments.

Objective 6.4: Non-intervention Approach—For the foreseeable future, Refuge Managers will avoid actions aimed at resisting the effects of climate change on wildlife and ecosystems. Rather, managers will allow natural systems to adapt and evolve in response to changing climatic conditions.

Long-term Priorities (9+ years)

Objective 6.5: Monitoring Biological Components Vulnerable to Climate Change—Monitoring targets within the Refuge’s Long-term Ecological Monitoring Program will include biological components identified in the Ecological Review as vulnerable to climate change.

Goal 7: Refuge staff and partners conduct research and monitoring in support of the Refuge's role as an internationally recognized benchmark for naturally functioning arctic and subarctic ecosystems.

Ongoing and Immediate Priorities (Years 1-3)

Objective 7.1: Collaborative Research—Refuge staff will support and/or participate in collaborative studies of arctic and subarctic ecological and physical systems that depend upon the essentially undisturbed environments and ecological processes on the Refuge.

Objective 7.2: International Treaties and Agreements—Refuge managers will continue to work with international partners to effectively manage resources at the landscape scale.

Short-term Priorities (Years 4-8)

Objective 7.3: Encouraging Scientific Research by Cooperators—Within four years of Plan approval, Refuge biologists will develop and implement protocols and priorities that identify and encourage scientific research necessary for making informed management decisions, while ensuring that work conducted by cooperators is appropriate and compatible with Refuge purposes and special values, and the I&M and Research plans (see Objectives 1.2 and 1.3).

Goal 8: In consultation with appropriate parties, the Refuge documents, conserves, and protects cultural resources, both historic and prehistoric, to allow visitors and community members to appreciate the interconnectedness of the people of the region and their environment.

Ongoing and Immediate Priorities (Years 1-3)

Objective 8.1: Collaboration, Partnerships, and Traditional Knowledge—Refuge managers and other staff will continue to consult with local tribes and Native corporations and work with Native elders and others who possess knowledge of the area’s cultural and traditional uses, landscapes, habitats, and resources to gain an understanding of past conditions and current observations.

Objective 8.2: Cultural Resource Management, Monitoring, and Law Enforcement—Refuge staff will work with other cultural resource professionals to conserve and protect cultural resources by identifying important sites and areas at risk for vandalism or exposure from wind, water, or other environmental forces and by providing trained staff to monitor these sites with periodic site visits and law enforcement patrols.

Short-term Priorities (Years 4-8)

Objective 8.3: Integrated Cultural Resource Management Plan (ICRMP)—Service staff will prepare an ICRMP to improve conservation of cultural resources and provide guidance for cultural resource management on Refuge lands.

Long Term Priorities (9+ Years)

Objective 8.4: Improve Management through Increased Knowledge of Cultural Resources—Increase the knowledge and effectiveness of the Refuge’s management of cultural resources through surveys of high priority historical, archaeological, and other cultural sites; literature searches; gathering oral histories and place name information; and compiling a comprehensive Cultural Resource Atlas and Archive.

Objective 8.5: Administrative History—Within 10 years of a Final Plan, the Service will create a comprehensive administrative and scientific history of the Refuge as a legacy for future managers, staff, and the public.

Goal 9: Refuge staff provides outreach information to distant audiences, individuals who enter the Refuge, and people in gateway communities, to enhance their understanding, appreciation, and stewardship of Refuge lands and resources.

Ongoing and Immediate Priorities (Years 1-3)

Objective 9.1: Communicating with Distant Public—Refuge staff use the Internet and other communication technologies, and will add new technologies when appropriate, to provide timely and accurate information to the public about Refuge resources and purposes, management and conservation, and impacts, such as changing climate.

Objective 9.2: Inform Refuge Users—Refuge staff will continue to provide Refuge orientation and information and will increase outreach to Refuge users about opportunities, specially designated areas, minimum impact techniques and other best practices, and regulations to provide a quality experience and minimize human impacts to Refuge resources and values.

Objective 9.3: Gateway Communities—Refuge staff, including Refuge Information Technicians (RITs) and volunteers, provide outreach information and participate in collaborative outreach activities in gateway communities to benefit participants and promote conservation of wildlife and natural landscapes.

Long-term Priorities (9+ Years)

Objective 9.4: National Interest—Refuge staff will, on a 15-year cycle, perform a National Interest Study to inform the Service about the diverse national interests and values that Arctic Refuge holds for the broader public.

Innoko National Wildlife Refuge - 2008

Refuge Purposes

Section 302(3)(B) of ANILCA states that the purposes of **Innoko Refuge** include:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, waterfowl, peregrine falcons, other migratory birds, black bear, moose, furbearers, and other mammals and salmon;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence by local residents; and
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.

The purpose of the Innoko Wilderness is to secure an enduring resource of wilderness, protect and preserve the wilderness character of the wilderness area as part of the National Wilderness Preservation System, and administer the area for the use and enjoyment of the American people in a way that will leave it unimpaired for future use and enjoyment as wilderness.

Refuge Vision

The Innoko National Wildlife Refuge encompasses a largely unaltered ecosystem dominated by numerous rivers flowing among diverse habitats, including muskeg, tundra, and dense boreal forest. Remote even by Alaskan standards, the natural forces of fire and water, now apparently affected by climate change, dominate the landscape. The refuge is not accessible by road, and only the occasional visitor discovers the many opportunities to hunt, fish, and view wildlife. The refuge hosts hundreds of thousands of breeding and molting waterfowl and is important rearing habitat for salmon and other species of fish. In addition, moose, black and grizzly bears, and furbearers are abundant. Refuge lands have been important to subsistence hunters for generations, and the area has a rich Gold Rush history. A main portion of the historic Iditarod Trail, the overland winter route from Seward to the gold fields of Nome, crosses refuge land. The Innoko Refuge is a place to discover the vastness and diversity of interior Alaska, to reflect upon Native Alaskan and mining history, and to experience nature in solitude for generations to come.

Refuge Goals and Objectives

GOAL 1 – WILDLIFE

Improve knowledge of fish and wildlife species on the refuge to maintain healthy populations in their natural diversity

Inventory and Monitoring

1. **Objective:** Within five years of adoption of the Plan and within the capabilities of the regional refuge biologist, host a biological program review.

2. **Objective:** Within two years of the biological program review report and within staffing capabilities, prepare an Inventory and Monitoring Plan (I&M Plan) to integrate and direct inventory and monitoring activities of plants, fish, wildlife, and habitats that includes statistical benchmarks and management action thresholds for trust, harvested, and selected indicator species. Integral to the I&M Plan will be a habitat management plan. The I&M Plan will be formally reviewed at least annually and approved by the Alaska refuge chief every 5–8 years.
3. **Objective:** Continue to monitor avian biodiversity in support of continent, statewide, and bioregional efforts by conducting two national Breeding Bird Surveys (BBS) annually.
4. **Objective:** Within two years of funding, increase the number of breeding landbird surveys to include all major habitat types found on the refuge (i.e., conifer forest, deciduous forest, low shrub/tundra).
5. **Objective:** In cooperation with Boreal Partners in Flight, and within two years of funding, develop and implement population monitoring surveys for diurnal and nocturnal raptors on the refuge, and incorporate them into the revised Inventory and Monitoring Plan.
6. **Objective:** In cooperation with neighboring State and Federal land managers, obtain a moose population estimate for at least one-half of the refuge at 1–3 year intervals by conducting aerial surveys to determine population trends.
7. **Objective:** Within five years of funding, conduct initial surveys to estimate abundance and winter distribution of wolves, wolverine, lynx, and marten on the refuge; use the initial surveys to begin assessment of population trends; and incorporate monitoring protocols into the Inventory and Monitoring Plan.
8. **Objective:** Within staffing and funding constraints, monitor the beaver population on the refuge by conducting fall aerial surveys of beaver food caches at no more than five-year intervals.
9. **Objective:** Quantify snowshoe hare population cycles in cooperation with other interior Alaska refuges by standardizing survey protocols. This is to be accomplished by incorporating monitoring protocols into the I&M Plan during its preparation (see Objective 2).
10. **Objective:** As time permits during other field activities, investigate structures on the refuge for the presence of little brown bats over the life of this plan.
11. **Objective:** Immediately following approval of this Plan and prior to implementation of any wood bison project in the vicinity of Innoko Refuge, initiate field studies on Innoko Refuge to document existing conditions of selected wildlife populations and plant communities in areas adjacent to the proposed wood bison release site. Should the wood bison project proceed adjacent to the refuge, field studies will continue in order to determine changes in wildlife and plant communities (if any).

Cooperative Efforts

12. **Objective:** Continue to collaborate with staffs of other refuges, agencies, and research institutes to obtain data needed for accomplishing refuge goals and to gain a better understanding of boreal forest ecosystem processes.
13. **Objective:** Continue to implement and update existing cooperative management plans for refuge resources (e.g., Yukon-Innoko Moose Management Plan). Develop new plans with appropriate partners as needed.

14. **Objective:** In cooperation with the U.S. Geological Survey Biological Resources Division (USGS-BRD), within two years of funding, determine factors potentially limiting greater whitefronted geese on molting areas and possible relationships between habitat conditions and survival.
15. **Objective:** Continue participating in cooperative efforts with the Division of Migratory Bird Management in annual monitoring of Alaska mid-continent greater white-fronted geese by banding, radio tracking, and molt survey efforts as requested annually.
16. **Objective:** Continue to collaborate with the Boreal Program for Regional and International Shorebird Monitoring (Boreal PRISM) to help design and implement appropriate inventory and monitoring techniques for breeding and migrant shorebirds through the life of this Plan, and incorporate these techniques into the I&M Plan.
17. **Objective:** Within two years of the Inventory and Monitoring Plan's approval, work with the Fairbanks Fish and Wildlife Field Office to revise the Innoko Refuge Fisheries Management Plan.
18. **Objective:** Continue to collaborate with Ecological Services in conducting studies of malformed wood frogs within the refuge.
19. **Objective:** Within three years of funding, work with partners to develop and implement strategies for the inventory of terrestrial invertebrates on Innoko Refuge, including but not limited to leaf miners and forest defoliators, and incorporate them into the Inventory and Monitoring Plan.

Research

20. **Objective:** In cooperation with other agencies, monitor for fish and wildlife diseases and parasites that may affect the Innoko ecosystem.
21. **Objective:** Strive to publish results from refuge-sponsored research in peer-reviewed journals. Report routine fish and wildlife survey results regularly in publicly accessible reports to keep local residents and other interested groups informed.
22. **Objective:** Within four years of funding, determine annual abundance and productivity of waterfowl across a range of habitat types on Innoko Refuge, with a focus on northern pintails.
23. **Objective:** Within two years of funding, replicate a study of wetland habitat conducted during the 1980s on Innoko Refuge.
24. **Objective:** Replicate (and where necessary, modify) the 1994–1995 expanded aerial waterfowl breeding pair survey in cooperation with the Division of Migratory Bird Management throughout the life of this Plan. The survey should be conducted regularly (e.g., every five years) thereafter.
25. **Objective:** Within three years of funding, determine current species composition, distribution, productivity, and habitat preferences of swans on the refuge, and develop a monitoring strategy for inclusion into the Inventory and Monitoring Plan.
26. **Objective:** For those species of migratory birds that regularly breed on the refuge and that are demonstrating long-term population declines, continue collaboration throughout the life of this Plan with other agencies and organizations on monitoring activities, research projects, and public outreach efforts that contribute to the conservation of these species.

27. **Objective:** Within five years of funding, complete efforts to determine the seasonal distribution and critical habitats of the moose population that occupies Innoko Refuge and surrounding lands.
28. **Objective:** Within three years of funding, document seasonal abundance and distribution of caribou.
29. **Objective:** Within six years of funding, determine the life history parameters, distribution, and seasonal use patterns of black bears on the refuge.
30. **Objective:** Within two years following the completion of a study of seasonal use patterns (see Objective 29), work with partners to develop protocols for estimating abundance and density of black bears on the refuge. Then within two years of funding, initiate the first effort to estimate abundance and density of black bears on the refuge.
31. **Objective:** Within five years of funding, evaluate distributions of furbearer populations, including but not limited to wolf, wolverine, lynx, marten, mink, and weasel, in relation to fire severity. This objective is dependent on Objective 7.
32. **Objective:** Integrate existing moose distribution and census information with bear and furbearer distribution and census information to outline predator-prey relationships on the refuge. Using this outline, apply for funding to evaluate predator-prey relationships on the refuge.
33. **Objective:** On approval of funding, initiate long-term studies of how small mammals (including species diversity, distribution, and relative abundance) and vegetation are affected by fire. Document changes to forest succession from differing fire intensities during the life of this Plan or until results indicate small mammal populations have stabilized.
34. **Objective:** Within five years of funding, determine the seasonal distribution (spawning, rearing, wintering) and migratory patterns of northern pike and select species of whitefish.
35. **Objective:** Within two years of completing baseline data collection of selected contaminants, initiate research to evaluate uptake of identified contaminants by selected indicator species (e.g., brown bears, black bears, sculpins). The refuge will work with the State of Alaska as appropriate.

GOAL 2 – HABITAT

Perpetuate ecosystem processes that shape habitats within the natural range of variability

Planning

36. **Objective:** Within five years of the I&M Plan's approval and within staffing capabilities, and in cooperation with appropriate partners, develop the refuge's Habitat Management Plan as part of a larger regional effort.
37. **Objective:** Within five years of approval of the I&M Plan, and within funding, staffing, and time constraints, formulate a strategy for inventorying wetland, lake, stream, and river resources within the refuge, including aquatic plants, fish, wetland-dependent wildlife, aquatic invertebrates, and physical and chemical properties of lakes and wetlands. Implement this objective as funding is provided.

38. **Objective:** Within 10 years of the Plan's approval, work with USGS Water Resources Division to evaluate installation and operation of official water gaging stations on the refuge.
39. **Objective:** Within the life of this plan, assess the feasibility of developing a hydrologic model for the refuge's principal watersheds.
40. **Objective:** Continue to support the Service Water Resources Division in their efforts to secure refuge instream water rights.
41. **Objective:** Within two years of funding, seek collaboration to initiate a water quantity and quality monitoring program for waters within the refuge that includes investigating anthropogenic influences.
42. **Objective:** Throughout the life of this Plan, endeavor to move the mobile Remote Automated Weather Station (RAWS) facility to other portions of the refuge. Evaluate the weather data and determine how representative the permanent RAWS facility is to other regions of the refuge and whether additional permanent stations would significantly improve the system's predictive capability.
43. **Objective:** Continue implementing the refuge's Fire Management Plan.
44. **Objective:** At five-year intervals following the Plan's approval, assess and report fire occurrence, fire causes, fire behavior, fire intensity, and fire effects trends and interagency issues (using the best available technology and data) to provide fire managers the information necessary to revise the refuge's Fire Management Plan.

Mapping

45. **Objective:** Within two years of completion of an updated land cover dataset (see Objective 49), incorporate expanded aerial waterfowl breeding pair survey data to identify and classify important waterfowl habitat.
46. **Objective:** Provided that fish, wildlife, habitat, and disturbance inventories have been conducted as described elsewhere in this Plan, develop models that begin to explain how biotic and abiotic factors affect the distribution of species and communities of management concern at the landscape scale.
47. **Objective:** Develop fire progression maps for future refuge fires as opportunities allow throughout the life of this plan.
48. **Objective:** Within one year of a fire's occurrence on the refuge, develop a fire severity map if sufficient data are available.
49. **Objective:** Within three years of funding, create an updated land cover map of vegetation and wetland communities using satellite imagery and Multi-Resolution Land Characteristics (MRLC) or other advanced methods.
50. **Objective:** Within one year of completion of the updated land cover map, develop data crosswalks to fire fuels classification systems, including but not limited to the National Fire Danger Rating System (NFDRS), Landscape Fire and Resource Management Tools (LANDFIRE), Fire Regime/Condition Class (FRCC), and the National Fire Fuel Laboratory (NFFL) system.
51. **Objective:** Acquire funding to purchase the 1950s panchromatic aerial photographs (1:40,000) from the U.S. Geological Survey for all lands within the refuge boundaries, and complete conversion of all historic aerial photography into georeferenced, orthorectified digital images for use in wetland and habitat change detection analysis.

Inventory and Monitoring

- 52. Objective:** Throughout the life of this Plan (as allowed by winter precipitation), obtain baseline information about late winter availability of moose forage under differing snow depth regimes.
- 53. Objective:** Using a landscape based approach, quantify winter moose forage species condition during the same calendar year that population estimates are made.
- 54. Objective:** Within two years of funding, develop inventory and monitoring strategies to assess the effects of fire on caribou and moose habitat quality, and incorporate these strategies into the I&M Plan.
- 55. Objective:** Within three years of the Plan's approval and within the constraints of staffing and funding, develop a geodatabase model and supporting relational database system that is compatible with the refuge's GIS. The model and supporting database will be capable of storing and managing the refuge's current data collections. The model and database will also include provisions for streamlining the entry of future data collected by electronic and paper means.
- 56. Objective:** Within five years of the development of the geodatabase model and supporting relational database system, and within staffing capabilities, complete entry and validation of all legacy biological and abiotic data.
- 57. Objective:** Implement the refuge's Land Protection Plan and monitor development of inholdings and uses of lands adjacent to the refuge for activities that could adversely affect refuge users or resources.
- 58. Objective:** Continue to document fire history patterns on the refuge and participate in research on Alaskan fire regimes during the life of this Plan.
- 59. Objective:** Within two years of funding, begin annual measurements of the production of berries that are important as forage for wildlife species on the upland habitats and for subsistence activities, and assess trends in production in relation to fire severity and climate data.
- 60. Objective:** In cooperation with the Natural Resources Conservation Service (NRCS), continue to monitor snow depth at nine snow markers on a monthly basis (December–May) and monitor snow density at the refuge field camp on a monthly basis (December–May).
- 61. Objective:** Depending on availability of funding, continue to assess levels of selected contaminants in water, sediments, and fish tissue at five-year intervals.
- 62. Objective:** Throughout the life of this Plan (if adequate funding is available), monitor landscape changes of both vegetation and physical features at five-year intervals or after a significant disturbance.
- 63. Objective:** Within five years of funding, complete an inventory of vascular plants across all refuge habitat types.
- 64. Objective:** Complete reconnaissance and conduct monitoring of terrestrial and aquatic invasive plant and animal species near historical communities and other high public use areas.
- 65. Objective:** Within two years of funding, use remotely sensed imagery to determine wetland area loss for closed- and open-basin wetlands on Innoko Refuge.
- 66. Objective:** Continue cooperative efforts to document and monitor invasive non-native insect impacts to larch, aspen, and willow.

GOAL 3 – SUBSISTENCE

Provide the opportunity for continued subsistence uses of the refuge, consistent with the subsistence priority and with other refuge purposes

Note: Many of the objectives under Wildlife and Habitat (Goals 1 and 2) also contribute to the Subsistence goal.

- 67. Objective:** Continue the Refuge Information Technician (RIT) program to enhance information exchange with local communities on refuge issues, particularly those dealing with subsistence issues.
- 68. Objective:** As a continuing commitment, conduct annual informational meetings in each village associated with the refuge and regularly attend other subsistence-related meetings, providing information regarding the status of subsistence resources and their use, and commenting on proposals related to subsistence management within the refuge to maintain a respectful dialogue with refuge resource stakeholders and subsistence users.
- 69. Objective:** Continue to work closely with tribal councils, the GASH Advisory Committee, the Federal Subsistence Western Interior Regional Advisory Council, other local and/or regional working groups, Alaska Department of Fish and Game, and the Office of Subsistence Management to address issues and concerns through the State and Federal regulatory processes as provided in ANILCA to conserve fish and wildlife.
- 70. Objective:** Continue to work with tribal councils, Alaska Department of Fish and Game (ADF&G) Subsistence Division, and Alaska Migratory Bird Co-management Council to develop and implement a subsistence harvest monitoring plan to conserve migratory bird populations for future subsistence use.
- 71. Objective:** Continue to coordinate with and assist the Division of Migratory Bird Management in completing the annual Migratory Bird Harvest Survey.
- 72. Objective:** Continue to coordinate with and assist the Yukon Drainage Fisheries Association in completing the annual In-Season Fish Harvest Assessment.
- 73. Objective:** Within three years of the Plan's approval, expand subsistence harvest surveys to include large mammals (i.e., moose, black bear, and brown bear) and furbearers.
- 74. Objective:** Within 10 years of the Plan's approval, map the seasonal distribution and intensity of subsistence activities on the refuge.

GOAL 4 – RECREATION AND PUBLIC USE

Provide opportunities for quality wildlife-dependent recreation, emphasizing short-term, low-density uses that require minimal facility development or habitat disturbance

- 75. Objective:** Continue to provide opportunities for multi-day recreational trips within the refuge that allow the public to experience and explore the dynamic landscape and wildlife of the refuge.
- 76. Objective:** Expand the public-use monitoring program for all uses of the refuge. Emphasis will be placed on annually monitoring all commercial use activities and

uses that may conflict with refuge purposes or other uses. Monitoring will be scheduled as required.

77. **Objective:** Continue to implement and strengthen Innoko Refuge's special use permit program, improve permittee documentation of use requirements, and increase enforcement of and compliance with permit stipulations.
78. **Objective:** Work with the State of Alaska and Bureau of Land Management to increase law enforcement patrols on surrounding lands. On refuge lands, law enforcement activities will shift from seasonal patrols by dual function officers to year-round patrols by full-time refuge law enforcement officers. These patrols will target compliance with and investigate violations of fish and wildlife, cultural resources, and other State and Federal regulations.
79. **Objective:** Within two years of the Plan's approval, have a visitor services review conducted for the refuge and the administrative site at McGrath.
80. **Objective:** If necessitated by increased public use, develop a visitor services plan.

GOAL 5 – WILDERNESS

Preserve and enhance in perpetuity wilderness values of designated wilderness

81. **Objective:** Continue to provide opportunities for solitude, self-reliance, and other characteristics that depend on a wilderness environment while not impairing other uses and values associated with wilderness.
82. **Objective:** Prepare a Wilderness Stewardship and Management Plan within two years of release of national wilderness guidelines.
83. **Objective:** Allow naturally occurring fires to burn within the wilderness whenever possible. If suppression steps must be taken, use "Light Hands On the Land" (Minimum Impact Suppression Tactics or MIST) firefighting techniques.
84. **Objective:** Ensure appropriate uses, including administrative uses, of the Innoko Refuge wilderness on an annual basis by conducting a minimum requirements analysis for new activities and reviewing existing minimum requirements analyses for accuracy.

GOAL 6 – OUTREACH AND ENVIRONMENTAL EDUCATION

Provide outreach, environmental education programs to develop and/or increase a sense of stewardship for wildlife, cultural resources, and the environment

85. **Objective:** Produce and distribute Leave No Trace and other information about the Innoko Refuge wilderness, and work with guides, transporters, and the visiting public to assure adherence to these principles while in the designated wilderness.
86. **Objective:** Continue to provide the public with timely and accurate information about the refuge through a wide variety of communication tools, re-evaluate the tools used, and update and correct information at least twice annually. One method will be to utilize the existing Web-based information, which hosts current and comprehensive information about the refuge, its regulations, safety tips, and recreation opportunities.
87. **Objective:** In McGrath, Takotna, Nikolai, Holy Cross, Anvik, Grayling, and Shageluk, participate when possible in community events, festivals, and programs

that will facilitate education and interpretation of Service and refuge goals and build awareness of the refuge and its resources.

- 88. Objective:** As opportunities arise, and as staff and funding allow, conduct workshops and provide classroom visits and educational materials as requested by educators in the Iditarod Area School District (IASD) to enhance curriculum and outreach dealing with refuge resources, issues, and opportunities.
- 89. Objective:** For each refuge environmental education program, develop reliable methods to assess the degree to which the program enhances understanding and appreciation of refuge purposes, special values, and management goals. Program target goals and evaluation tools will be developed and implemented within five years of the Plan's approval.
- 90. Objective:** Within five years of the Plan's approval, at least 80 percent of IASD kindergarten through 12th grade students will have an opportunity to participate in at least one environmental education program focusing on key refuge resource conservation issues.
- 91. Objective:** Continue with and maximize long-term partnerships with IASD and other community organizations and volunteers to help meet the educational goals and objectives of the refuge.
- 92. Objective:** Within two years of funding, establish a permanent refuge program to annually provide one high school-level field research course related to priority refuge resource issues.
- 93. Objective:** Working with adjoining land managers, develop appropriate land status maps of a detail useful for recreationists to determine when they are on Federal, State, or private land.
- 94. Objective:** Acquire base funds for the Earth Week activities, summer science camp, and advanced summer science camp through Refuge System funding processes to avoid depending on annual fund-raising.
- 95. Objective:** Continue to maintain and develop the partnership with the Alaska Geographic (formerly Alaska Natural History Association) and/or other cooperating associations to provide interpretive and environmental sales items on the natural and cultural history of the refuge and surrounding public lands.

GOAL 7 – CULTURAL RESOURCES

Conserve cultural and archeological resources of the refuge

- 96. Objective:** By 2010, revise the refuge's Cultural Resource Guide to include the other objectives listed in this section and provide additional details about cultural resources management of the refuge.
- 97. Objective:** Cooperate with the Iditarod National Historic Trail, Inc., and the local Trailblazers group to commemorate the Centennial of the Iditarod National Historic trail.
- 98. Objective:** Seek funding to manage the Iditarod National Historic Trail within the refuge, focusing on documentation, conservation, research, and interpretation.
- 99. Objective:** In cooperation with the communities of Holy Cross, Anvik, Grayling, and Shageluk, collect and incorporate existing place names information for the refuge into management and documents.

- 100.Objective:** Within five years of Plan's approval, inventory and map structures and other cultural resources in and around the refuge at risk from wildland fire and/or fire management activities.
- 101.Objective:** Within five years of plan approval, and within staffing and funding capabilities, update, compile, and organize a refuge cultural resource atlas and geodatabase to include all known historical and archaeological sites, place names, and paleontological locality information.
- 102.Objective:** Within five years of Plan's approval and within staffing and funding capabilities, organize and complete records of the refuge's human history, including oral history collections.
- 103.Objective:** Identify priority areas to inventory for archaeological and other cultural sites in the updated Cultural Resource Guide.
- 104.Objective:** Conduct cultural resource surveys as time and personnel allow. Perform surveys at a level sufficient to evaluate the eligibility of identified sites to the National Register of Historic Places.
- 105.Objective:** Seek out and develop partnerships with Native corporations, Iditarod National Historic Trail, Inc., the Tochak Historical Society, universities, other government agencies, etc., to cooperatively develop projects to inventory, manage, and protect cultural and historical resources.
- 106.Objective:** As necessary, consult with Native groups and other local entities regarding research projects and proposals related to cultural resource management.
- 107.Objective:** Curate artifacts collected from historic sites on the refuge, and make collection information accessible through exhibits and publications.
- 108.Objective:** Provide training to refuge staff as needed in the National Historic Preservation Act and Archaeological Resources Protection Act.
- 109.Objective:** Identify sites or areas at risk for vandalism, and monitor those areas with periodic law enforcement patrols.

GOAL 8 – ADMINISTRATIVE

Provide and maintain the facilities and equipment necessary to ensure and administer a safe and secure environment for the visiting public and Service personnel

- 110.Objective:** Continue implementation of the administrative facility plan.
- 111.Objective:** Continue an aggressive safety program.
- 112.Objective:** Continue to meet legal requirements for the administrative facilities of the refuge (e.g., equipment operation, hazardous materials handling).
- 113.Objective:** Coordinate with State and local agencies to assist in providing support during emergencies.
- 114.Objective:** Establish up to three new administrative sites on the refuge (one on the Yukon River, one on the upper Innoko River, and one on the lower Innoko River) as funding allows. Investigate the possibility of allowing public use of these new administrative sites.
- 115.Objective:** Maintain buildings, vehicles, and equipment. Using the Service Asset Maintenance Management System (SAMMS) or other reporting system, document building and equipment needs, and provide a safe environment for employees and the public.

Izembek National Wildlife Refuge - 1985

Refuge Purposes

The refuge was established as the Izembek National Wildlife Range in 1960 by public land order. With the passage of the Alaska National Interest Lands Conservation Act (ANILCA) in 1980, the area was renamed the Izembek National Wildlife Refuge and 300,000 acres (121,000 ha) were designated as wilderness. ANILCA also defined the purposes of the refuge and required preparation of a comprehensive conservation plan for its management.

ANILCA declared the purposes for the refuge include:

- to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, waterfowl, shorebirds, and other migratory birds, brown bears, and salmonoids;
- to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- to provide, in a manner consistent with purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents; and
- to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in subparagraph (i), water quality and necessary water quantity within the refuge.

Kanuti National Wildlife Refuge - 2008

Refuge Purposes

Section 302(4)(B) of ANILCA sets forth the following major purposes for which Kanuti Refuge was established and shall be managed:

- i. To conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to white-fronted geese and other waterfowl and migratory birds, moose, caribou (including participation in coordinated ecological studies and management of the Western Arctic caribou herd), and furbearers
- ii. To fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats
- iii. To provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence by local residents
- iv. To ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge

Refuge Vision

For the benefit of present and future generations and in partnership with others, stewards of Kanuti National Wildlife Refuge will conserve fish and wildlife populations and their habitats in their natural diversity, focusing on the refuge's wild and natural character, biological integrity, and scientific value, as driven by biological and physical processes throughout time.

Refuge Goals and Objectives

Goal 1

Conserve the refuge's diversity of wildlife, fish, and habitats, while allowing natural processes, including wildland fire and the natural hydrologic cycle, to shape the environment.

1. Collaborate with staff of other refuges, agencies, and research institutes to gain a better understanding of boreal forest ecosystems.
2. By 2009, complete the Inventory and Monitoring step-down plan to integrate and direct inventory and monitoring of plants, fish, and wildlife.
3. Within 20 years of adoption of the plan, complete an inventory of breeding birds and their habitats, vascular plants, fire history, and terrestrial insects within the refuge using an integrated plot-based approach.
4. At intervals of 1–3 years, obtain a moose population estimate for the refuge, including age and sex ratios, by conducting aerial surveys in cooperation with neighboring State and Federal land managers.
5. Obtain baseline information about late winter availability and use of moose forage species.
6. Implement the refuge's Fire Management Plan within the first two years of its approval.
7. Document fire history patterns on the refuge by collecting data on tree age annually, in association with inventory plots (see Objective 1), and by participating in research on Alaskan fire regimes during the life of this plan.
8. Conduct surveys to determine if non-native, invasive plant species are becoming established on the refuge.

9. Determine the seasonal distribution (spawning and wintering areas) and migratory patterns of select species of whitefish (broad whitefish, humpback whitefish, and least cisco) within five years of adoption of this plan and assess the potential for similar studies of other resident fish such as pike and grayling.
10. Map spawning areas of anadromous fish and assess escapement of salmon within 10 years of adoption of this plan.
11. Monitor snow depth and density at six snow markers on a monthly basis (December–May).
12. Monitor the beaver population on the refuge by conducting fall aerial surveys of beaver food caches at 5 to 10 year intervals.
13. Estimate the number of wolves on the refuge in late winter at three to five year intervals.
14. Document winter abundance and distribution of caribou through monthly reconnaissance flights.
15. During the life of the plan or until results indicate that the population and habitat has stabilized, continue long-term studies of fire effects on small mammals and vegetation to document changes through different stages of forest succession.
16. Investigate and assess the feasibility of conducting surveys to index bear abundance in select refuge locations.
17. Assess the feasibility of monitoring the distribution and abundance of snowshoe hares and other furbearers using aerial surveys of tracks.
18. Contribute to continental, statewide, and bioregional monitoring efforts to establish trends in migratory landbird populations. This will be done through annual participation in scientifically-defensible, peer-recognized programs such as the continental Breeding Bird Survey (BBS) and Alaska Landbird Monitoring Survey (ALMS). Participation in these programs would include implementation and assistance in the refinement and testing of procedures.
19. Continue to assist in annual monitoring of the Alaska mid-continent greater white-fronted goose population.
20. Assist U.S. Fish and Wildlife Service Migratory Bird Management in statewide programs, including but not limited to swan censuses.
21. Determine current species composition of swans on the refuge.
22. Within the life of the this plan, replicate (and where necessary, modify) the 1997 expanded aerial waterfowl breeding pair survey, in cooperation with U.S. Fish and Wildlife Service Migratory Bird Management. The survey should be conducted regularly (e.g., every five years) thereafter. Survey(s) should ensure adequate sampling for the three main groups of ducks: dabblers, divers, and sea ducks.
23. For those species of migratory birds that regularly breed on the refuge and are demonstrating long-term population declines, continue collaboration towards conservation, including monitoring, research, and outreach.
24. Collaborate with the Boreal Program for Regional and International Shorebird Monitoring (Boreal PRISM) to help design and implement appropriate inventory and monitoring techniques for breeding and migrant shorebirds.
25. Design and implement a long-term waterfowl and waterbird production survey of the refuge.

Goal 2

Ensure the natural function and condition of water resources necessary to conserve fish and wildlife populations and habitats in their natural diversity.

26. Within the life of this plan, develop a water resource inventory and assessment study plan in conjunction with the Service's Water Resources Branch.
27. At the conclusion of the initial assessment, evaluate the need to continue monitoring stream flow and/or water quality conditions to support research or management objectives.
28. Formulate a strategy to inventory wetland and lake resources within the refuge, including aquatic plants, fish, wetland-dependent wildlife, aquatic invertebrates, and physical and chemical properties of lakes and wetlands.
29. Formulate a strategy to inventory the river and stream resources within the refuge boundaries, including aquatic plants, river-dependent fish and wildlife, aquatic invertebrates, riparian and floodplain habitat, and physical and chemical properties of rivers and streams.
30. Assess the feasibility of developing a hydrologic model for the refuge.

Goal 3

Provide opportunities for local residents to pursue their subsistence lifestyle.

31. As a continuing commitment, conduct annual informational meetings in each village associated with the refuge and regularly attend other subsistence-related meetings, providing information regarding the status of subsistence resources and their use, and commenting on proposals related to subsistence management within the refuge to maintain a respectful dialogue with refuge resource stakeholders and subsistence users.
32. Continue to work closely with stakeholders to address issues and concerns through the State and Federal regulatory processes as provided in ANILCA to conserve fish and wildlife. Stakeholders include tribal councils, the Koyukuk River State Fish and Game Advisory Committee, the Western Interior Federal Subsistence Regional Advisory Council, other local and regional working groups, Alaska Department of Fish and Game, and the Office of Subsistence Management.
33. Develop a partnership with tribal councils, Alaska Department of Fish and Game Subsistence Division, and the Office of Subsistence Management to seek funding to review historical subsistence use data (hunting, trapping, and fishing), identify data gaps, and develop a research protocol that will incorporate western science and traditional ecological knowledge to document changing resource and use patterns.
34. Work with stakeholders to develop and implement a subsistence harvest monitoring plan to conserve migratory bird populations for continued subsistence use. Stakeholders include tribal councils, Alaska Department of Fish and Game Subsistence Division, the Office of Subsistence Management, Alaska Migratory Bird Co-management Council, and the Interior Region Management Body (Tanana Chiefs Conference).

Goal 4

Provide opportunities for quality public use and enjoyment of refuge resources through compatible wildlife dependent recreation activities, including hunting, fishing, wildlife observation, photography, and environmental education and interpretation.

35. Review methods of monitoring levels and types of public use, and implement new methodology if deemed appropriate.

36. Continue to provide a range of opportunities for multi-day recreational trips within the refuge that allow the public to experience and explore the dynamic landscape and wildlife of the refuge in solitude, incorporating various methods of access.
37. Working with community, State and Federal authorities, develop a comprehensive law enforcement program with an emphasis on educating visitors to prevent violations.
38. Assess and evaluate levels and patterns of snowmobile use on the refuge and off-road vehicle (ORV) use on adjacent and private lands within refuge boundaries.
39. Continue working with Evansville, Incorporated, the National Park Service; Alaska Department of Transportation and Public Facilities; and the City of Bettles to design and build an interpretive nature trail near Bettles on land adjacent to the northern boundary of the refuge.

Goal 5

Provide outreach, environmental education, and interpretive programs to develop and/or increase a sense of stewardship for wildlife, cultural resources, and the environment, and to enhance visitor experiences on the refuge.

40. Update the 1992 Environmental Education and Interpretative Plan, reviewing and revising periodically as necessary.
41. Continue to provide the public timely and accurate information about the refuge through a wide variety of communication tools; re-evaluate the tools used and update and correct information at least twice annually.
42. In partnership with the Bureau of Land Management and the National Park Service, continue providing interpretive and educational experiences to visitors at the Arctic Interagency Visitor Center in Coldfoot by contributing staff and operational support.
43. In Fairbanks, Bettles, Evansville, Allakaket, Alatna, and Coldfoot, participate when possible in community events, festivals, and programs that will facilitate education and interpretation of Service and refuge goals.
44. Expand opportunities for individuals, organized groups, and families to learn about the refuge through activities such as environmental education programs, nature walks, and interpretive programs.
45. As opportunities arise, provide classroom visits and educational materials as requested by educators in the Yukon-Koyukuk School District.
46. Work closely with the National Park Service and U.S. Fish and Wildlife Service staff (including staff in the Divisions of Engineering and on refuges) to operate and maintain the “shared” office, visitor center, bunkhouse, and other facilities in Bettles.

Goal 6:

Foster an appreciation for the cultural resources of the refuge through conservation and interpretation.

47. Update, compile, and organize the refuge cultural resource atlas and database to include all known historical and archaeological sites, place names, and paleontological locality information. Identify priority areas to inventory for archaeological and other cultural sites and conduct surveys as time and personnel allow. Perform surveys at a level sufficient to evaluate the eligibility of identified sites to the National Register of Historic Places.
48. Seek out and develop partnerships with Native corporations, universities, other government agencies, etc., to cooperatively inventory, manage, and protect cultural and historical resources.

49. Update the refuge's Cultural Resources Guide by 2011 (15 years after it was first completed).
50. In cooperation with the communities of Allakaket, Alatna, Bettles, and Evansville, develop a plan to preserve traditional information, maps, or other products using existing traditional place names information for the refuge.

Kenai National Wildlife Refuge - 2009

Refuge Purposes

ANILCA sets out the purposes for each refuge in Alaska. The purposes of Kenai Refuge are described in Section 303(4)(B) of the act. The purposes identify the reasons why Congress established the Refuge and sets the management priorities for it. ANILCA purposes for Kenai Refuge are as follows (unless otherwise noted):

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to moose, bears, mountain goats, Dall sheep, wolves and other furbearers, salmonoids and other fish, waterfowl and other migratory and nonmigratory birds;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the Refuge;
- (iv) to provide in a manner consistent with subparagraphs (i) and (ii), opportunities for scientific research, interpretation, environmental education, and land management training; and
- (v) to provide, in a manner compatible with these purposes, opportunities for fish and wildlife-oriented recreation.

The Wilderness Act of 1964 (Pub. L. 88-577) provides the following purposes for the Kenai Wilderness Area:

- (i) to secure an enduring resource of wilderness;
- (ii) to protect and preserve the wilderness character of areas within the National Wilderness Preservation System; and
- (iii) and to administer [the areas] for the use and enjoyment of the American people in a way that will leave them unimpaired for future use and enjoyment as wilderness.

Refuge Vision

The Kenai National Wildlife Refuge will serve as an anchor for biodiversity on the Kenai Peninsula despite global climate change, increasing development, and competing demands for Refuge resources. Native wildlife and their habitats will find a secure place here, where Refuge staff and partners work together using the best science and technology available to ensure that biological health is maximized and human impacts are minimized. Visitors will feel welcomed and safe by means of a wide variety of wildlife-dependent recreation opportunities, facilities, and interpretive and educational programs that encourage informed and ethical use of the Refuge's natural resources. The Refuge will achieve excellence in land, water, and Wilderness stewardship; and—with careful planning, forethought, and human determination—an enduring legacy of abundant plant, fish, and wildlife populations will be ensured for people to enjoy today and into the future for this phenomenal land we call "The Kenai."

Refuge Goals and Objectives

GOAL 1: Research—Increase the Service’s knowledge of fish and wildlife populations, their habitats, and their interrelationships.

Objective 1.1: Natural Processes/Disturbance Regimes—Continue longterm monitoring of vegetative responses to fire at: Hakala plots (every 5 years), Fire Monitoring Handbook plots (every 3–5 years), and Forest Inventory and Analysis plots (every 10 years).

Objective 1.2: Capacity Building—Continue to support the research plans identified and/or developed by the Interagency Brown Bear Study Team (IBBST).

Objective 1.3: Natural Processes/Disturbance Regimes—Continue annual monitoring of snowshoe hare populations on five established sites.

Objective 1.4: Capacity Building—Actively seek to fund at least one cooperative fire research project every three to five years on the Refuge to maintain established working relationships with the fire science community (universities, research stations and other agencies) and to improve the working knowledge of Refuge fire managers and ecologists in boreal ecosystems.

Objective 1.5: Biological Inventories—Within two years of the Plan’s approval, complete the ongoing population assessment of steelhead trout in the Kasilof River watershed.

Objective 1.6: Natural Processes/Disturbance Regimes—Within two years of Plan’s approval, establish five permanent stations in peatlands to measure the annual accumulation rate of peat moss.

Objective 1.7: Supporting Geographic Information System (GIS) Databases—Within two years of Plan’s approval, develop a supervised classification of vegetation communities on the Kenai Peninsula from LANDSAT imagery (30-meter resolution).

Objective 1.8: Supporting GIS Databases—Within two years of Plan’s approval, complete the archiving of all historical fisheries and limnological information in a database that will be compatible with the Refuge’s GIS.

Objective 1.9: Capacity Building—Within two years of Plan’s approval, enhance the Peninsula-wide meteorological station network by increasing the number and quality of stations in cooperation with interagency partners.

Objective 1.10: Capacity Building—Within two years of Plan’s approval, develop a Research Natural Area Management Plan. The plan will include discussions of related policy and law and identify goals and objectives to incorporate the designated areas on the Refuge into an integrated ecological monitoring and research program.

Objective 1.11: Supporting GIS Databases—Within three years of Plan’s approval, complete fuels classification mapping to meet national fire plan goals for the LANDFIRE, Fire Regime/Condition Class (FRCC), and Fire Program Analysis (FPA) projects.

Objective 1.12: Biological Inventories—Within three years of Plan’s approval, complete a population assessment of rainbow trout in the Kenai River below Skilak Lake.

Objective 1.13: Natural Processes/Disturbance Regimes—Within five years of Plan’s approval, improve precision by 25 percent on estimates of historical wildfire rates in black and white spruce.

Objective 1.14: Natural Processes/Disturbance Regimes—Within five years of Plan’s approval, improve precision by 25 percent on estimates of historical bark beetle outbreaks in white and Lutz spruce.

- Objective 1.15: Supporting GIS Databases**—Within five years of Plan’s approval, complete a high-resolution Digital Elevation Model (DEM) of the Refuge.
- Objective 1.16: Capacity Building**—Within five years of Plan’s approval, re-establish a remote-sensing, lightning detection capability for the Kenai Peninsula.
- Objective 1.17: Biological Inventories**—Within seven years of Plan’s approval, complete a population assessment of lake trout in Hidden Lake.
- Objective 1.18: Biological Inventories**—Within 10 years of Plan’s approval, complete a comprehensive inventory of vascular flora, vertebrate fauna, and selected invertebrate taxa as part of the Long-Term Ecological Monitoring Program (LTEMP).
- Objective 1.19: Capacity Building**—Within 15 years of Plan’s approval, establish a nonprofit research institute to establish and manage research opportunities on the Refuge.
- Objective 1.20: Supporting GIS Databases**—Within two years of funding, convert all historic aerial photography into geo-referenced, orthorectified digital images.
- Objective 1.21: Supporting GIS Databases**—Within two years of funding, complete a spatially-explicit soil survey.
- Objective 1.22: Natural Processes/Disturbance Regimes**—Within two years of funding, initiate research to estimate annual variation in marine-derived nutrient input and assess effects on terrestrial wildlife and habitat.
- Objective 1.23: Biological Inventories**—Within four years of funding, enter into cooperative studies, with ADF&G, that may remain necessary to assess populations of early-run Chinook salmon in the Kenai River. Some of these tasks are underway or have been completed.
- Objective 1.24: Biological Inventories**—Within five years of funding, initiate four weir projects to enumerate anadromous fish populations returning to the Swanson River, Chickaloon River, Big Indian Creek, and Little Indian Creek.
- Objective 1.25: Natural Processes/Disturbance Regimes**—Within five years of funding, estimate new rate trajectories for the wildfire regime, spruce bark beetle outbreaks, wetland drying, water budget, carbon budget, and biota redistribution in response to climate change predictions during the next 50 to 200 years.
- Objective 1.26: Data Sharing**— Within two years of Plan approval complete a list of opportunities for sharing survey and research data with university, State, and other partners.

GOAL 2: Conservation and Management—Ensure natural diversity and viability of species, habitats, and ecosystems.

- Objective 2.1: Habitat and Population Management**—Continue to develop and maintain partnerships with the public, other governmental agencies, and private organizations to increase the ability of the Refuge and those agencies with management responsibilities that overlay the Refuge to conserve fish, wildlife, and their habitats.
- Objective 2.2: Habitat and Population Management**—Continue cooperative and independent efforts to protect and restore riparian habitats along the Kenai River (including addressing human waste).
- Objective 2.3: Habitat and Population Management**—Continue to maintain a rehabilitation program for injured bald eagles, owls, and other raptors.

- Objective 2.4: Monitoring**—Continue contributions to regional and national monitoring efforts, including but not limited to the Christmas Bird Count (CBC), Alaska Landbird Monitoring System (ALMS), and Breeding Bird Survey (BBS).
- Objective 2.5: Habitat and Population Management**—Continue to work with the oil and gas industry to remediate and restore well pads, pipeline corridors, and roads to their natural condition within two years of well plugging and abandonment.
- Objective 2.6: Monitoring**—At five-year intervals after Plan’s approval or after a significant natural perturbation, monitor landscape changes of both vegetation and physical features using pixel-by-pixel change analysis (30- meter resolution) from supervised classification of LANDSAT imagery.
- Objective 2.7: Monitoring**—At five-year intervals after Plan’s approval, assess and report fire occurrence, fire cause, fire behavior, and fire effects trends using the best available technology to provide fire managers the information necessary to revise the Refuge’s Fire Management Plan.
- Objective 2.8: Habitat and Population Management**—Maintain caribou populations at or below two caribou per square kilometer for 10 years after Plan’s approval.
- Objective 2.9: Monitoring**—Maintain Dall sheep and mountain goat their natural diversity, consistent with natural habitat changes and natural variation within three count areas (Twin Lakes 355, Indian Creek 356, and Tustemena Glacier 357)] within Refuge boundaries. The Refuge will coordinate the establishment of sheep and goat population goals with ADF&G. In addition, the Refuge will work cooperatively with Chugach National Forest, Kenai Fjords National Park, and ADF&G to ensure that a Peninsula-wide survey is completed every three years.
- Objective 2.10: Habitat and Population Management**—Within one year of Plan’s approval, initiate a rulemaking process to clearly describe prohibited actions and any exceptions to the non-development easement held on much of the Kenai riverfront property in the Moose Range Meadows Subdivision.
- Objective 2.11: Monitoring**—Within two years of Plan’s approval, develop an interagency program to monitor population trends and/or health of wolves, wolverines, and brown and black bears on the Peninsula.
- Objective 2.12: Habitat and Population Management**—Within two years of Plan’s approval, revise the 1995 Fisheries Management Plan.
- Objective 2.13: Habitat and Population Management**—Within two years of Plan’s approval, revise the 1996 Moose Management Plan.
- Objective 2.14: Habitat and Population Management**—Within two years of Plan’s approval, evaluate historical, current, and potential distributions of marten and red fox populations in the absence of active management, and identify possible actions to enhance habitats or populations on the Refuge.
- Objective 2.15: Habitat and Population Management**—Within three years of Plan’s approval, complete a Wildfire Monitoring Plan that will include monitoring purposes, goals, objectives, and proposed activities for wildfire, prescribed fire, use of wildland fire, mechanical treatments, hazard fuels, and wildland-urban interface projects. This monitoring plan will become an amendment or an appendix to the Refuge Fire Management Plan.

Objective 2.16: Habitat and Population Management—Within three years of Plan’s approval, initiate development of a restoration and recreation plan for oil and gas units on the Refuge identified in this and other planning processes.

Objective 2.17: Habitat and Population Management—Within five years of Plan’s approval, complete the development of a Terrestrial and Aquatic Invasive Species Management Plan.

Objective 2.18: Habitat and Population Management—Within five years of Plan’s approval, use prescribed fire or mechanical treatments to maintain (condition class 1) or improve (condition class 2 or 3) the condition class on 2,000 to 4,000 acres of non-Wilderness per year in at least three out of the five years. Use of prescribed fire or mechanical treatments will continue at that rate until the 1996 Moose Management Plan is revised.

Objective 2.19: Monitoring—Within two years of funding, further expand the Long-Term Ecological Monitoring Program (LTEMP) to detect spatial and temporal changes in selected biota, including but not limited to vascular plant community, breeding landbirds, mesocarnivores, selected insect assemblages and exotic, invasive, and injurious species.

Objective 2.20: Climate Change—Within one year of Plan adoption, develop internal policies to emphasize long-term management needs associated with climate change.

GOAL 3: Resource Assessment—Ensure that the integrity of ecological systems is protected and unimpaired for future generations.

Objective 3.1: Resource Assessment—Continue and expand research on abnormal wood frogs to understand the potential cause(s) of their abnormalities.

Objective 3.2: Resource Assessment—Continue and expand research on local bird populations to understand the potential cause(s) of bill abnormalities.

Objective 3.3: Resource Assessment—Continue to work with Alaska Department of Environmental Conservation (ADEC) and industry to monitor, assess, and remediate contaminated sites in existing oil and gas units.

Objective 3.4: Resource Assessment—Within two years of Plan’s approval, evaluate current management practices and infrastructure improvements to ensure that the ecological integrity of the five designated Research Natural Areas on the Refuge are not compromised.

Objective 3.5: Resource Assessment—Within two years of Plan’s approval, complete the development of landscape models at two scales (Refuge-wide and Peninsula-wide) to evaluate the cumulative effects of natural processes and anthropogenic perturbations on wildlife habitat.

Objective 3.6: Resource Assessment—Within two years of Plan’s approval, complete a Wildlife Inventory and Monitoring Plan that will include statistical benchmarks and/or management action threshold for trust, harvested, and indicator species that are currently monitored. Trust species include but are not limited to fish, wildlife, and plants on Service lands. Indicator species include those specifically highlighted in ANILCA and those chosen for specific research and monitoring programs.

Objective 3.7: Resource Assessment—Within one year of completing an inventory, develop statistical models to explain how biotic and abiotic factors affect the distribution of species and communities at the landscape level.

Objective 3.8: Resource Assessment—Within five years of Plan’s approval and after completion of a Refuge-wide fuels assessment (fire regime and condition class), develop a project plan to evaluate the fire suppression history of the Refuge and adjacent lands on the Kenai Peninsula with emphasis on the suppression of natural ignitions in Wilderness and Limited Fire Management Option areas.

Objective 3.9: Resource Assessment—Within one year of funding, establish one air quality monitoring site within designated Wilderness to measure the concentration of fine (PM 2.5) particles for mass, optical absorption, major and trace elements, organic and elemental carbon, and nitrate; and measure the concentration of PM 10 particles for mass. Equipment and protocols should be consistent with the Interagency Monitoring of Protected Visual Environments (IMPROVE) program.

Objective 3.10: Resource Assessment—Within one year of funding, initiate research to determine the effects of roads within and/or adjacent to the Refuge on local moose, caribou, and brown bear movements and survival— specifically, to identify important crossings and/or high collision areas and recommend appropriate mitigation and management measures.

Objective 3.11: Resource Assessment—Within two years of funding, determine baseline levels of selected contaminants, specifically organochlorines, organophosphates, and heavy metals that may have originated from the nonrenewable resource extraction, long-range atmospheric deposition, and/or past management practices.

Objective 3.12: Resource Assessment—Within two years of completing baseline contaminant assessment, initiate research to evaluate uptake of identified contaminants by selected indicator species (e.g., brown bears, black bears, sculpins, salmonids).

GOAL 4: International Treaties—Ensure that Refuge management practices affecting bird species contribute to the successful implementation of the Migratory Bird Treaty Act.

Objective 4.1: International Treaties—During the 15 years after Plan approval, continue to seek guidance and context for Refuge management and scientific actions from regional, national, and international programs and plans (including but not restricted to the North American Bird Conservation

Initiative [NABCI] and the Conservation of Arctic Flora and Fauna [CAFF], Area V).

Objective 4.2: International Treaties—Continue to participate in and support international, national, and regional scientific information sharing, including making data available on the Refuge Web site, presenting papers at conferences, and publishing journal articles.

Objective 4.3: International Treaties—Continue to provide information and permitting services to the public for Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) protected species.

GOAL 5: Water Resources—Ensure natural function and condition of water resources necessary to conserve fish and wildlife populations and habitats in their natural diversity.

Objective 5.1: Water Resources—Within two years of Plan’s approval, evaluate the need to increase the number of U.S. Geological Survey (USGS) stations in cooperation with interagency partners.

Objective 5.2: Water Resources—Within two years of Plan’s approval, develop a prioritized list of culverts, bridges, and other river and/or stream structures that need to be replaced or modified to restore fish passage and normal stream function.

Objective 5.3: Water Resources—Within two years of funding, design and implement a groundwater monitoring program.

Objective 5.4: Water Resources—Within two years of funding, design and initiate a water quality monitoring program for waters within the Refuge, including the Kenai and Swanson River watersheds.

Objective 5.5: Water Resources—Within five years of funding, develop a water budget and hydrologic models for the Refuge’s 10 major watersheds.

GOAL 6: Environmental Education and Training—Natural resource professionals, students, and the public value opportunities to increase their knowledge of Refuge ecosystems, issues, and management practices.

Subgoal 6.1: Environmental Education and Interpretation—Diverse audiences will have equal opportunity to understand and appreciate all management programs and support the Refuge’s efforts to maintain and enhance wildlife populations and habitats.

Objective 6.1.1: Effective Environmental Education Programming— Continue to maintain and develop the partnership with Alaska Natural History Association (ANHA) and/or other cooperating associations to provide interpretive and environmental sales products on the natural and cultural history of Kenai Refuge and surrounding public lands.

Objective 6.1.2: Effective Environmental Education Programming— Continue cooperative efforts with area educators to increase the number of effective resource conservation education programs focusing on key Refuge resource issues.

Objective 6.1.3: Effective Environmental Education Programming— Within six months of the Plan’s approval and annually thereafter, conduct a review of the Visitor Service’s operating procedures, outreach information, and program content.

Objective 6.1.4: Effective Environmental Education Programming— Within one year of Plan’s approval, develop and make accessible for public use a Web-based information system that hosts current and comprehensive information about the Refuge, its regulations, safety tips, and recreation opportunities.

Objective 6.1.5: Effective Environmental Education Programming— Within one year of Plan’s approval, work with The Friends of Kenai National Wildlife Refuge to define annual goals and objectives.

Objective 6.1.6: Effective Environmental Education Programming— Within two years of the Plan’s approval, hire a permanent seasonal employee to assist the education specialist and Student Conservation Association (SCA) conservation associate at the Environmental Education Center and the Outdoor Education Center.

Objective 6.1.7: Effective Environmental Education Programming— Within two years of Plan’s approval, curate objects from historic cabins, and catalog and manage them properly (including interpretation of the objects).

Objective 6.1.8: Effective Environmental Education Programming— Within two years of Plan’s approval, develop an interpretive strategy for including cultural heritage in the Refuge’s interpretive efforts.

Objective 6.1.9: Effective Environmental Education Programming— Within three years of Plan’s approval, develop and increase by 30 percent outreach materials on Refuge resources that reflect the importance of responsible management practices.

Subgoal 6.2 Land Management Training—Land managers, scientists, and other partners learn practices and techniques to study, manage, and monitor the boreal forest biome.

Objective 6.2.1: Land Management Training—When nominations are again accepted, establish the Refuge as a designated National Wildlife Refuge System *Fulfilling the Promises* Land Management Research Demonstration Site (LMRD).

Objective 6.2.2: Land Management Training—Annually survey Refuge staff to identify and nominate potential candidates for the national Technical Fire Management (TFM) program, a two-year continuing education and career development program that provides sufficient college credits within a natural science and fire curriculum to qualify the student in the 0401 job series (general biology/fire management).

Objective 6.2.3: Land Management Training—Annually, to the extent practicable, host and/or conduct interagency fire management training (wildfire, prescribed fire, use of wildland fire, and fire aviation) in conjunction with fire management projects and/or wildland fire incidents when possible.

Objective 6.2.4: Land Management Training—Within two years of Plan’s approval, develop a program that establishes the Refuge as a boreal forest biome regional training facility.

Objective 6.2.5: Land Management Training—Within three years of Plan’s approval, develop a step-down management plan for the Stepanka (Skilak Outlet) Archaeological District to mitigate damage to cultural resources.

Objective 6.2.6: Land Management Training—Within four years of Plan’s approval, identify priority areas to survey and begin to support fieldwork in cooperation with the University of Alaska tribes and other cooperators conducting cultural resource related studies.

Objective 6.2.7: Land Management Training—Within five years of Plan’s approval, develop a step-down management plan for the Sqilantnu (Russian River) Archaeological District to mitigate damage to cultural resources.

Objective 6.2.8: Land Management Training—Within five years of Plan’s approval, develop interagency agreements with universities and agencies to use the Refuge as a designated center for research on boreal forest ecology and management (including global climate change), recreational use of boreal forest, wildlife, and habitats, and wilderness management.

GOAL 7: Wildlife-Oriented Recreation—Visitors of all skills and abilities enjoy wildlife-oriented recreation opportunities in safe and secure settings.

Objective 7.1: Wildlife-Oriented Recreation—Continue to meet annually with ADF&G to review State and Federal regulations that affect Refuge users and to identify actions that may improve opportunities for wildlife dependent opportunities.

Objective 7.2: Wildlife-Oriented Recreation—Annually develop a trail maintenance plan to review current visitor use and identify maintenance needs of all foot, ski, water, and horse trails.

Objective 7.3: Wildlife-Oriented Recreation—Annually review the Kenai Law Enforcement Plan and institute necessary revisions within one month of review.

Objective 7.4: Wildlife-Oriented Recreation—Within two years of Plan’s approval, patrol and maintain the Canoe Trails Systems weekly during the intensive visitor use period of May through October.

- Objective 7.5: Wildlife-Oriented Recreation**—Within two years of Plan’s approval, organize the Visitor Services program into three districts (north, central, and south) for operational efficiency.
- Objective 7.6: Wildlife-Oriented Recreation**—Within three years of plan’s approval, develop a Trail Needs Assessment by reviewing current and projected visitor use patterns and other appropriate information.
- Objective 7.7: Wildlife-Oriented Recreation**—Within three years of Plan’s approval, make available 75 percent of visitor services staff for full implementation and operation of all interpretation, education, information, and recreation programs identified in this plan.
- Objective 7.8: Wildlife-Oriented Recreation**—Within three years of Plan’s approval, place information materials at all trailheads, boat ramps, and campgrounds, including but not limited to current use regulations; “Leave No Trace” recreation practices; and bear awareness, fire prevention, and backcountry safety topics.
- Objective 7.9: Wildlife-Oriented Recreation**—Within three years of Plan’s approval, repair or replace Refuge directional, regulatory, and location signs as necessary. Signs will be inspected on an annual basis.
- Objective 7.10: Wildlife-Oriented Recreation**—Within five years of Plan’s approval, increase patrol intervals on the Kenai River and all backcountry areas so that 25 percent of Refuge visitors report seeing and/or talking with a Refuge employee.
- Objective 7.11: Wildlife-Oriented Recreation**—Within five years of Plan’s approval, post boundary signs every 1,000 feet within one mile of all roads, trails, winter routes, and right-of-ways within or adjacent to the Refuge. Boundary signs will be inspected every two years and replaced as needed.
- Objective 7.12: Wildlife-Oriented Recreation**—Within 10 years of Plan’s approval, improve overall recreation-related visitor satisfaction in the Skilak Wildlife Recreational Area to 90 percent or higher. Recreationists surveyed will include but not be limited to wildlife viewers, photographers, campers, and hikers.
- Objective 7.14: Wildlife-Oriented Recreation**—Implement Executive Order 13443 to facilitate the expansion and enhancement of hunting opportunities and the management of game species and their habitat.
- Objective 7.13: Wildlife-Oriented Recreation**—Within 10 years of Plan’s approval, implement the Refuge’s approved law enforcement deployment model. Enforcement officers will patrol frontcountry and backcountry areas 365 days a year.

GOAL 8: Facilities—Visitors and Refuge personnel value and enjoy safe, well-maintained facilities and quality programs.

- Objective 8.1: Facilities**—Continue to manage hazardous forest fuels, especially in the wildland-urban interface where beetle kill trees and other fuel hazards increase the threat of wildfire to communities or private lands. Adjacent private lands, inholdings, and Refuge structures will continue to receive the maximum possible fire protection through interagency agreements.
- Objective 8.2: Facilities**—Continue to ensure fulfillment of obligations associated with maintaining the Moose Research Center as specified in the 2004 Memorandum of Understanding between ADF&G and the Refuge.
- Objective 8.3: Facilities**—Continue monthly and annual meetings with industry, ADEC, and Bureau of Land Management (BLM) to plan plugging and abandonment of wells;

removal or abandonment of pipelines; remediation of known contaminant sites; and identification of potential contaminated sites on existing oil and gas units.

Objective 8.4: Facilities—Within two years of Plan’s approval, implement the programmatic agreement for managing historic cabins.

Objective 8.5: Facilities—Within two years of Plan approval, complete a wildfire hazard and risk assessment for known historic cabins and cultural sites; then develop and implement a strategic 10-year plan to mitigate identified hazardous fuel conditions around cabins and sites where full protection is selected as the appropriate management option.

Objective 8.6: Facilities—Within three years of Plan approval, construct two six-bed cabin kits for additional educational group housing at the Outdoor Education Center.

Objective 8.7: Facilities—Within three years of Plan approval, develop a Kenai Refuge Sign Plan. The plan will contain location and graphic information for every sign used on the Refuge and will establish maintenance and replacement schedules and procedures.

Objective 8.8: Facilities—Within three years of Plan’s approval, complete and submit to the State Historic Preservation Officer the nomination form to have the Stepanka Archaeological District listed on the National Register.

Objective 8.9: Facilities—Within five years of Plan’s approval, service all campground restrooms at least once a week.

Objective 8.10: Facilities—Within five years of Plan’s approval, begin to patrol, service, and/or restock all frontcountry trailheads with appropriate information materials daily by Refuge staff.

Objective 8.11: Facilities—Within five years of Plan’s approval, begin to check, service, maintain, and/or restock all backcountry facilities and trails with information materials as needed by assigned backcountry staff.

Objective 8.12: Facilities—Within five years of Plan's approval, develop and implement best management practices to reduce waste, pollution, and energy inefficiency by 50 percent across all Refuge programs.

Objective 8.13: Facilities—Within five years of Plan’s approval, upgrade (as appropriate) and increase maintenance of Refuge roads, including but not limited to grading, snow removal, vegetation and invasive species control, dust control, and culvert replacement.

Objective 8.14: Facilities—Within five years of Plan’s approval, construct facilities to house up to 60 summer interns, volunteers, and seasonal employees, including Kenai Fish and Wildlife Field Office (KFWFO).

Objective 8.15: Facilities—Within seven years of Plan’s approval, construct a new visitor center with capacity for 150 visitors.

Objective 8.16: Facilities—Within seven years of Plan’s approval, complete a 6,000-square-foot warehouse for storage of Refuge equipment.

Objective 8.17: Facilities—Within one year of funding, renovate the Refuge laboratory and equip it with new facilities and analytical equipment.

GOAL 9: Wilderness Stewardship—Preserve and where necessary, restore the character and integrity of Wilderness for present and future generations.

Objective 9.1: Wilderness Stewardship—Immediately following Plan’s approval, develop a Wilderness Stewardship Plan for the Refuge.

- Objective 9.2: Wilderness Stewardship**—Immediately following Plan’s approval, begin conducting Minimum Requirements Analyses on all administrative activities in designated Wilderness.
- Objective 9.3: Wilderness Stewardship**—Within three years of Plan’s approval, initiate a program to assess and model the natural soundscape of designated Wilderness and other areas.
- Objective 9.4: Wilderness Stewardship**—Within five years of Plan’s approval, initiate research to assess and model motorized and non-motorized human-wildlife interactions as a result of recreational activities, including snowmachines, boats, road traffic, campgrounds, and trail use in Wilderness.
- Objective 9.5: Wilderness Stewardship**—Within five years of Plan’s approval, develop a model that evaluates human-caused disturbances on wilderness character.
- Objective 9.6: Wilderness Stewardship**—Within 15 years of Plan’s approval, identify or purchase inholdings from willing sellers to minimize landowner conflicts, protect Refuge resources, and provide for priority recreation activities.

Kodiak National Wildlife Refuge - 2008

Refuge Purposes

Kodiak National Wildlife Refuge was established in 1941“ . . . for the purpose of protecting the natural feeding and breeding ranges of the brown bears and other wildlife on Uganik and Kodiak Islands,

Alaska . . .” Under ANILCA, the purposes of Kodiak Refuge were further defined and expanded. Section 303(5)(B) of ANILCA states:

“The purposes for which the Kodiak National Wildlife Refuge is established and shall be managed include

- (i) to conserve fish and wildlife populations (and) habitats in their natural diversity, including, but not limited to, Kodiak brown bears, salmonids, sea otters, sea lions and other marine mammals and migratory birds;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents; and
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.”

Refuge Vision

Brown bear, fish, and other wildlife populations will continue to thrive on Kodiak National Wildlife Refuge in their natural diversity, living in pristine habitats. Refuge management will blend public and private partners in a dynamic alliance that fulfills the purposes and goals of Kodiak Refuge. The Refuge will provide a lasting legacy of resource stewardship for the use and enjoyment of current and future generations.

Refuge Goals and Objectives

GOAL 1: Increase our knowledge of fish and wildlife populations, their habitats, and their interrelationships.

- 1.1 Within two years of approval of this plan, complete a step-down plan to integrate and direct inventory and monitoring of plants, fish, and wildlife. Subsequently, update the inventory and monitoring plan annually with a regional review and sign-off by the Alaska Refuge Chief every five years.
- 1.2 Collaborate with the Alaska Department of Fish & Game (ADF&G) when monitoring and conducting research on State of Alaska trust species within the Refuge.
- 1.3 Curate wildlife study records using professional database-management standards and methods so data and reports may be readily accessed and understood by future Refuge biologists and others.
- 1.4 In cooperation with ADF&G, monitor for fish, wildlife, and avian diseases that may affect the Kodiak ecosystem, including chronic wasting disease and West Nile virus.
- 1.5 In cooperation with ADF&G, other external partners, and other programs within the Service, monitor for aquatic invasive species such as green crab, mitten crab, Atlantic salmon, New Zealand mudsnails, crayfish, amphibians, and aquatic weeds. With these

same partners, participate in the development and distribution of effective education and outreach materials.

- 1.6 Strive to publish results from Refuge-sponsored research in peer-reviewed journals. Report routine fish and wildlife survey results regularly in publically accessible reports.

GOAL 2: Ensure that Kodiak brown bears continue to flourish throughout the Refuge and congregate at traditional concentration areas.

To complement ADF&G objectives for brown bear populations, Refuge objectives include the following:

- 1.1 In cooperation with ADF&G, continue to use all available knowledge to monitor and evaluate trends in bear population size, composition, and mortality associated with recreation, subsistence, research, defense-of-life-or-property, and illegal kills.
- 1.2 In cooperation with ADF&G, maintain surveyed bear densities no lower than 10 percent below the lowest number within the following ranges: southeastern Kodiak and southwestern Kodiak 0.69–0.76 bears per square mile; northwestern Kodiak 0.64–0.72 bears per square mile.
- 1.3 Increase frequency of bear density estimates to improve bear population–trend monitoring in areas of high public use or special management concern (e.g., Karluk Lake vicinity).
- 1.4 Monitor and evaluate bear use, human use, and bear-human interactions at bear concentration areas that have established public use. Specifically, study bear use, bear movements, and bear-human interactions in the O’Malley River area. Apply results to guide adaptive management in these bear concentration areas using an open planning process with ample opportunities for stakeholder involvement.
- 1.5 Evaluate the management utility of the bear stream surveys using appropriate cross-comparisons with bear density survey data, climatic data, fish escapement data, and biological modeling efforts. Complete evaluation with assistance of Alaska Biological Science Center, U.S. Geological Survey by 2007.
- 1.6 Investigate population size, movements, and habitat use of bears on Afognak Island. Develop a method for indexing trends in population size by 2008 and complete research on movements and habitat use four years after funding is obtained.
- 1.7 By 2006, complete assessment of the genetic diversity of the Kodiak brown bear so as to understand gene flow between the southern and northern Archipelago, the vulnerability of Kodiak brown bears to wildlife diseases, environmental stresses, and parameters of population viability.
- 1.8 By 2010, develop and implement a method of monitoring the supply of berries suspected of being essential to the welfare of the Refuge’s brown bear population.

GOAL 3: Manage nonnative species to minimize impacts on native resources, while continuing to provide opportunities for harvest.

- 1.1 To facilitate population and habitat management, monitor—in collaboration with ADF&G—trends in summer distribution, size, and productivity of the mountain goat population on the Refuge. By 2008, initiate monitoring of trends in winter distribution of the mountain goat population.
- 1.2 By 2008, design and implement studies to evaluate habitat use and preference of deer on Kodiak Island to facilitate understanding of deer influence on the condition of winter range habitat.

- 1.3 By 2008, develop methods, in partnership with ADF&G, to monitor deer population trends on Kodiak Island to facilitate harvest and habitat management.
- 1.4 By 2010, evaluate and report habitat use and preference of mountain goats to improve understanding of goat influence on habitat conditions.
- 1.5 In cooperation with ADF&G, annually monitor trends in distribution, size, and composition of the elk population on Afognak Island. Maintain the sample of marked animals to enable this population monitoring by assisting with funding and logistics related to animal capture operations.
- 1.6 By 2012, develop an objective understanding of the effect of deer on supply of berry-producing shrubs of primary importance to brown bears of Kodiak Island.

GOAL 4: Continue to improve understanding and management of furbearing and nongame mammals that use Kodiak Refuge.

- 1.1 By 2007, in cooperation with the Region 7 (Alaska) Marine Mammals Management Office, develop and implement a sea otter survey to annually index population trends. Provide staff support for periodic, Archipelago-wide surveys conducted by Marine Mammals Management Office staff.
- 1.2 In cooperation with the Region 7 Marine Mammals Management Office, expand communication on sea otters with the Alaska Sea Otter Commission, village councils, and others.
- 1.3 In cooperation with the Region 7 Marine Mammals Management Office, expand communication on sea otters with the Alaska Sea Otter Commission, village councils, and others.
- 1.4 Initiate study of habitat ecology of snowshoe hares by 2012.
- 1.5 During cabin maintenance and management of derelict structures, take precautions to minimize damage to native bat populations.

GOAL 5: Monitor populations of resident and migratory birds as indicators of ecosystem health.

- 1.1 Continue to monitor coastal populations of environmentally sensitive resident birds in winter, spring, and summer for general information on species composition, distribution, and population trends to use as indices of marine and coastal resource health.
- 1.2 Continue to monitor populations of wintering waterfowl to provide information to the State of Alaska and the Alaska Migratory Bird Co-Management Council in support of sound management of recreation and subsistence harvest of waterfowl. Monitoring should emphasize species such as black scoter, harlequin duck, and Barrow's goldeneye, which make up much of the waterfowl harvest in the Archipelago.
- 1.3 Continue periodic monitoring of trends in distribution, size, and reproductive success of the Refuge's population of nesting bald eagles. By 2007, determine appropriate frequency and sample sizes for long-term monitoring.
- 1.4 By 2007, develop a banding program to monitor trends in survival and productivity with a focus on sea duck species (black scoter, harlequin ducks, Barrow's goldeneye) that make up much of the local waterfowl harvest. Areas along the Kodiak road system and adjacent to the villages would be given priority for the program.
- 1.5 Identify important habitat areas on the Refuge for bird species of conservation concern, including bald eagles, Steller's eiders, harlequin ducks, emperor geese, marbled and Kittlitz's murrelets, red-throated loons, gray-cheeked thrush, orange-crowned warblers, and yellow warblers. Develop habitat maps by 2010.

- 1.6 Continue collaboration with the Migratory Bird Management Office, Alaska Region, on periodic monitoring of wintering Steller's eider populations to contribute to monitoring and recovery efforts under the Endangered Species Act. Expand this effort to include monitoring of emperor geese.
- 1.7 Develop baseline contaminants information for environmentally sensitive resident birds by 2010.

GOAL 6: Maintain and restore native plant populations, communities, and habitats.

- 1.1 Develop and conduct reconnaissance surveys for invasive plants—particularly orange hawkweed (*Hieracium aurantiacum*), a known invasive on Kodiak Island—every five years in the vicinity of villages, private lands within the Refuge (e.g., lodges, canneries), and Refuge sites subject to routine use by people. Where invasive plants are detected, initiate collaborative control and eradication actions.
- 1.2 By 2008, describe species composition of plant communities for selected areas of the Refuge, with special emphasis on the Kodiak Refugium and areas likely to contain endemic plants.
- 1.3 By 2010, develop a monitoring program to evaluate major plant communities in the vicinity of remote weather stations.

GOAL 7: Conserve the abundance of natural salmonid populations for continued human and wildlife use, and ensure the diversity of species as indicators of the health of the Refuge's ecosystem.

- 1.1 In collaboration with ADF&G, annually monitor escapement of salmon by means of aerial surveys and weir counts to ensure adequate escapement for future production and to support important commercial, recreation, and subsistence fisheries.
- 1.2 Monitor salmon escapement in streams on the Refuge that are key seasonal feeding areas for brown bears and bald eagles, and work collaboratively with ADF&G to maintain escapement levels that reflect wildlife needs.
- 1.3 Annually review commercial, recreation, and subsistence harvest of salmon by means of ADF&G commercial harvest reports, special use permit reports, creel censuses, and subsistence reporting. Harvest data, along with escapement data, will be used to monitor productivity of salmon populations that occur in waters within refuge boundaries.
- 1.4 Continue to review management plans and harvest regulations that may affect exploitation of fish populations located within the Refuge. Make recommendations to ADF&G, regional advisory councils, the Federal Subsistence Board, local advisory committees, and the Alaska Board of Fisheries, as needed, for modifications to existing plans and regulations and/or for new plans and regulations.
- 1.5 Work with ADF&G to evaluate the need for steelhead escapement goals for Karluk, Ayakulik, and Sturgeon rivers. Additionally, recommend to ADF&G management actions or regulatory proposals that foster conservation of population structure and productivity of stocks that use these rivers.
- 1.6 Assess and monitor populations to gather baseline data on noncommercial fish species such as Arctic char in Karluk Lake, Dolly Varden char, and resident rainbow trout. Use study methods such as mark-recapture, radio-tagging, weirs, video, and creel surveys with assistance of the Service's King Salmon Fish & Wildlife Service field office and ADF&G.

- 1.7 Continue to require ADF&G to implement monitoring programs for Kodiak Regional Aquaculture Association (KRAA) enhancement projects conducted on the Refuge, as outlined in specific refuge management plans (i.e., Spiridon and Hidden lakes enhancement management plans). Annually review project reports provided by ADF&G to ensure that biological parameters continue to meet management plan criteria, which will ensure protection of wild salmon stocks, char populations, and wildlife within the project area.
- 1.8 Through a collaborative effort with ADF&G, evaluate situations when fish populations are determined not to be meeting escapement goals or management targets. When weak stocks are identified (e.g., the early run of sockeye in Akalura Creek), develop strategies to improve and stabilize runs, which may include implementation of specific management actions and research or rehabilitation projects, while maintaining genetic integrity of these fish populations.
- 1.9 Complete data collection and write a report describing and classifying genetic characteristics of salmon populations in the Kodiak Refugium by 2008.
- 1.10 In cooperation with ADF&G, document and describe genetic characteristics and variability of natural fish populations that are important indicators of the diversity on the Refuge for both human and wildlife use.
- 1.11 Through a coordinated effort with ADF&G, evaluate salmon spawning and rearing habitat to determine productivity of salmon-producing systems within the Refuge.
- 1.12 Through a collaborative effort among ADF&G, the Refuge, and the King Salmon Fish & Wildlife Service field office, use escapement, habitat, and other pertinent data to establish sustainable or biological escapement goals—subject to review by the Alaska Board of Fisheries—for all species of salmon within the Refuge.
- 1.13 Establish and implement monitoring plans for streamside areas to ensure salmon and Arctic char rearing and spawning habitats remain productive.

GOAL 8: Provide the opportunity for local residents to continue their subsistence uses on the Refuge, consistent with the subsistence priority and with other refuge purposes.

Most of the objectives listed under Goals 1 through 7 are also objectives for the subsistence goal. For example, there are numerous objectives related to management of deer (Goal 3), fish (Goal 7), and migratory birds (Goal 5), which are commonly used subsistence resources in and around the Refuge.

- 1.1 Coordinate with ADF&G and the Federal Subsistence Board to issue special actions, as authorized under federal in-season management, when necessary to ensure conservation of healthy fish stocks and to provide for subsistence uses (subject to Title VIII of the Alaska National Interest Lands Conservation Act [ANILCA]) of fish in federal waters. Efforts will be made to minimize disruption to resource users and existing agency programs, as agreed to in the Interim Memorandum of Agreement for Coordinated Fisheries and Wildlife Management for Subsistence Uses on Federal Public Lands in Alaska.
- 1.2 Continue to coordinate with and assist the Division of Migratory Bird Management in completing the annual Migratory Bird Harvest Survey in rural communities surrounding Kodiak Refuge.
- 1.3 Coordinate with ADF&G and the Service's Office of Subsistence Management to complete subsistence use surveys as needed.

GOAL 9: Improve baseline understanding of natural flowing waters on the Refuge and maintain the water quality and quantity necessary to conserve fish and wildlife populations and habitats in their natural diversity.

- 1.1 In coordination with the Service's Fisheries and Ecological Services and the Water Resources Branch, in the Regional Office, ensure the Four Dam Pool and the Kodiak Electric Association comply with instream-flow requirements of the Terror Lake Project agreement and the Federal Energy Regulatory Commission license. Additionally, monitor and maintain water quantity and water quality that could be affected by future hydroelectric or other water development projects.
- 1.2 By 2009, complete the Five-Year Plan of Study for the Water Resources Inventory and Assessment on Kodiak Refuge and, in coordination with the Service's Water Resources Branch, quantify and file for instream water rights for the maintenance and protection of fish and wildlife habitats.
- 1.3 In cooperation with ADF&G and the King Salmon Fish & Wildlife Service field office, initiate limnological studies at lakes and streams within the Refuge that provide important habitat for fish and wildlife. Specifically, begin studies at Karluk, Ayakulik (Red Lake), Frazer, Akalura, Uganik, Sturgeon, Spiridon, and Little river systems.

GOAL 10: Provide opportunities for quality public use and enjoyment of refuge resources through compatible fish- and wildlife-dependent recreation activities, including hunting, fishing, wildlife observation, and photography.

- 1.1 Improve monitoring and continue appropriate onsite management of seasonal aggregations of public use at Ayakulik River, Karluk River, Frazer fish pass, and Uganik River and expand to other areas as use develops.
- 1.2 In cooperation with ADF&G, Koniag, Inc., Akhiok-Kaguyak, Inc., and Old Harbor, continue to implement and manage easement agreements to minimize impacts of public use on fish, wildlife, and habitat; ensure compatibility with refuge purposes; and provide for sustainable fish, wildlife, and wildlands recreation.
- 1.3 By 2008, develop an operations plan encompassing all aspects of law enforcement. Annually monitor commercial activities on the Refuge, including compliance with special use permit conditions and operation plans. Expand law enforcement outreach to include education programs and media releases regarding Refuge regulations, and increase the number of field patrols to protect resource values and to enhance visitor experiences on Refuge and conservation easement lands.
- 1.4 Assess the nature of visitor experiences available in different types of bear-viewing settings to support the design and development of viewing programs at O'Malley River and other potential sites. Complete the assessment(s) in advance of the implementation of any new bear-viewing program(s).
- 1.5 Using rigorous social science methods, assess the nature of visitor experiences, significant influences on those experiences, and public acceptability of potential management actions at Frazer fish pass. Use results of the study as input to visitor-use management and potential visitor-capacity decisions at that site.
- 1.6 Manage the public use cabin system to support a variety of compatible recreation activities by carefully considering the location of all current cabins and potential future additions to the system.
- 1.7 Continue to monitor use of 17(b) easements and implement management actions as necessary to prevent resource impacts to the easements. (Also see Goal 1.)

- 1.8 By 2008, assess off-road vehicle (ORV) use on conservation easements lands.
- 1.9 Initiate assessment of snowmachine use on the Refuge.

GOAL 11: Improve management of commercial use opportunities that are compatible with Refuge purposes, provide quality public use opportunities, enhance visitor experiences, and ensure compliance with provisions of ANILCA.

- 11.1 To accommodate an increasing number of permittees, review the current process for administering special use permits and develop a simplified, more time-efficient system for receiving applications, issuing permits, processing use reports, and distributing billings.
- 11.2 By 2008, develop an education program for commercial operators to inform permittees of Refuge requirements, goals, and regulations. As a part of this, provide updated information on bear safety and awareness for distribution to clients.
- 11.3 By 2007, obtain stakeholder input, determine if the 1987 Management Plan for Commercial Fishing Activities needs to be revised, and update this plan if warranted.

GOAL 12: Provide outreach, environmental education, and interpretive programs that increase a sense of stewardship for wildlife, cultural resources, and the environment and that enhance visitor experiences on the Refuge.

- 12.1 Plan, design, and construct a Refuge visitor center in the vicinity of downtown Kodiak, to be completed by 2009. [Note: The visitor Center was completed in 2007.]
- 12.2 By 2007, provide better access to Refuge information on topics such as bear safety, campfire safety, permits, and public use cabins through a Web site and other electronic media. Information would also be available through a variety of nonelectronic sources.
- 12.3 Increase visitor center staffing to allow the center to be open seven days per week during peak visitor-use season (dependent on funding).
- 12.4 Acquire base funds for the Kodiak Summer Science and Salmon Camp base camp and village outreach project through Refuge System funding processes to avoid depending on annual fund-raising.
- 12.5 Annually sponsor, cosponsor, or participate in community events, festivals, and programs (e.g., Migratory Bird Day, Crab Fest, Whale Fest) to build awareness of the Refuge and Kodiak ecosystems.
- 12.6 By 2008, work within the community to increase partnerships and volunteers to form a friends group for Kodiak Refuge.
- 12.7 As staff and funding allow, conduct workshops with schools and teachers across Kodiak Island to enhance curriculum and outreach dealing with Refuge resources, issues, and opportunities.
- 12.8 Expand opportunities for individuals, organized groups, and families to learn about the Refuge through on- and off-headquarters programs, environmental education, nature walks and interpretive programs.

GOAL 13: Conserve cultural and archaeological resources of the Refuge.

- 13.1 Identify priority areas to inventory for archaeologic and other cultural sites, and conduct surveys as time and personnel permit. Perform surveys at a level sufficient to evaluate, without a follow-up visit, eligibility of sites identified for inclusion on the National Register of Historic Places. While actual surveys will be conducted as funding and

personnel become available, the identification of priority areas and overall planning for surveys should be completed by the end of 2007.

- 13.2 Formalize the existing partnership with the Alutiiq Museum by the end of 2006. This agreement should spell out participation of the Refuge, the Service's Regional Office in Anchorage, and the museum in terms of both funding and tasks. Seek out and develop partnerships with Native corporations, universities, other government agencies, etc., to cooperatively inventory, manage, and protect cultural resources.
- 13.3 Identify and acquire archaeological, historical, and ethnographical archival resources to provide the necessary background material to support archaeological and historic site protection, public interpretation, and paleobiological information useful in wildlife and habitat management.
- 13.4 Provide Archaeological Resources Protection Act training to refuge law-enforcement personnel. Provide basic cultural resource training to refuge staff. Identify sites or areas at risk for vandalism and monitor with periodic law-enforcement patrols.
- 13.5 Strengthen and expand the Alaska Heritage Resource Stewardship program for site monitoring and evaluating site conditions on Kodiak Refuge.

GOAL 14: Conserve special and unique features of the Kodiak Archipelago ecosystem within the Refuge.

Note: Most of the objectives listed under Goals 1 through 7 are also objectives related to the special and unique features of the Archipelago ecosystem.

- 14.1 With public involvement, develop a management plan for the Mount Glottof Research Natural Area that identifies conservation and monitoring measures to preserve and document featured values and identifies how management under the plan may influence public use and access.

GOAL 15: Promote close working relationships through effective coordination, interaction, and cooperation with other federal agencies, state agencies, local communities, tribes, organizations, industries, the general public, and landowners within and adjacent to the Refuge whose programs affect or are affected by Refuge management activities.

- 15.1 Routinely report results of biological and subsistence management, monitoring, and research to external audiences, including Kodiak Fish and Game Advisory Committee, Kodiak-Aleutian Regional Advisory Council, tribal councils, and other interested groups and individuals.
- 15.2 Use and assist in the fish and game regulation process through interaction with ADF&G, local and fish and game advisory committees, state Boards of Fisheries and Game, Federal Subsistence Board, Kodiak-Aleutians Federal Subsistence Regional Advisory Council, and the Alaska Migratory Bird Co-Management Council.
- 15.3 Use public processes as necessary to encourage stakeholder involvement in implementation of this Conservation Plan.
- 15.4 Continue the Refuge Information Technician program to enhance information exchange with local communities on Refuge issues, particularly those dealing with subsistence and bear management (such as bears killed in defense-of-life-or-property).
- 15.5 Participate in interagency activities, cooperative agreements, data sharing, and sharing of equipment and personnel to accomplish mutual management goals and objectives.
- 15.6 When requested, partner with community members to address bear management concerns at villages, remote cabins, and lodges.

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Refuge Purposes

Section 101(b) of ANILCA identifies purposes for all conservation system units in Alaska and states:

“It is the intent of Congress in this Act to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems; to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities, including but not limited to hiking, canoeing, fishing, and sport hunting, within large arctic and subarctic wild lands and on free-flowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.”

Section 302(5) (B) of ANILCA states:

“The purposes for which the Koyukuk National Wildlife Refuge is established and shall be managed include—

- (i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to waterfowl, raptors and other migratory birds, furbearers, moose, caribou (including participation in coordinated ecological studies and management of the Western Arctic caribou herd), furbearers, and salmon;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents;
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.”

The purpose of the Koyukuk Wilderness is to secure an enduring resource of wilderness, to protect and preserve the wilderness character of the area as part of the National Wilderness Preservation System, and to administer the area for the use and enjoyment of the American people in a way that will leave it unimpaired for future use and enjoyment as wilderness.

Major purposes for which the Innoko Refuge was established and shall be managed were set forth in section 302(3) (B) of ANILCA. Only the first purpose differs from those for the Koyukuk Refuge. This purpose is:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to waterfowl, peregrine falcons, other migratory birds, black bear, moose, furbearers, and other mammals, and salmon.

Major purposes for which the Nowitna Refuge was established and shall be managed were set forth in section 302(6) (B) of ANILCA. Only the first purpose differs from those for the Koyukuk Refuge. This purpose is:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to trumpeter swans, white-fronted geese, canvasbacks and other waterfowl and migratory birds, moose, caribou, martens, wolverines, and other furbearers, salmon, sheefish, and northern pike.

The lower 223 miles of the Nowitna River is managed as a Wild River under the Wild and Scenic Rivers Act. This segment of the river was recognized for its outstandingly remarkable scenic, geologic, wildlife, historic, and recreational values.

Refuge Vision

The National Wildlife Refuges in the Koyukon region of Alaska encompass a vast area of boreal forest, wetlands, lakes and rivers that is home to an abundance of waterfowl, songbirds, mammals, and fish. An experience of solitude in this intact ecosystem imparts the sense that this place is completely untouched by man. And yet, the land is thoroughly known and essential to people whose lives are intertwined with its bounty. We use our understanding of the respect, value, and love of this place by the people who live in, use, or simply treasure this wild land and sound biological research and monitoring to ensure proper stewardship of the Koyukuk, Northern Unit Innoko, and Nowitna National Wildlife Refuges.

Refuge Goals and Objectives

Goal 1: Fish and Wildlife. Conserve fish and wildlife populations and habitats in their natural diversity in a manner consistent with natural ecological processes.

Objective 1: Continue to implement and update the current Inventory and Monitoring Plan—reflecting changes in techniques; focus new projects on invasive species, climate change, water quality, and wetlands; and including new and ongoing cooperative efforts.

Objective 2: Continue to work cooperatively with others to identify key fisheries resources and to fill in gaps in the Refuges' knowledge of fisheries resources; develop and implement research on effects of climate change on refuge resources; and incorporate new monitoring efforts that focus on detecting long-term changes to refuge ecosystems.

Objective 3: Upon funding, hire a fisheries biologist/hydrologist and a wildlife biologist.

Objective 4: Continue to work cooperatively with the University of Alaska, U.S. Geological Survey, ADF&G, tribal organizations, and others to develop and implement research on global climate change, and (upon adequate funding) incorporate new monitoring efforts into our existing I&M that focus on detecting long-term changes to refuge ecosystems.

Objective 5: Upon adequate funding, restore the wildlife biologist position that was removed in 2006 due to organizational changes.

Goal 2: Ecosystem Health. Ensure the natural character, vigor, and species diversity of the boreal forest and tundra environments by perpetuating a fire regime both natural and prescribed, which maintains a mosaic of habitats native to Interior Alaska.

Objective 1: Continue to implement the Refuges' Fire Management (FMP) and Communication plans.

Objective 2: Continue to refine the understanding of the Refuge’s fire history by maintaining the most current fire history geographic information system (GIS) layer, incorporating information from other fire history studies, working collaboratively with other federal and State fire management agencies and universities, utilizing climate change research findings and the most current fire technology, taking advantage of local knowledge, and participating in studies of Alaska fire regimes.

Goal 3: Fire Management. Maintain a fire management program that helps achieve Refuge goals and objectives while providing for the protection of human life, private property, and identified cultural and natural resources.

Objective 1: Within one year of the final Plan being approved, combine the Koyukuk, Nowitna, and Northern Unit Innoko fire management plans and incorporate changes resulting from this plan along with current fire policy in a single updated fire management plan.

Objective 2: Within five years of the final Plan being approved, contact the tribal and local governments in Galena, Hughes, Huslia, Kaltag, Koyukuk, Nulato, Ruby, and Tanana to assess the need for assistance in reducing hazardous fuel accumulations and developing a mitigation plan (i.e., Comprehensive Wildland Fire Protection Plan). Within 10 years of the final Plan being approved, evaluate the effectiveness of the fuels reduction projects implemented to-date in each village.

Objective 3: Within five years of the final Plan being approved, update the Refuge’s GIS layer, which includes cultural resource values at risk.

Objective 4: Continue to develop partnerships with other federal and State agencies and local governments to further the understanding of fire interactions in interior Alaska.

Objective 5: Upon funding, hire an assistant fire management officer to assist the refuge fire management officer with wildland and prescribed fire planning, monitoring, and administration.

Goal 4: Water Resources. Ensure the natural function and condition of water resources necessary to conserve fish and wildlife populations and habitats in their natural diversity.

Objective 1: Within 10 years of final Plan approval, develop a wetland inventory and monitoring program to be incorporated into the current I&MP. Inventory and monitoring will address aquatic plants, fish, wetland-dependent wildlife, aquatic invertebrates, and physical and chemical properties of lakes and wetlands. Projects will be implemented as staff and funding become available.

Objective 2: Within 10 years of final Plan approval, work with the Service’s Water Resources

Branch to develop a river and stream resources inventory and monitoring program to be incorporated into the current I&MP. Inventory and monitoring should address aquatic plants, river-dependent fish and wildlife, aquatic invertebrates, riparian and floodplain habitat, and physical and chemical properties of rivers and streams. Projects will be implemented as staff and funding become available.

Objective 3: Within five years of final Plan approval, review the Refuge’s 1986–1988 baseline evaluation of placer mining sedimentation and occurrence of heavy metals on associated aquatic ecosystems of the Refuge, and develop and implement a repeat survey (when additional funding is obtained).

Goal 5: Communication. Provide information and maintain open communication for a greater understanding and appreciation of fish and wildlife ecology, habitat preservation, and refuge management that assists in addressing resource issues important to local residents, the Service, and others.

Objective 1: Conduct school programs and/or community meetings in Galena, Hughes, Huslia, Kaltag, Koyukuk, Nulato, Ruby, and Tanana at least once a year. Presentations can cover topics such as local wildlife, habitats, and management; wildlife surveys and current population status or trends; subsistence foods, health benefits, and contaminant risks; fire ecology and management; and climate change.

Objective 2: Maintain the existing refuge resource library and continue to work with local schools to develop resources for environmental education, including curricula, teaching kits, and teacher workshops on natural resources and other refuge-related topics.

Objective 3: Continue to provide the public with timely and accurate information about the Refuge through a variety of communication tools such as informational kiosks, displays, radio programs, newsletters, brochures, and web sites. Information provided using these tools should be evaluated and updated at least once a year by the environmental education/outreach coordinator and the refuge manager.

Objective 4: Maintain the partnership with the Galena City Schools and Louden Tribal Council to annually conduct the Galena Science Camp. Participate in other local science and cultural camps when opportunities arise.

Objective 5: Increase cooperation with the Friends of Alaska National Wildlife Refuges, and the Central Representatives in particular, to develop new materials and outlets for interpretation and environmental education.

Goal 6: Outdoor Recreation. Continue to provide opportunities for hunting, fishing, wildlife observation and photography, and other outdoor recreation in a natural setting.

Objective 1: Within five years of final Plan approval, review current public use monitoring methods and implement new methodology if needed. At a minimum, continue to annually compile and summarize data from the Koyukuk River (Ella's Cabin) check station, Nowitna River check station, and the refuge guide and air taxi reports to assess levels of public use.

Objective 2: Working with communities, and State and federal authorities, continue to develop the refuge law enforcement program through activities such as hunter education, village visits, aerial surveillance, and annual special use permit reviews. Produce annual summaries of activities.

Goal 7: Subsistence. Provide and promote the opportunity for local residents to continue their subsistence activities on the Refuge, consistent with the subsistence priority and with other refuge purposes.

Objective 1: Continue the Refuge Information Technician (RIT) program to enhance information exchange with local communities on refuge issues, particularly those dealing with subsistence. Restore the second RIT position the Refuge had until 2006 (dependent upon funding).

Objective 2: Continue to conduct annual informational meetings in each village associated with the refuge biological program. Regularly attend other subsistence-related meetings, providing information regarding the status of subsistence resources and their use and commenting on proposals related to subsistence management within the Refuge. Maintain a respectful dialogue with refuge resource stakeholders and subsistence users.

Objective 3: Continue to work closely with tribal councils, State fish and game advisory committees, the Federal Subsistence Western Interior Regional Advisory Council, other local and regional working groups, Alaska Department of Fish and Game, and the Office of Subsistence Management to address issues and concerns of local subsistence users.

Objective 4: Continue to coordinate with and assist the Division of Migratory Bird Management in completing the annual Migratory Bird Harvest Survey (dependent upon available funding).

Objective 5: Continue to coordinate with and assist the Yukon River Drainage Fisheries Association in completing its annual In-Season Fish Harvest Assessment.

Objective 6: Cooperate with village organizations and other agencies to develop opportunities to educate local youth and adults in traditional subsistence ways related to fish, wildlife, and plants of the Refuge. Continue to develop outreach tools that make subsistence regulations understandable to the public.

Objective 7: Monitor and assess the use of off-road vehicles (ORVs) such as 4-wheelers and ARGOs on refuge lands by federally qualified subsistence users. Within three years of final Plan approval, produce a report that determines if ORVs were traditionally used for subsistence access and examines the need for regulation of ORV use.

Goal 8: Wild Character. Maintain the special values of the Nowitna Wild River and Koyukuk Wilderness and the wild character of the Refuge.

Objective 1: Continue to monitor activities on the Nowitna Wild River and in the Koyukuk Wilderness for compliance with the Wild and Scenic Rivers and Wilderness acts and ANILCA. If problems are detected, appropriate actions would be taken.

Goal 9: Cultural Resources. Conserve, appreciate, and interpret the cultural, historic and prehistoric resources of the Refuge.

Objective 1: Prepare a Cultural Resources Management Plan by 2010.

Objective 2: Provide Archaeological Resources Protection Act and National Historic Preservation Act training to all permanent refuge personnel every 2–5 years.

Objective 3: Identify sites at risk from vandalism and erosion and monitor with annual inspections to document physical condition.

Objective 4: Identify priority areas to inventory for archaeological and other cultural sites, and conduct surveys as time and personnel allow.

Objective 5: Work with local tribes, elders, the University of Alaska Fairbanks, and regional archaeological staff to compile a place name directory and atlas of cultural and historic sites. This should include the production of a comprehensive GIS layer of sites for use in refuge management. Create a working database within two years of final Plan approval.

Objective 6: Develop an active bibliography and library collection of published and unpublished materials relating to cultural, paleontological, and natural history of the Refuge. This may include books, interviews, and journals, maps, and photos collected by explorers, missionaries, biologists, and researchers. An initial bibliography would be completed within two years of final Plan approval.

Objective 7: Continue to work with regional archaeology staff, the University of Alaska Fairbanks, and other researchers to investigate and evaluate known cultural sites and identify new sites within the Refuge.

Objective 8: Continue to work with research partners to explore the unique paleontological resources of the Palisades site.

Objective 9: Continue to cooperate with tribes, other agencies, universities, KIYU radio, and local residents to develop and enhance programs that capture the traditional knowledge of elders and others about the cultural and natural history of the Refuge.

Goal 10: Promote close working relationships through effective coordination, interaction, and cooperation with other federal agencies, State agencies, local communities, tribes, organizations, industries, the public, and the landowners within and adjacent to the Refuge whose programs relate to refuge management activities.

Objective 1: Continue to collaborate with staffs of other refuges, federal and State agencies, research institutions, schools, tribal and city councils, and others to facilitate resource management, inventory and monitoring, biological research, public outreach, and education at the Refuge and in the region. See Objectives 2 and 4 of Goal 2.1.1, Objective 2 of Goal 2.1.2, Objectives 2 and 5 of Goal 2.1.3, Objectives 4 and 5 of Goal 2.1.5, Objectives 1 and 2 of Goal 2.1.6, Objectives 2, 3, and 6 of Goal 2.1.7, and Objectives 2, 4, 5, and 6 of Goal 2.1.9.

Goal 11: Facilities and Equipment. Provide and maintain adequate facilities and equipment in Galena to ensure a safe and secure working environment to accomplish Refuge purposes, goals, and mandates.

Objective 1: Secure funding for construction or purchase of an administrative office, shop, and warehouse that provide sufficient facilities for refuge personnel and property in Galena.

Objective 2: Maintain and upgrade the quarters, bunkhouse, and administrative cabins to provide safe and secure living accommodations for employees in subarctic conditions. Continue to explore alternative energy sources for refuge facilities to reduce costs to the government and lessen the environmental impact.

Objective 3: Explore options and secure funding to acquire an adequate float plane facility and operations site on Alexander Lake in Galena.

Goal 12: Staffing. Ensure the Refuge has adequate personnel to meet operational needs.

Objective 1: Seek funding to restore the Refuge's wildlife biologist position and second refuge information technician position. Create and fill positions for a fisheries biologist/hydrologist and an assistant fire management officer.

Objective 2: Seek funding to hire an additional biological technician to assist the refuge biologists conducting inventory and monitoring projects.

Objective 3: Work with regional high schools and universities in recruiting and educating diverse candidates for positions as they become available. This includes providing internship opportunities such as the cooperative Alaska Native Science and Engineering Program (ANSEP) in which the University of Alaska promotes the educational development of Alaska Natives in scientific fields.

Objective 4: Maintain a minimum of three pilots on staff, and add staff with piloting expertise as biological, habitat, and/or fisheries positions are developed and funded.

Selawik National Wildlife Refuge - 2011

Refuge Purposes

Section 101(b) of ANILCA identifies purposes for conservation system units in Alaska:

“It is the intent of Congress in this Act to preserve unrivaled scenic and geological values associated with natural landscapes; to provide for the maintenance of sound populations of, and habitat for, wildlife species of inestimable value to the citizens of Alaska and the Nation, including those species dependent on vast relatively undeveloped areas; to preserve in their natural state extensive unaltered arctic tundra, boreal forest, and coastal rainforest ecosystems; to protect the resources related to subsistence needs; to protect and preserve historic and archeological sites, rivers, and lands, and to preserve wilderness resource values and related recreational opportunities, including but not limited to hiking, canoeing, fishing, and sport hunting, within large arctic and subarctic wild lands and on free-flowing rivers; and to maintain opportunities for scientific research and undisturbed ecosystems.”

Section 302(7) (B) of ANILCA states that the purposes of Selawik refuge include:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Western Arctic caribou herd (including participation in coordinated ecological studies and management of these caribou), waterfowl, shorebirds and other migratory birds, and salmon and sheefish;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents; and
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.

The purposes of the congressionally designated Selawik Wilderness Area are to secure an enduring resource of wilderness, protect and preserve the wilderness character of the area as part of the National Wilderness Preservation System (NWPS), and administer the area for the use and enjoyment of the American people in a way that will leave it unimpaired for future use and enjoyment as designated wilderness.

Refuge Vision

As a trusted resource steward and community partner, the Selawik National Wildlife Refuge will enhance and protect the quality of life found in northwest Alaska by sustaining the ecological integrity of the Selawik River drainage and Kobuk River delta. Fish and wildlife will continue to thrive in this remarkable environment, as will subsistence, cultural, and recreational uses of these resources. With vision and resourcefulness, the refuge will proactively monitor the uncertainties associated with climate change. The refuge will foster productive relationships with local communities and governments, Alaska Native peoples, visitors, scientists, neighboring landowners, and others to promote resource health, respond to community and educational needs, and perpetuate an enduring natural legacy for future generations of Americans.

Refuge Goals and Objectives

Goal 1: Conserve the diversity of fish and wildlife and their habitats on refuge lands, while allowing ecological processes to shape the environment.

Objectives:

1. Develop and implement an Inventory and Monitoring (I&M) Plan for the refuge that integrates and directs inventory and monitoring activities of plants, fish, wildlife, and habitats, and complies with national Service policy. Revise and update plan as necessary.
2. Work with international, national, State, local, and private entities to monitor migratory bird species abundance and distribution and assist in maintaining healthy bird populations throughout the United States and Western Hemisphere.
3. Monitor spring and fall migration and staging of waterfowl on the refuge and adjacent areas.
4. Monitor and assist with management of the Western Arctic Caribou Herd to ensure conservation of the herd and the habitats upon which it depends.
5. Inventory and monitor key species of mammals on the refuge to help ensure healthy and sustainable populations, including but not limited to wolves, black and brown bears, beavers, lynx, snowshoe hares, and other furbearers.
6. At intervals of 2-4 years, or more frequently based on conservation concerns, obtain a moose population estimate for the refuge, including age and sex ratios, by conducting aerial surveys in cooperation with neighboring State and Federal land managers when possible.
7. Inventory and monitor the abundance, distribution, and habitats of fish, including pike, sheefish, and whitefish species on the refuge.
8. Monitor landscape changes of vegetation and physical features at appropriate intervals or after significant disturbance.
9. Develop stronger partnerships with research and academic institutions, including U.S. Geological Survey, University of Alaska Fairbanks, and others, to better understand ecological processes on the refuge.
10. Implement and maintain an updated Fire Management Plan for the Selawik Refuge.
11. Work cooperatively with private landowners and other partners to develop and implement a Land Protection Plan for the Selawik Refuge.
12. Work cooperatively with the Fairbanks Fish and Wildlife Field Office, ADF&G, and others to revise and update the Fishery Management Plan for the Selawik Refuge.
13. Develop a geodatabase model, with a supporting database system, that is compatible with the refuge's geographic information system (GIS). The model and supporting database must be capable of storing and managing the refuge's current data collections and should include provisions for streamlining entry of data in both electronic and paper formats.
14. Complete entry and validation of all legacy, biological, and abiotic data within five years of development of the geodatabase model and supporting system as staffing capability allows.

Goal 2: Maintain the integrity and promote the environmental health of waters and aquatic habitats within the refuge.

Objectives:

1. In cooperation with the Service's Water Resources Branch, collect necessary hydrologic and biological data to quantify stream flow on key spawning areas for sheefish and whitefish, and apply for refuge instream water rights through the State of Alaska.
2. Collaborate with the State of Alaska and others to initiate a water quantity and quality monitoring program for waters within the refuge boundary that includes investigating and addressing impacts to water resources related to human activities and settlements.
3. Formulate a strategy to inventory wetland and lake resources within the refuge, including aquatic plants, fish, wetland-dependent wildlife, aquatic invertebrates, and physical and chemical properties of lakes and wetlands.
4. Assess the feasibility of developing a hydrologic model for the refuge's principal watersheds.
5. Investigate increased sedimentation in the upper Selawik River, especially due to a major thaw slump event in 2004, and determine its effects on water quality and fish habitat.

Goal 3: Provide and promote opportunities for local residents to engage in subsistence activities on the refuge.

Objectives:

1. Continue the Refuge Information Technician (RIT) program to enhance information exchange with local communities about refuge issues, particularly those dealing with subsistence. Expand the RIT program to Noorvik and other refuge communities when and where possible.
2. Support community and regional efforts to educate and engage youth and adults in subsistence activities and to share the knowledge and experience of elders.
3. Continue to work closely with tribal councils, ADF&G, State Fish and Game advisory committees, the Office of Subsistence Management, the Northwest Arctic Subsistence Regional Advisory Council, the Western Arctic Caribou Herd Working Group, the Game Management Unit 23 Working Group, and other local and regional groups to address issues and concerns of local subsistence harvesters.
4. Continue to develop outreach tools that make hunting and fishing regulations understandable to the public.
5. Seek opportunities to support and participate in research that contributes to management of subsistence resources and increases our understanding of subsistence practices.
6. Coordinate and cooperate with partners to mark and maintain the winter trail system to provide safer travel on the refuge for subsistence and other activities.
7. Conduct a historical access study in cooperation with the State of Alaska and Alaska Native tribal elders and leaders living in communities within and adjacent to the refuge and NANA Regional Corporation and the Northwest Arctic Borough as necessary.

Goal 4: Provide quality visitor experiences and enjoyment of resources on refuge lands through compatible recreation activities, including hunting, fishing, wildlife observation, and photography, in ways that minimize conflicts among visitor groups and residents.

Objectives:

1. Continue to implement and strengthen the refuge's special use permit program and increase enforcement of and compliance with permit stipulations. Maintain current permit conditions for commercial transporting and guiding.
2. Coordinate with the State of Alaska, Bureau of Land Management, National Park Service, and NANA Regional Corporation to improve law enforcement effectiveness and efficiency on the refuge and surrounding lands.
3. Consider and, as appropriate, support the initial recommendations of the Game Management Unit (GMU) 23 Working Group and continue to participate in the second phase of this group and any subsequent coordination or education efforts.
4. Produce an appropriate land status map of the refuge of a detail useful for visitors to identify and make a distinction between public and private lands.
5. Provide recreational visitors with information on the refuge, highlighting the Selawik Wilderness Area and the Selawik Wild River.

Goal 5: Provide outreach and education to foster a sense of stewardship and respect for wildlife, fish, cultural resources, and the environment.

1. Continue to provide the public with timely and accurate information about the refuge through a wide variety of communication tools.
2. As a refuge, become better positioned and able to promote education and stewardship programs that are relevant for local residents by contributing to the region as a familiar and responsive community member, striving to understand local needs and culture.
3. Continue to develop methods for delivering resource information in ways that are relevant to the culture by blending local perspectives, traditional knowledge, and scientific information.
4. Participate in and support local science and cultural camps when opportunities arise and time and funding permit.
5. Promote and support the Alaska Native Science and Engineering Program (ANSEP).
6. Increase cooperation with Friends of Alaska National Wildlife Refuges to expand interpretation and environmental education activities in the region.
7. Participate in the Service's national and statewide outreach and education efforts.
8. Promote environmental ethics and "Leave No Trace" standards in the Selawik Wilderness Area and throughout the refuge. Continue to educate commercial operators to do the same for their clients.
9. Ensure that administrative activities in the designated Selawik Wilderness Area are appropriate by conducting a Minimum Requirements Analysis for new activities and reviewing existing analyses when necessary.
10. Complete a Wilderness Stewardship plan for the Selawik Wilderness Area.

Goal 6: Preserve and protect the cultural, historical, and archaeological resources of the refuge.

Objectives:

1. In cooperation with local communities, develop products that capture traditional place names and information connected to those places for the refuge.
2. Continue to develop programs that document traditional knowledge of elders and others about the cultural and natural history of the refuge.
3. Review and update the refuge's Cultural Resources Management Plan.

4. Support local community efforts to address exposed and eroding grave sites.
5. Research and compile published and unpublished materials containing the cultural history of the refuge, including archival records, historical census data, photographs, audio tapes of interviews with elders, journals, maps, and other sources.
6. Identify areas on the refuge to inventory for archaeological and other cultural or historic sites, giving priority to those areas susceptible to erosion and vandalism.

Goal 7: Develop and maintain credibility and open communication with partners in resource management and conservation, including Federal and State agencies, educational institutions, local communities, Native corporations, tribal governments, neighboring landowners, businesses, and organizations.

Objectives:

1. Maintain a presence in the region by visiting communities on a regular basis to consult with local leaders about management programs on the refuge.
2. Coordinate inventory and monitoring projects with the ADF&G and other agencies to best assure integration and prevent unnecessary duplication.
3. Develop a formal coordination effort with other Federal and State land managers in the region to better communicate and share information on land use planning.
4. Actively participate and engage in regional transportation planning.
5. Support and actively participate in the Western Arctic Caribou Herd (WACH) Working Group and other collaborative management efforts.
6. Establish a formal venue for presenting and publishing previously unpublished reports from refuge research projects (i.e., gray literature) to increase credibility and communication with scientists, academia, and the public.
7. Actively participate in the Western Alaska and Arctic Landscape Conservation Cooperatives.

Goal 8: Develop a leadership role in addressing climate change in northwest Alaska.

Objectives:

1. Collaboratively develop and conduct research on accelerating climate change and incorporate new monitoring efforts into the refuge's Inventory and Monitoring Plan to detect short- and long-term changes to resources on refuge lands.
2. Monitor Global Research Initiative in Alpine Environments (GLORIA) site at 3-year intervals according to the standardized protocol.
3. Collaboratively assess and improve climate monitoring on the refuge and in the surrounding region, including installation and maintenance of climate stations.
4. Support efforts to integrate both ecological and social scientific data with local traditional knowledge and observations on climate change.
5. Using a variety of methods, including education programs, share information with the local public about accelerating climate change and its effects on refuge lands and natural resources in the region.

Tetlin National Wildlife Refuge - 2008

Refuge Purposes

The purposes for which the Refuge was established (under the Alaska National Interest Lands Act [ANILCA] of 1980) include the following:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to waterfowl, raptors, and other migratory birds; furbearers; moose; caribou (including participation in coordinated ecological studies and management of the Chisana caribou herd); salmon; and Dolly Varden;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in (i) and (ii), the opportunity for continued subsistence uses by local residents;
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in (i), water quality and necessary water quantity within the refuge;
- (v) to provide, in a manner consistent with subparagraphs (i) and (ii), opportunities for interpretation and environmental education, particularly in conjunction with any adjacent state visitors facilities.

Refuge Vision Statement

Through collaboration with a diverse network of partners and through the highest principles of conservation, Tetlin National Wildlife Refuge will foster a strong land ethic, scientific leadership, and opportunities for people to discover meaningful relationships with nature in a dynamic and changing landscape. Management will focus on the Refuge's natural character, biological integrity, and scientific values as driven by biological and physical processes. As stewards of Tetlin Refuge, we will strive to achieve the purposes of the Refuge and the mission of the National Wildlife Refuge System, maintain ecosystem integrity, provide for subsistence opportunities, and facilitate wildlife-dependent recreation. As a result, Tetlin Refuge will perpetuate its unique history and continuing role as a vital passageway for fish, wildlife, plants, people, and cultures.

Refuge Goals and Objectives

Goal A: Conserve fish and wildlife populations representative of the natural diversity of the Upper Tanana Valley and the boreal forest ecosystem.

A.1 Objective: Within two years of the Plan's approval, revise the Tetlin Refuge Wildlife Inventory and Monitoring Plan (TNWR 1986) to include statistical benchmarks and/or management action thresholds for trust, harvested, and indicator species. (Also relates to Goals C, E, F, G, and H.)

A.2 Objective: Within three years of the Plan's approval, assist the Fairbanks Fish and Wildlife Field Office in updating or revising the Tetlin Refuge Fisheries Management Plan (USFWS 1990). (Also relates to Goals G, H, and J.)

- A.3 Objective:** Continue aerial surveys of moose on the Refuge and adjacent lands at regular intervals of no more than five years to determine population trend in cooperation with the Alaska Department of Fish and Game (ADF&G), Wrangell-St. Elias National Park and Preserve, and Ministry of Yukon Environment. (Also relates to Goals G and K.)
- A.4 Objective:** Within five years of funding, complete efforts to determine the seasonal distribution and important habitats of the moose population which occupies Tetlin Refuge and surrounding lands. (Also relates to Goals B, E, and G.)
- A.5 Objective:** Continue aerial surveys to determine the distribution and density of wolves on the Refuge and surrounding lands and incorporate a protocol for periodic monitoring into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goal G.)
- A.6 Objective:** In cooperation with partners in Alaska and Canada, continue to quantify snowshoe hare population cycles and incorporate monitoring protocols into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goals B, G, and K.)
- A.7 Objective:** Within five years of the Plan's approval, determine the distribution, relative abundance, and/or density of black and brown bear on the Refuge and incorporate procedures for periodic monitoring into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goal G.)
- A.8 Objective:** Within five years of the Plan's approval, conduct surveys to determine the relative abundance and winter distribution of furbearers, including marten, mink, weasel, lynx, fox, and coyote, on the Refuge and incorporate monitoring protocols into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goals E and G.)
- A.9 Objective:** In cooperation with Wrangell-St. Elias National Park and Preserve, Alaska Department of Fish and Game, and the U.S. Geological Survey, continue winter reconnaissance flights to document caribou numbers and distribution on the Refuge and surrounding lands. (Also relates to Goals G and K.)
- A.10 Objective:** Continue to develop partnerships to monitor stocks, assess the harvest, and fill data gaps for management of humpback whitefish. (Also relates to Goals G and H.)
- A.11 Objective:** Within two years of revising the Refuge Fisheries Management Plan, initiate baseline inventories to describe distributions and important habitats of burbot, northern pike, Arctic grayling, and lake trout. (Also relates to Goals G and H.)
- A.12 Objective:** Within five years of the Plan's approval, determine the distribution and relative abundance of wolverine on the Refuge and adjacent lands and incorporate a monitoring protocol into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goal G.)
- A.13 Objective:** Within five years of the Plan's approval, determine the distribution and relative abundance of muskrats on the Refuge and incorporate monitoring protocols into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goal G.)
- A.14 Objective:** Continue to collaborate with Ecological Services in conducting studies of abnormal wood frogs within and/or adjacent to the Refuge. (Also relates to Goal H.)
- A.15 Objective:** Within 10 years of the Plan's approval, work with partners to develop and implement strategies for the inventory of terrestrial invertebrates on Tetlin Refuge, including, but not limited to, bark beetles and forest defoliators, and incorporate them into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goals B, C, E, F, and K.)

- A.16 Objective:** Continue to implement and update existing cooperative management plans for refuge resources (e.g., Mentasta Caribou Management Plan), and develop new plans with appropriate partners. (Also relates to Goals B, E, F, G, and K.)
- A.17 Objective:** Within five years of the Plan's approval and in cooperation with Wrangell-St. Elias National Park and Preserve and Alaska Department of Fish and Game, investigate the importance of refuge lands to the local Dall's sheep population. (Also relates to Goals B, G, and K.)
- A.18 Objective:** Fully implement the law enforcement recommendations from the Deployment Model developed by the International Association of Chiefs of Police (IACP). Increase law enforcement staffing to the recommended level of 2.4 full-time equivalents (FTEs) to increase visitor protection and resource protection patrols. Also increase cooperative work with both the State of Alaska and U.S. Customs and Border Protection. Fully implement recommendations within 10 years of the Plan's approval. (Also relates to Goals C, D, G, and J.)
- A.19 Objective:** Improve compliance with rules and regulations to protect and conserve refuge resources by improving public knowledge and understanding of applicable rules and regulations. (Also relates to Goals C, D, G, and J.)

Goal B: Conserve plant populations and habitats representative of the natural diversity of the Upper Tanana Valley and the boreal forest ecosystem.

- B.1 Objective:** Within two years of the Plan's approval, create a landcover map of vegetation communities in the Upper Tanana Valley using satellite imagery. (Also relates to Goals A, C, E, F, G, and H.)
- B.2 Objective:** Within one year of completion of the refuge landcover map (Objective B.1), develop applicable data crosswalks to fire fuels classification systems, including the National Fire Danger Rating System, Canadian Forest Fire Danger Rating System, Canadian Forest Fire Behavior Prediction System, and the National Fire Fuel Laboratory system. (Also relates to Goal E.)
- B.3 Objective:** Within five years of the Plan's approval, complete the development of terrestrial and aquatic invasive species inventory and monitoring strategies and incorporate them into the Wildlife Inventory and Monitoring Plan and the Habitat Management Plan. (Also relates to Goals A, C, E, F, G, and H.)
- B.4 Objective:** Document fire progression on active refuge fires. (Also relates to Goal E.)
- B.5 Objective:** Within five years of the Plan's approval, initiate research into the effects of development on the natural diversity of the fish and wildlife resources and their habitats on the Refuge. (Also relates to Goals A, C, E, F, G, H, K and L.)
- B.6 Objective:** At five-year intervals or after a significant disturbance, develop and implement strategies to monitor landscape changes of both vegetation and physical features. (Also relates to Goals A, C, E, F, G, and H.)
- B.7 Objective:** Within two years of a fire's occurrence on the Refuge, develop a fire severity map if sufficient data are available. (Also relates to Goal F.)
- B.8 Objective:** Within five years of funding, complete an inventory of plants across all refuge habitat types. (Also relates to Goals E, F, and G.)
- B.9 Objective:** Within one year of funding, initiate research into the impacts of snowmobile use on vegetation and hydrology in relation to snow depth on Tetlin Refuge. (Also relates to Goals A and H.)

B.10 Objective: Within 10 years of the Plan's approval, archive existing biological and abiotic information into relational databases that will be compatible with the Refuge's Geographic Information System (GIS). (Also relates to Goals A, C, D, E, F, G, and H.)

B.11 Objective: Continue to convert all historic aerial photography of the Refuge into georeferenced, orthorectified digital images. (Also relates to Goals D, E, F, and H.)

Goal C: Recognizing the position of Tetlin Refuge along three major flyways, and conserve migratory birds and their habitats to fulfill our international responsibilities under the Migratory Bird Treaty Act.

C.1 Objective: Continue contributions to regional, national, and international efforts to monitor long-term trends in relative population size and distribution of landbirds that occur in Alaska. (Also relates to Goals B, G and K.)

C.2 Objective: In cooperation with partners in Alaska and the Yukon, continue to monitor landbirds during fall migration to document population trend and productivity. (Also relates to Goal K.)

C.3 Objective: Determine annual abundance and productivity of waterfowl across a range of habitat types in the Upper Tanana Valley. (Also relates to Goals B, E, F, G, and H.)

C.4 Objective: Continue to monitor breeding population occupancy and productivity, habitat use, and food habits of raptors in Game Management Unit 12. (Also relates to Goals B and E.)

C.5 Objective: Continue surveys at five-year intervals to determine the distribution, abundance, and productivity of trumpeter swans in the Upper Tanana Valley. (Also relates to Goals E, G, H, and K.)

C.6 Objective: Within one year of funding, initiate a study of sandhill cranes to estimate population size, timing of migration, and important staging areas within the Upper Tanana Valley. (Also relates to Goals B, G, and H.)

C.7 Objective: Within two years of funding, replicate the 1979 study of wetland habitat and water quality as related to waterfowl use in the Scottie–Desper Creek area. (Also relates to Goals B, G, and H.)

C.8 Objective: Within one year of funding, initiate a study to compare nesting success, productivity, and availability of high-quality peregrine falcon habitat between nest sites along rivers and those within the Alaska Highway corridor. (Also relates to Goals B and H.)

C.9 Objective: Within five years of the Plan's approval, establish monitoring strategies to determine the distribution and migration timing for shorebirds, gulls, terns and allied species. Incorporate these strategies into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goals G and H.)

C.10 Objective: In cooperation with Boreal Partners in Flight, continue to develop and implement population monitoring surveys for owls in the Upper Tanana Valley and incorporate the data into the revised Wildlife Inventory and Monitoring Plan. (Also relates to Goals G and K.)

C.11 Objective: Continue to collaborate with a local rehabilitation program for short-term care and release of injured raptors and other birds. (Also relates to Goals I, K, and L.)

Goal D: Contribute to the protection and preservation of the cultural heritage of the Upper Tanana Valley.

- D.1 Objective:** Continue to cooperate with Native entities, other agencies, and universities to enhance and develop programs to work with elders and other knowledge bearers to capture traditional knowledge relating to the cultural and natural history of Tetlin Refuge.
- D.2 Objective:** Continue to cooperate with Native entities and other agencies to increase training and educational opportunities for local residents in the fields of natural and cultural resources to fill technical and professional positions on the Refuge and elsewhere. (Also relates to Goal G.)
- D.3 Objective:** Within two years of funding, begin to identify, document, map, and research cultural resources in at least three of four important archaeological areas. (Also supports Goal E.)
- D.4 Objective:** Update, in cooperation with Native groups and other local entities, the 1996 Cultural Resource Guide for Tetlin Refuge by 2011 (15 years after it was completed). The document should include a comprehensive overview and management plan to research, interpret, and protect cultural resources on refuge lands to maximize benefits to all concerned.

Goal E: Maintain a fire management program for Tetlin Refuge that reflects the natural role of wildland fires in maintaining diversity and productivity in the boreal forest and supports refuge purposes and habitat management goals, while providing an appropriate level of protection for human life, property, and identified cultural and natural resources.

- E.1 Objective:** Within five years of Plan's approval, inventory and map structures and other cultural resources in and around the Refuge at risk from wildland fire and/or fire management activities. (Also relates to Goal D.)
- E.2 Objective:** Within five years of approval of the Plan, and in cooperation with the affected communities and landowners, develop individual mitigation plans for communities and other sites identified as being at risk from wildland fire originating on the Refuge. (Also relates to Goal D.)
- E.3 Objective:** Within 10 years of the Plan's approval, assess the effectiveness of thinned fuel breaks in the Upper Tanana Valley and monitor long-term changes in thinned fuels and any unanticipated consequences of thinning such as insect infestation or invasive species spread. (Also relates to Goal B.)
- E.4 Objective:** Within 10 years of the Plan's approval, evaluate weather data from the current refuge weather system and determine whether additional stations will significantly improve the system's predictive capability. (Also relates to Goal F.)
- E.5 Objective:** Within two years of the Plan's approval, revise the Refuge Fire Management Plan (TNWR 2001) to reflect changes in the Revised Comprehensive Conservation Plan and in national fire policy, and to reflect the best available knowledge and experience regarding use of natural and prescribed fire as tools for habitat management.
- E.6 Objective:** In collaboration with local partners, annually assess the Alaska Interagency Wildland Fire Management Plan (AWFCG 1998) management option boundaries within the Refuge, and submit necessary change recommendations to the Alaska Wildland Fire Coordinating Group.
- E.7 Objective:** Within two years of the Plan's approval, update GIS data relevant to fire management, and have data readily available on a portable external hard drive to be used by Refuge fire personnel and by incident management teams during fires.

Goal F: Through partnerships with agencies and institutions in the United States and Canada, continue to coordinate research and monitoring efforts to expand our understanding of the underlying ecological mechanisms related to fire and how these mechanisms effect change in vegetation and animal populations within the Upper Tanana Valley and the boreal forest ecosystem.

- F.1 Objective:** Within one year of funding, fully implement the designated National Wildlife Refuge System *Fulfilling the Promise* Land Management Research Demonstration Area (LMRDA) for the boreal forest ecosystem. (Also relates to Goals A, B, C, D, E, G, and H.)
- F.2 Objective:** Within two years of funding and in cooperation with the science community (e.g., universities, research stations, and other agencies), initiate cooperative research projects to expand our understanding of the underlying ecological mechanisms related to fire and how these mechanisms affect change in vegetation and animal populations by using these data to identify relations among various environmental processes in the boreal forest ecosystem. (Also relates to Goals A, B, C, E, G, H, and K.)
- F.3 Objective:** Within two years of funding, initiate a program that establishes Tetlin Refuge as a regional, interagency training facility for management and monitoring in the boreal forest ecosystem. (Also relates to Goals A, B, C, E, G, H, and K.)
- F.4 Objective:** Within two years of funding, develop inventory and monitoring strategies to assess the effects of fire on moose and caribou habitat quality, and incorporate the strategies into the revised Wildlife Inventory and Monitoring Plan and Habitat Management Plan. (Also relates to Goals A, B, C, E, and G.)
- F.5 Objective:** Within five years of the Plan's approval, initiate long-term studies of small mammal distribution and relative abundance in relation to fire severity. (Also relates to Goals A, B, and E.)
- F.6 Objective:** Within two years of funding, initiate a study to investigate the relationship between berry production and fire severity. (Also relates Goals B, E, and G.)
- F.7 Objective:** Within five years of the Plan's approval, evaluate distributions of furbearer populations, including but not limited to wolverine, red fox, marten, mink, weasel, and lynx, in relation to fire severity. (Also relates to Goals A, B, E, and G.)

Goal G: Provide subsistence opportunities for rural residents, compatible with other refuge purposes.

- G.1 Objective:** As a continuing commitment, regularly attend meetings, provide information regarding the status of subsistence resources and their use, and comment on proposals related to subsistence management within Tetlin Refuge to maintain a respectful dialogue with refuge resource stakeholders and subsistence users. (Also relates to Goals A, B, C, E, F, and H.)
- G.2 Objective:** Within two years of the Plan's approval, determine the total annual harvest of migratory bird species within the Upper Tanana Valley with sufficient accuracy and precision to ensure long-term conservation. (Also relates to Goals A, C, and H.)
- G.3 Objective:** Continue outreach efforts within the communities of Dot Lake, Mentasta, Northway, Tanacross, Tetlin, and Tok, including programs, activities, and partnerships that develop understanding and appreciation of resource threats and user conflicts, and promote conservation of fish, wildlife, and their habitats. (Also relates to Goals A, B, C, E, G, H, and K.)

G.4 Objective: Within 10 years of the Plan's approval and in cooperation with ADF&G, assess the accuracy and reliability of current harvest monitoring strategies for mammals within the Refuge, and, where appropriate, develop and initiate a statistically valid harvest survey. (Also relates to Goals A, C, and K.)

G.5 Objective: Within three years of the Plan's approval, develop educational materials addressing mortality and displacement of wildlife by wildfires. (Also relates to Goals A, B, C, E, and G.)

G.6 Objective: Within 10 years of the Plan's approval, map the seasonal distribution and intensity of subsistence activities on Tetlin Refuge.

Goal H: Maintain the integrity and environmental health of waters and aquatic habitats within the Upper Tanana River drainage.

H.1 Objective: Continue to support the USFWS Water Resources Branch in their efforts to secure refuge instream water rights and monitor long-term water flow and quality. (Also relates to Goals A, B, C, F, and G.)

H.2 Objective: In cooperation with the Natural Resources Conservation Service, continue to measure monthly snow courses during winter. (Also relates to Goals A, B, E, F, G, and K.)

H.3 Objective: Within five years of the Plan's approval, replicate and expand water parameter sampling of refuge wetlands and lake resources. (Also relates to Goals A, B, C, E, F, and G.)

H.4 Objective: Within two years of funding, seek collaboration with the Water Resources Branch to initiate a monitoring program for refuge waters that includes investigating anthropogenic influences on water quality. (Also related to Goals A, B, C, E, F, G, and K.)

H.5 Objective: Within five years of funding, develop a water budget and hydrologic models for the upper Tanana Watershed. (Also relates to Goals A, B, C, E, F, and G.)

H.6 Objective: Within 10 years of the Plan's approval, work with partners to develop and implement strategies for the inventory of aquatic invertebrates in some refuge streams and lakes. (Also relates to Goals B, C, E, F, and K.)

Goal I: Enhance understanding and appreciation of Tetlin Refuge's purposes, special values, and management goals, and promote stewardship of natural and cultural resources through comprehensive environmental education and interpretation programs and visitor services facilities.

I.1 Objective: In cooperation with interagency and community partners, Tetlin Refuge will continue to play a key role in the development of the Tok Interagency Alaska Public Lands Information Center (Tok APLIC). Refuge staff will participate in project support, building and site design, and all aspects of interpretation from conception through construction. (Also relates to Goal L.)

I.2 Objective: Administer and maintain the Tok APLIC as part of the Refuge's continuing commitment to providing quality visitor services.

I.3 Objective: Continue developing creative and effective curricula that target key resource issues and experiential educational opportunities for all ages, and work with educators and parents towards implementation.

- I.4 Objective:** Construct well-designed outdoor settings for education and interpretive programs in conjunction with the Tok APLIC for use with school groups, local residents, and visitors.
- I.5 Objective:** Through revision of the Tetlin Refuge Public Use Management Plan (USFWS 1997a) (now called a Visitor Services Plan) and in conjunction with development of the Tok APLIC, redirect the focus and design of the Tetlin Refuge Visitor Center toward interpretation of the unique aspects of Tetlin Refuge and other refuges in Alaska.
- I.6 Objective:** For each refuge interpretive and environmental education program, develop reliable methods to assess the degree to which programs enhance understanding and appreciation of refuge purposes, special values, and management goals. Program target goals and evaluation tools will be developed and implemented within five years of the Plan's approval.
- I.7 Objective:** Within five years of the Plan's approval, at least 80 percent of Upper Tanana Valley kindergarten through 12th grade students and those in alternative learning programs will have an opportunity to participate in at least one environmental education program focusing on key refuge resource conservation issues.
- I.8 Objective:** Continue with and maximize long-term partnerships with community organizations and volunteers to help meet the educational goals and objectives of the Refuge. Increase partnership contributions to educational projects by 10 percent within three years of the Plan's approval.
- I.9 Objective:** Re-evaluate and update at least one refuge outreach tool every six months.
- I.10 Objective:** Increase the Refuge's capacity to utilize skilled volunteers to supplement seasonal staffing.
- I.11 Objective:** Establish a permanent refuge program to annually provide one high school level field research course related to priority refuge resource issues.
- I.12 Objective:** Continue education, interpretive, and wildlife-dependent recreation programs at refuge campgrounds, and expand to accommodate larger school and visitor groups in a comfortable outdoor classroom setting within eight years of the Plan's approval.
- I.13 Objective:** In cooperation with local village organizations, create opportunities to educate youth in traditional subsistence ways related to fish, wildlife, and plants of the Refuge. The Refuge Information Technician, Native Park Rangers and the Lead Educator from the Refuge will initiate plans with at least one local village council for a summer program within three years of the Plan's approval (also relates to Goal D.)
- I.14 Objective:** Through partnerships with neighboring conservation units, regional learning institutes, and State universities, develop an integrated multi-site approach to college-level courses.
- I.15 Objective:** Upgrade the Tetlin Refuge Visitor Center to reduce the noise, pollution, and cost of operation by 50 percent within five years of completing the Revised Conservation Plan.
- I.16 Objective:** Increase visitation to the Tetlin Refuge Visitor Center by 10 percent within three years of the Revised Conservation Plan's approval.
- I.17 Objective:** Within three years of the Plan's approval, and in cooperation with ADOTPF, develop strategies consistent with Service policies and guidelines to standardize refuge signage; and develop a schedule for revising, repairing, and replacing refuge signs. These strategies will be incorporated into the Refuge Visitor Services Plan.

I.18 Objective: Develop and implement a program to provide refuge visitors an understanding of wildlife-viewing opportunities available on the Refuge and throughout Alaska within eight years of completing the Plan.

I.19 Objective: Upgrade inventory and selection at the Alaska Geographic Association (AGA) sales outlets to offer visitors and residents popular educational materials relating to refuge resources. Increase sales revenues by 15 percent within five years of the Plan's approval to generate more funding for refuge education and outreach programs.

Goal J: Provide compatible wildlife-dependent recreation opportunities for people to explore, enjoy, and learn about the dynamic landscape and natural diversity of Tetlin Refuge.

J.1 Objective: Develop and implement strategies within five years of funding that provide wildlife-dependent recreational opportunities at the Seaton Roadhouse site, accommodating use by local residents and visitors.

J.2 Objective: Increase accessibility for visitors with limited mobility to extend their visit and enjoy wildlife-dependent recreation at Tetlin Refuge.

J.3 Objective: Conduct maintenance on established trailheads, trails, campground access roads, and boat launches annually or as needed for continued public access to the Refuge.

J.4 Objective: Continue to provide and expand education, interpretation, and wildlife-dependent recreation programs with associated facilities at Hidden Lake Trail.

J.5 Objective: As an ongoing commitment, provide better information relating to refuge access from the Alaska Highway for compatible wildlife-dependent public uses with information updated every five years.

J.6 Objective: Continue to provide backcountry canoeing opportunities that allow the public to explore and enjoy wetland and riverine habitats significant to Tetlin Refuge.

J.7 Objective: Continue to provide opportunities for multi-day backcountry trips within the Refuge that allow the public to experience and explore the dynamic landscape and wildlife of the Refuge in solitude. A range of opportunities will incorporate various methods of access.

Goal K: Enhance stewardship of natural resources through strong local, State, tribal, national, and international partnerships.

Refuge management direction aimed toward this goal is accomplished through the following objectives: A.3, A.6, A.9, A.14, A.15, A.16, B.2, B.3, C.1, C.2, C.5, C.10, C.11, E.6, F.2, F.3, G.3, G.4, H.2, and H.4.

Goal L: Improve collaboration and communication with and support for local resource users and the communities of the Upper Tanana Valley through development of a "Good Neighbor Policy" that is sensitive to social, political, cultural, and economic needs within the local area.

L.1 Objective: Improve the Refuge's ability to manage day-to-day operations and respond to critical management situations by working with local communities to establish staffed satellite facilities and necessary equipment near the village of Northway within five years of the Plan's approval.

- L.2 Objective:** Cooperate with the Alaska Division of Forestry, the Alaska Fire Service, and local tribal governments to facilitate the training of cultural resource advisors for local communities within two years of the Plan's approval.
- L.3 Objective:** Work with area communities to increase grants and other funding sources for projects that benefit refuge resources and local economies.
- L.4 Objective:** Within two years of completing this Plan, develop formal partnership agreements, such as memoranda of understanding or agreement, with local tribes and community organizations, including but not limited to the village councils of Northway, Tetlin, and Tanacross, the Tok Lion's Club, and the Tok Chamber of Commerce.
- L.5 Objective:** Develop three creative incentives to encourage refuge staff to participate in community groups and activities within one year of the Plan's approval.
- L.6 Objective:** Within five years of the Plan's completion, the Refuge will establish the necessary protocols for formal consultation with the tribal governments of the Upper Tanana Valley.
- L.7 Objective:** Tetlin Refuge will work toward the preservation, display, and interpretation of cultural resources by meeting with tribal entities to initiate and continue development of a cultural center.

Togiak National Wildlife Refuge - 2009

Refuge Purposes

That portion of the Refuge designated as the Cape Newenham National Wildlife Refuge in 1969 was given the broad purpose “. . . for the protection of wildlife and their habitat . . .” in Public Land Order 4583, dated Jan. 23, 1969. In addition, Sections 303(1)(B) and 303(6)(B) of ANILCA set forth the purposes for which Alaska Maritime and Togiak Refuge (including the former Cape Newenham Refuge) were established and shall be managed, including the following:

- (i) To conserve fish and wildlife populations and habitats in their natural diversity, including the following:
 - [Togiak Refuge] salmonids, marine birds and mammals, migratory birds, and large mammals (including their restoration to historic levels)
 - [Alaska Maritime Refuge] marine mammals, marine birds and other migratory birds, the marine resources upon which they rely, bears, caribou, and other mammals
- (ii) To fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats
- (iii) To provide, in a manner consistent with purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents
- (iv) [Alaska Maritime Refuge] To provide, in a manner consistent with subparagraphs (i) and (ii), a program of national and international scientific research on marine resources To ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the Refuge [Togiak Wilderness Area] To secure an enduring resource of wilderness, to protect and preserve the wilderness character of areas within the National Wilderness Resource Preservation System, and to administer this wilderness for the use and enjoyment of the American people in a way that will leave it unimpaired for future use and enjoyment as wilderness (Section 2(a) of the Wilderness Act of 1964).

Refuge Vision Statement

The Togiak Refuge will continue to be a healthy functioning ecosystem where fish and wildlife populations and their habitats exist in an environment primarily affected by the forces of nature. Current and future generations will have opportunities to participate in a variety of fish- and wildlife-dependent activities that emphasize self-reliance, solitude, and a close relationship with the environment. The public will gain an understanding of the Refuge on natural, cultural, and scientific levels in order to appreciate the importance of its protection and preservation for future generations.

Refuge Goals and Objectives

Ecosystem, Habitat, and Fish and Wildlife Management

Goal 1: Manage refuge habitats and wildlife to ensure the health and integrity of native ecosystems by developing long-term ecological inventory and monitoring programs and a collaborative research program, which incorporates data collection to evaluate the effects of climate change.

Objectives:

- 1.1 Complete the Togiak Refuge Fish and Wildlife Inventory and Monitoring Plan within three years of adoption of this plan.
- 1.2 Continue to update our Geographic Information System database management and mapping system with plant and wildlife communities and management layers.
- 1.3 By 2015, conduct an external biological review of the Refuge to determine if biological strategies in the Fish and Wildlife Inventory and Monitoring Plan are resulting in good science and sound management practices.
- 1.4 Conduct annual reviews and evaluations of biological projects to determine their effectiveness in meeting refuge management and customer service needs.
- 1.5 Collect traditional ecological knowledge of historic wildlife occurrences to gain an understanding of past ecological conditions and provide a framework for current investigations.
- 1.6 Conduct surveys of vertebrates, invertebrates, plant species, and habitat associations; and monitor priority species.
- 1.7 Collect information on waterbodies within the Refuge needed to maintain the necessary water quantity and quality for fish, wildlife, and their habitats.
- 1.8 Complete a revision of the Togiak Refuge Fisheries Management Plan within two years of adoption of this plan to reflect management goals and objectives.
- 1.9 Develop an Environmental Monitoring Plan that incorporates an ecosystems model for the Togiak Refuge and its surrounding environment to better illustrate relationships among fish, wildlife, plant, habitat, and public use.

Public Use

Goal 2: Provide quality fish and wildlife oriented recreation, subsistence and, interpretive and educational opportunities that promote stewardship of southwest Alaska wildlife and its habitats.

Objectives:

- 2.1 Complete revision of the Togiak Refuge Public Use Management Plan that will guide management of guided and unguided public use on the Refuge.
- 2.2 Complete a Public Use Monitoring Plan that will establish standards for social and biological impacts related to public uses. This plan should be completed within five years of adoption of the comprehensive revised Public Use Management Plan.
- 2.3 Provide the opportunity for rural residents engaged in a subsistence way of life to continue to do so.
- 2.4 Ensure that public use programs are consistent with maintaining the natural diversity of refuge resources and habitats.
- 2.5 Provide public use programs that minimize possible conflicts between and among subsistence, recreational, and commercial users.
- 2.6 Provide for a range of quality fish and wildlife-dependent recreational opportunities, including wilderness areas that emphasize naturalness, solitude, and primitive recreation.
- 2.7 Continue the development of a visitor contact station at the Dillingham Airport, including exhibits related to refuge resources, in partnership with local agencies and organizations.
- 2.8 Develop and implement an environmental education program that will result in a greater understanding and appreciation of refuge flora, fauna, and habitats.

Resource Protection

Goal 3: Protect the integrity of the natural and cultural resources of the Refuge.

Objectives:

- 3.1 Identify and safeguard key areas.
- 3.2 Protect fish and wildlife resources to prevent changes from their natural species diversity and abundance.
- 3.3 Conserve and interpret the cultural and historic resources of the Refuge.
- 3.4 Seek funding to acquire lands that were identified as high priority in the Togiak National Wildlife Refuge Land Protection Plan (USFWS 2000) to improve resource protection.
- 3.5 Contribute to local, regional, and global efforts for conserving migratory species of fish and wildlife.

Wilderness

Goal 4: Preserve the wilderness character of the Togiak National Wildlife Refuge Wilderness area.

Objectives:

- 4.1 Within three years of adoption of this plan, complete a Wilderness Stewardship Plan for the Togiak Wilderness.
- 4.2 Promote environmental ethics and “Leave No Trace” techniques so that visitors will understand the value of wilderness, and future visitors will enjoy an unimpaired wilderness experience.
- 4.3 Perform minimum requirements analyses of all administrative activities planned to occur within the Togiak Wilderness area when such activities have potential to affect wilderness values.

Refuge Operations

Goal 5: Develop and maintain support mechanisms and infrastructure to achieve management goals.

Objectives:

- 5.1 Continue to fund the Refuge Information Technician program.
- 5.2 Continue a proactive safety program which surpasses legal requirements for administrative facilities and management operations at Togiak Refuge.
- 5.3 Provide regular technical training to develop and maintain the job competencies of all refuge staff.
- 5.4 Acquire and maintain adequate facilities, equipment, vehicles, watercraft, and aircraft to remain abreast of increasing demands from the public for information and services from Togiak Refuge.
- 5.5 Meet the refuge needs for pilots, biological staff, public contact staff, and administrative staff.
- 5.6 Direct construction of refuge field and headquarters facilities that foster efficient management of the Refuge and service to the public.
- 5.7 Maintain equipment and buildings used in all aspects of refuge management, including habitat, wildlife, and public use.

Cooperation

Goal 6: Maintain a leadership role in the management of native ecosystems in southwest Alaska.

Objectives:

- 6.1 Organize and participate in local, regional, state, national, and international partnerships, groups, and associations pursuing common natural resource management goals.
- 6.2 Coordinate refuge activities with public and private entities (including tribal governments; educational systems; Federal, state and local governments; and private industry) within and adjacent to Togiak Refuge.

Yukon Delta National Wildlife Refuge - 1988

Refuge Purposes

The Yukon Delta National Wildlife Refuge covers more than 19 million acres. The refuge is located at the mouth of the Yukon and Kuskokwim Rivers and has its headquarters in Bethel, Alaska. The Alaska National Interest Lands Act (ANILCA) established this refuge for the following purposes:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to shorebirds, seabirds, whistling swans, emperor, white-fronted and Canada geese, black brant, and other migratory birds; salmon; muskox; and marine mammals;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents;
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge.

Yukon Flats National Wildlife Refuge - 1987

Refuge Purposes

The [Yukon Flats National Wildlife Refuge](#) comprises approximately 8,480,000 acres and is located 150 miles north of its headquarters in Fairbanks, Alaska. The refuge is bisected by the Yukon River. The Alaska National Interest Lands Conservation Act (ANILCA) established the Refuge for the following purposes:

- (i) to conserve fish and wildlife populations and habitats in their natural diversity, including but not limited to canvasbacks and other migratory birds; Dall sheep; bears; moose; wolves, wolverines and other furbearers; caribou (including participation in coordinated ecological studies and management of the Porcupine and Fortymile caribou herds); and salmon;
- (ii) to fulfill the international treaty obligations of the United States with respect to fish and wildlife and their habitats;
- (iii) to provide, in a manner consistent with the purposes set forth in subparagraphs (i) and (ii), the opportunity for continued subsistence uses by local residents;
- (iv) to ensure, to the maximum extent practicable and in a manner consistent with the purposes set forth in paragraph (i), water quality and necessary water quantity within the refuge;

From: [Howard, Amee](#)
To: [Gregory Siekaniec](#)
Subject: Cantwell #2
Date: Tuesday, November 7, 2017 3:05:43 PM

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? **CLA and R7:** Only Congress can authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain. If authorized by Congress, development should only be undertaken in a manner consistent with all applicable laws and the established purposes of the Arctic National Wildlife Refuge, which include conservation of fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd, polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds, and Arctic char and grayling; fulfillment of international treaty obligations of the United States with respect to fish and wildlife and their habitats; providing the opportunity for continued subsistence uses by local residents; and ensuring water quality and quantity within the refuge.

--

Amee Howard

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000000095

From: [Congressman Don Young](#)
To: amee_howard@fws.gov
Subject: Congressman Young's "This Week in Congress"
Date: Friday, November 3, 2017 7:24:05 PM

Washington Update | November 3, 2017

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Dear Friends,

Hello, this is Congressman Don Young coming to you from my desk in Washington, D.C. We've had a good week in Congress – one of the better weeks we've had in some time. We've been able to pass a number of bills out of the House and hold hearings on a wide range of important legislation, including one that I sponsored – [H.R. 221, the Hydrographic Services Improvement Act](#).



Congressman Young gives an update from Washington, D.C. on the important work being done for Alaska ([click here to watch](#))

As you likely saw, we had a hearing in the Senate Energy and Natural Resources Committee, chaired by Senator Lisa Murkowski, on oil and gas development in the 1002 Area of ANWR and the benefit it holds for Alaska and the nation. Senator Murkowski did a great job in chairing the meeting and was very collected as her Ranking Member, Senator Maria Cantwell (D-WA), was as I would say “being enlightened.” Senator Sullivan also did a wonderful job, as a former Alaska DNR Commission and U.S. Marine, to discuss the important national security impacts this area holds for the nation and the responsible record Alaskans have had on the North Slope for over 50 years.

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As some of you may have seen, in my testimony I drew a little blue dot on my nose to illustrate the size of the surface area being proposed for development in the 1002 Area (2,000 acres) in comparison the ANWR area as a whole – which represents 1/10th of 1/10th percent of the 19 million acre area. Many have used the comparison of a dime on a football field, but this was my way of showing the true surface disturbance in the region.



Congressman Young poses for a photo before his testimony in the Senate Energy and Natural Resources Committee

As a matter of history, the 1002 Area of ANWR was created by an Act of Congress in 1980. There was an agreement at the time that this area would be set aside for future development, not permanent preservation. Although many have entirely ignored the intent of Congress, we are once again working through the budget reconciliation process to end the moratorium on oil and gas development on the coastal plain of ANWR.

Elsewhere in Congress, which ties into our efforts on ANWR, was the introduction of tax-related legislation in the House – H.R. 1, the Tax Cuts and Jobs Act. This overall effort is aimed at updating our nation's outdated and over complicated tax code with growth-driven reforms, those that empower middle class families, support entrepreneurship and small business, and drive American competition and competitiveness. This is a complicated process, and changes have already been announced, but I do believe tax reform should be pursued. But very simply, this is just the beginning of the process – one that will be combined down the road with our efforts to open ANWR.

Today, we also passed an important bill, **H.R. 3922, the Championing Healthy Kids Act**, bipartisan legislation to fund important safety net programs like the state Children's Health Insurance Programs (CHIP), known as Denali KidCare in Alaska, and Federal Qualified Health Centers (FQHCs). We've seen the success of both Denali KidCare and Community Health Centers across nearly every corner of our state, particularly in areas where services might otherwise not be offered due to population size and remoteness. I look forward to moving this package forward and ensuring these programs are renewed for the betterment of our state and our people.

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Press Releases

Young Supports Denali Kid Care and Community Health Center Funding in House-Passed Legislation

Washington, D.C., November 3, 2017 | Matt Shuckler | 0 comments



Washington, D.C. – With the support of Alaska Congressman Don Young, today the U.S. House of Representatives passed H.R. 3922, the **Championing Healthy Kids Act**, bipartisan legislation to fund important safety net programs like the state Children's Health Insurance Program (CHIP), known as Denali KidCare in Alaska, and Federal Qualified Health Centers (FQHCs).

"These two programs, which have provided valuable services and care to underserved Alaskans for years, were both extremely important to fund and reauthorize," said Congressman Don Young. "Although some unnecessary confusion was created by not addressing this sooner, I'm happy to see progress being made on these bipartisan priorities before states exhausted their funding. We've seen the success of both Denali KidCare and Community Health Centers across nearly every corner of our state, particularly in areas where services might otherwise not be offered due to population size and remoteness. Denali KidCare continues to support our youth and in doing so is making a strong investment in our future. And Alaska-based Community Health Centers are making critical contributions to our state – in both rural and urban locations – by offering affordable health solutions and care. I look forward to moving this package forward and ensuring these programs are renewed for the betterment of our state and our people."

Among other important health priorities, this legislation supports the following:

- **5-year Extension of The Children's Health Insurance Program (CHIP)**, a state and federal partnership that provides health care to children in lower-income families. According to the Alaska Division of Health Services, more than 17,700 Alaska children receive their health insurance through the CHIP program or DenaliKid Care. The legislation extends CHIP funding through FY 2022 and ensures children continue to receive coverage through state CHIP programs rather than through the ACA exchanges and Medicaid.
- **2 Year Extension of Federally Qualified Health Centers (FQHCs) or Community Health Centers.** These community-based, patient centered organizations – FQHCs (community health centers) are community-based, patient-centered organizations that provide comprehensive health services to medically underserved populations, regardless of their ability to pay. FQHCs are located across all corners of Alaska (click here for Alaska-based locations). The bill extends funding for these centers for two years through the Community Health Center Fund.

All in all, it was a good week for Alaska. I'm excited to continue Alaska's work in the U.S. House of Representatives and to rejoin many of you in Alaska to speak on the many issues before us.

God Bless,

Don Young

Congressman for All Alaska

In the News:

- **Press Release:** [Young Hits it Right on the Nose in Committee Testimony to Open ANWR's 1002 Area](#)
- **Press Release:** [Young Supports Denali Kid Care and Community Health Center Funding in House-Passed Legislation](#)
- **Press Release:** [Concurrent Budget Resolution Paves Way for Tax Reform, Resource Development in ANWR](#)
- **Must Read Alaska:** [ANWR is a dot on Don Young's nose](#)
- **Alaska Dispatch News:** [Alaskans testify at U.S. Senate hearing on drilling in ANWR](#)
- **Washington Post:** [The Energy 202: Alaskans are sick and tired of everyone telling them not to drill](#)

Sent from the Office of U.S. Congressman Don Young

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000000098

From: [Howard, Amee](#)
To: [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#); [Mitch Ellis](#); [Socheata Lor](#); [Damberg, Doug](#); [Mary Colligan](#)
Subject: FYI - 11.02.17 Hearing Notes for your reference
Date: Friday, November 3, 2017 3:34:09 PM
Attachments: [11.02.17 Detailed Notes - Committee Questions.docx](#)

Hi All,

FYI - In case you would find my hearing notes useful, I have my detailed hearing notes from yesterday. I tried to keep them to highlights from each Senator's questions, however, there was a good deal discussion resulting in lengthy notes.

Thanks so much!

Amee

--

Amee Howard

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11.02.17 Detailed Notes - Committee Questions:

For Panel I – No substantive questions and answers

Panel II

Senator Murkowski

- Spoke to the voice of the people of the 1002 area is not heard or often drowned out by outside voices

To Mr. Rexford

- What is the expectation that the people in Kaktovik have from development in the 1002 area?
 - o Expresses that the benefits would come through the North Slope Borough tax base, from their taxes on resource developments; he indicates this would lead to more and better roads, money for schools, and increased infrastructure.

To Lt. Gov. Mallott

- How will development in the 1002 area work without impacting caribou?
 - o Lt. Gov. Mallott indicated that caribou resources have grown; impact of development has been carefully managed and constrained to protect subsistence; priority of subsistence use of fish and game is the state's highest priority.

Senator Cantwell

- States there have been 640 oil spills in Alaska since 1999, references two BP spills from 2009 and 2011

To Mr. Alexander

- What is the biggest concern regarding Caribou?
 - o States that this area is "The sacred place where life begins"; this area is where the caribou calve; the boundaries of the Gwich'in Nation follow the path of the caribou and to imply they are not local people is wrong; reiterates the 1002 area is where their babies are born without the calving area there could be no caribou.

Senator Heinrich

- Discusses his past trip to Alaska where he was able to see oil and gas infrastructure on the North Slope and visit facilities in Deadhorse; talks about his visit to Arctic Village and the stories about the caribou

To Mr. Alexander

- Explain further the importance and the connection to the Gwich'in
 - o This area is the heart of the refuge; speaks to Congressman Young's blue dot on his nose and states that to fix that dot you would not perform open heart surgery; indicates the Gwich'in people do not want anything from the government; indicates the true locals of the area are the caribou and they cannot speak for themselves, so the Gwich'in are speaking for them.

Senator Cassidy

- Speaks about responsible oil and gas development in Louisiana with limited footprints; shows handouts from Sen. Sullivan illustrating 65 acre pad from the past to 12 acre pad of the present; references a project in Alaska that has an extended drilling reach; speaks to the use of ice pads preserving the ecosystem because they melt.

To Lt. Gov. Mallott

- How have the technological advantages modified developments?

- Technology is working on the North Slope, smaller footprints; Technology has allowed us to be aggressively responsive and managed; our ability to respond to issues/concerns has grown.

Senator Cortez Masto

- Reiterates the refuge purposes as they are stated in ANILCA

To Greg Sheehan

- If we open to oil and gas drilling in the Refuge, how is it compatible to the refuge purposes?
 - References the Refuge Act in terms of compatibility; also indicates that at the time of ANILCA sections 1002 and 1003 allowed an avenue for the discussion that was occurring today
- Senator states the USFWS has no position, you are not here to advocate one way or the other

To Lt. Gov. Mallott

- How will this raise \$1Billion?
 - Believes it will raise many multiples of that number. Time is called.

Senator Barrasso

To Lt. Gov. Mallott

- Discusses importance of oil development and filling the capacity of the pipeline; the pipeline is currently at 25% of capacity, we need it at full capacity when we look at needs of our state and nation; this is an opportunity for the state and the nation to have revenue to address existing needs of climate change and jobs; believes there can be coordinated mitigation on the North Slope and the 1002 area.

Senator King

- Indicates that he has some very specific technical questions that Greg may not be able to fully answer, but since he is representing the Department he was going to give it try; the Senator expresses some frustration that the Department believes this is an “OK deal” without the answers to these questions.

To Greg Sheehan

- Asks about the 2000 acres mentioned in legislation (Introduced and current draft)? Would it be contiguous acres? Is it confined to one space or would it be scattered throughout the area with multiple drill sites.
- How many wells are we talking about here?
 - Depends on direction from this Congress
- How many wells would we need to fill 10 billion barrels?
- How would the oil get out? How would it be transported?
 - Pipelines and some roads
- Current cost of extraction?
 - USGS has reported an average of \$42/barrel

Senator Murkowski expresses there will be time to determine how many wells and how many miles of pipeline as work continues.

Senator Cantwell expresses that she and many of her colleagues want to see these details before they vote on it, have answers from the experts.

Senator Daines

- Believes that it is arrogant for Washington DC to be dictating what Alaskans should do

To Greg Sheehan

- Do you believe development will impact caribou?

- Discusses that all types of energy development has impacts on resources; if Congress directs USFWS to accommodate oil and gas exploration and development, then the best science, best management practices, best technologies, and small footprints will be utilized to address impacts.

Senator Stabenow

- Concerned about the direction this issue is going; wishes there was more diversity in the viewpoints here today; feels like this is a political exercise as opposed to really looking to the future.

To Sam Alexander

- What would it mean from your perspective to allow drilling?
 - We have to rely on our caribou to live
 - What does economic development mean? Feels like that is not a real recognition that a subsistence economy is a real thing.
 - Economy? Money to do what? This is a “status” exercise for others not for the Gwich’in people.
 - Our responsibility is to take care of the animals and land like they have cared for us for thousands of years.
 - ANCSA Corporations are not tribes.

Senator Gardner asks a series of environmental process questions of Greg Sheehan; Greg confirms there would be full environmental review and analysis and that leasing likely would not occur for at least 4 to 5 years and for drilling it would take 7 to 10 years.

Senator Gardner

- We have the ability to responsibly and sustainably develop resources and it does not make sense for us to tie the hands of Alaska – Lt. Gov. Mallott agrees.

Senator Franken

- Only 17,000 acres are being utilized by industry of the already 1 million acres of Federal public lands leased for oil and gas development in the state; the administration has also already approved another 10 million acres of Federal lands; Why the Refuge? Why open it?; We should do this as regular order; not on the “cheap” as part of the tax reform plan; We are talking about changing habitat and way of life for indigenous people; Irony – more oil development to combat climate change

To Sam Alexander

- Can you speak to the irony of this issue?
 - We are talking about drilling more oil to combat climate change, it is insanity.

Senator Hrono

- Recommendation to the committee members to resist the urge to compartmentalize this issue from the larger discussion/debate on the GOP tax bill; We should be discussing how to raise royalties from companies already drilling; Thanks Sam Alexander for being there to testify.

To Greg Sheehan

- Asks Greg about the memo from Jim Kurth to change the dates in regulation that would allow for oil exploration now.
 - Confirms there is a memo, but explains that a rule has not been publicly released yet.

Senator Sanders

- General expressions of outrage; expresses that in the future people will ask “What were they thinking?”; we need to lead the world away from oil and gas and toward energy efficiency and sustainable energy.

To Greg Sheehan

- Is Climate Change a hoax?
 - o "I believe climate change is real".

To Lt. Gov. Mallot

- Why is your administration not moving more to Renewables?
 - o Alaska feels and lives with climate change, the State has investments in Renewable Energy as well – wind power.

To Sam Alexander

- What will drilling do to the Gwich'in people?
 - o "We believe drilling will devastate us as a people."
 - o There is the NPR-A, why drill in the refuge?

Senator Manchin

- We live in a country dependent on oil; discusses Pt. Thompson oil development on the North Slope and indicates it has been done responsibly and it is in the same ecosystem as the 1002 area.

To Lt. Gov. Mallott

- Is there a balance that can be achieved here?
 - o Expresses the need for balance and states it is an "absolute" high priority.

Senator Murkowski then reads from Lt. Gov. Mallott's written testimony statements on Alaska's 40+ year track record on the North Slope. Senator Murkowski then speaks to Alaska leading the nation in Renewable energy and gives the example of village micro-grids throughout the state.

Panel III

Senator Mukowski

To Richard Glenn

- Mitigation...how do we do it?
 - o Timing is important, exploration will occur in the winter – not during calving season; From past experience, industry found out that exploration in the summer is not the way to do it, it will leave ruts and destroy tundra; the calendar dictates that machinery will not be around when animals are around; the facilities and pipelines are constructed to mitigate their effects on the caribou – they can pass under the pipelines unhampered.

Senator King

To Aaron Schutt

- 2000 acres – contiguous or scattered?
 - o There would be several sites, non-contiguous
- How many wells are we talking about here?
 - o It may be in the 100's over time

To Dr. Cronin

- What is the calving period?
 - o End of May to the first half of June

To Aaron Schutt

- What data shows the 1002 area is particularly rich or productive? Could we not drill in some of the other areas available?
 - o No answer available from Mr. Schutt
 - o Dr. Cronin suggested to Senator King that contacting USGS would be the best resource for his questions.

Senator Cortez Masto

- Mentions the timing and pace of the hearing and the draft legislation that is supposed to be considered next week, that has not be finalized.

To Lois Epstein

- Question regarding drilling in less sensitive areas such as NPR-A
 - o New efforts are occurring to more accurately measure the resource potential of the NPR-A.
 - o The Wilderness Society feels the NPR-A does represent balance for resource development

To Aaron Schutt

- Question regarding the use of new technology would result in how many bore holes from each pad.
 - o You can assume 10 to 100 surface holes for each pad depending on design.

Senator Heinrich

- Invites committee members and witnesses to look at Prudhoe Bay using Google Earth to see what oil infrastructure in Alaska looks like; it can be expansive and can fully industrialize large areas; expressed frustration that this issue is being addressed in conjunction with the budget process and tax reform; this is a wildlife refuge not a petroleum reserve

To Lois Epstein

- What is a realistic scenario to reach \$1 billion goal?
 - o Alaska is not hugely attractive to the oil industry at an average of \$50/barrel – shale oil is cheaper to produce; due to Alaska’s remoteness, weather extremes, darkness, etc., it can drive industry to other regions of country;

Senator Duckworth

- Express serious concerns regarding catastrophic incidents and that oil and gas extraction at the scale in this budget...it is not a question of if but when.

To Lois Epstein

- What are the concerns and differences responding to oil events in the Arctic? What would the effects of oil spills be to this area? Is there legislation to make spills safer?
 - o If/when problems or spills occur you need to have specialists with Arctic expertise; the logistics of flying in specialists, equipment, gear and the costs associated can be immense.
 - o Varying effects dependent on time of year, it would depend on whether or not the spill occurs on top of ice or into the tundra;
 - o We can’t prevent all spills; no one in industry will give that guarantee.

Senator Franken

- Questioned Dr. Cronin about funding he has received from the oil industry to conduct caribou surveys and caribou data analysis. Dr. Cronin confirmed the funding.

To Lois Epstein

- What is significance of the 1002 area?
 - o The coastal plain is narrow which makes the calving area smaller and finite; speaks to the potential effects of climate change and its ability to impact the size of the coastal plain as well.

To Pat Pourchot

- Speaks to one of the issues surrounding this debate are the unknowns, we do not know how all of the current variables will impact the coastal plan; he asserted that a cautious approach should be taken.

Senator Cantwell

- Felt this hearing and this approach is undermining the Arctic Refuge and undermining management of Federal public lands; expresses that representatives of certain states do not get to make decisions over the Federal public lands in their states “just because you represent that state”.

To Pat Pourchot

- Discuss recent analysis of current science for the Arctic Refuge; references 2015 Comprehensive conservation plan (CCP)
 - o Expresses that it is interesting the 2015 CCP has not been discussed or referenced during the hearing; it is the most recent and current analysis utilizing the best science; the recommendation for wilderness designation is a serious recommendation that has been overlooked during the hearing; the CCP was a 4 or 5 year public process and from that public input and consultation with the tribes wilderness was supported above development.

Closing

Ranking Member - Senator Cantwell expresses frustration regarding the hearing being “stacked” on the pro-development side and states that people should just choose – “do you want to drill or destroy?”, stop the discussion that this could be done without impact; reiterates concern over the process and indicates this issue should not be wrapped into the budget and tax reform efforts of Congress.

Chair - Senator Murkowski disagrees with Senator Cantwell’s position and strongly believes that oil and gas development can be successful and safe for the environment with the new technologies of today; expresses that this is not technology from 40 years ago; feels like the time is now to open the 1002 area, believes it is best for Alaska, Alaskans, and the nation.

From: [Howard, Amee](#)
To: [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#); [Mitch Ellis](#); [Mary Colligan](#); [Socheata Lor](#); [Damberg, Doug](#)
Subject: FYI - Article - Senate Energy Democrats question timing of ANWR leasing hearing - Oil & Gas Journal
Date: Friday, November 3, 2017 1:42:07 PM

<http://www.oj.com/articles/2017/11/senate-energy-democrats-question-timing-of-anwr-leasing-hearing.html>

From: [Howard Amee](#)
To: [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#); [Mitch Ellis](#); [Mary Colligan](#); [Ryan Noel](#); [Eric Taylor](#)
Cc: [Leonetti Crystal](#); [Andrea Medeiros](#)
Subject: FYI- Department Report and Media Article - Interior review omits oil and gas rule
Date: Friday, November 3, 2017 1:21:38 PM
Attachments: [10.24.17 DOI Review of action impacts to Energy.pdf](#)

Hi All,

The Department released a report on October 24th reviewing actions by agencies that may impact domestic energy. I have attached the report below for your reference. USFWS relevant review begins on page 31 of the report. The report identifies Right-of-Ways; Incidental Take in the Southern Beaufort Sea and Chuckchi Sea; Endangered Species Act; Migratory Bird Treaty Act; and Bald and Golden Eagle Protection Act.

Thanks,
Amee

Interior review omits oil and gas rule

[Pamela King](#), E&E News reporter
Published: Friday, November 3, 2017



Lake Meredith National Recreation Area, located near the center of the Texas Panhandle, has 174 oil and gas operations, more than any other National Park Service site. National Park Service

The Interior Department could skip one rule in its effort to erase all agency actions that unduly strain U.S. energy production.

Last week, Interior unveiled its [review](#) of all department actions with the potential to burden domestic energy activity. The report touched on the department's ongoing examination of rules introduced by the Bureau of Land Management, Fish and Wildlife Service, and National Park Service under the previous administration to guide oversight of oil and gas operations on sites the agencies manage.

But beyond a mention of Secretary Ryan Zinke's secretarial order listing four Interior rules pinpointed in President Trump's March 28 "energy independence" [directive](#), the NPS rule doesn't even appear in the document.

"The NPS rule was under review," said Interior spokeswoman Heather Swift. "No action has been taken or identified for it, which is why it is not in the report."

She did not confirm whether the current rule would be allowed to stand.

In keeping with the White House strategy to promote "energy independence and economic growth," Interior had previously indicated it would review four oil and gas rules ([Energywire](#), April 4).

Two of those rules — introduced by President Obama's Bureau of Land Management to control hydraulic fracturing and methane emissions on public lands — have since been proposed for rescission and suspension under the rulemaking process.

The Trump administration also targeted two less controversial Obama-era measures: One expanded NPS's oversight of older drill sites and wells located on park peripheries, and another introduced new standards for FWS governance of oil and gas activity in wildlife refuges ([Greenwire](#), April 25).

As of the release of Interior's regulatory review, FWS and NPS had not introduced proposals to change their oil and gas rules. Last week's report offered no further details on how — or even whether — the regulations would be unraveled.

"I would like a clear indication, but we don't have that," said Lund, who supported the rule. Short of a proactive statement from Interior that the NPS rule will remain intact, it still appears to be fair game for revision, said Nicholas Lund, senior manager for the National Parks Conservation Association's landscape conservation program.

Interior's report is a response to Trump's energy independence order, but it's unclear whether the department's document offers a comprehensive picture of how it will fulfill the president's vision.

"There's no indication that this report is a path forward for them or is everything they're planning

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to do or will do," Lund said.

Four energy industry groups **said** they opposed the NPS rule because it was duplicative.

"Our comment letters point out our concerns with the proposed regulations and we would hope that those are addressed by Interior," said American Exploration & Production Council (AXPC) President Bruce Thompson. "A fair and reasonable regulatory regime is not a problem for AXPC members, and we are always willing and anxious to sit down with our regulators in any agency to work on a result that is good for all parties."

He added that AXPC favors a complete repeal of the NPS rule.

"One way to achieve this would be the rescission immediately followed by engagement with all stakeholders with a view to generate thoughtful and fair regulations," Thompson said.

FWS rule

Swift said yesterday that she had no additional information to offer on the FWS regulation. Interior's review includes slightly more information on the rule's future — but not much.

"The FWS is reviewing its final rule, 'Management of Non-Federal Oil and Gas Rights' ... to determine whether revision would be appropriate to reduce burden on energy," the report says.

Supporters of the rule said they objected to its characterization in the Interior review.

"The Department of the Interior's 'burdens' report only briefly references this rule, noting that the administration is still reviewing it for potential burdens on energy development," said Mark Salvo, vice president of landscape conservation at Defenders of Wildlife.

"We contend there are none."

Instead of burdening the government, the rule introduces efficiency to the federal process for managing private mineral interests in the refuge system, Salvo said.

"Voiding this rule would create legal and operational uncertainty for both refuge managers and developers, threaten wildlife and watersheds, and undermine safe, sustainable economic development," he said.

FWS's rule drew **criticism** from the American Petroleum Institute and the Independent Petroleum Association of America. Both oil and gas trade groups also opposed the NPS rule.

"The legal and practical bases for the proposed regulations are, at best, questionable," the associations wrote. "As described above, the most prudent approach would be for the Service to continue to manage oil and gas activities under its 2012 guidelines for a sufficient period of time, and with adequate staffing, resources, and training, to accurately determine the areas in which those guidelines are effective and the areas in which they are not."

API and IPAA suggested changes to the proposed FWS rule in anticipation of the Obama administration moving forward with the regulation. Those alterations included adjustment of the rule's geographic scope, timing, and appeals process and financial assurances.

"The natural gas and oil industry supports smart, common sense regulations that protect our workers and the environment," API spokeswoman Brooke Sammon wrote in an email yesterday.

DEPARTMENT OF THE INTERIOR

Final Report:

Review of the Department of the Interior Actions
that Potentially Burden Domestic Energy

October 24, 2017

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Report of the Secretary of the Interior
Final Report: Review of the Department of the Interior Actions that Potentially Burden
Domestic Energy

I. Purpose of this Report

“Energy is an essential part of American life and a staple of the world economy. Achieving American energy dominance begins with recognizing that we have vast untapped domestic energy reserves. For too long America has been held back by burdensome regulations on our energy industry. The Department is committed to an America-first energy strategy that lowers costs for hardworking Americans and maximizes the use of American resources, freeing us from dependence on foreign oil.”

Secretary Zinke, May 1, 2017, Secretarial Order 3351 Strengthening the Department of the Interior’s Energy Portfolio

This final report describes the Department of the Interior’s (Interior or Department) progress in implementing Executive Order (EO) 13783, *Promoting Energy Independence and Economic Growth*, dated March 28, 2017. EO13783 requires the head of each agency to carry out a review of all agency actions that potentially burden the development or use of domestically produced energy resources, with particular attention to oil, natural gas, coal, and nuclear energy resources. See EO13783, section 2(a). On May 8, 2017, the Office of Management and Budget (OMB) issued guidance to agencies on the contents of a draft report. See OMB Guidance M-17-24 (May 8, 2017). The Secretary of the Interior (Secretary) has aggressively pursued a comprehensive review of Interior’s energy activities and this final report details the results of this review.

II. Interior’s Role in Domestic Energy Production, Development, and Use

Interior is the steward and manager of America’s natural resources, including oil, gas, coal, hydropower, and renewable energy resources. Interior manages lands, subsurface rights, and offshore areas that produce approximately 19 percent of the Nation’s energy. Energy development on public lands increases domestic energy production, provides alternatives to overseas energy resources, creates jobs, and enhances the Nation’s energy security. The Office of Natural Resources Revenue (ONRR) collects an average of over \$10 billion annual revenue from onshore and offshore energy production, one of the Federal Government’s largest sources of non-tax revenue.

Nine of Interior's bureaus have energy programs and responsibilities:

- The Bureau of Land Management (BLM) administers onshore energy and subsurface minerals on certain public lands.
- The Office of Surface Mining Reclamation and Enforcement (OSMRE) works with states and tribes to oversee environmentally sound coal mining operations;
- The Bureau of Ocean Energy Management (BOEM) oversees offshore oil, gas, and wind development.
- The Bureau of Safety and Environmental Enforcement (BSEE) is the lead Federal agency charged with improving safety and ensuring environmental protection related to the offshore energy industry, primarily oil and natural gas, on the U.S. Outer Continental Shelf (OCS).
- The Bureau of Reclamation (BOR) is the second largest producer of hydroelectric power in the United States, generating over 40 million megawatt-hours of electricity each year;
- The Bureau of Indian Affairs (BIA) oversees leasing of tribal and Indian land for energy development.
- The Office of Natural Resources Revenue (ONRR) collects revenue from energy production and development.
- The United States Geological Survey (USGS) conducts research and assessments on the location, quantity, and quality of energy resources, including the economic and environmental effects of resource extraction and use.

The U.S. Fish and Wildlife Service (FWS) and National Park Service (NPS), while not directly involved in the production or development of energy as part of their missions, may have Federal or non-Federal oil and gas or mineral inholdings. These agencies also manage lands and trails through which important energy-related infrastructure may pass in order to bring affordable energy to American families throughout our country. These agencies therefore have the ability to reduce potential burdens on domestic energy production, development, or transmission.

III. Immediate Action – Secretarial Orders

When the United States is a leader in developing its energy resources, it is less dependent on other nations, leading to a stronger America. Interior is committed to an America-First energy strategy that fosters domestic energy production in order to keep energy prices low for American families, businesses, and manufacturers. Every drop of oil, Mcf of natural gas or MW of offshore wind energy produced here in the U.S. benefits the American workers employed in those operations and also frees us from dependence on foreign energy resources. Beyond enhancing America's energy security, low cost energy benefits the American consumer and enhances American manufacturing competitiveness, making American businesses more competitive globally. Secretary Zinke recognizes that development of energy resources on public lands increases the Nation's domestic energy supply, provides alternatives to overseas energy resources, generates revenue, creates jobs, and enhances national security. Eliminating harmful regulations and unnecessary policies will require a sustained and focused effort. That said, the Department will strike the appropriate balance in order to make use of our Nation's domestic resource wealth while also ensuring careful attention to safe and environmentally responsible operations both onshore and offshore, and promoting conservation stewardship.

Secretary Zinke has issued seven Secretarial Orders to improve domestic onshore and offshore energy production that further these principles. To ensure energy policies receive the highest level attention across Interior, the Secretary established the Counselor to the Secretary for Energy Policy position to coordinate the energy policy of Interior, including, but not limited to, promoting responsible development of energy on public lands managed and administered by Interior, developing strategies to eliminate or minimize regulatory burdens that unnecessarily encumber energy, and promoting efficient and effective processing of energy-related authorizations, permits, regulations, and agreements. *See* Secretarial Order 3351, “Strengthening the Department of the Interior’s Energy Portfolio” (May 1, 2017). Establishing this position that reports directly to the Secretary assures that developing America’s energy resources in a responsible way to create jobs and enhance the energy security of the United States will remain a central priority. The remaining six Secretarial orders are:

- Secretarial Order 3348 – Concerning the Federal Coal Moratorium;
- Secretarial Order 3349 – American Energy Independence;
- Secretarial Order 3350 – America-First Offshore Energy Strategy;
- Secretarial Order 3352 – National Petroleum Reserve – Alaska;
- Secretarial Order 3353 – Greater Sage-Grouse Conservation and Cooperation with Western States; and
- Secretarial Order 3354 – Supporting and Improving the Federal Onshore Oil and Gas Leasing Program and Federal Solid Mineral Leasing Program.

These Orders direct Interior bureaus and offices to take immediate and specific actions to identify and alleviate or eliminate burdens on domestic energy development. Within this framework, bureaus have identified actions and, in some cases, already made progress in alleviating or eliminating the energy burdens.

A. Secretary Order 3348 – Concerning the Federal Coal Moratorium

One of Secretary Zinke’s first acts was to sign Secretarial Order 3348, “Concerning the Federal Coal Moratorium” (March 29, 2017), which removed the moratorium on the Federal coal leasing program by revoking a prior Secretarial Order (Secretarial Order 3338, “Discretionary Programmatic Environmental Impact Statement to Modernize the Federal Coal Program”). Secretarial Order 3348 promotes American energy security, job creation, and proper conservation stewardship. It directs BLM to process coal lease applications and modifications expeditiously and directs Interior bureaus and offices to make appropriate changes to policy and guidance documents to further President Donald Trump’s policy of promoting American energy independence and economic growth. (See further discussion below at IV.x and E.)

In addition to lifting the coal moratorium, Secretary Zinke took other actions to advance American energy independence. In announcing these actions he said, “Today I signed a series of directives to put America on track to achieve the President’s vision for energy independence and bringing jobs back to communities across the country.” These directives foster responsible development of coal, oil, gas, and renewable energy on Federal and tribal lands and initiate review of agency actions directed by EO13783.

B. Secretarial Order 3349 – American Energy Independence

The most overarching Secretarial Order reducing burdens on energy development is Secretarial Order 3349, “American Energy Independence” (March 29, 2017), which directed bureaus to examine specific actions impacting oil and gas development, and any other actions affecting other energy development. It revoked Secretarial Order 3330, “Improving Mitigation Policies and Practices of the Department of the Interior,” and directed bureaus and offices to review all actions taken pursuant to that Order for possible reconsideration, modification, or rescission. It also directed each bureau and office to review actions taken regarding rescinded Executive Orders related to climate change. Further, it directed the review of the following specific actions impacting energy development:

- BLM Hydraulic Fracturing Rule (RIN 1004–AE26) (see discussion below under IV.A.i.);
- BLM Waste Prevention, Production Subject to Royalties, and Resource Conservation Rule (RIN 1004–AE14) (see discussion below under IV.A.ii);
- NPS Non-Federal Oil and Gas Rights Rule (RIN 1024–AD78); and
- FWS National Wildlife Refuge System; Management of Non-Federal Oil and Gas Rights (RIN 1018–AX36) (see discussion below under IV.F.).

C. Secretarial Order 3350 – America-First Offshore Energy Strategy

This Order enhances opportunities for energy exploration, leasing, conservation stewardship, and development on the Outer Continental Shelf (OCS), thereby providing jobs, energy security, and revenue for the American people by reinitiating the five-year planning process. Among other actions, it directed the review of the following regulatory actions that impact offshore energy development:

- BOEM Notice to Lessees (NTL) No. 2016-N01 entitled, “Notice to Lessees and Operators of Federal Oil and Gas, and Sulfur Leases, and Holders of Pipeline Right-of-Way and Right-of-Use and Easement Grants in the Outer Continental Shelf”;
- BOEM Offshore Air Quality Control, Reporting, and Compliance Rule (RIN 1010-AD82);
- BSEE Oil and Gas and Sulfur Operations in the Outer Continental Shelf-Blowout Preventer Systems and Well Control (RIN 1014–AA11); and
- BOEM and BSEE Oil and Gas and Sulfur Operations on the Outer Continental Shelf—Requirements for Exploratory Drilling on the Arctic Outer Continental Shelf Rule (RIN 1082–AA00).

D. Secretarial Order 3352 – National Petroleum Reserve – Alaska

This Order provides for clean and safe development of oil and gas resources in the National Petroleum Reserve in Alaska, recognizing that prudent development of these resources is essential to ensuring the Nation’s geopolitical security. (See discussion below at IV.J.)

E. Secretarial Order 3353 – Greater Sage-Grouse Conservation and Cooperation with Western States

Sage-grouse protections can affect energy development because these activities often share the same land across the 11 western states and 67 million acres of Federal land that are affected by sage grouse habitat. This Order establishes a Sage-Grouse Review Team that includes representatives from the BLM, FWS, and U.S. Geological Survey (USGS) to review the 2015 Sage-Grouse Plans and associated policies, giving appropriate weight to the value of energy and other development on public lands within BLM’s overall multiple-use mission and to be consistent with the policy set forth in Secretarial Order 3349, “American Energy Independence.” (See discussion below at IV.A.vii.)

F. Secretarial Order 3354 – Supporting and Improving the Federal Onshore Oil and Gas Leasing Program and Federal Solid Mineral Leasing Program

This Order intends to ensure that quarterly oil and gas lease sales are consistently held and to identify ways to promote the exploration and development of Federal onshore oil and gas and solid mineral resources, including improving quarterly lease sales, enhancing the Federal onshore solid mineral leasing program, and improving the permitting processes. See discussion below at IV.A.

Details of progress in accordance with the aforementioned Executive and Secretarial Orders are described below, as well as relevant proposed actions that are currently under review. Prior to reaching a final determination regarding any proposed action, Interior may be required to comply with the notice and comment requirements of the Administrative Procedure Act or other laws and regulations, and will weigh the results of such procedures accordingly in its decisionmaking process.

IV. Results of Interior’s Review of Potentially Energy-Burdening Actions

A. Bureau of Land Management

The Bureau of Land Management administers more land than any other Federal agency, consisting of more than 245 million surface acres and 700 million acres of subsurface mineral development. In response to EO13783 and Secretarial Orders 3348, 3349, and 3354, BLM is revising and reforming its leasing processes, improving the Coal Management Program, and delaying, revising, or rescinding burdensome regulations and policies to improve domestic energy production and support jobs.

Below is a list of specific actions BLM is undertaking to reduce burdens on the production of energy on BLM managed resources.

i. Review of the Hydraulic Fracturing rule

Executive Order 13783 required Interior to review the final rule entitled, “Oil and Gas; Hydraulic Fracturing on Federal and Indian Lands,” 80 FR 16128 (Mar. 26, 2015). Secretarial Order 3349 directed BLM to undertake that review. On July 25, 2017, BLM published a proposed rule to rescind the 2015 hydraulic fracturing rule because the compliance costs of the existing 2015 rule are not justified (82 FR 34464). All 32 states with Federal oil and gas leases and some tribes currently have laws or regulations that address hydraulic fracturing operations. Thus, rescinding the rule has the potential to reduce regulatory burdens by enabling oil and gas operations to occur under one set of regulations within each state or tribal lands, rather than two. Rescinding this rule may result in additional interest in oil and gas development on public lands, especially under higher commodity prices.

Interior has identified this proposed rescission as a deregulatory action under EO13771.

ii. Temporarily Suspend or Postpone Certain Requirements and Review to Rescind or Revise the Venting and Flaring Rule

Executive Order 13783 required Interior to review the final rule entitled, “Oil and Gas; Waste Prevention, Production Subject to Royalties, and Resource Conservation,” 81 FR 83008 (Nov. 18, 2016), also known as the “Venting and Flaring” rule. Secretarial Order 3349 ordered BLM to review the rule and report to the Assistant Secretary – Land and Minerals Management on whether the rule is fully consistent with the policy expressed in EO13783.

The BLM conducted an initial review of the rule and found that it was inconsistent with the policy stated in EO13783 that “it is in the national interest to promote clean and safe development of our nation’s vast energy resources, while at the same time avoiding regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation.” The BLM recognizes that the 2016 final rule poses a substantial burden on industry, particularly those requirements that are set to become effective on January 17, 2018. The BLM issued a proposed rule that was published in the Federal Register on October 5, 2017, seeking comment on temporarily suspending or delaying certain requirements until January 17, 2019, to reduce the regulatory burden on the energy industry. This will provide industry additional time to plan for and engineer responsive infrastructure modifications that will comply with the regulation.

If finalized, the revised regulation will provide significant additional phase-in time to oil and gas operators.

The BLM intends to work with industry to develop metrics, including key timelines or benchmarks, and the reduction of flaring from Federal and Indian lands over time.

Following up on its initial review, BLM has reviewed the 2016 final rule in accordance with the policies set forth in EO13783. The BLM is currently drafting a proposed rule that would eliminate overlap with the Environmental Protection Agency’s (EPA) Clean

Air Act authorities while also clarifying regulatory provisions related to the beneficial use of gas on Federal and Indian lands.

The BLM has identified the delay of effective date rulemaking as a deregulatory action under EO13771.

iii. Revise Oil and Gas; Onshore Orders Nos. 3, 4 and 5

The burdens placed on industry through these 3 new regulations are being reviewed as directed under EO13783. These 3 rulemakings, which were promulgated and issued concurrently, updated and replaced BLM's Onshore Orders for site security, oil measurement, and gas measurement regulations, respectively, that had been in place since 1989. They are codified in the Code of Federal Regulations at 43 CFR parts 3173, 3174, and 3175. External and internal oversight reviews prompted these rulemakings and found that many of BLM's production measurement and accountability policies were outdated and inconsistently applied. The new rules also address some of the Government Accountability Office (GAO) concerns for high risk with regard to Interior's production accountability. These 3 regulations impose new cost burdens on operators as a result of oil and gas facility infrastructure changes. The cost estimates for each individual rule are as follows:

- Order 3, Site Security: \$31.2 million in one-time costs, plus an \$11.7 million increase in annual operating costs;
- Order 4, Oil Measurement: \$3.3 million in one-time costs, plus a \$4.6 million increase in annual operating costs; and
- Order 5, Gas Measurement: \$23.3 million one-time cost, plus \$12.1 million increase in annual operating costs.

The new regulations also provide a process for approving new technology that meets defined performance goals. Some provisions of the rule may have added regulatory burdens that unnecessarily encumber energy production, constrain economic growth, and prevent job creation.

The BLM is currently assessing the rules to determine 1) if additional revisions are needed beyond the already-implemented phase-in period for certain provisions, 2) the ability for industry to introduce new technologies through a defined process, rather than through an exception request, and 3) the built-in waivers or variances. The BLM expects to complete its assessment of possible changes to alleviate burdens that may have added to constraints on energy production, economic growth and job creation by the end of the fourth quarter of FY 2017.

The new regulations have built in necessary waivers or variances. The BLM's establishment of a phase-in period for the new site security and production measurement regulations is an interim measure. The BLM will measure success over the phase-in period in terms of the production measurements, royalties paid, a reduction in under-reporting of production, and greater site security for production facilities.

iv. Revise and Replace Policy, Oil and Gas; IM 2010-117, "Oil and Gas Leasing Reform – Land Use Planning and Lease Parcel Reviews"

This policy will be replaced with revised guidance for the purpose of establishing greater efficiencies in the oil and gas leasing process. Policy Instruction Memorandum (IM) 2010-117 established a process for leasing oil and gas resources on Federal lands. The BLM intended the IM to reduce the backlog of unissued leases. However, the IM has resulted in longer time frames in analyzing and responding to protests and appeals, as well as longer lead times for BLM to clear and make available parcels for oil and gas lease sales. It has also resulted in increased workload and staffing needs to conduct additional upfront environmental analysis.

The BLM has undertaken an effort to revise and reform its leasing policy and to streamline the leasing process from beginning (i.e. receipt of an Expression of Interest) to end (competitively offering the nominated acreage in a lease sale). Under existing policies and procedures, the process can take up to 16 months (and sometimes longer) from the time lands are nominated to the time a lease sale occurs. The BLM is examining ways to significantly reduce this time by as much as 8-10 months. The BLM plans to complete revisions to the leasing process in the first quarter of FY 2018.

A shorter period from nomination to sale will reduce the number of nominated acres awaiting competitive sale at any given time and will increase industry certainty regarding the acreage it holds. As a result, industry will be able to plan for and execute exploration and production strategies earlier, and respond more effectively to changing market conditions.

Reducing the average time from acreage nomination to lease sale will be BLM's measure of success. The BLM does not control what acreage industry nominates because market conditions can fluctuate dramatically; therefore, total nominated acreage awaiting sale is not likely to be a measure of success.

Until the policy revisions are completed, BLM is setting quarterly lease sale acreage targets to address the acreage currently nominated. The BLM is also identifying ways to augment staff support for potential sales in those offices with the greatest numbers of acres nominated.

v. Rescind Policy, Oil and Gas; IM 2013-101, "Oil and Gas Leasing Reform – Master Leasing Plans (MLPs)"

This policy announced the incorporation of Master Leasing Plans (MLPs) in the oil and gas leasing process, further explained in Chapter V of the BLM Handbook H-1624-1, entitled "Planning for Fluid Mineral Resources." The IM establishes a process for integrating an MLP into the land use planning process. The BLM has extended this IM several times while the BLM completes the public scoping and analysis for MLPs. An unintended consequence of this policy has been that many areas open to oil and gas leasing have been deferred from leasing while they await the completion of the MLP process.

The BLM has undertaken an effort to revise the leasing reform and MLP policy and to re-establish the BLM Resource Management Plans (RMPs) as the source of lands available for fluid minerals leasing. The BLM is currently evaluating existing MLP efforts with the goal of ending this approach. The BLM expects to rescind this IM and complete the

revision of the above BLM Handbook, as well as any other relevant BLM handbooks, in the first quarter of FY 2018.

Because this change will re-establish the RMP as the source of land allocation decisions for fluid minerals, it will result in more streamlined National Environmental Policy Act (NEPA) analysis and a shorter timeframe for acreage nominations to make it to a competitive lease sale. Since extra time and NEPA analysis adds to uncertainty for industry and use of taxpayer dollars by the Department, removing these process-related steps has the effect of decreasing uncertainty.

The primary measure of success in removing regulatory burden from the rescission of the MLP policy will be in the elimination of related nominated acreage sale deferral pending completion of MLP NEPA. While there will continue to be acreage sale deferrals for various reasons, completion of MLP NEPA will no longer be one of them. The time frames will be shorter.

vi. *Revise Policy, Oil and Gas; IM 2013-177, "National Environmental Policy Act (NEPA) Compliance for Oil and Gas Lease Reinstatement Petitions"*

This IM directs all BLM oil and gas leasing Field Offices to: 1) ensure RMP conformance; 2) evaluate the adequacy of existing NEPA analysis and documentation; and 3) complete any necessary new or supplemental NEPA analysis and documentation before approving a Class I or Class II oil and gas lease reinstatement petition. This IM has resulted in additional analysis and review time that often involves another surface management agency and, in some instances, has led to adding new lease stipulations prior to lease reinstatement.

Lease reinstatements were previously considered a ministerial matter, entailing a commensurate level of review and process to complete. However, IM 2013-177 changed that in significant ways, resulting in additional NEPA review and significantly greater timeframes for completing the reinstatement. Rescinding or modifying this policy will greatly reduce decisionmaking timeframes on lease reinstatement requests. The BLM expects to complete review of this policy in the first quarter of FY 2018 and promptly finalize by the second quarter.

The BLM expects that changes to this policy will refocus the emphasis back to existing NEPA analysis and information, which will significantly shorten the time it takes to consider and process a lease reinstatement request. The policy changes will provide greater certainty and reduced expense for energy development companies and result in production occurring sooner.

The BLM will measure the reduction in burden in terms of the average time it takes to consider a complete lease reinstatement request.

Similar to MLPs, in the interim, BLM must identify and evaluate the status of each current lease reinstatement request in order to determine whether and how to expedite review and processing. There are no other interim measures, waivers or variances that are relevant to the process.

vii. *Revise Policy, Oil and Gas: IM 2016-140, “Implementation of Greater Sage-grouse Resource Management Plan Revisions or Amendments – Oil & Gas Leasing and Development Sequential Prioritization”*

Policy IM 2016-140 is being reviewed for the purpose of enhancing consistency and certainty for oil and gas development in areas of sage-grouse habitat as directed by EO13783. This IM provides guidance on prioritizing implementation decisions for BLM oil and gas leasing and development, to be consistent with Approved Resource Management Plan Amendments for the Rocky Mountain and Great Basin Greater Sage-grouse Regions and nine Approved Resource Management Plans in the Rocky Mountain Greater Sage-grouse Region (collectively referred to as the Greater Sage-grouse Plans). The IM applies to activities in the areas covered by both the Rocky Mountain and Great Basin Regions Records of Decision, issued by BLM in September 2015, and also contains reporting requirements for communication between BLM State Offices and the Washington Office (WO). The IM may have added administrative burdens since it requires additional analysis and staff time to screen parcels and weigh potential impacts to the Greater Sage-grouse before the parcels are offered for leasing. It also requires additional analysis and staff time to process drilling permit approvals near Greater Sage-grouse areas.

The BLM’s effort to avoid listing of the sage-grouse as an endangered species has affected many programs and a large area geographically. With new technologies and capabilities, such as long-reach horizontal boreholes in the oil and gas industry, the impacts are not as significant as once perceived. Likewise, the administrative burden is better understood and is likely less than once thought. Efforts are underway to better understand these conditions and define ways in which energy production and sage-grouse protection may continue to co-exist. Greater consistency and predictability will provide greater stability for industry. The BLM is currently assessing the policy to determine what revisions are needed and expects to complete this review in the fourth quarter of FY 2017.

When the BLM completes this effort, industry will have greater certainty in leasing, exploration and production activities due to availability of acreage for oil and gas development and a defined process and timeframe for consideration of Greater Sage-grouse impacts.

The BLM will measure success by assessing changes in industry’s interest in nominating acreage for competitive sale and developing existing leases in areas affected by the Greater Sage-grouse amendments to RMPs. As industry increases its understanding and gains confidence in the consistency and predictability of BLM actions relative to Greater Sage-grouse, then acreage nominations, permit requests, and development should stabilize and be tied to market forces rather than tied to BLM Greater Sage-grouse decisions.

The BLM has been processing acreage nominations in Greater Sage-grouse areas and making them available for competitive sale. In addition, existing leases are being developed. This is evidence, in the interim, that both BLM and industry are developing innovative ways to adapt energy development in light of Greater Sage-grouse protections.

viii. Review of General Greater Sage-Grouse Conservation Policies and Plans

In September 2015, the BLM incorporated Greater Sage-grouse (GRSG) conservation measures into its land use plans within the range of the GRSG. In September 2016, the BLM issued a number of IMs to help guide the implementation of the GRSG plans. These GRSG plans and policies will affect where, when, and how energy and minerals are developed within the range of the GRSG.

Pursuant to Secretarial Order 3353, “Greater Sage-Grouse Conservation and Cooperation with Western States,” an Interior Sage-Grouse Review Team (Review Team) is working with the State-Federal Sage-Grouse Task Force to identify opportunities for greater collaboration, to better align Federal and State plans for the GRSG, to support local economies and jobs, and consider new and innovative ways to conserve GRSG in the long-term. Pursuant to the Secretarial Order, in August 2017, the Review Team submitted a report to the Secretary summarizing their review and providing recommendations regarding next steps.

The Review Team’s report identified a number of potential actions to enhance the coordination and integration of state and Federal GRSG conservation efforts.

Success will be measured and evaluated in terms of improved working relationships among local, state, tribal, and Federal units of Government and in terms of improved partner and stakeholder understanding of effective GRSG conservation measures and of the science underlying them.

The BLM anticipates that some of the actions outlined in the Review Team’s report to the Secretary could be implemented in the near future through changes in policy (through issuance of IMs, for example), technical assistance, or training. Other actions may require amending the land use plans. On October 11, 2017, the Department of the Interior, through BLM, initiated a public scoping process for RMP amendment(s) with associated NEPA documents. The comments may be submitted until November 27, 2017. Depending on the scope and significance, such amendments could take upwards of 9 months to 3 years to complete.

ix. Improve Land Use Planning and NEPA Act Policies and Procedures:

The BLM’s land use planning regulations and policies are outlined in 43 CFR subparts 1601 and 1610, Resource Management Planning; BLM Manual Section 1601; and BLM Handbook 1601-1. The BLM’s policies for complying with NEPA are outlined in BLM Handbook 1790-1 and the Interior NEPA implementing regulations are at 43 CFR Part 46. Taken together, these regulations, manuals, and handbooks establish the policies and procedures BLM follows when conducting land use planning and NEPA compliance, including specific actions related to energy and mineral development.

Pursuant to the Secretarial Memorandum of March 27, 2017, entitled “Improving the Bureau of Land Management’s Planning and National Environmental Policy Act Processes,” the BLM is identifying potential actions it could take to streamline its planning and NEPA review procedures. As part of this identification process, BLM is working with state and local elected officials and groups, including the Western

Governors' Association and the National Association of Counties, to engage and gather input. The BLM also has invited tribes and the public to provide input on how the Agency can make its planning and NEPA review procedures timelier, less costly, and more responsive to local needs. Pursuant to the Secretarial Memorandum, in September 2017, BLM will submit a report to the Secretary outlining recommended actions.

Once implemented, the actions recommended in the report should reduce the time and/or cost of complying with BLM's statutory direction to conduct land use planning under section 202 of FLPMA and complying with NEPA when evaluating proposed actions. These recommendations also should lead to more-standardized analyses in BLM's NEPA reviews at the land use plan and project level.

The reduction in burden will be measured and evaluated in terms of processing times and/or costs of authorizing energy development.

Some of the actions outlined in BLM's report to the Secretary will be actions that BLM will be able to implement in the near future, such as improvements to business processes, or updates to internal manuals or handbooks. Other actions would require changes in statute or regulation (such as new Categorical Exclusions), may depend on other agencies to act, or may require front-end investments in data or information technology.

x. Review Coal-Related Policies and Actions

On March 29, 2017, Secretary Zinke issued Secretarial Order 3348 to lift the Federal coal moratorium imposed by previous Secretarial Order 3338. This Order conformed to the directive in EO13783 requiring the Secretary to lift the moratorium and commence Federal coal leasing activities consistent with all applicable laws and regulations.

The BLM is working to process coal lease applications and modifications "expeditiously" in accordance with regulations and guidance that existed before Secretarial Order 3338. The BLM also ceased activities associated with preparation of the Federal Coal Program Programmatic Environmental Impact Statement (PEIS).

Consistent with EO13783 and Secretarial Order 3348, the BLM is reviewing its policies, with the intent to update or rescind them.

xi. Other Recommendations for Alleviating or Eliminating Actions That Could Directly or Indirectly Burden Energy Exploration or Production

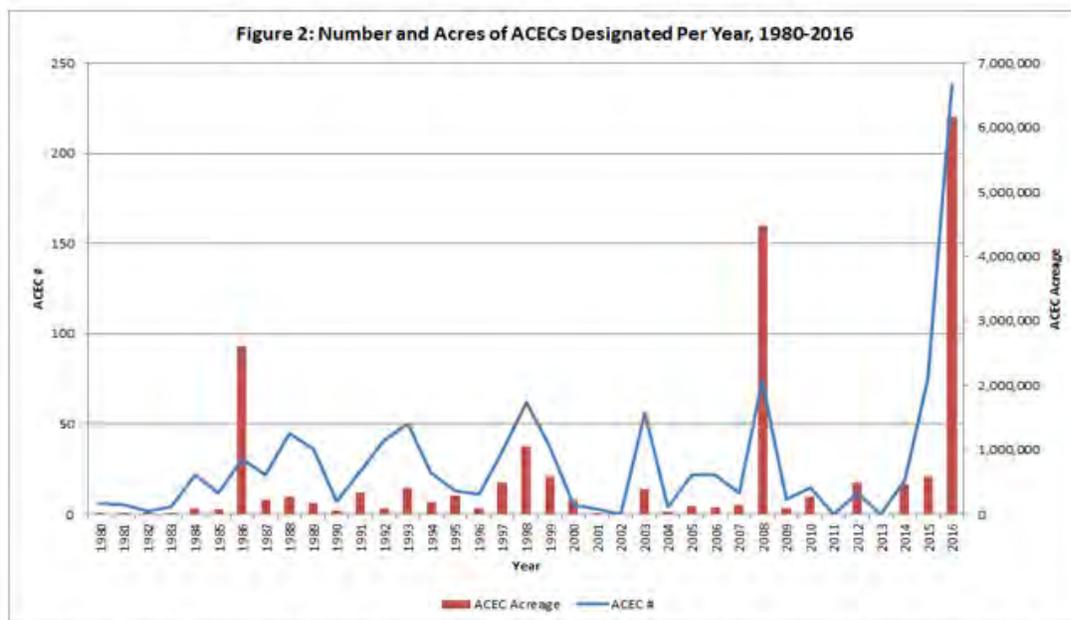
- **Review Land Use Designations**

The BLM land use planning process ensures that public lands are managed in accordance with the intent of Congress as stated in FLPMA (43 U.S.C. 1701 et seq.), under the principles of multiple use and sustained yield. The BLM's Resource Management Plans (RMPs) are the basis for every on-the-ground action the BLM undertakes, which includes determinations on lands suitable for future energy leasing and permitting opportunities. The BLM uses land use designations

as a part of the land use planning process to guide the management of certain geographic areas towards particular objectives, values or uses.

While some land use designations are made by Congressional, Secretarial, or Presidential action (and therefore require specific land management principles), the BLM has used broad discretion in establishing other formal and less-formal land use designations to set additional management criteria for public lands. In some cases, these criteria may conflict with other multiple use objectives for the land – such as energy development – and therefore have the potential to burden domestic energy development on public lands by reducing access to leasable acreage.

At the time of this report, BLM identified over 60 different land use designations used in RMPs, many of which may lead to additional restrictions on the use of the land. One example is the Area of Critical Environmental Concern (ACEC) designation, which is authorized by Federal Land Policy and Management Act (FLPMA). The Eastern Interior RMP, finalized on January 3, 2017, designated over 2 million acres of ACEC – much of which was recommended for closure to mineral entry and mineral leasing in order to best meet the objectives of the ACEC. The chart included below provides a visual reference for the increased use of this land use designation especially in more recent RMPs.



Note: Figure 2 only shows the number and acres of ACECs designated per year (by fiscal year) and does not present the number and acres that may have been removed per an RMP amendment or revision. Data includes ACECs that may also be Research Natural Areas. Not included in these data are ACECs that have been designated so far in FY 2017, including 2,062,997 acres of ACECs designated in the AK - Eastern Interior Fortymile and Draanjik RMPs.

The BLM will further evaluate the need for these numerous land use designations as a part of the ongoing review of their planning process. The BLM will also

work with state, local, and tribal partners to incorporate efficiencies and update policies on the use of land use designations that may burden or hinder energy development on Federal lands.

- **Review Use of Leasing Stipulations and Conditions of Approval**

Aside from providing for leasing with standard lease terms in the land use planning process, BLM may apply lease stipulations to a specific unit at the planning stage. Stipulations set additional criteria to which an operator must adhere once the acreage is leased. Stipulations include no surface occupancy restrictions (NSO), which close acreage to surface-disturbing activities, timing restrictions (TL), which close acreage to surface-disturbing activities during certain timeframes, and other controlled surface use (CSU) restrictions, which include more specific restrictions such as sound and visual impacts or construction requirements. In some cases, these stipulations may have an impact on the attractiveness of the lease sale parcel in the bidding process.

The BLM may also assign Conditions of Approval (COA) at the permitting stage when an operator first applies for an Application for Permit to Drill (APD). Once an APD is filed, the BLM will send an onsite inspection team to determine the best location for the well, road, and facilities; identify site-specific concerns and potential environmental impacts associated with the proposal and potential options for mitigating these impacts, including COAs. Site-specific concerns include, but are not limited to: well spacing; riparian and wetland areas; visual resource management such as painting infrastructure specific colors; and cultural and wildlife survey needs to comply with the National Historic Preservation Act (NHPA) and the Endangered Species Act (ESA).

Lease stipulations and additional conditions of approval added at the permitting stage burden energy development on public lands by adding additional development costs; increasing the complexity of the drilling operations; and extending project timeframes. The 2008 Energy Policy and Conservation Act Phase III study found that of the 128 Federal land use plans surveyed for inventory, approximately 3,125 individual stipulations and 157 types of COAs were being used.¹ The BLM does not have updated figures at the time of this report.

- **Review Protest Regulations and Policy**

Current BLM regulations allow any party to file a protest on a BLM decision, such as a protest on a land use plan or on a subsequent decision to include a parcel in an oil and gas lease sale. This process provides multiple opportunities to protest every step of the process of offering public lands for oil and gas leasing. To date, many state offices, such as CO, MT, NM, UT, and WY are receiving protests on

¹ https://www.blm.gov/sites/blm.gov/files/EPCA_III_Inventory_Onshore_Federal_Oil_Gas.pdf; p. 42, 109.

every oil and gas parcel offered through the Notice of Competitive Lease Sale process.

In the past, protests were parcel-specific on issues unique to the parcel in question. In recent years, the reasons for protesting every parcel in the sale are broad-based and non-parcel specific, such as general concerns on climate change or hydraulic fracturing. In FY 2016, 72 percent of parcels offered for lease were protested. By comparison, in FY 2012, only 17 percent of parcels received protests. The number of parcels offered on the original sale notice decreased from 2,247 in FY 2012 to 820 in FY 2016.

If a protest is still pending on the day of sale, the parcel can still be offered during the sale but the protest must be resolved prior to the lease being issued and the protest may diminish interest in bidding. This in turn can delay payment of the State's share of the bonus bids – which occurred most recently in the State of New Mexico. In September 2016, BLM hosted a record-setting lease sale generating \$145 million in revenue, of which \$80 million was owed to the state Mineral Leasing Act revenue sharing provision. As a result of the number of protested parcels and the length of time it took to resolve all protests, the payment to the State of New Mexico was delayed approximately 250 days.

This uptick in the protest process and the inability to reach conclusive resolutions in a timely manner is a burden on oil and natural gas development on public lands. A regulatory change may be necessary to limit redundant protests that hinder orderly development. Alternatively, the BLM is investigating the value in creating regional leasing teams that could build sufficient capacity to offer parcels during the BLM's quarterly lease sales.

xii. Revise Energy-Related Collections of Information under the Paperwork Reduction Act

The BLM anticipates revising energy-related collections of information under the Paperwork Reduction Act (e.g., Approval of Operations (1004-0213) and Application for Permit to Drill (1014-0025) to reduce administrative burden on energy development and use through simplification of forms and associated instructions/guidance and ceasing collection of information that is unnecessary or lacks practical utility.

B. Bureau of Ocean Energy Management

The BOEM is responsible for managing development of the Nation's offshore energy and mineral resources through offshore leasing, resource evaluation, review, and administration of oil and gas exploration and development plans, renewable energy development, economic analysis, NEPA analysis, and environmental studies. The BOEM promotes energy security, environmental protection and economic development through responsible, science-informed management of offshore conventional and renewable energy and mineral resources. The BOEM carries out these responsibilities while ensuring the receipt of fair market value for U.S.

taxpayers on OCS leases, and balancing the energy demands and mineral needs of the Nation with the protection of the human, marine, and coastal environments.

Since the publication of EO13771 on January 30, 2017, BOEM has been reviewing all aspects of its programs to identify regulations and guidance documents that potentially burden the development or use of domestically produced energy resources beyond the degree necessary to protect the public interest or otherwise comply with the law.

Below are specific actions BOEM is undertaking to reduce burdens on the production of energy offshore in the America-First Offshore Energy Strategy, as delineated in EO13795 and S.O. 3350:

i. Air Quality Rule

The BOEM has been re-examining the provisions of the air quality proposed rule published on April 5, 2016 (81 FR 19718), which would provide the first substantive updates to the regulation since 1980. The proposed rule addressed air quality measurement, evaluation, and control with respect to oil, gas, and sulphur operations on the OCS of the United States in the central and western Gulf of Mexico and the area offshore the North Slope Borough in Alaska. Interior is currently reviewing recommendations on how to proceed, including promulgating final rules for certain necessary provisions and issuing a new proposed rule that may withdraw certain provisions and seek additional input on others.

ii. Financial Assurance for Decommissioning

Notice to Lessees No. 2016-N01, for which implementation has been suspended, would make substantial changes to BOEM's requirements for companies to provide financial assurance to meet decommissioning obligations. The BOEM has been undertaking a thorough review of the NTL, including gathering stakeholder input.

iii. Arctic Rule

On July 15, 2016, BOEM and the BSEE promulgated a final rule, “Oil and Gas and Sulfur Operations on the Outer Continental Shelf—Requirements for Exploratory Drilling on the Arctic Outer Continental Shelf” (81 FR 46478). Interior is reviewing the requirements for exploratory drilling conducted from mobile drilling units within the Arctic OCS (Beaufort Sea and Chukchi Sea Planning Areas). Interior is considering full rescission or revision of this rule, including associated information collection requirements. Review of this rule is expected to allow greater utilization of the Arctic drilling season.

iv. Oil and Gas Leasing on the Outer Continental Shelf

Secretary Zinke directed development of a new 5-year OCS oil and gas leasing program to spur safe and responsible energy development offshore. On July 3, 2017, BOEM published a request for information and comments on the preparation of a new 5-year National OCS Leasing Program for 2019-2024 (82 FR 30886). Upon its completion, the new program will replace the 2017-2022 program.

Secretarial Order 3350 directly implements EO13795, and also advances Interior’s implementation of EO13783 by providing for the reevaluation of actions that impact exploration, leasing, and development of our OCS energy resources. This Secretarial Order enhances opportunities for energy exploration, leasing, and development on the OCS by establishing regulatory certainty for OCS activities. In accordance with this Secretarial Order, Interior is reviewing potential regulatory changes to reduce burden on offshore energy production, development, and use.

In addition, on July 13, Secretary Zinke offered 75.9 million acres offshore Texas, Louisiana, Mississippi, Alabama, and Florida for oil and gas exploration and development. The region-wide lease sale conducted on August 16, 2017, was the first offshore sale under the OCS Oil and Gas Leasing Program for 2017-2022. Under this program, 10 region-wide lease sales are scheduled for the Gulf, where resource potential and industry interest are high, and oil and gas infrastructure is well established. Two Gulf lease sales will be held each year and include all available blocks in the combined Western, Central, and Eastern Gulf of Mexico Planning Areas.

v. Seismic Permitting

Currently BOEM is one of two Federal agencies required to take separate regulatory actions in order to permit geological and geophysical surveying on the OCS. These seismic surveys, which are conducted by applicants, enable BOEM to make informed business decisions regarding oil and gas reserves, engineering decisions regarding the construction of renewable energy projects, and informed estimates regarding the composition and volume of marine mineral resources. This information is also used to ensure the proper use and conservation of OCS energy resources and the receipt of fair market value for the leasing of public lands.

The ongoing delay in reaching decisions on Federal authorization of seismic surveys is a burden that hinders domestic energy development by preventing industry from being able to better determine the size and location of potential energy resources below the seafloor. The BOEM experts believe that these surveys can be authorized with appropriate mitigation measures consistent with the protection required by applicable Federal laws, primarily the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). While BOEM is responsible for ultimately issuing a permit to allow these activities to move forward, no seismic surveying can be done without MMPA authorization by the National Marine Fisheries Service (NMFS). For this reason, the issuance of certain seismic permits by BOEM has been held up in a years-long process awaiting NMFS authorization. BOEM and NMFS are currently working on ways to streamline review, as directed in EO 13795, Sec. 3(c).

The Department believes that some improvements can be made through simple program initiatives, such as NMFS assigning dedicated staff to the permits or allowing BOEM to determine MMPA compliance for the purposes of BOEM-related activities in accordance with EO 13807. Finding a genuinely effective solution may warrant statutory changes as well as reorganizing departmental responsibilities within the Executive Branch in order to streamline opportunities to increase efficiency.

vi. *Revise Energy-Related Collections of Information under the Paperwork Reduction Act*

The BOEM is reviewing four energy-related information collections, two of which are related to the Arctic Rule, and two of which collect information that is no longer needed.

C. Bureau of Safety and Environmental Enforcement

The BSEE ensures the safe and responsible exploration, development, and production of America's offshore energy resources through regulatory oversight and enforcement. The BSEE is focused on fostering secure and reliable energy production for America's future through a program of efficient permitting, appropriate regulations, compliance monitoring and enforcement, technical assessments, inspections, and incident investigations. As a steward of the Nation's OCS oil, gas, and mineral resources, the Bureau protects Federal royalty interests by ensuring that oil and gas production methods maximize recovery from underground reservoirs.

The BSEE continues the efforts begun earlier this calendar year to review and seek stakeholder input on opportunities to reduce burden on the regulated community while maintaining necessary safety and environmental protections. Specifically, the BSEE is focusing its review on 2 final rules, published in 2016, regarding safety and environmental protection for oil and gas exploration, development and production activities on the OCS. The first is the Well Control and Blowout Preventer (BOP) Rule (81 FR 25888); the second is the Arctic Exploratory Drilling Rule (the Arctic Rule) (81 FR 46478), which was issued jointly by BSEE and BOEM. Both rules (as described below) revised older regulations and added some new requirements that potentially burden development of domestic offshore oil and gas production. The BSEE continues to identify specific issues in both final rules that, if revised or eliminated through a future rulemaking process, could alleviate those burdens without reducing the safety or

environmental protections of the rules. The BSEE is beginning the process of drafting timelines and developing stakeholder engagement strategies for potential revision to both sets of regulations. These rules fit into the category of “Other Actions that Potentially Burden Development or Use of Energy.” The BSEE has also identified policies that should be re-examined. Those are:

- review decommissioning infrastructure removal requirements and timelines for infrastructure;
- clarify Civil Penalties Guidance; and
- review current policies associated with taking enforcement actions against contractors.

The BSEE already completed publication of a final rule revising requirements of 30 CFR 250.180 to extend the period of time before a lease expires due to cessation of operations from 180 days to 1 year, thus allowing operators greater flexibility to plan exploration activities.² The BSEE also improved its civil penalty program through the creation of a Civil Penalty Enforcement Specialist in each district in the Gulf of Mexico Region to serve as a liaison with District and Headquarters throughout a civil penalty case, providing clarity and consistency among civil penalty cases.

The BSEE is also reviewing the Production Safety Systems Rule (30 CFR part 250, subpart H), based on Department guidance received between April and May of 2017. If areas for revision are identified, the BSEE would tier it behind the Well Control Rule (WCR) and the Arctic Rule in terms of potential burden reduction.

Below are the specific details of BSEE’s review to identify additional regulations and policies that potentially burden development or use of energy.

i. Revise Well Control and BOP Rule (WCR)

The WCR was issued on April 29, 2016, and consolidated new equipment and operational requirements for well control, including drilling, completion, workover, and decommissioning operations. The rule also incorporated or updated references to numerous industry standards and established new requirements reflecting advances in areas such as well design and control, casing and cementing, real-time monitoring (RTM), subsea containment of leaks and discharges, and blowout preventer requirements. In addition, the final rule adopted several reforms recommended by several bodies that investigated the *Deepwater Horizon* incident.

The BSEE is considering several revisions to its regulations. Among those considerations is a rulemaking to revise the following aspects of the new well control regulations, including but not limited to:

² See, “Oil and Gas and Sulphur Operations in the Outer Continental Shelf – Lease Continuation Through Operations,” 82 FR 26741 (June 9, 2017).

- revising the requirements for sufficient accumulator capacity and remotely-operated vehicle (ROV) capability to both open and close reams on subsea BOPs (i.e., to only require capability to close the rams);
- revising the requirement to shut in platforms when a lift boat approaches within 500 feet;
- extending the 14-day interval between pressure testing of BOP systems to 21 days in some situations;
- clarifying that the requirement for weekly testing of two BOP control stations means testing one station (not both stations) per week;
- simplifying testing pressures for verification of ram closure; and
- revising or deleting the requirement to submit test results to BSEE District Managers within 72 hours.

These changes are expected to strike the appropriate balance in order to maintain important safety and environmental protections while also ensuring development may continue.

The BSEE initiated review of potential regulatory changes to this rule in July 2017. The interim step before issuing a proposed rule to revise existing regulations is to seek input on potential areas of reform from the stakeholders. The BSEE is in the process of determining the most effective way to engage stakeholders to provide meaningful and constructive input on regulatory reform efforts related to well control. As a result of stakeholder outreach, the above list of potential reforms may be increased.

ii. Revise Arctic Rule

The Arctic Rule was published on July 15, 2016 (81 FR 46478), and revised existing regulations and added new prescriptive and performance-based requirements for exploratory drilling conducted from mobile drilling units and related operations on the OCS within the Beaufort Sea and Chukchi Sea Planning Areas (Arctic OCS). After conducting its review to eliminate burdens and increase economic opportunities, BSEE is considering a several revisions to the rule, including but not limited to:

- modifying requirement to capture water-based muds and cuttings;
- eliminating the requirement for a cap and flow system and containment dome that are capable of being located at the well site within 7 days of loss of well control;
- eliminating the reference to the expected return of sea ice from the requirement to be able to drill a relief well within 45 days of loss of well control; and
- eliminating the reference to equivalent technology from the mudline cellar requirement.

The BOEM has also identified an opportunity to reduce burden on operators. A joint rulemaking would likely be undertaken again.

Among the potential benefits of the items listed above is the possibility of allowing greater flexibility for operators to continue drilling into hydrocarbon zones later into the

Arctic drilling season. Current leasing strategies in the Arctic constrain future exploratory activities to which this rule would apply.

Success will result in a reduction in burdens associated with exploration of the Nation's Arctic oil and gas reserves while also providing appropriate safety and environmental protection tailored to this unique environment.

Prior to proposing a rulemaking to make the changes above, BSEE and BOEM plan to undertake stakeholder engagement activities. As a result of stakeholder engagement, the list of potential areas for proposed reform may change or grow. This process will enhance our ability to engage the public and stakeholders, as well as ensure our ability to engage in a robust consultation with tribes and Alaska Native Claims Settlement Act corporations. Stakeholder engagement will have the added benefit of allowing BSEE and BOEM to receive input on how the agencies calculate the primary lease term in order to provide a more tailored approach to the limited drilling windows in the Arctic.

iii. Decommissioning Infrastructure Removal Requirements

The BSEE will re-examine the NTL 2010-G05, "Decommissioning Guidance for Wells and Platforms," to determine whether additional flexibility should be provided to better account for facility and well numbers and size, as well as timing consideration that can arise in the case of financial distress or bankruptcy of companies. Any changes to the NTL will not have an impact on companies' underlying decommissioning obligations, but could provide more flexibility to allow for cash-flow management and ultimately increase assurance that decommissioning obligations can be fulfilled without government expense.

iv. Lease Continuation Through Operations

This action was completed on June 9, 2017, when final rule 1014-AA35, "Oil and Gas and Sulphur Operations in the Outer Continental Shelf-Lease Continuation Through Operations," was published in the Federal Register (82 FR 26741). Section 121 of the Consolidated Appropriations Act of 2017 mandated that BSEE revise the requirements of 30 CFR 250.180 relating to maintaining a lease beyond its primary term through continuous operations. The final rule changed all of the references to the period of time before which a lease expires due to cessation of operations from "180 days" and "180th day" to a "year" and from "180-day period" to a "1-year period." The rule has become effective and is allowing operators greater flexibility to plan exploration activities.

v. Contractor Incidents of Noncompliance

The BSEE currently has a policy that calls for issuing notices of noncompliance (INCs) to contractors as well as operators in certain instances. The BSEE will examine whether this policy is achieving the desired deterrence value or whether an alternative compliance incentive should be considered and the policy revised. There are currently several

ongoing court actions that could result in adjustments to this policy. The BSEE will consider all of this information while examining the policy.

vi. Civil Penalties

Since 2013, the BSEE civil penalty program has continued to improve its processes and programs. For example, in 2016, each of the Districts in the Gulf of Mexico Region (GOMR) created the position of Civil Penalty Enforcement Specialist to assist with the review of all INCs to determine which INCs are appropriate for civil penalty assessment, and to act as a liaison with the District and Headquarters (HQ) throughout a civil penalty case. This effort has greatly assisted in providing clarity and consistency to the development of civil penalty cases.

vii. Energy-Related Information Collections under the Paperwork Reduction Act

The BSEE has approximately 25 information collections associated with our regulations and guidance that must be renewed every 3 years on a rolling basis. The renewal process involves an analysis of whether each information collection continues to be necessary and if whether it requires modification. Through this process, BSEE continuously reviews our forms and the information we collect and reduces the collection burden wherever appropriate. Additionally, there may be further burden reduction associated with potential revisions to the Well Control and Arctic rules once final determinations have been made with respect to specific action on those regulations.

D. Office of Natural Resources Revenue

The ONRR is responsible for ensuring revenue from Federal and Indian mineral leases is effectively, efficiently, and accurately collected, accounted for, analyzed, audited, and disbursed to recipients. The ONRR collects an average of over \$10 billion annual revenue from onshore and offshore energy production, one of the Federal government's largest sources of non-tax revenue.

i. Royalty Policy Committee

In an effort to ensure the public continues to receive the full value of natural resources produced on Federal lands, Secretary Zinke signed a charter establishing a Royalty Policy Committee (RPC) to provide regular advice to the Secretary on the fair market value of and collection of revenues from Federal and Indian mineral and energy leases, including renewable energy sources. The RPC may also advise on the potential impacts of proposed policies and regulations related to revenue collection from such development, including whether a need exists for regulatory reform. The group consists of 28 local, tribal, state, and other stakeholders and will serve in an advisory nature. The Secretary's Counselor to the Secretary for Energy Policy chairs the RPC. The first meeting will be held on October 4, 2017.

ii. 2017 Valuation Rule

On April 4, 2017, ONRR published a proposed rule that would rescind the 2017 Valuation Rule. The ONRR, after considering public feedback, recognized that implementing the 2017 Valuation Rule would be contrary to the rule's stated purpose of offering greater simplicity, certainty, clarity, and consistency in product valuation. The ONRR determined that the 2017 Valuation Rule unnecessarily burdened the development of Federal and Indian coal beyond what was necessary to protect the public interest or otherwise comply with the law. ONRR therefore repealed the rule in its entirety and reinstated the valuation regulations in effect prior that rule. (82 FR 36934, August 7, 2017).

E. Office of Surface Mining Reclamation and Enforcement

The OSMRE ensures, through a nationwide regulatory program, that coal mining is conducted in a manner that protects communities and the environment during mining, restores the land to beneficial use following mining, and mitigates the effects of past mining by aggressively pursuing reclamation of abandoned mine lands. The OSMRE's statutory role is to promote and assist its partner states and tribes in establishing a stable regulatory environment for coal mining. The proposed level of regulatory grant funding provides for the efficient and effective operations of programs at a level consistent with the anticipated obligations of State and tribal regulatory programs to account for the Nation's demand for coal mine permitting and production.

On February 16, 2017, President Trump signed a resolution under the Congressional Review Act to annul the Stream Protection Rule (SPR) (81 FR 93066, December 20, 2016). This rule imposed substantial burdens on the coal industry and threatened jobs in communities dependent on coal. As described below, OSMRE has drafted a Federal Register document to conform the Code of Federal Regulations to the legislation and return the regulations to their previous status and anticipates publication on or about September 30, 2017. In the interim, OSMRE has ensured that the SPR is not being implemented in any way and that regulation is occurring under the pre-existing regulatory system.

The OSMRE is reviewing additional actions to reduce burdens on coal development, including, for example, reviewing the state program amendment process to reduce the time it takes to formally amend an approved Surface Mining Control and Reclamation Act (SMCRA) regulatory program.

In compiling the following list of actions for review, OSMRE considered direct and indirect impacts to the coal industry, as well as impacts to the states with primary responsibility for regulating coal mining activities, pursuant to the SMCRA.

Recommendations for Alleviating or Eliminating Burdensome Actions

i. Disapproval of the Stream Protection Rule

The SPR was published on December 20, 2016, and became effective on January 19, 2017. In accordance with the Congressional Review Act, Congress passed, and the President signed, a resolution of disapproval of the SPR on February 16, 2017, as Public

Law 115-5. No provisions of the SPR have been enforced since passage of the resolution. In addition, OSMRE will formally document the CRA nullification of the SPR by publishing in the Federal Register a document that replaces the SPR text with the regulations that were in place prior to January 19, 2017. This will result in the removal of any amendments, deletions, or other modifications associated with the nullified rule, and the reversion to the text of all regulations in effect immediately prior to the effective date of the SPR.

The OSMRE estimates the elimination of this rule will save industry approximately \$82 million annually, and will reduce the amount of time states and OSMRE are expending in the processing of permit applications and monitoring performance during the life of the operation.

Interior has identified the CRA nullification and subsequent action by OSMRE to conform the CFR to the Congressional action as a deregulatory action under EO 13771.

- ii. *Work with Interstate Mining Compact Commission (IMCC) to Revisit and Revise Ten-Day Notices and Independent Inspections – Directives INE-24, INE-35, REG-8*

Under revisions to OSMRE Directive REG-8, which establishes policies, procedures and responsibilities for conducting oversight of state and tribal regulatory programs, OSMRE conducts 10 percent of all routine oversight inspections with 24 hours' notice to the state regulatory authority. If the state inspector is unavailable to accompany the OSMRE inspector, OSMRE will conduct the inspection alone. These and other oversight inspections sometimes result in the issuance of Ten-Day Notices (TDNs) to the state regulatory authority under Inspection and Enforcement (INE)-35. In addition, INE-24, issued on May 26, 1987, requires OSMRE to issue a TDN to state regulatory authorities upon receipt of a citizen's complaint.

Between 2011 and 2016, 882 TDNs were issued to state regulatory programs. On an annual basis, the majority (39 or 74 percent) of those resulted from citizen's complaints. In addition, an evaluation of data during 2013 found that the number of TDNs issued when the state inspector does not participate was determined to be 6.4 percent of the total oversight inspections, versus 1.5 percent when the state inspector accompanied the OSMRE inspector. State regulatory authorities, particularly in the Appalachian Region, have expressed concern that the number of hours required to prepare TDN responses can be significant.

In an effort to address these concerns, a joint OSMRE and State/Tribal Work Group assessed various topics, including the use of TDNs and independent inspections. In a report issued on July 30, 2014, the Work Group made six specific recommendations for the TDN process and four recommendations regarding the independent inspection process. Interstate Mining Compact Commission (IMCC) member states have requested OSMRE revisit these recommendations, and others, in an effort to implement the recommendations. In addition, OSMRE will revisit and revise, as needed, the specific

policy directives governing the use of TDNs and independent inspections in cooperation with the IMCC to reduce the amount of time states and OSMRE are expending to process TDNs.

The review will commence this calendar year, following specific timelines and benchmarks to be established jointly with IMCC.

iii. Work with IMCC to Revise or Rescind OSMRE Memorandum and Directive INE-35 – TDNs and Permit Defects

On November 15, 2010, the OSMRE Director issued a memorandum directing OSMRE staff to apply the TDN process and Federal enforcement to permitting issues under approved regulatory programs. In support of this memorandum, on January 31, 2011, the Director reissued Directive INE-35, regarding policy and procedures for the issuance of TDNs. This directive requires the issuance of a TDN whenever a permit issued by the state regulatory authority (RA) contains a “permit defect,” which the directive defines as meaning “a type of violation consisting of any procedural or substantive deficiency in a permit-related action taken by the RA (including permit issuance, permit revision, permit renewal, or transfer, assignment, or sale of permit rights).” The directive further states that OSMRE will not review pending permitting decisions and will not issue a TDN for an alleged violation involving a possible permit defect where the RA has not taken the relevant permitting action (e.g., permit issuance, permit revision, permit renewal, or transfer, assignment, or sale of permit rights).

Since the issuance of this policy and associated directive, concerns have been raised by some states and industry stakeholders regarding the potential impact on mining operations where the RA has issued a permit, revision, or renewal, and the operator has commenced activities based upon RA approval. The OSMRE in cooperation with the IMCC will revisit the policy and directive and revise or rescind, as appropriate to provide more certainty to the industry in the state RA permitting process.

The review will commence this calendar year; specific timelines and benchmarks will be established jointly with IMCC.

iv. Revise Processing State Program Amendments – Directive STP-1

Directive STP-1, issued in October 2008, establishes policy and procedures for review and processing of amendments to state regulatory programs. Most changes in state law or regulations that impact an approved SMCRA regulatory program require submission of a formal program amendment to OSMRE for approval. Such changes to primacy programs cannot be implemented until a final amendment is approved by OSMRE. In addition, written concurrence must be received from the Administrator of the Environmental Protection Agency with respect to those aspects of a state/tribal program amendment which relates to air or water quality standards promulgated under the authority of the Clean Air Act or the Clean Water Act prior to OSMRE approval. In accordance with 30 CFR 732.17(h)(13), OSMRE must complete a final action on program amendments within 7 months of receipt. Often, due to the complexities of the process and other issues, including influences outside of OSMRE, it is difficult for OSMRE to meet the required processing times.

The result is that state regulatory authorities are occasionally unable to move forward in a timely manner with needed program amendments.

Based upon the results of an internal control review (ICR) and work with the state/tribal work group, OSMRE is developing new training guides and opportunities for states and revising Directive STP-1 to improve the state program amendment process. The OSMRE will also review the process with the Office of the Solicitor to evaluate opportunities for process improvement. In addition, the recent approval by OMB of the information collection requirements of 30 CFR Part 732 was conditioned upon OSMRE developing new guidance and supporting documents for states to use when preparing amendments to approved programs. The OSMRE intends for these actions to reduce its processing time for state program amendments.

The revision of Directive STP-1 and development of training guides is anticipated to be completed this calendar year. OSMRE will track processing times once the revised directive and training have been implemented, and compare results to previous years. The OMB approval of new guidance for Part 732 is required by July 31, 2020.

v. Revise or Rescind OSMRE Policy Advisory and Proposed Rulemaking: Self-Bonding

On August 5, 2016, the OSMRE Director issued a policy advisory on self-bonding. The advisory was in direct response to three of the largest coal mine operators in the nation filing for Chapter 11 protection under the U.S. Bankruptcy Code between 2015 and 2016. Those companies held approximately \$2.5 billion of unsecured or non-collateralized self-bonds that various states with federally-approved SMCRA regulatory programs previously accepted to guarantee reclamation of land disturbed by coal mining. The advisory stated that “the bankruptcy filings confirm the existence of significant issues about the future financial abilities of coal companies and how they will meet future reclamation obligations.” While recognizing the action of certain state programs to address self-bonding issues, the advisory went on to say that “each regulatory authority should exercise its discretion and not accept new or additional self-bonds for any permit

until coal production and consumption market conditions reach equilibrium, events which are not likely to occur until at least 2021.” Since the issuance of this advisory, all three companies of concern have completed their plans for Chapter 11 reorganization, and either have or are expected to replace all self-bonds with other forms of financial guarantees.

In addition to the issuance of the policy advisory on self-bonding, OSMRE accepted a petition for rulemaking submitted March 3, 2016, by WildEarth Guardians. The petition requested that OSMRE revise its self-bonding regulations to ensure that companies with a history of insolvency, and their subsidiary companies, not be allowed to self-bond coal mining operations.

Limiting the use of self-bonds, as indicated in the policy advisory or potentially through a rulemaking, could impact a company’s ability to continue mining. In addition, there will likely be an increased demand and potential negative impact on the availability of third party surety bonding.

On January 17, 2017, the GAO announced that it will conduct an audit of financial assurances for reclaiming coal mines (Job Code 101326) that will focus on the role of OSMRE in implementing and overseeing the Surface Mining Control and Reclamation Act’s requirements related to financial assurances.

In view of the current status of the self-bonding bankruptcies and recent executive orders concerning rulemakings, OSMRE will reconsider the scope of the policy advisory and revise or rescind, as appropriate. In addition, OSMRE will revisit the need for and scope of any potential rulemaking in response to the previously accepted petition. Furthermore, OSMRE will carefully consider the report and recommendations of the pending GAO audit of financial assurances currently underway. The OSMRE will solicit public input prior to finalizing any decision on the need for further rulemaking.

The OSMRE will continue to monitor the status of self-bonding issues in state programs in cooperation with the IMCC and other stakeholders (sureties, industry, and environmental groups).

vi. Revise or Rescind OSMRE Enforcement Memorandum – Relationship between the Clean Water Act (CWA) and SMCRA

On July 27, 2016, the OSMRE Director issued a policy memo to staff providing direction on the enforcement of the existing regulations related to violations of the CWA caused by SMCRA-permitted operations and related issues, such as responses to self-reported violations of National Pollutant Discharge Elimination System (NPDES) limits and OSMRE responses to Notices of Intent (NOI) to sue alleging CWA violations at SMCRA-permitted operations. The policy memo specifically required an NOI to be processed as a citizen complaint, which requires OSMRE to issue a TDN to the state RA upon receipt of the NOI. In addition, the memo stated that a violation of water quality standards is also a violation of SMCRA regulations.

State regulatory authorities, as well as industry, have raised issues with this guidance document expressing concern with overlap and potential conflicts between section 702(a)(3)³ of SMCRA and the CWA. In addition, state RAs have raised concerns about new TDNs and related enforcement actions that have been issued in response to this policy guidance. The relationship between the CWA and SMCRA and the role of the state RAs in ensuring compliance in accordance with their approved SMCRA regulatory programs have been longstanding issues. Resolution will bring certainty to the state regulatory programs as well as for the industry.

The OSMRE will revisit the policy issues and concerns in cooperation with the IMCC and will revise or rescind the memorandum, as appropriate. Review of the policy with IMCC member states will commence this calendar year; the revised or rescinded policy should be complete by the end of this calendar year. The OSMRE will consider seeking public input prior to finalizing the policy.

vii. Revise Policy on Reclamation Fee for Coal Mine Waste (Uram Memo) and Propose Rule for Additional Incentives

On July 22, 1994, then-Director Robert Uram issued a memorandum outlining the conditions under which OSMRE would waive the assessment of reclamation fees on the removal of refuse or coal waste material for use as a waste fuel in a cogeneration facility. Recently, the Pennsylvania regulatory authority (PADEP) requested that OSMRE update this policy as outlined below to incentivize reclamation efforts on sites with coal refuse reprocessing activities.

The PADEP believes that the reclamation fees deter operators from reclamation efforts on sites with coal refuse reprocessing activities. Coal refuse sites located within the Anthracite Coal Region are unable or have ceased the removal of coal refuse to be used as waste fuel at co-generation facilities. This is partly or totally due to the assessment of reclamation fees on coal refuse used as waste fuel. In addition, PADEP recommended that OSMRE consider waste derived from filter presses at existing coal preparation plants to be a “no value”⁴ product, which would encourage its use as a waste fuel rather than requiring it to be disposed in a coal refuse pile.

The OSMRE will revisit the 1994 Uram Memo, with the goal of providing an incentive for use of coal refuse as a coal waste fuel. In addition, OSMRE will revisit the remaining incentives provided by the 2006 amendments to SMCRA at section 415, some of which apply specifically to removal or reprocessing of abandoned coal mine waste. Additional incentives pursuant to Section 415 will require promulgation of rules, and, therefore, input from the public will be solicited.

³ Nothing in this Act shall be construed as superseding, amending, modifying, or repealing the Mining and Minerals Policy Act of 1970 (30 U.S.C. 21a), the National Environmental Policy Act of 1969 (42 U.S.C. 4321-47), or any of the following Acts or with any rule or regulation promulgated thereunder, including, but not limited to -- (3) The Federal Water Pollution Control Act (79 Stat. 903), as amended (33 U.S.C. 1151-1175), the State laws enacted pursuant thereto, or other Federal laws relating to preservation of water quality.

⁴ No value determinations are based upon the criteria established in the 1994 Uram Memorandum.

Providing additional incentives to industry to promote re-mining of coal refuse and other abandoned mine sites will provide for additional reclamation of abandoned mines that would not otherwise be accomplished through the Abandoned Mine Lands (AML) program. Specific benchmarks for measuring success, such as acres of additional reclamation performed, will be developed consistent with the implementation of the incentives.

viii. Energy-Related Information Collections under the Paperwork Reduction Act

The OSMRE reviewed the current industry costs associated with the Paperwork Reduction Act and did not find any information collections that “potentially burden⁵ the development or utilization of domestically produced energy resources” in accordance EO13783. It should be noted that there will be no industry costs associated with information collection based on the Stream Protection Rule, due to the Congressional Review Act nullification of that final rule.

F. U.S. Fish and Wildlife Service

The FWS is reviewing its final rule, “Management of Non-Federal Oil and Gas Rights,” 81 FR 79948 (Nov. 14, 2016) to determine whether revision would be appropriate to reduce burden on energy.

Additionally, below is a list of burdens and opportunities to fulfill the intent of the Executive Order:

i. Streamline Rights-of-way (ROW) for pipelines and electricity transmission

The approval process for new ROW access can be overly restrictive and excessively lengthy. The National Wildlife Refuge System Administration Act, as amended, requires all uses, including rights-of-way, of National Wildlife Refuges to be compatible with the mission of the System. The FWS will work with stakeholders in a more timely fashion to determine if proposed ROW uses are compatible. Additionally, FWS will revise its ROW regulation to streamline the current ROW granting process to significantly decrease the time to obtain ROW approval from the current 3-12 month time frame.

ii. Review Incidental Take Regulations for oil and gas activities in the Southern Beaufort Sea and Chukchi Sea, under the Marine Mammal Protection Act (MMPA)

The MMPA prohibits take (i.e., harass, hunt, capture, or kill) of marine mammals (16 U.S.C. 1361 et seq.) unless authorized by the Secretary. Existing measures in the MMPA incidental take regulations require: 1) maintaining a minimum spacing of 15 miles between all active seismic source vessels and/or drill rigs during exploration activities in the Chukchi Sea; 2) no more than two simultaneous seismic operations and three offshore exploratory drilling operations authorized in the Chukchi Sea region at any time; 3) time restrictions for transit through the Chukchi Sea; 4) time and vessel restrictions in the

⁵ Burden “means to unnecessarily obstruct, delay, curtail, or otherwise impose significant costs on the siting, permitting, production, utilization, transmission, or delivery of energy resources” (Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth, March 28, 2017).

Hanna Shoal Walrus Use Area; 5) location of polar bear dens and 1-mile buffer; 6) maximum distance around Pacific walruses and polar bears on ice and groups of Pacific walruses in water; 7) sound producing mitigation zones & shut-down/ramp up procedures; 8) marine mammal observers and monitoring requirements; and 9) excessive reporting requirements.

The FWS has the opportunity to review the Chukchi Sea incidental take regulation which expires in 2018, and the regulation for the southern Beaufort Sea expires in 2021. They may either be allowed to expire or be revised and reissued.

iii. Modernize Guidance and regulations governing interagency consultation pursuant to Section 7(a)(2) of the Endangered Species Act

Section 7(a)(2) of the Endangered Species Act requires Federal agencies, in consultation with the Secretary of the Interior or the Secretary of Commerce (delegated to the Fish and Wildlife Service and the National Marine Fisheries Service, respectively), to ensure that any action authorized, funded or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. However, the time and expense associated with satisfying the interagency consultation requirements are unnecessarily burdensome.

The FWS has discretion to create efficiencies and streamlining in the consultation process through targeted revision to regulations and/or guidance and is reviewing opportunities for further process improvements.

iv. Build Upon the Efforts of the Western Governors' Association and Others to Improve the Application of the Endangered Species Act, Reduce Unnecessary Burdens on the Energy Industry, and Facilitate Conservation Stewardship

A number of groups, most prominently the Western Governors' Association, have worked to evaluate and develop recommendations to improve the application of the ESA. For example, the Western Governors' Association developed the *Western Governors' Species Conservation and Endangered Species Act Initiative (Initiative)*, which conducts broad-based stakeholder discussions focused on issues such as identifying means of incentivizing voluntary conservation, elevating the role of states in species conservation, and improving the efficacy of the ESA. Interior intends to build on these efforts to improve the application of the ESA in a manner that ensures conservation stewardship, while reducing unneeded burdens on the public, including the energy industry.

v. Re-Evaluate Whether the MBTA Imposes Incidental Take Liability and Clarify Regulatory Authorities.

Federal Courts of Appeals have split on whether the Migratory Bird Treaty Act (MBTA) imposes criminal liability on companies and individuals for the inadvertent death of migratory birds resulting from industrial activities. Three circuits – the fifth, eighth, and ninth – have held that it does not, limiting taking liability to deliberate acts done directly and intentionally to migratory birds. Two circuits – the second and tenth – have held that

it does. On January 10, 2017, the Office of the Solicitor issued an opinion regarding the issue, which was subsequently suspended pending further review of the opinion and the underlying regulations and decisions. This review is currently ongoing, and may serve as the basis for the development of new internal guidance or regulations that provide clarity to this longstanding issue.

vi. Evaluate the Merits of a General Permit for Incidental Take Under the Bald and Golden Eagle Protection Act

The FWS intends to evaluate the merits of a general permit for incidental take under the Bald and Golden Eagle Protection Act (BGEPA). When the bald eagle was delisted under the ESA, FWS issued a rule establishing a permit program for incidental take under BGEPA. On December 16, 2016, FWS adopted a final rule intended to address some of industry's concerns regarding the BGEPA incidental take permit process (81 FR 91494). One measure strongly supported by industry, a general permit for activities that constitute a low risk of taking eagles, was not considered as part of this rulemaking process, though FWS did accept comments on the subject for consideration in a future rulemaking. The FWS is reviewing these comments to determine whether additional regulatory changes would be appropriate to reduce the burden on industry.

G. Bureau of Reclamation

The BOR is the second largest producer of hydroelectric power in the United States, operating 53 hydroelectric power facilities, comprising 14,730 megawatts of capacity. Each year, BOR generates over 40 million megawatt-hours of electricity (the equivalent demand of approximately 3.5 million US homes),⁶ producing over one billion dollars in Federal revenue. In addition to our authorities to develop, operate, and maintain Federal hydropower facilities, BOR is also authorized to permit the use of our non-powered assets to non-Federal entities for the purposes of hydropower development via a lease of power privilege (LOPP).

The BOR is committed to facilitating the development of non-Federal hydropower at our existing Federal assets. Acting on this commitment, BOR has undertaken a number of activities, including:

- i. Completion of two publically available resource assessments.*
Assessments identify technical hydropower potential at existing BOR facilities, irrespective of financial viability.
- ii. Collaboration with stakeholder groups to improve the LOPP process and LOPP Directive and Standard (D&S) policy guidance document.*

A BOR LOPP is a contractual right given to a non-Federal entity to use a BOR asset (e.g. dam or conduit) for electric power generation consistent with BOR project purposes.

The BOR has conducted LOPP outreach with stakeholder groups and hydropower industry associations; and made resources and staff available via a LOPP website: <https://www.usbr.gov/power/LOPP/index.html>. The BOR has also partnered with sister

⁶ See, <https://www.eia.gov/tools/faqs/faq.php?id=97&t=3>

agencies (United States Army Corps of Engineers and the Department of Energy) under the Memorandum of Understanding (MOU) for Hydropower to, in part, encourage and streamline non-Federal development on Federal infrastructure.

Through these activities, BOR has made resources available to developers and peeled back the barriers that may burden non-Federal hydropower development - while continuing to protect the Federal assets that our customers, operating partners, and stakeholders have depended on for over a century. The response BOR has received from these groups (including the development community) in this effort has been overwhelmingly positive. LOPP projects provide a source of reliable, domestic, and sustainable generation – that supports rural economies and the underlying Federal water resource project.

H. Bureau of Indian Affairs

The BIA provides services to nearly 2 million American Indians and Alaska Natives in 567 federally recognized tribes in the 48 contiguous States and Alaska. The BIA’s natural resource programs assist tribes in the management, development, and protection of Indian trust land and natural resources on 56 million surface acres and 59 million subsurface mineral estates. These programs enable tribal trust landowners to optimize sustainable stewardship and use of resources, providing benefits such as revenue, jobs and the protection of cultural, spiritual, and traditional resources. Income from energy production is the largest source of revenue generated from trust lands, with royalty income of \$534 million in 2016.

Indian Energy Actions

i. Clarify “Inherently Federal Functions for Tribal Energy Resource Agreements (TERAs)”

Tribal Energy Resource Agreements (TERAs) are authorized under Title V of the Energy Policy Act of 2005. A TERA is a means by which a tribe could be authorized to review, approve, and manage business agreements, leases, and rights-of-way pertaining to energy development on Indian trust lands, absent approval of each individual transaction by the Secretary. Interior promulgated TERA regulations in 2008 at 25 CFR part 224. The TERAs offer the opportunity to promote development of domestically produced energy resources on Indian land; however, 12 years after the passage of the Act and 9 years after the issuance of TERA regulations, not one tribe has sought Interior’s approval for a TERA. One theory asserted by at least one tribe as to the failure of this legislation is the Act does not address precisely how much Federal oversight would disappear for tribes operating under TERAs. Specifically, Interior had not defined the term “inherently Federal functions” that Interior will retain following approval of a TERA. This term appears in Interior’s regulations at 25 CFR §§ 224.52(c) and 224.53(e)(2), but not in the Act. Without some assurance as to the benefits (in terms of less Federal oversight) a tribe would receive through clarification of “inherently Federal functions,” tribes have no incentive to undergo the intensive process of applying for a TERA. Clarification of this phrase would also address Recommendation 5 of GAO-15-502, *Indian Energy Development: Poor Management by BIA Has Hindered Energy Development on Indian Lands* (June 2015). The recommendation directed Interior to “provide additional energy

development-specific guidance on provisions of TERA regulations that tribes have identified to Interior as unclear.”

The BIA has been working closely with the Office of the Solicitor to develop guidance on how Interior will interpret the term “inherently Federal functions.” It is expected that by providing this certainty as to the scope of Federal oversight, tribes will better be able to justify the process of applying for a TERA. The BIA expects to have the guidance finalized and available on its website by October 2017.

The BIA anticipates that the benefits of this action will be to promote the use of TERAs, which will both save tribes the time and resources necessary to seek and obtain Interior approval of each transaction related to energy development on Indian land, and will help ease Interior’s workload by eliminating the need for Departmental review of each individual transaction.

The reduction in burden will be measured by the number of tribes that choose to obtain TERAs. Once each tribe obtains a TERA, Interior will work with the tribe to estimate savings in terms of time and resources.

I. Integrated Activity Plan for Oil & Gas in the National Petroleum Reserve – Alaska

Noting that the National Petroleum Reserve – Alaska (NPR-A) is the largest block of federally managed land in the United States and offers economically recoverable oil and natural gas, the Secretary issued an order focusing on management of this area in a manner that appropriately balances promoting development and protecting surface resources. *See* Secretarial Order 3352, “National Petroleum Reserve – Alaska” (May 31, 2017). Currently, 11 million acres (or 48 percent) of the total 22.8 million acres in the NPR-A are closed to leasing under the current Integrated Activity Plan (IAP). The Secretarial Order requires review and revision of the IAP for management of the area and, within the existing plan, maximizing the tracts offered during the next lease sale.

J. Mitigation

Implemented properly, mitigation can be a beneficial tool for advancing the Administration’s goals of American energy independence and security, while ensuring public resources are managed for the benefit and enjoyment of the public.

Interior seeks to establish consistent, effective and transparent mitigation principles and standards across all its Agencies. Interior and its bureaus and offices intends to develop consistent terminology, reduce redundancies, and simplify frameworks so that the Federal mitigation programs and stepped down programs are more predictable and consistent. Some mitigation is facilitated by goodwill and some is through our regulatory paradigm.

BLM

- i. Review and Revise Mitigation Manual Section (MS-1794) and Handbook (H-1794-1) Related to Mitigation, Which Provide Direction on the Use of Mitigation, Including Compensatory Mitigation, To Support the BLM's Multiple-Use and Sustained-Yield Mandates.*

The Mitigation Manual Section and Handbook provide direction on the use of mitigation, including compensatory mitigation, to support BLM's multiple use and sustained yield mandates. The BLM is reviewing whether the 2016 Manual and Handbook replaced several IMs (IM Numbers 2005-069, 2008-204, and 2013-142) issued by BLM for the same purpose.

The BLM is considering revisions to the Manual and Handbook to provide greater predictability (internally and externally), ease conflicts, and may reduce permitting/authorizations times.

Measuring success would be largely quantitative. The BLM would continue to track impacts from land use authorizations and would also track the type and amount of compensatory mitigation implemented and its effectiveness, preferably in a centralized database.

The BLM is drafting an IM that provides interim direction regarding new and ongoing mitigation practices while the Manual and Handbook are being reviewed and revised. Use of the existing Manual and Handbook would continue, as modified and limited by this IM, until they are superseded.

- ii. Review of Manual 6220 – National Monuments, National Conservation Areas, and Similar Designations (07/13/2012) To Assure That It Conforms to BLM's Revised Mitigation Guidance.*

Manual 6220 provides guidance for managing BLM National Conservation Lands designated by Congress or the President as National Monuments, National Conservation Areas, and similar designations (NM/NCA) in order to comply with the designating Acts of Congress and Presidential Proclamations, FLPMA, and the Omnibus Public Land Management Act of 2009 (16 U.S.C. 7202). Manual 6220 requires that when processing a new ROW application, BLM will determine, to the greatest extent possible, through the NEPA process, the consistency of the ROW with the Monument or NCA's objects and values; consider routing or siting the ROW outside of the Monument or NCA; and consider mitigation of the impacts from the ROW. Land use plans must identify management actions, allowable uses, restrictions, management actions regarding any valid existing rights, and mitigation measures to ensure that the objects and values are protected. The manual requires that a land use plan for a Monument or NCA should consider closing the area to mineral leasing, mineral material sales, and vegetative sales, subject to valid existing rights, where that component's designating authority does not already do so.

A review of Manual 6220 to identify where clarity could be provided for mitigation, notification standards, and compatible uses, may potentially reduce or eliminate burdens. The BLM will review Manual 6220 following the proposed revisions to BLM Mitigation Manual Section (MS-1794) and Handbook (H-1794-1) to ensure that Manual 6220 conforms to the BLM's revised mitigation guidance.

Addressing any potential issues, along with providing consistency with BLM Mitigation Manual is expected to provide greater predictability (internally and externally), reduce conflicts, and may reduce permitting/authorizations times.

Success will be measured in BLM meeting legal obligations under the designating Act or Proclamation for each unit and the allowance of compatible multiple uses, consistent with applicable provisions in the designating Act or Proclamation.

iii. Other Reviews of BLM Manual Provisions

Secretarial Order 3349 also revoked a prior order regarding mitigation and directed bureaus to examine all existing policies and other documents related to mitigation and climate change. (*See* Secretarial Order 3330 “Improving Mitigation Policies and Practices of the Department of the Interior.”) Actions Interior is taking to implement this direction include:

- **BLM Manual 6400 – Wild and Scenic Rivers, Policy and Program Direction for Identification, Evaluation, Planning, and Management (07/13/2012)**

Manual 6400 provides guidance for managing eligible and suitable wild and scenic rivers and designated wild and scenic rivers in order to fulfill requirements found in the Wild and Scenic Rivers Act (WSRA). Subject to valid existing rights, the Manual states that minerals in any Federal lands that constitute the bed or bank or are situated within 1/4 mile of the bank of any river listed under section 5(a) are withdrawn from all forms of appropriation under the mining laws, for the time periods specified in section 7(b) of the WSRA. The Manual allows new leases, licenses, and permits under mineral leasing laws be made, but requires that consideration be given to applying conditions necessary to protect the values of the river corridor. For wild river segments, the Manual requires that new contracts for the disposal of saleable mineral material, or the extension or renewal of existing contracts, should be avoided to the greatest extent possible to protect river values.

Manual 6400 will be reviewed following the proposed revisions to BLM Mitigation Manual Section and Handbook to ensure that it conforms to BLM revised mitigation guidance. Although the requirements for minerals and mineral withdrawals are legally mandated under the mining and mineral leasing laws in sections 9(a) and 15(2) of the WSRA, Manual 6400 will be reviewed for opportunities to clarify discretionary decision-space.

Ensuring consistency with the BLM Mitigation Manual will foster greater predictability (internally and externally), reduce conflicts, and may reduce

permitting/authorizations times.

Success will be measured in terms of complying with the WSRA and identifying and allowing compatible multiple uses.

- **BLM Manual 6280 – Management of National Scenic and Historic Trails and Trails under Study or Recommended as Suitable for Congressional Designation (09/14/2012)**

Manual 6280 provides guidance for managing trails under study, trails recommended as suitable, and congressionally designated National Scenic and Historic Trails to fulfill the requirements of the National Trails System Act (NTSA) and the Federal Land Policy and Management Act. Manual 6280 identifies mitigation as one way to address substantial interference with the natural and purposes for which a National Trail is designated.

Manual 6280 will be reviewed following the proposed revisions to the BLM Mitigation Manual Section and Handbook to ensure it conforms to the BLM revised mitigation guidance. Although many of the requirements are legally mandated under the National Trails System Act, Manual 6280 will be reviewed for opportunities to clarify any discretionary decision-space to reduce or eliminate burdens.

Addressing any potential issues, along with providing consistency with the BLM Mitigation Manual is expected to provide greater predictability (internally and externally), reduce conflicts, and may reduce permitting/authorizations time.

Success will be measured in terms of complying with the NTSA and identifying and allowing compatible multiple uses.

FWS

iv. Compensatory Mitigation for Impacts to Migratory Bird Habitat

The FWS has the authority to recommend, but not require, mitigation for impacts to migratory bird habitat under several Federal authorities. Pursuant to a Memoranda of Understanding with the Federal Energy Regulatory Commission (FERC), implementing EO13186 (January 10, 2001), FWS evaluates the impacts of FERC-licensed interstate pipelines to migratory bird habitat.

The FWS is developing Service-wide guidance to ensure the bureau is consistent, fair and objective, appropriately characterizes the voluntary nature of compensatory mitigation for impacts to migratory bird habitat, and demonstrates a reasonable nexus between anticipated impacts and recommended mitigation. The FWS anticipates it will take 3 months to finalize the guidance.

Guidance will result in timely and practicable licensing decisions, while providing for the conservation of migratory Birds of Conservation Concern.

Success will be measured by timely issuance of licenses that contain appropriate recommendations that do not impose burdensome costs to developers.

The FWS Regional and Field Offices will provide informal guidance through email and regularly scheduled conference calls to educate and remind staff of policy.

v. *Mitigation Actions - Regulations and Policy Governing Candidate Conservation Agreements with Assurances (CCAAs)*

The CCAAs are developed to encourage voluntary conservation efforts to benefit species that are candidates for listing by providing the regulatory assurance that take associated with implementing an approved candidate conservation agreement will be permitted under section 10(a)(1)(A) for the Endangered Species Act if the species is ultimately listed, and that no additional mitigation requirements will be imposed.

Recent revisions to the CCAA regulations and policy and the adoption of “net conservation benefit” as an issuance standard has been perceived by some to impose an unnecessary, ambiguous, and burdensome standard that will discourage voluntary conservation. There are also concerns with the preamble language that suggested that CCAAs may not be appropriate vehicles for permitting take of listed species resulting from oil and gas development activities.

The FWS will solicit public review and comment on the need and basis for a revision of the CCAA regulation and associated policy for the purpose of evaluating whether it should maintain or revise the current regulation and policy or reinstate the former ones. The FWS anticipates that it will take 3 months to prepare the Federal Register Notice soliciting public review and comments. The FWS will then publish the Federal Register Notice with a 60-day comment period. Based upon comments received, FWS will decide whether and how to revise the regulation and policy.

The anticipated benefits will be ensuring the CCAA standard is clear and encourages stakeholder participation in voluntary conservation of candidate and other at-risk species.

Success will be measured by FWS providing timely assistance to developers if they seek a CCAA.

The FWS Headquarters will provide Regional and Field Offices with informal guidance through email and regularly scheduled conference calls to remind staff of the regulation and policy review.

vi. *Mitigation Actions - FWS Mitigation Policy*

In 2016, FWS finalized revisions to its 1981 Mitigation Policy, which guides FWS recommendations on mitigating the adverse impacts of land and water development on fish, wildlife, plants, and their habitats.

Some stakeholders believe the revised policy's mitigation planning goal exceeds statutory authority.

The FWS will solicit public review and comment for the purpose of evaluating the policy. The FWS anticipates that it will take 3 months to prepare the Federal Register Notice soliciting public review and comment on the policy. The FWS will then publish the Federal Register Notice with a 60-day comment period. Based upon comments received, FWS will decide whether and how to revise the policy.

The anticipated benefits will be timely and practicable mitigation recommendations by FWS staff to energy developers (and others) that promote conservation of species and their habitats.

Success will be measured by incorporation of recommendations without delays to the permitting or licensing process.

The FWS Headquarters will provide FWS Regional and Field Offices informal guidance through email and regularly scheduled conference calls to remind staff of the policy review.

vii. FWS ESA Compensatory Mitigation Policy

In 2016, FWS finalized its ESA Compensatory Mitigation Policy (CMP), which steps down and implements the 2016 revised the FWS Mitigation Policy (including the mitigation planning goal). The CMP was established to improve consistency and effectiveness in the use of compensatory mitigation. Its primary intent is to provide FWS staff with direction and guidance in the planning and implementation of compensatory mitigation.

Some stakeholders believe the mitigation planning goal exceeds statutory authority.

The FWS will solicit public review and comment for the purpose of evaluating whether it should modify the policy. Additional legal review will be undertaken after comments are reviewed. The FWS anticipates that it will take three months to prepare the Federal Register Notice soliciting public review and comment on the policy. The FWS will then publish the Federal Register Notice with a 60-day comment period. Based upon comments received, FWS will decide whether and how to revise the policy.

The anticipated benefits will be timely and practicable mitigation recommendations by FWS staff to energy developers (and others) that promote conservation of species and their habitats.

Success will be measured by incorporation of recommendations without delays to the permitting or licensing process.

The FWS Headquarters will provide FWS Regional and Field Offices informal guidance through email and regularly scheduled conference calls to remind staff of the policy review.

viii. Interim Guidance on Implementing the Final ESA Compensatory Mitigation Policy

This document provides interim guidance for implementing the Service's CMP. The guidance provides operational detail on the establishment, use, and operation of compensatory mitigation projects and programs as tools for offsetting adverse impacts to endangered and threatened species, species proposed as endangered or threatened, and designated and proposed critical habitat under the ESA.

Within 6 months of completing revisions to the ESA Compensatory Mitigation Policy (CMP) (or deciding revisions to the CMP are not necessary), FWS will revise the interim implementation guidance (to be consistent with the revised CMP) and make it available for public review and comment in the Federal Register for 60 days. Within 6 months of close of the comment period, FWS will publish the final implementation guidance in the Federal Register (Note: we anticipate that the implementation guidance may need to be reviewed under the Paperwork Reduction Act, which may affect the timeline).

The anticipated benefits will be timely and practicable mitigation recommendations by FWS staff to energy developers (and others) that promote conservation of species and their habitats.

Success will be measured by incorporation of recommendations without delays to the permitting or licensing process.

The FWS Headquarters will issue a memorandum to Regional and Field staff reiterating the limited applicability of the CMP's mitigation planning goal and that decisions related to compensatory mitigation must comply with the ESA and its implementing regulations.

K. Climate Change

Interior is reviewing bureau reports of the work conducted to identify requirements relevant to climate that can potentially burden the development or uses of domestically produced energy resources. Most of the bureaus found no existing requirements in place. A couple of bureaus have non-regulatory documents (i.e., handbook, memo, manual, guidance, etc.) that inwardly focus on their units and workforce management activities. Interior is reviewing these to better understand their connection to other management, operations and guidance documents.

BLM

The BLM rescinded its Permanent Instruction Memorandum (PIM) 2017-003 (Jan. 12, 2017).

This Permanent IM transmitted the CEQ guidance on consideration of greenhouse gas (GHG) emissions and the effects of climate change in NEPA reviews, and provided general guidelines for calculating reasonably foreseeable direct and indirect GHG emissions of proposed actions.

As the CEQ guidance was withdrawn pursuant to section 3 of EO13783, the BLM Permanent IM was rescinded. In the future, BLM will consider issuing new guidance to its offices on approaches for calculating reasonably foreseeable direct and indirect GHG emissions of proposed and related actions.

Any new IM would provide guidance on consideration of GHG emissions and the effects of climate change in NEPA reviews. The BLM is also developing a unified Air Resources Toolkit that can be used across all organizational levels to consistently calculate, as needed and appropriate, relevant air emissions for a variety of BLM resource management functions. Once available, this toolkit will expedite analysis of reasonably foreseeable GHG emissions associated with energy and mineral development.

V. Outreach Summary

To ensure that Interior is considering the input of all viewpoints affected by the identified actions to reduce the burden on domestic energy, Interior has been, and will continue to, seek from outside entities through various means of public outreach including, but not limited to, working closely with affected stakeholders. In accordance with Administrative Procedure Act requirements, the Department is seeking public input on each proposal to revise or rescind individual energy-related regulatory requirements. The Department is also considering input it receives as part of its regulatory reform efforts through www.regulations.gov when such input relates to energy-related regulations.

The Department's outreach efforts encompass state, local, and tribal governments, as well as stakeholders such as the Western Governors' Association, Interstate Mining Compact Commission, and natural resource and outdoorsmen groups. To comply with tribal consultation requirements, Interior will host a separate consultation with official representatives of tribal governments on matters that substantially affect tribes, in accordance with the Department's policy on consultation with tribal governments.

VI. Conclusion

Interior is aggressively working to put America on track to achieve the President's vision for energy dominance and bring jobs back to communities across the country. Working with state, local and tribal communities, as well as other stakeholders, Secretary Zinke is instituting sweeping reforms to unleash America's energy opportunities.

VII. Attachments

Secretarial Orders and Secretary's Memorandum

From: [Sarena_selbo](#)
To: Wendy_loya@fws.gov
Subject: From Climatewire -- ANWR: Alaska governor says new oil drilling can address warming
Date: Friday, November 3, 2017 8:37:13 AM

This Climatewire story was sent to you by: Sarena_selbo@fws.gov

CLIMATEWIRE

AN E&E NEWS PUBLICATION

ANWR

Alaska governor says new oil drilling can address warming

Brittany Patterson, E&E News reporter

Published: Friday, November 3, 2017



Alaska Gov. Bill Walker (I) says his state needs oil revenue to address climate change. Walker/Facebook

Top Alaskan officials made the case yesterday that opening a small portion of the Arctic National Wildlife Refuge to oil and gas development is the only way to fund the state's climate change mitigation efforts.

Alaskan Gov. Bill Walker (I) and Lt. Gov. Byron Mallott (D) told lawmakers yesterday it's "no question" that climate change is affecting Alaskans, and the state is committed to helping tribes and others adapt to the impacts.

Earlier this week, Walker announced he was forming a leadership team to draft a plan outlining how Alaska should deal with the impacts of climate change ([Climatewire](#), Nov. 1).

But they said the federal government isn't chipping in to pay for the costly relocation of about a dozen tribes and other efforts to address the risks of warming. Cashing in on the state's oil and gas resources would provide revenue to confront those threats.

"The resources that the development of the Arctic plain can bring to Alaska will allow us to have fiscal resources to meet rapidly changing climate circumstances; otherwise we have no real ability to respond," Mallott testified during a marathon hearing held by the Senate Energy and Natural Resources Committee. The panel was debating the controversial idea of opening a portion of ANWR to drilling in order to raise \$1 billion for the federal government as part of the Republican bid for tax reform.

Climate advocates on the committee wasted no time in lambasting the notion that opening up 1.5 million acres of the Alaska's coastal plain for oil and gas development is a climate change solution.

"All over this planet today we are seeing nations, including our own, ravaged by the impacts of climate change," shouted a red-faced Sen. Bernie Sanders (I-Vt.). "And meanwhile, while climate change is doing horrendous damage to peoples over all the world, we have hearings like this that talk about more oil exploration, more dependency on fossil fuels when the evidence is overwhelming that this country should lead the world in transforming our energy system away from fossil fuel to energy efficiency and sustainable energies."

Sen. Al Franken (D-Minn.) was similarly flummoxed.

"Lieutenant governor, you know the impact of climate change on your state," Franken said, addressing Mallott.

He noted that Alaska is warming twice as fast as the rest of the nation, causing permafrost to thaw, sea ice to rapidly recede and glaciers to shrink. The lack of protective sea ice along the state's northern shores has made Alaska's coastal communities vulnerable to storm surge and erosion.

"Drilling for oil in the last pristine Arctic ecosystem on the continent while climate change is having a disproportionate impact on the region seems to me kind of ironic," Franken said. "Do you disagree that there is some irony here?"

Mallott did disagree. He noted it will take decades for the U.S. to shift away from a fossil-fuel-based economy to one that relies on cleaner energy. In the meantime, for Alaska to not rely on its abundant oil and gas resources "raises national security issues, it raises economic issues, it raises issues that impact us in Alaska very directly."

The entire Alaska delegation, led by Sen. Lisa Murkowski (R), who chairs the committee, made a passionate pitch during the hearing to open the "small part" of ANWR known as the 1002 area. She argued it would boost U.S. energy security and bring economic prosperity to Alaska and the federal government. She also said that it could be done safely, in light of technological advancements that have shrunk the development footprint of oil and gas operations.

Other witnesses also advocated for drilling. Greg Sheehan, deputy director of the Fish and Wildlife Service, said the Interior Department supports Congress' attempt to open the 1002 area. But others pointed to the paradox of unearthing more oil to pay for efforts to reduce greenhouse gas emissions.

"When I was in the Army, we used to call it the self-licking ice cream cone, and this is really what this has become, where we are trying to drill more oil, pump out more pollutants to address climate change and the impact that it has," said Sam Alexander, a member of the Gwich'in Tribe. "And that is just insanity to me, and that's insanity to the Gwich'in people."

For centuries, the Gwich'in have relied on the porcupine caribou herd, which migrates through the coastal plain, for food. The tribe calls the region "the sacred place where life begins," and they say drilling would cause irreversible damage to the ecosystem and wildlife that occupy it.

The committee's top Democrat, Sen. Maria Cantwell of Washington, disapproved of the manner in which the ANWR debate was being revisited — through budget reconciliation and as part of the tax reform bill. She said she's concerned that committee members had not yet seen any legislation, despite the fact that a markup could come as soon as next week.

"I almost want to call this 'caribou for millionaires,' because it is the most ridiculous idea I've ever heard as it relates to meeting the tax reform agenda," she said ([Greenwire](#), Nov. 2).

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Climatewire is written and produced by the staff of E&E News. It is designed to provide comprehensive, daily coverage of all aspects of climate change issues. From international agreements on carbon emissions to alternative energy technologies to state and federal GHG programs, Climatewire plugs readers into the information they need to stay abreast of this sprawling, complex issue.

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Subject: From E&E Daily -- ANWR: Critics say drilling math doesn't add up
Date: Friday, November 3, 2017 6:29:20 AM

This E&E Daily story was sent to you by: kevinp@wildernesswatch.org

E&E DAILY

AN E&E NEWS PUBLICATION

ANWR

Critics say drilling math doesn't add up

Kellie Lunney, E&E News reporter

Published: Friday, November 3, 2017

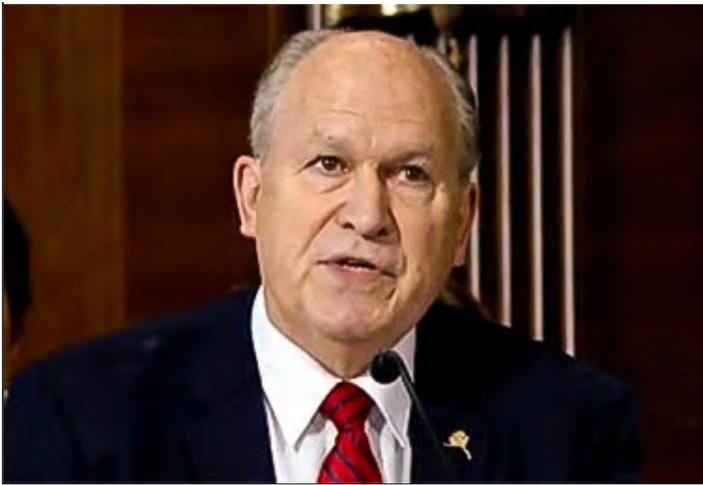


Senate Energy and Natural Resources Chairwoman Lisa Murkowski (R-Alaska) during yesterday's hearing on the Arctic National Wildlife Refuge. C-SPAN/Twitter

The fiscal math on drilling in Alaska's Arctic National Wildlife Refuge could become clearer when the Senate Energy and Natural Resources Committee unveils its legislation, possibly as early as next week.

Chairwoman Lisa Murkowski (R-Alaska) did not say yesterday what the bill will specify in terms of the revenue-sharing split between her state and the federal government or how it will square with the \$1 billion her panel is expected to generate for Uncle Sam to help pay for the Republicans' tax reform plan.

But she noted that the legislation "has to" include a percentage. That could end up being a 50-50



Alaska Gov. Bill Walker (I). Senate Energy and Natural Resources Committee

share of whatever oil and gas royalties are extracted from drilling in the refuge's coastal plain, or a 90-10 percent split, which would be more lucrative for Alaska.

Murkowski spoke to reporters after a four-hour hearing on the pros and cons of allowing drilling in a 1.5-million-acre portion of the 19-million-acre refuge.

Alaska Republican Sen. Dan Sullivan, Republican Rep. Don

Young, Gov. Bill Walker (I) and Lt. Gov. Byron Mallott (D) joined Murkowski at the press conference.

"You know, 50 percent of something is better than 90 percent of nothing, is one way of looking at it," Walker said when a reporter asked if he'd be OK with a 50-50 split.

Opponents of drilling in ANWR have argued that the math behind the Republican tax plan is fuzzy at best.

The left-leaning Center for American Progress analyzed data based on recent lease sales in the state, which found the federal government could expect closer to \$37.5 million in earnings.

That is well short of \$1 billion in revenues over the next decade, which the GOP's fiscal 2018 budget resolution, a vehicle for tax reform, assumes.

"There is no amount of budgetary fairy dust that can make the Arctic refuge produce enough money or oil to pay the massive bill from this tax proposal," Matt Lee-Ashley, a senior fellow at CAP, said during a Wednesday conference call with reporters.

"It's an environmental rider, plain and simple, that's being attached not for budgetary reasons or energy security, but purely for politics," he said.

ENR Committee ranking member Maria Cantwell (D-Wash.), who led the 2005 fight opposing drilling

in the refuge, said during yesterday's hearing that inserting the issue into the tax reform package is



Senate Energy and Natural Resources Committee ranking member Maria Cantwell (D-Wash.). Senate Energy and Natural Resources Committee

"the most ridiculous idea I've ever heard as it relates to meeting the tax reform agenda."

Murkowski needs to draft her legislation by Nov. 13 per instructions in the budget resolution, but yesterday she said that "there's some question as to how hard that date is" because of delays in both chambers in rolling out their respective tax bills.

The House unveiled its version yesterday and plans to mark it up next week ([see related story](#)).

"Clearly, we need to do this very rapidly in terms of scheduling a markup," Murkowski said, referring to her ANWR proposal.

"It's important to have a very open hearing, [and] it will be important to have that markup and give members the time to review the legislation."

She added: "We have not done that yet, but it will be imminent. Around the Senate, imminent is an amazing word," alluding to the chamber's famously slower pace.

The Alaska Republican also expressed confidence that the \$1 billion in savings instructions to her panel will remain intact.

The Senate two weeks ago rejected 48-52 a Democratic amendment to the budget that would have blocked a fast-track process for writing legislation permitting the drilling. That pivotal vote raised the stakes for everyone.

"I look at that and say, we may be the least of the problems with the tax package," Murkowski said. "We saw that vote, and I would hope that that vote would stand."

Even so, supporters of allowing drilling in the refuge aren't taking anything for granted. "We are certainly not going to rest on our laurels," Sullivan said.

Opponents feel the same way.

Sen. Tom Udall (D-N.M.) said Wednesday on a call with reporters that opponents of ANWR drilling are looking to kill the entire tax package.

"We think we have the potential with such a close vote to change some minds," he said, referring to the 48-52 tally from a few weeks ago.

Republican Sen. Susan Collins of Maine broke ranks with her party to support the Democratic amendment during that vote, while West Virginia Sen. Joe Manchin was the only Democrat to oppose it.

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Subject: From Greenwire -- SENATE: Rand Paul absence could complicate GOP tax, ANWR plans
Date: Monday, November 6, 2017 11:34:12 AM

This Greenwire story was sent to you by: kevinp@wildernesswatch.org

GREENWIRE

AN E&E NEWS PUBLICATION

SENATE

Rand Paul absence could complicate GOP tax, ANWR plans

George Cahlink and Hannah Northey, E&E News reporters

Published: Monday, November 6, 2017



The absence of Sen. Rand Paul (R-Ky.) may have an effect on energy and environmental issues. Gage Skidmore/Wikipedia

An extended absence by Sen. Rand Paul (R-Ky.), as he recovers from injuries suffered during an assault this weekend, could complicate Republican plans to quickly advance their agenda, including drilling in the Arctic.

Paul's neighbor, an anesthesiologist identified as Rene Boucher, 59, is accused of attacking the senator Friday, according to Kentucky State Police.

Authorities arrested Boucher and charged him with misdemeanor fourth-degree assault. He was released Saturday from the Warren County Regional Jail on \$7,500 bond and is scheduled to appear in court Thursday, according to records.

Doug Stafford, the senator's senior adviser, said in an email that Paul is having difficulty getting

around and is in considerable pain, which could last weeks. "This type of injury is caused by high velocity severe force," Stafford said.

Paul has criticized Republican tax reform plans and is often not a reliable vote for his party's leadership. Still, his absence could make it harder for the GOP to pass its priorities.

Senate Republicans control 52 seats, meaning they can lose two votes and still move partisan legislation, with Vice President Mike Pence available to break ties in the GOP's favor.

Democrats, who control 48 seats, with independents Angus King of Maine and Bernie Sanders of Vermont often siding with them, have largely been united this Congress in opposing Republican legislation.

On a push to open up energy exploration in the Arctic National Wildlife Refuge, the GOP has only the narrowest of majorities to advance it.

Sen. Susan Collins (R-Maine) has already said she would oppose expanding oil and gas drilling in that part of Alaska. In the past, Sen. John McCain (R-Ariz.) has also opposed it, although he recently voted against a Democratic amendment to yank an ANWR provision from the GOP budget.

Paul, a self-styled libertarian Republican, did not back that spending blueprint over concerns about deficits but is seen as likely to support stand-alone ANWR legislation.

Republican leaders do not yet have a firm deadline for when they will move the pro-drilling bill to the floor. Because it is part of the majority's budget and tax overhaul plans, which are going through a process called reconciliation, Democrats won't be able to filibuster.

GOP leaders could gain a vote from West Virginia Democratic Sen. Joe Manchin, who may break with his party to back ANWR, giving the Republicans a bit more of a cushion.

Sen. Bob Menendez (D-N.J.) has also been mostly gone from the Senate lately as he battles federal corruption charges. His absence could offset the loss of Paul on any close votes.

Beyond ANWR, Paul's recovery could affect other legislation, including a final fiscal 2018 spending package, which is expected to emerge by the end of the year.

Paul, 54, is not up for re-election until 2022 and easily retained his seat last year after failing in his bid to win the GOP nomination for president. He is the son of former Texas Rep. Ron Paul, a libertarian hero, who made three quixotic runs himself for the White House.

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From: [Howard, Amee](#)
To: [Leonetti, Crystal](#)
Subject: Fwd: Arctic Refuge QFRs Assignments Region 7
Date: Tuesday, November 7, 2017 3:39:31 PM
Attachments: [11.07.17 Arctic NWR QFRs Assignments R7_final.docx](#)
[11.07.17 Arctic NWR QFRs Assignments R7-Track Changes_final.docx](#)

Hi Crystal,

FYI - Here is the final suggestions that we sent to HQ-CLA regarding the Arctic Refuge Hearing QFRs.

Thanks so much!
Amee

----- Forwarded message -----

From: **Howard, Amee** <amee_howard@fws.gov>
Date: Tue, Nov 7, 2017 at 1:35 PM
Subject: Arctic Refuge QFRs Assignments Region 7
To: Martin Kodis <martin_kodis@fws.gov>, Devin Helfrich <devin_helfrich@fws.gov>
Cc: Gregory Siekaniec <gregory_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>, Sara Boario <sara_boario@fws.gov>, Mitch Ellis <mitch_ellis@fws.gov>, Mary Colligan <mary_colligan@fws.gov>, Socheata Lor <socheata_lor@fws.gov>, "Damberg, Doug" <doug_damberg@fws.gov>

Hi Marty and Devin,

Please find attached the Region 7 comments and suggested language for the Arctic National Wildlife Refuge Questions for the Record. I have attached a clean version and a track changes version.

Let me know if you have any questions or need additional information.

Thanks so much!
Amee

--

Amee Howard

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["Conservation Begins with Hello"](#)

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

CLA and R7: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, the National Wildlife Refuge System Improvement Act, and the National Environmental Policy Act, to analyze potential effects and determine compatibility with established purposes for the refuge. Environmental reviews will recommend measures to avoid and reduce negative impacts and ensure that development, if authorized, proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? **CLA and R7:** Only Congress can authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain. If authorized by Congress, development should only be undertaken in a manner consistent with all applicable laws and the established purposes of the Arctic National Wildlife Refuge, which include conservation of fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd, polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds, and Arctic char and grayling; fulfillment of international treaty obligations of the United States with respect to fish and wildlife and their habitats; providing the opportunity for continued subsistence uses by local residents; and ensuring water quality and quantity within the refuge.

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

environmental impact statement in accordance with the National Environmental Policy Act?
CLA and Refuges HQ (Scott) – Yes.

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

Is the Arctic Refuge still being managed according to this plan?

CLA and R7: Yes, the refuge is managed according to the current Comprehensive Conservation Plan (CCP), which recommended to Congress that the Arctic National Wildlife Refuge coastal plain be designated Wilderness. In Alaska, U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so to ensure conservation of wilderness values; adhere to established refuge purposes; respect the continuation of the traditional and cultural way of life for Alaska Natives; and provide the opportunity for continued subsistence harvest for rural residents.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA and R7: The 2015 Comprehensive Conservation Plan (CCP) is the current management plan for the Arctic National Wildlife Refuge and the USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas development in the Arctic National Wildlife Refuge coastal plain we will assess whether and how to amend the 2015 CCP.

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We’ve heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won’t damage the Refuge?

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CLA and R7: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. It is not possible to conduct any development of the Arctic National Wildlife Refuge coastal plain without negative environmental effects.

Question 2: I am also concerned about the potential for oil spills. We’ve heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there’s a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7: Access to the Arctic National Wildlife Refuge coastal plain would be dependent upon industry best management practices and environmental conditions. Recovery crews would have as much access as is safe and practicable and within the guidelines of existing laws. The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects and recommend measures to avoid and reduce negative impacts. A credible spill prevention or disaster recovery plan will establish best management practices that will include the deployment of recovery crews which in total should reduce the potential for spills and/or minimize the effects of spills. We will ensure that development proceeds in a way that is consistent with all applicable laws.

Questions from Senator Bernard Sanders

Question 1: Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels toward energy efficiency and sustainable energy like wind, solar, and geothermal? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy.**

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Question 2: Do you agree with the vast majority of scientists that the combustion of fossil fuels contributes to climate change? **CLA and OCL – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity, including the combustion of fossil fuels.**

Question 3: During your testimony, you said that the Trump administration is being “forward looking” with regard to advancing renewable energy technologies. However, the Administration’s proposed budget has called for a 70% cut to the Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) and zeroing out of ARPA-E. Additionally, the Administration has announced its intention to leave the Paris Climate Accord and proposed to repeal the Clean Power Plan. Can you please explain how such actions are helping advance renewable energy technology? Can you please provide any examples of ways the Trump Administration has increased support for renewable energy since taking office? **DOI is addressing this Question.**

Question 4: Scientists tell us that we must work keep to keep fossil fuels in the ground if we are to avoid the most dangerous impacts of climate change. The U.S. Geological Survey estimates that more than 10 billion barrels of recoverable oil could be held in the Arctic Refuge. How does extracting this oil from the Arctic Refuge help the U.S. transform its energy system, as quickly as possible, from one based on carbon-intensive fuels to one based on clean, sustainable sources? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy**

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Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those

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factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA– I am not aware of any specific projects proposed for the 1002 Area ...XXXXX.

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act (ESA), the Marine Mammal Protection Act, the National Wildlife Refuge System Improvement Act, and the National Environmental Policy Act, to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and designated critical habitat and that mitigating measures are prescribed to avoid or reduce effects that may jeopardize the continued existence of the species or adversely modify or destroy designated critical habitat. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

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Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd’s continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? **CLA and R7:** The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain, environmental review, siting criteria, and recommended measures to avoid and reduce negative impacts will help minimize adverse effects.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich’in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich’in Nation and preserves their relationship with the herd? **CLA and R7:** The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain, we will, through consultation with all affected tribes, identify concerns and establish measures to avoid and reduce negative impacts to the Porcupine Caribou Herd. Consultation will provide an opportunity to identify and address potential disruptions with respect for the Gwich’in Nation’s cultural and spiritual relationship with the coastal plain of the Arctic National Wildlife Refuge and the caribou.

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

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Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge "to protect fish and wildlife and their habitat in their natural diversity."

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – Alaska National Interest Lands Conservation Act (ANILCA) intended the ~~essential~~ ~~plain~~ ~~(1002 area)~~ reserved the decision to develop oil and gas resources in ~~intended~~ the coastal plain ~~(1002 area)~~ of the Arctic National Wildlife Refuge for ~~the~~ ~~Congress~~ ~~to~~ ~~authorize~~ ~~the~~ ~~development~~ ~~of~~ ~~oil~~ ~~and~~ ~~gas~~ ~~energy~~ ~~development~~. ~~The~~ ~~Administration~~ ~~supports~~ ~~legislation~~ ~~to~~ ~~authorize~~ ~~that~~ ~~development~~. ~~We~~ ~~and~~ ~~she~~ ~~will~~ ~~follow~~ ~~all~~ ~~applicable~~ ~~laws~~, including the Endangered Species Act, the Marine Mammal Protection Act, the National Wildlife Refuge System Improvement Act, and the National Environmental Policy Act, to analyze potential effects and determine compatibility with ~~refuge~~ ~~established~~ ~~purposes~~ ~~for~~ ~~the~~ ~~refuge~~. ~~Environmental~~ ~~reviews~~ ~~will~~ ~~recommend~~ ~~measures~~ ~~to~~ ~~avoid~~ ~~or~~ ~~and~~ ~~reduce~~ ~~negative~~ ~~impacts~~. ~~These~~ ~~include~~ ~~and~~ ~~ensure~~ ~~that~~ ~~development~~ ~~if~~ ~~authorized~~ ~~proceeds~~ ~~in~~ ~~a~~ ~~way~~ ~~that~~ ~~is~~ ~~consistent~~ ~~with~~ ~~all~~ ~~applicable~~ ~~laws~~.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? CLA and R7 – ~~Yes~~ Only Congress can authorize oil and gas development in the ~~1002 area~~ of Arctic National Wildlife Refuge coastal plain. If authorized by Congress, ~~development~~ should only be undertaken in a manner consistent with the established purposes of Arctic National Wildlife Refuge, including the continuation of subsistence opportunity for rural residents, and consistent with all ~~environmental~~ applicable laws.

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act? CLA and Refuges HQ (Scott) – Yes

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Is the Arctic Refuge still being managed according to this plan? CLA and R7 – Yes, the refuge is managed according to the current Comprehensive Conservation Plan (CCP), which recommended to Congress that the Arctic National Wildlife Refuge coastal plain be designated Wilderness. In Alaska, U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so to ensure conservation of wilderness values; adhere to established refuge purposes; respect for the for the coastal plain continuation of the traditional and cultural way of life for Alaska Natives; and provide the opportunity for continued subsistence harvest for rural residents.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA – R7 - The 2015 Comprehensive Conservation Plan (CCP) is the current management plan for the Arctic National Wildlife Refuge and the Service USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas leasing development in the Arctic National Wildlife Refuge coastal plain 1002 area we will assess whether and how to amend update the 2015 CCP.

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Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We’ve heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won’t damage the Refuge?

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CLA and R7 — ~~The Alaska National Interest Lands Conservation Act (ANILCA) intended the 1002 area be considered reserved the decision to develop for energy oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress development. The Administration supports legislation to authorize that development. We and We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend; recommend; measures to avoid or and/or minimize reduce negative effects; impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. It is not possible to conduct any development of natural resources the Arctic National Wildlife Refuge coastal plain without some negative environmental effects. Applicable environmental laws do require no effects, but they ensure effects are avoided or minimized.~~

Question 2: I am also concerned about the potential for oil spills. We've heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there's a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7 - Framework answer: ~~Access to the Arctic National Wildlife Refuge coastal plain would be dependent upon weather industry best management practices and environmental conditions. Recovery crews would have as much access as is safe and practicable and within the guidelines of existing laws. The Alaska National Interest Lands Conservation Act (ANILCA) intended the 1002 area be considered reserved the decision to develop for energy oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress development. The Administration supports legislation to authorize that development, and We will follow all applicable laws to analyze potential effects and recommend measures to avoid or and minimize effects or reduce negative impacts, effects impacts. A credible spill prevention or disaster recovery plan may will establish best management practices that would likely will include the deployment of recovery crews which in total may should, including by preventing reduce the potential for spills and/or minimizing minimize the effects of spills, including through the deployment of recovery crews. We will ensure that development proceeds in a way that is consistent with all applicable laws.~~

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This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

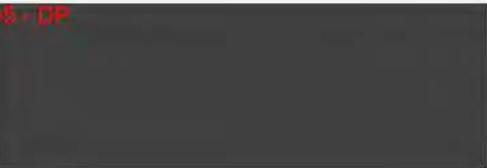
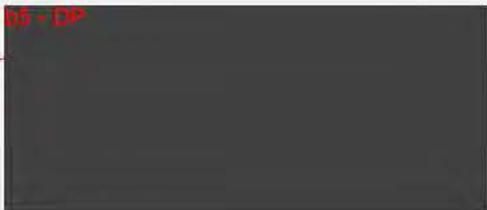
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What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ? Framework answer: The Alaska National Interest Lands Conservation Act (ANILCA) intended reserved the 1002 area be considered for the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress energy, oil and gas development. The Administration supports legislation to authorize that development, and We will follow all applicable laws, including the Endangered Species Act



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Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd's continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? CLA and R7 – Framework answer: The Alaska National Interest Lands Conservation Act (ANILCA) intended the 1002 area be considered for energy oil and gas development reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development, and We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid or and reduce and/or minimize effect; reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. Should If Congress enacts enact legislation to authorize energy oil and gas development in the 1002 area the Arctic National Wildlife Refuge coastal plain area, applicable laws environmental review, siting criteria, and recommended measures to avoid and reduce negative impacts will help do not require guarantees to avoid minimize all adverse impact effects.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich'in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich'in Nation and preserves their relationship with the herd? CLA and R7 – answer similar to above The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain 1002 area, we will, through consultation consult with all affected Federally recognized tribes, identify to consider their concerns and establish measures in an effort to avoid or and reduce negative impacts to the Porcupine Caribou Herd.

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DOI Budget Office is drafting a response

From: [Brady, Stephanie](mailto:Brady.Stephanie)
To: [Anissa Craghead](mailto:Anissa.Craghead)
Cc: [Karen Clark](mailto:Karen.Clark); [Prigan, Sara](mailto:Prigan.Sara); [Susan Wilkinson](mailto:Susan.Wilkinson); [Ryan Mollnow](mailto:Ryan.Mollnow)
Subject: Fwd: Due by NOON Thursday, November 9, 2017: Weekly 30-day Projection Report for Federal Register Documents
Date: Tuesday, November 7, 2017 6:33:31 PM
Attachments: [FWS entries_30 day spreadsheet for November 14 2017 MASTER_sbedits1172017xlsx.xlsx](#)

Hi there Anissa - attached to this email is an updated FR clearance list - I have changed the date for the Arctic Exploration to early December - noted in red. Thanks and let me know if you need anything further. Stephanie

stephanie_brady@fws.gov | Branch Chief, Conservation Planning and Policy | U.S. Fish and Wildlife Service | National Wildlife Refuge System | Alaska | 907.306.7448

Did you know?

The **National Wildlife Refuge System** has:

50 million annual visitors, 850 million acres, and 566 units.

----- Forwarded message -----

From: Clark, Karen <karen_clark@fws.gov>
Date: Mon, Nov 6, 2017 at 8:13 AM
Subject: Fwd: Due by NOON Thursday, November 9, 2017: Weekly 30-day Projection Report for Federal Register Documents
To: Theo Matuskowitz <Theo_Matuskowitz@fws.gov>, "Brady, Stephanie" <stephanie_brady@fws.gov>, Donna Dewhurst <donna_dewhurst@fws.gov>, "Hamilton, Charles" <charles_hamilton@fws.gov>
Cc: FW7 Directorate <fw7_directorate@fws.gov>

Please respond as appropriate

Karen P. Clark
Deputy Regional Director
U.S. Fish & Wildlife Service- Alaska Region
1011 E Tudor Rd, MS 374
Anchorage, AK 99503
karen_clark@fws.gov
907.786.3542 office
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907.786.3306 fax

----- Forwarded message -----

From: Craghead, Anissa <anissa_craghead@fws.gov>
Date: Mon, Nov 6, 2017 at 3:50 AM
Subject: Due by NOON Thursday, November 9, 2017: Weekly 30-day Projection Report for Federal Register Documents
To: Shaun Sanchez <shaun_sanchez@fws.gov>, Jeffery Donahoe <jeffery_donahoe@fws.gov>, "Miller, Kayla" <kayla_miller@fws.gov>, Eric Kershner <eric_kershner@fws.gov>, Ronald Kokel <ronald_kokel@fws.gov>, Gloria Bell

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<gloria_bell@fws.gov>, Craig Hoover <craig_hoover@fws.gov>, Rosemarie Gnam <rosemarie_gnam@fws.gov>, Tim Vannorman <tim_vannorman@fws.gov>, Robert Curry <robert_curry@fws.gov>, Tom Busiahn <tom_busiahn@fws.gov>, Edward Grace <edward_grace@fws.gov>, Karen Clark <karen_clark@fws.gov>, Madonna Baucum <madonna_baucum@fws.gov>, Theresa Rabot <theresa_rabot@fws.gov>, Joy Nicholopoulos <joy_nicholopoulos@fws.gov>, Charles Wooley <charles_wooley@fws.gov>, Michael Oetker <michael_oetker@fws.gov>, "Eustis, Christine" <christine_eustis@fws.gov>, Matt Hogan <matt_hogan@fws.gov>, Alexandra Pitts <alexandra_pitts@fws.gov>, Aaron Mize <aaron_mize@fws.gov>, John Schmerfeld <john_schmerfeld@fws.gov>, "Van Alstyne, Lisa" <lisa_van_alstyne@fws.gov>, Julie Jackson <julie_jackson@fws.gov>, "Cogliano, Mary" <mary_cogliano@fws.gov>, Gary Frazer <gary_frazer@fws.gov>, Gina Shultz <Gina_Shultz@fws.gov>, Jeff Newman <jeff_newman@fws.gov>, Bridget Fahey <bridget_fahey@fws.gov>, Craig Aubrey <craig_aubrey@fws.gov>
Cc: Sara Prigan <sara_prigan@fws.gov>, Susan Wilkinson <susan_wilkinson@fws.gov>, Katherine Garrity <katherine_garrity@fws.gov>

Hi, all---

Please submit your input for the weekly report of **all** Federal Register (FR) documents (both notices and rules) estimated to clear the Department in the next 30 days.

IMPORTANT INFORMATION:

Timelines for This Report

Please use the attached to submit any updates and additions by **NOON on Thursday, November 9**. When updating the attached spreadsheet, please pay special attention to "Summary," "Estimated Date for DOI Clearance," "Current Status," and "Has Been at Current Status Since (Date)" responses for your actions. **When updating entries, please be aware that this report generally covers mid-November to mid-December timeframes.** Please highlight the cells that you change so that it will be easier for us to identify your changes. Your input should be emailed to Anissa Craghead, Sara Prigan, and Susan Wilkinson.

This week's report should list only those FR documents estimated to clear the Department between November 14 and December 14, 2017.

Other Information

In order to ensure that we don't provide conflicting information during the clearance process, please:

--provide us complete and accurate information for this 30-day projection;

--update briefing papers to include any new dates (and, if applicable, information) UNLESS you've identified a "not later than" (NTL)

date that carries notable consequences---such NTL dates should be retained and explained in your briefing paper; and

--upload revised briefing papers into DTS.

DTS entries for your actions **must** include the most up-to-date information.

Exec Sec continues to urge us to be realistic in terms of the documents we put on this list. If the document has not been provided to our Director's corridor for surnaming, it probably should not be on the list considering how long surnaming/clearance is taking at each step of the process.

Please note that Kayla Miller, Special Assistant, Ecological Services in Headquarters is providing the input for both Headquarters and Regional ES documents.

Additionally, PPM will provide updates for all Information Collection notices.

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If you have any questions, please contact me at anissa_craghead@fws.gov.

Thanks once again for your help with this.

Anissa

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U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: BPHC
Falls Church, VA 22041-3803
Telephone: 703-358-2445*

Bureau	RIN or OMB Control Number	Title	Summary	Type	Estimated Date for DOI Clearance	Critical Date (Judicial, Statutory, or Other)	Current Status	Has Been at Current Status Since (Date)	DCN (Optional)	Program (Optional)	Explain Critical Date if "Other"
FWS	b5 - DP (and not responsive)									ABHC	
FWS	b5 - DP (and not responsive)									ES	

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FWS		b5 - CP (and not responsive)							ES		

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FWS		b5 - CP (and not responsive)							ES		

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FWS		<div style="color: red; font-size: small;">ES - DP (and not responsive)</div> <div style="background-color: black; width: 100%; height: 100%; min-height: 400px;"></div>								ES	

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FWS		b5 - DP (and not responsive)								ES	
FWS		b5 - DP (and not responsive)									

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FWS		b5 - DIP (and not responsive)								ES	
FWS		b5 - DIP (and not responsive)								ES	
FWS		b5 - DIP (and not responsive)								ES	

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FWS		b3 - DP (and not responsive)								ES	
FWS										ES	
FWS										ES	
FWS										ES	
FWS										ES	

Bureau	RIN or OMB Control Number	Title	Summary	Type	Estimated Date for DOI Clearance	Critical Date (Judicial, Statutory, or Other)	Current Status	Has Been at Current Status Since (Date)	DCN (Optional)	Program (Optional)	Explain Critical Date if "Other"
FWS		b5 - DP (and not responsive)								ES	
FWS										ES	

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FWS		b5 - DP (and not responsive)								ES	
FWS		b5 - DP (and not responsive)								ES	
FWS		b5 - DP (and not responsive)								ES	

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FWS	b5 - DP (and not responsive)									ES	
FWS											

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FWS		b5 - DP (and not responsive)							ES		
FWS									ES		
FWS									ES		

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FWS		(b) (5) - DPP (and not responsive)								ES	
FWS		(b) (5) - DPP (and not responsive)								ES	

Bureau	RIN or OMB Control Number	Title	Summary	Type	Estimated Date for DOI Clearance	Critical Date (Judicial, Statutory, or Other)	Current Status	Has Been at Current Status Since (Date)	DCN (Optional)	Program (Optional)	Explain Critical Date if "Other"
FWS		b5 - DP (and not responsive)							ES		
FWS		b5 - DP (and not responsive)							ES		

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FWS		(b) (5) - DP (and not responsive)								IA	
FWS		(b) (5) - DP (and not responsive)								IA	

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FWS		(b) - DP (and not responsive)								IA	
FWS										IA	

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FWS		b5 - DP (and not responsive)								IA	
FWS		b5 - DP (and not responsive)								MB	
FWS		b5 - DP (and not responsive)								MB	
FWS		b5 - DP (and not responsive)								MB	

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FWS	1018-BC92	Geological and Geophysical Exploration of the Coastal Plain, Arctic National Wildlife Refuge, Alaska; Exploration Plans; Application Requirements	The proposed rule would amend the regulations that restrict the dates when an application may be submitted for a permit for a geological and geophysical exploration plan on the Arctic National Wildlife Refuge lands described in the Alaska National Interest Lands Conservation Act.	Proposed Rule	Early December				SEN 6553	NWRS	
FWS	b5 - DP (and not responsive)									WSFR	

From: [Taylor, Eric](#)
To: [Donna Dewhurst](#)
Subject: Fwd: Due by NOON Thursday, November 9, 2017: Weekly 30-day Projection Report for Federal Register Documents
Date: Monday, November 6, 2017 10:16:59 AM
Attachments: [FWS entries, 30 day spreadsheet for November 14 2017 MASTER.xlsx](#)

Please copy me on your response. Thanks.

Eric

Eric J. Taylor
Chief, Division of Migratory Bird Management
U.S. Fish and Wildlife Service
1011 E. Tudor Road, MS 201
Anchorage, Alaska 99503-6199
907.786.3446 (office)
907.903.7210 (cell)
eric_taylor@fws.gov

----- Forwarded message -----

From: **Clark, Karen** <karen_clark@fws.gov>
Date: Mon, Nov 6, 2017 at 8:13 AM
Subject: Fwd: Due by NOON Thursday, November 9, 2017: Weekly 30-day Projection Report for Federal Register Documents
To: Theo Matuskowitz <Theo_Matuskowitz@fws.gov>, "Brady, Stephanie" <stephanie_brady@fws.gov>, Donna Dewhurst <donna_dewhurst@fws.gov>, "Hamilton, Charles" <charles_hamilton@fws.gov>
Cc: FW7 Directorate <fw7_directorate@fws.gov>

Please respond as appropriate

Karen P. Clark
Deputy Regional Director
U.S. Fish & Wildlife Service- Alaska Region
1011 E Tudor Rd, MS 374
Anchorage, AK 99503
karen_clark@fws.gov
907.786.3542 office
907.786.3493 direct
907.786.3306 fax

----- Forwarded message -----

From: **Craghead, Anissa** <anissa_craghead@fws.gov>
Date: Mon, Nov 6, 2017 at 3:50 AM
Subject: Due by NOON Thursday, November 9, 2017: Weekly 30-day Projection Report for Federal Register Documents
To: Shaun Sanchez <shaun_sanchez@fws.gov>, Jeffery Donahoe

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<jeffery_donahoe@fws.gov>, "Miller, Kayla" <kayla_miller@fws.gov>, Eric Kershner <eric_kershner@fws.gov>, Ronald Kokel <ronald_kokel@fws.gov>, Gloria Bell <gloria_bell@fws.gov>, Craig Hoover <craig_hoover@fws.gov>, Rosemarie Gnam <rosemarie_gnam@fws.gov>, Tim Vannorman <tim_vannorman@fws.gov>, Robert Curry <robert_curry@fws.gov>, Tom Busiahn <tom_busiahn@fws.gov>, Edward Grace <edward_grace@fws.gov>, Karen Clark <karen_clark@fws.gov>, Madonna Baucum <madonna_baucum@fws.gov>, Theresa Rabot <theresa_rabot@fws.gov>, Joy Nicholopoulos <joy_nicholopoulos@fws.gov>, Charles Wooley <charles_wooley@fws.gov>, Michael Oetker <michael_oetker@fws.gov>, "Eustis, Christine" <christine_eustis@fws.gov>, Matt Hogan <matt_hogan@fws.gov>, Alexandra Pitts <alexandra_pitts@fws.gov>, Aaron Mize <aaron_mize@fws.gov>, John Schmerfeld <john_schmerfeld@fws.gov>, "Van Alstyne, Lisa" <lisa_van_alstyne@fws.gov>, Julie Jackson <julie_jackson@fws.gov>, "Cogliano, Mary" <mary_cogliano@fws.gov>, Gary Frazer <gary_frazer@fws.gov>, Gina Shultz <Gina_Shultz@fws.gov>, Jeff Newman <jeff_newman@fws.gov>, Bridget Fahey <bridget_fahey@fws.gov>, Craig Aubrey <craig_aubrey@fws.gov>
Cc: Sara Prigan <sara_prigan@fws.gov>, Susan Wilkinson <susan_wilkinson@fws.gov>, Katherine Garrity <katherine_garrity@fws.gov>

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If you have any questions, please contact me at anissa_craghead@fws.gov.

Thanks once again for your help with this.

Anissa

*Anissa Craghead
Senior Management Analyst, Division of Policy, Performance, and Management Programs
U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: BPHC
Falls Church, VA 22041-3803
Telephone: 703-358-2445*

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FWS	b5 - DP (and not responsive)	[Redacted]								ABHC	
FWS		[Redacted]								ES	

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FWS		b5 - DP (and not responsive)							ES		

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FWS		b5 - DP (and not responsive)								ES	

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FWS		b5 - DP (and not responsive)							ES		

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FWS		b5 - DP (and not responsive)								ES	
FWS										ES	The Department of Interior determined this notice would be published by 10/30/2017 at latest.

Bureau	RIN or OMB Control Number	Title	Summary	Type	Estimated Date for DOI Clearance	Critical Date (Judicial, Statutory, or Other)	Current Status	Has Been at Current Status Since (Date)	DCN (Optional)	Program (Optional)	Explain Critical Date if "Other"
FWS	b5 - DP (and not responsive)	[Redacted]								ES	
FWS		[Redacted]								ES	
FWS		[Redacted]								ES	

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FWS										ES	
FWS										ES	
FWS										ES	
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FWS		b5 - DP (and not responsive)								ES	
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FWS	b5 - DP (and not responsive)	[Redacted]								ES	
FWS	b5 - DP (and not responsive)	[Redacted]								ES	

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FWS										ES	
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FWS										ES	

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FWS		b5 - DP (and not responsive)								ES	
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FWS		b5 - DP (and not responsive)								IA	
FWS										IA	

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FWS		b5 - DP (and not responsive)								IA	
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FWS		PS - DP (and not responsive)									IA	
FWS		PS - DP (and not responsive)									MB	
FWS		PS - DP (and not responsive)									MB	
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FWS	b5 - DP (and not responsive)									WSFR	

From: [Howard, Amee](#)
To: [Sarena Selbo](#)
Subject: Fwd: FYI - 11.02.17 Hearing Notes for your reference
Date: Friday, November 3, 2017 3:37:21 PM
Attachments: [11.02.17 Detailed Notes - Committee Questions.docx](#)

Hi Sarena,

FYI - In case you would find my hearing notes useful, I have attached my detailed hearing notes from yesterday. I tried to keep them to highlights from each Senator's questions, however, there was a good deal discussion resulting in lengthy notes.

Thanks so much!

Amee

--

Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

Office: (907)786-3509

Mobile: (907)229-8575

<https://www.fws.gov/alaska/>

["Conservation Begins with Hello"](#)

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11.02.17 Detailed Notes - Committee Questions:

For Panel I – No substantive questions and answers

Panel II

Senator Murkowski

- Spoke to the voice of the people of the 1002 area is not heard or often drowned out by outside voices

To Mr. Rexford

- What is the expectation that the people in Kaktovik have from development in the 1002 area?
 - o Expresses that the benefits would come through the North Slope Borough tax base, from their taxes on resource developments; he indicates this would lead to more and better roads, money for schools, and increased infrastructure.

To Lt. Gov. Mallott

- How will development in the 1002 area work without impacting caribou?
 - o Lt. Gov. Mallott indicated that caribou resources have grown; impact of development has been carefully managed and constrained to protect subsistence; priority of subsistence use of fish and game is the state's highest priority.

Senator Cantwell

- States there have been 640 oil spills in Alaska since 1999, references two BP spills from 2009 and 2011

To Mr. Alexander

- What is the biggest concern regarding Caribou?
 - o States that this area is "The sacred place where life begins"; this area is where the caribou calve; the boundaries of the Gwich'in Nation follow the path of the caribou and to imply they are not local people is wrong; reiterates the 1002 area is where their babies are born without the calving area there could be no caribou.

Senator Heinrich

- Discusses his past trip to Alaska where he was able to see oil and gas infrastructure on the North Slope and visit facilities in Deadhorse; talks about his visit to Arctic Village and the stories about the caribou

To Mr. Alexander

- Explain further the importance and the connection to the Gwich'in
 - o This area is the heart of the refuge; speaks to Congressman Young's blue dot on his nose and states that to fix that dot you would not perform open heart surgery; indicates the Gwich'in people do not want anything from the government; indicates the true locals of the area are the caribou and they cannot speak for themselves, so the Gwich'in are speaking for them.

Senator Cassidy

- Speaks about responsible oil and gas development in Louisiana with limited footprints; shows handouts from Sen. Sullivan illustrating 65 acre pad from the past to 12 acre pad of the present; references a project in Alaska that has an extended drilling reach; speaks to the use of ice pads preserving the ecosystem because they melt.

To Lt. Gov. Mallott

- How have the technological advantages modified developments?

- Technology is working on the North Slope, smaller footprints; Technology has allowed us to be aggressively responsive and managed; our ability to respond to issues/concerns has grown.

Senator Cortez Masto

- Reiterates the refuge purposes as they are stated in ANILCA

To Greg Sheehan

- If we open to oil and gas drilling in the Refuge, how is it compatible to the refuge purposes?
 - References the Refuge Act in terms of compatibility; also indicates that at the time of ANILCA sections 1002 and 1003 allowed an avenue for the discussion that was occurring today
- Senator states the USFWS has no position, you are not here to advocate one way or the other

To Lt. Gov. Mallott

- How will this raise \$1Billion?
 - Believes it will raise many multiples of that number. Time is called.

Senator Barrasso

To Lt. Gov. Mallott

- Discusses importance of oil development and filling the capacity of the pipeline; the pipeline is currently at 25% of capacity, we need it at full capacity when we look at needs of our state and nation; this is an opportunity for the state and the nation to have revenue to address existing needs of climate change and jobs; believes there can be coordinated mitigation on the North Slope and the 1002 area.

Senator King

- Indicates that he has some very specific technical questions that Greg may not be able to fully answer, but since he is representing the Department he was going to give it try; the Senator expresses some frustration that the Department believes this is an “OK deal” without the answers to these questions.

To Greg Sheehan

- Asks about the 2000 acres mentioned in legislation (Introduced and current draft)? Would it be contiguous acres? Is it confined to one space or would it be scattered throughout the area with multiple drill sites.
- How many wells are we talking about here?
 - Depends on direction from this Congress
- How many wells would we need to fill 10 billion barrels?
- How would the oil get out? How would it be transported?
 - Pipelines and some roads
- Current cost of extraction?
 - USGS has reported an average of \$42/barrel

Senator Murkowski expresses there will be time to determine how many wells and how many miles of pipeline as work continues.

Senator Cantwell expresses that she and many of her colleagues want to see these details before they vote on it, have answers from the experts.

Senator Daines

- Believes that it is arrogant for Washington DC to be dictating what Alaskans should do

To Greg Sheehan

- Do you believe development will impact caribou?

- Discusses that all types of energy development has impacts on resources; if Congress directs USFWS to accommodate oil and gas exploration and development, then the best science, best management practices, best technologies, and small footprints will be utilized to address impacts.

Senator Stabenow

- Concerned about the direction this issue is going; wishes there was more diversity in the viewpoints here today; feels like this is a political exercise as opposed to really looking to the future.

To Sam Alexander

- What would it mean from your perspective to allow drilling?
 - We have to rely on our caribou to live
 - What does economic development mean? Feels like that is not a real recognition that a subsistence economy is a real thing.
 - Economy? Money to do what? This is a “status” exercise for others not for the Gwich’in people.
 - Our responsibility is to take care of the animals and land like they have cared for us for thousands of years.
 - ANCSA Corporations are not tribes.

Senator Gardner asks a series of environmental process questions of Greg Sheehan; Greg confirms there would be full environmental review and analysis and that leasing likely would not occur for at least 4 to 5 years and for drilling it would take 7 to 10 years.

Senator Gardner

- We have the ability to responsibly and sustainably develop resources and it does not make sense for us to tie the hands of Alaska – Lt. Gov. Mallott agrees.

Senator Franken

- Only 17,000 acres are being utilized by industry of the already 1 million acres of Federal public lands leased for oil and gas development in the state; the administration has also already approved another 10 million acres of Federal lands; Why the Refuge? Why open it?; We should do this as regular order; not on the “cheap” as part of the tax reform plan; We are talking about changing habitat and way of life for indigenous people; Irony – more oil development to combat climate change

To Sam Alexander

- Can you speak to the irony of this issue?
 - We are talking about drilling more oil to combat climate change, it is insanity.

Senator Hrono

- Recommendation to the committee members to resist the urge to compartmentalize this issue from the larger discussion/debate on the GOP tax bill; We should be discussing how to raise royalties from companies already drilling; Thanks Sam Alexander for being there to testify.

To Greg Sheehan

- Asks Greg about the memo from Jim Kurth to change the dates in regulation that would allow for oil exploration now.
 - Confirms there is a memo, but explains that a rule has not been publicly released yet.

Senator Sanders

- General expressions of outrage; expresses that in the future people will ask “What were they thinking?”; we need to lead the world away from oil and gas and toward energy efficiency and sustainable energy.

To Greg Sheehan

- Is Climate Change a hoax?
 - o "I believe climate change is real".

To Lt. Gov. Mallot

- Why is your administration not moving more to Renewables?
 - o Alaska feels and lives with climate change, the State has investments in Renewable Energy as well – wind power.

To Sam Alexander

- What will drilling do to the Gwich'in people?
 - o "We believe drilling will devastate us as a people."
 - o There is the NPR-A, why drill in the refuge?

Senator Manchin

- We live in a country dependent on oil; discusses Pt. Thompson oil development on the North Slope and indicates it has been done responsibly and it is in the same ecosystem as the 1002 area.

To Lt. Gov. Mallott

- Is there a balance that can be achieved here?
 - o Expresses the need for balance and states it is an "absolute" high priority.

Senator Murkowski then reads from Lt. Gov. Mallott's written testimony statements on Alaska's 40+ year track record on the North Slope. Senator Murkowski then speaks to Alaska leading the nation in Renewable energy and gives the example of village micro-grids throughout the state.

Panel III

Senator Mukowski

To Richard Glenn

- Mitigation...how do we do it?
 - o Timing is important, exploration will occur in the winter – not during calving season; From past experience, industry found out that exploration in the summer is not the way to do it, it will leave ruts and destroy tundra; the calendar dictates that machinery will not be around when animals are around; the facilities and pipelines are constructed to mitigate their effects on the caribou – they can pass under the pipelines unhampered.

Senator King

To Aaron Schutt

- 2000 acres – contiguous or scattered?
 - o There would be several sites, non-contiguous
- How many wells are we talking about here?
 - o It may be in the 100's over time

To Dr. Cronin

- What is the calving period?
 - o End of May to the first half of June

To Aaron Schutt

- What data shows the 1002 area is particularly rich or productive? Could we not drill in some of the other areas available?
 - o No answer available from Mr. Schutt
 - o Dr. Cronin suggested to Senator King that contacting USGS would be the best resource for his questions.

Senator Cortez Masto

- Mentions the timing and pace of the hearing and the draft legislation that is supposed to be considered next week, that has not be finalized.

To Lois Epstein

- Question regarding drilling in less sensitive areas such as NPR-A
 - o New efforts are occurring to more accurately measure the resource potential of the NPR-A.
 - o The Wilderness Society feels the NPR-A does represent balance for resource development

To Aaron Schutt

- Question regarding the use of new technology would result in how many bore holes from each pad.
 - o You can assume 10 to 100 surface holes for each pad depending on design.

Senator Heinrich

- Invites committee members and witnesses to look at Prudhoe Bay using Google Earth to see what oil infrastructure in Alaska looks like; it can be expansive and can fully industrialize large areas; expressed frustration that this issue is being addressed in conjunction with the budget process and tax reform; this is a wildlife refuge not a petroleum reserve

To Lois Epstein

- What is a realistic scenario to reach \$1 billion goal?
 - o Alaska is not hugely attractive to the oil industry at an average of \$50/barrel – shale oil is cheaper to produce; due to Alaska’s remoteness, weather extremes, darkness, etc., it can drive industry to other regions of country;

Senator Duckworth

- Express serious concerns regarding catastrophic incidents and that oil and gas extraction at the scale in this budget...it is not a question of if but when.

To Lois Epstein

- What are the concerns and differences responding to oil events in the Arctic? What would the effects of oil spills be to this area? Is there legislation to make spills safer?
 - o If/when problems or spills occur you need to have specialists with Arctic expertise; the logistics of flying in specialists, equipment, gear and the costs associated can be immense.
 - o Varying effects dependent on time of year, it would depend on whether or not the spill occurs on top of ice or into the tundra;
 - o We can’t prevent all spills; no one in industry will give that guarantee.

Senator Franken

- Questioned Dr. Cronin about funding he has received from the oil industry to conduct caribou surveys and caribou data analysis. Dr. Cronin confirmed the funding.

To Lois Epstein

- What is significance of the 1002 area?
 - o The coastal plain is narrow which makes the calving area smaller and finite; speaks to the potential effects of climate change and its ability to impact the size of the coastal plain as well.

To Pat Pourchot

- Speaks to one of the issues surrounding this debate are the unknowns, we do not know how all of the current variables will impact the coastal plan; he asserted that a cautious approach should be taken.

Senator Cantwell

- Felt this hearing and this approach is undermining the Arctic Refuge and undermining management of Federal public lands; expresses that representatives of certain states do not get to make decisions over the Federal public lands in their states “just because you represent that state”.

To Pat Pourchot

- Discuss recent analysis of current science for the Arctic Refuge; references 2015 Comprehensive conservation plan (CCP)
 - o Expresses that it is interesting the 2015 CCP has not been discussed or referenced during the hearing; it is the most recent and current analysis utilizing the best science; the recommendation for wilderness designation is a serious recommendation that has been overlooked during the hearing; the CCP was a 4 or 5 year public process and from that public input and consultation with the tribes wilderness was supported above development.

Closing

Ranking Member - Senator Cantwell expresses frustration regarding the hearing being “stacked” on the pro-development side and states that people should just choose – “do you want to drill or destroy?”, stop the discussion that this could be done without impact; reiterates concern over the process and indicates this issue should not be wrapped into the budget and tax reform efforts of Congress.

Chair - Senator Murkowski disagrees with Senator Cantwell’s position and strongly believes that oil and gas development can be successful and safe for the environment with the new technologies of today; expresses that this is not technology from 40 years ago; feels like the time is now to open the 1002 area, believes it is best for Alaska, Alaskans, and the nation.

From: [Berendzen, Steve](#)
To: [Joanna Fox](#)
Cc: [Stephen Arthur](#)
Subject: Fwd: Lake Peters research
Date: Tuesday, November 7, 2017 12:34:40 PM

Joanna,

Just to let you know that I had a good conversation with Darrell. He's very interested in continuing his work at Lake Peters & possibly expanding beyond to support additional refuge needs. Funding is limited but he thinks he can get enough to probably continue his work - we'd need to discuss in more detail our priority needs & what they can provide or help with.

My call to him was just preliminary to learn of his level of interest & the possibility of expansion for our baseline documentation benefit. Prospects sound good, & we need to get appropriate folks together to discuss further.

Steve Berendzen
Acting Manager, Arctic National Wildlife Refuge
907-456-0253

----- Forwarded message -----

From: Steve Berendzen <steve_berendzen@fws.gov>
Date: Wed, Nov 1, 2017 at 8:25 AM
Subject: Re: Lake Peters research
To: Darrell S Kaufman <Darrell.Kaufman@nau.edu>
Cc: Joanna Fox <joanna_fox@fws.gov>

Sounds good. Please call me then :)

Sent from my iPhone

> On Nov 1, 2017, at 8:58 AM, Darrell S Kaufman <Darrell.Kaufman@nau.edu> wrote:

>

> How's 1:30 Pacific? I can call your cell. Let me know if that works and whether you're in Alaska (= 12:30 AK). Thanks.

>

>

>> On Nov 1, 2017, at 8:49 AM, Steve Berendzen <steve_berendzen@fws.gov> wrote:

>>

>> Darrell, I'm traveling this week & can be reached by cell phone at

>> (b). My schedule is flexible Friday, so if you have a

>> preferred time, please let me know & we can plan on it

>>

>> Sent from my iPhone

>>

>>> On Nov 1, 2017, at 8:40 AM, Darrell S Kaufman <Darrell.Kaufman@nau.edu> wrote:

>>>

>>> Thanks for the reply, Steve. No rush. Friday works well for me. I'll try to track you down in the afternoon. Thanks, Darrell

000000225

>>>>

>>>>> On Nov 1, 2017, at 8:35 AM, Steve Berendzen <steve_berendzen@fws.gov> wrote:

>>>>>

>>>>> Darrel, sorry about the delayed response- the past couple days have been hectic providing info for the Senate Energy hearing that's coming up tomorrow. I expect to have more time later this week - probably Friday, if you might be available to visit by phone

>>>>>

>>>>> Sent from my iPhone

>>>>>

>>>>>> On Oct 29, 2017, at 3:32 PM, Darrell S Kaufman <Darrell.Kaufman@nau.edu> wrote:

>>>>>>

>>>>>> Steve:

>>>>>>> Our data do quantify streamflow, glacier melt, and a few water-quality parameters for the Lake Peters catchment. We are using the data to calibrate a watershed model that should be transferable to other glaciated catchments in the region, and that could be used to predict hydrologic changes under future climate scenarios. Anna's recent finding that meltwater from small glaciers contributes disproportionately to recharging regional aquifers suggests that the rapid loss of glaciers in the NE Brooks Range will have significant consequences. My group is eager to continue our research and monitoring in the area and is motivated to assist the Refuge in addressing management concerns regarding future exploration/development in the 1002 area. With modest funding, we could expand our study to include a more comprehensive inventory of glaciers and other hydrological resources, along with future projections. We now have experience working in the area and could partner with university, refuge and LCC scientists to generate cost-effective datasets and reports.

>>>>>>>

>>>>>>> Wilderness Watch did oppose our application for a special-use permit to conduct research at Lake Peters. In retrospect, I should have reached out to stakeholders prior to submitting the application. I believe that a little advance communication could have avoided some misunderstandings. As part of the process, we toned down our request for motorized equipment and other high-impact activities. We've made a concerted effort to reach out to the interested public, and I think we have demonstrated that we can conduct our research and monitoring with respect for the wilderness values.

>>>>>>>

>>>>>>> I'd be happy to discuss options. I'm available most of the day on Monday for a phone call.

>>>>>>>

>>>>>>> Darrell

>>>>>>>

>>>>>>>> On Oct 27, 2017, at 12:46 PM, Berendzen, Steve <steve_berendzen@fws.gov> wrote:

>>>>>>>>

>>>>>>>>> Darrell,

>>>>>>>>>

>>>>>>>>>> Thanks for providing the dataset. I have some questions for you regarding the data you've collected, and the potential applicability to downstream flows through the 1002 Area. With the possibility of seismic exploration activity and even the potential for future drilling, I'm wondering if your data might provide information on stream flows, glacial melt, and other water quantity and quality parameters.

>>>>>>>>>>

>>>>>>>>>>> My understanding is that your proposed work was controversial for Wilderness

Watch, but the final operating plan was relatively acceptable to them as well as the refuge. I'm curious if you have interest in continuing some of this work? If it supported refuge needs for water quality and quantity data, it could be justified even more easily. If you have interest in continuing this work and you think it would apply to river conditions flowing through the 1002 Area, I would like to discuss this with you.

>>>>>

>>>>> Steve Berendzen

>>>>> Acting Manager, Arctic National Wildlife Refuge

>>>>> 907-456-0253

>>>>>

>>>>> On Mon, Oct 23, 2017 at 4:35 AM, Darrell S Kaufman <Darrell.Kaufman@nau.edu> wrote:

>>>>> Dear Steve, Wendy, and all:

>>>>> I wanted to share some preliminary datasets that we've assembled from Lake Peters and to communicate about the close-out of our research project. The attached pdf file includes a list of datasets that we have collected, and some selected summary plots of various meteorological, hydrological and sedimentological data for the lake and catchment. I'd be happy to tell you more about our results, if you'd like.

>>>>>

>>>>> Our current plan is to remove everything from the research station along with the few instruments that are remaining in the field during the last week of May or first week of June 2018. I expect it will take several days to complete the task. Please let me know if I should submit a request for a special-use permit for this activity.

>>>>>

>>>>> If the Refuge or the Arctic LCC would like for us to continue any of the monitoring that we initiated at the Holmes Research Station beginning in 2015, we would be eager to do so. Our three-year time series of environmental variables shows a remarkable degree of variability from year to year. A longer-term record would more fully quantify the lake-river-catchment system in a region known to be changing faster than just about any place on the planet. Please let me know if there is any interest on behalf of the FWS or the LCC in continuing our monitoring activities.

>>>>>

>>>>> Best regards,

>>>>> Darrell

>>>>>

>>>>> Darrell S. Kaufman, Regents' Professor

>>>>> School of Earth Sciences & Environmental Sustainability

>>>>> Northern Arizona University

>>>>> 928-523-7192

>>>>> <http://jan.ucc.nau.edu/~dsk5/>

>>>>>

>>>>>

>>>>

>>>>

>

>

From: [Ryan Mollnow](mailto:Ryan.Mollnow)
To: [Stephanie Brady](mailto:Stephanie.Brady); [Tracy Fischbach](mailto:Tracy.Fischbach)
Subject: Fwd: Letter from the President -- Arctic National Wildlife Refuge Proposed Designations
Date: Friday, November 3, 2017 1:21:00 PM
Attachments: [ATT00001.htm](#)
[2015anilca.idl.rel.pdf](#)

FYI

Sent from my iPhone

Begin forwarded message:

From: "Campbell, Douglas" <douglas_campbell@fws.gov>
Date: October 30, 2017 at 11:24:18 AM AKDT
To: "Mollnow, Ryan" <ryan_mollnow@fws.gov>
Subject: Fwd: Letter from the President -- Arctic National Wildlife Refuge Proposed Designations

Doug Campbell
Chief Division of Realty
U.S. Fish and Wildlife Service
phone: (907) 786-3907
fax: (907) 786-3901

----- Forwarded message -----

From: Geoff Haskett <geoff_haskett@fws.gov>
Date: Sat, Apr 4, 2015 at 8:29 AM
Subject: Fwd: Letter from the President -- Arctic National Wildlife Refuge Proposed Designations
To: FW7 All Users-dynamic <fw7allusers-dynamic@fws.gov>

Sent from my iPhone

Begin forwarded message:

From: Dan Ashe <d_m_ashe@fws.gov>
Date: April 3, 2015 at 10:18:13 PM AKDT
To: "FWS Directorate & Deputies" <fwsdirectanddep@fws.gov>
Subject: Fwd: Letter from the President -- Arctic National Wildlife Refuge Proposed Designations

000000228

Great day!

Dan Ashe
Director, U.S. Fish and Wildlife Service

Begin forwarded message:

From: "Milakofsky, Benjamin"
<benjamin_milakofsky@ios.doi.gov>
Date: April 3, 2015 at 11:58:09 AM AKDT
To: DOI_Politicals <doi_politicals@ios.doi.gov>
Subject: Fwd: Letter from the President -- Arctic National Wildlife Refuge Proposed Designations

----- Forwarded message -----

From: White House Press Office
<noreply@messages.whitehouse.gov>
Date: Fri, Apr 3, 2015 at 3:52 PM
Subject: Letter from the President -- Arctic National Wildlife Refuge Proposed Designations
To: benjamin_milakofsky@ios.doi.gov

THE WHITE HOUSE
Office of the Press Secretary

FOR IMMEDIATE RELEASE

April 3, 2015

Attached for release and signed by the President today is a letter from the President to the Speaker of the House of Representatives and the President of the Senate on proposed Wilderness and Wild and Scenic Rivers designations for the Arctic National Wildlife Refuge.

###

[Unsubscribe](#)

The White House · 1600 Pennsylvania Avenue, NW · Washington DC 20500 · 202-456-1111

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Ben Milakofsky

Deputy Chief of Staff

Department of the Interior

202-208-3437 (direct)

Ben_Milakofsky@ios.doi.gov

THE WHITE HOUSE

Office of the Press Secretary

For Immediate Release

April 3, 2015

TEXT OF A LETTER FROM THE PRESIDENT
TO THE SPEAKER OF THE HOUSE OF REPRESENTATIVES
AND THE PRESIDENT OF THE SENATE

April 3, 2015

Dear Mr. Speaker: (Dear Mr. President:)

Pursuant to section 304(g)(1) of the Alaska National Interest Lands Conservation Act (ANILCA), Public Law 96-487, the U.S. Fish and Wildlife Service (Service) has revised the Comprehensive Conservation Plan (CCP) and completed an environmental impact statement (EIS) for the Arctic National Wildlife Refuge. The revised CCP will guide the Service's management of the refuge for the next 15 years.

Based on the best available science and extensive public comment, the Service's preferred alternative recommends 12.28 million acres -- including the Coastal Plain -- for designation as wilderness. The Service also recommends four rivers -- the Atigun, Hulahula, Kongakut, and Marsh Fork Canning -- for inclusion into the National Wild and Scenic Rivers System.

The Service's revised CCP and final EIS address a variety of needs, including preserving subsistence uses of local inhabitants, protecting fish and wildlife populations and their habitats, and ensuring opportunities for fish- and wildlife-dependent recreation and other public uses. The revised CCP also strengthens wildlife and habitat monitoring as well as the monitoring of public use of the refuge so as to better respond to changing conditions on the landscape, particularly those associated with climate change.

With these points in mind, and pursuant to the Wilderness Act of 1964, I am recommending that the Congress pass legislation making additions to the National Wilderness Preservation System and the National Wild and Scenic Rivers System that the Service proposed as part of the revised CCP and final EIS for the Arctic National Wildlife Refuge. This area is one of the most beautiful, undisturbed places in the world. It is a national treasure and should be permanently protected through legislation for future generations.

Attached is the letter of recommendation from the Secretary of the Interior and a map of the area.

Sincerely,

BARACK OBAMA

#

000000231

From: [Damberg, Doug](#)
To: [Socheata Lor](#)
Cc: [Mitch Ellis](#)
Subject: Fwd: Questions for the Record -- Arctic Hearing Due to HQ-CLA by COB Tomorrow (AK Time)
Date: Monday, November 6, 2017 6:30:08 PM
Attachments: [Arctic NWR QFRs Assignments FES and Refuges Nov 6.docx](#)

Soch:

I just added one comment in addition to what Mary already had - see attached. Not sure it is worth putting much time into this one given the line of response already inserted.
d

Doug Damberg
Refuge Supervisor, AK North Zone
U.S. Fish and Wildlife Service
1011 E. Tudor Rd.; Anchorage, AK 99503
Office: (907) 786-3329
Cell: (907) 947-6302

----- Forwarded message -----

From: **Colligan, Mary** <mary_colligan@fws.gov>
Date: Mon, Nov 6, 2017 at 2:11 PM
Subject: Re: Questions for the Record -- Arctic Hearing Due to HQ-CLA by COB Tomorrow (AK Time)
To: "Howard, Amee" <amee_howard@fws.gov>
Cc: Mitch Ellis <mitch_ellis@fws.gov>, Socheata Lor <socheata_lor@fws.gov>, "Damberg, Doug" <doug_damberg@fws.gov>, Jenifer Kohout <Jenifer_Kohout@fws.gov>, Patrick Lemons <Patrick_Lemons@fws.gov>, Gregory Siekaniec <gregory_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>, Sara Boario <sara_boario@fws.gov>

A few comments for your consideration

On Mon, Nov 6, 2017 at 1:23 PM, Howard, Amee <amee_howard@fws.gov> wrote:

Hi All,

Please see Barbara Weinman's request below. Ranking Member Senator Cantwell, Senator Wyden, and Senator Sanders has sent a list of Questions.

I am happy to assist with consolidation and get it to Karen for review. Let me know what what works best for the R7 team. I can coordinate with Devin and the HQ-CLA team.

Thanks so much!
Amee

----- Forwarded message -----

From: **Wainman, Barbara** <barbara_wainman@fws.gov>
Date: Mon, Nov 6, 2017 at 5:11 PM
Subject: Questions for the Record -- Arctic Hearing
To: Greg Siekaniec <greg_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>

000000232

Cc: Martin Kodis <Martin_Kodis@fws.gov>, "Helfrich, Devin" <devin_helfrich@fws.gov>

Thank you for all your help with preparation for last week's hearing. We received the Questions for the Record from the hearing and we are requesting your quick help with drafting responses to some of the questions. We need your responses by COB (your time) Tomorrow, Tuesday, November 7.

The Questions for the Record are attached. We have noted questions that we would like Region 7's help with responses, and we also included some draft text to help frame our response. Please keep responses brief and coordinate with Devin Helfrich on the responses.

Specifically, the questions we would like Region 7 to help answer are:

Questions:

Cantwell – 1

Cantwell – 2

Cantwell – 4

Cantwell -- 5

Wyden – 1

Wyden – 2

Sanders – 6 (only last part regarding the ESA)

Sanders – 7

If you have any questions, feel free to reach out to Marty Kodis or Devin Helfrich in CLA. Thank you so much for your help and sorry for the short turn around time.

Barbara W. Wainman
Assistant Director, External Affairs
US Fish and Wildlife Service
(202) 208-5256 (office)
(571) 471-4159 (cell)

--

Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

Office: (907)786-3509

Mobile: (907)229-8575

<https://www.fws.gov/alaska/>

["Conservation Begins with Hello"](#)

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Mary Colligan

000000233

Assistant Regional Director
Fisheries and Ecological Services
U.S. Fish and Wildlife Service, Alaska Region
1011 E. Tudor Road, MS-361
Anchorage, AK 99503
907-786-3505
cell: 907-223-5945

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze effects, avoid and minimize effects, and ensure that development, if authorized, proceeds in way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? [CLA and R7 – Yes. Only Congress can authorize oil development in the 1002 area of Arctic National Wildlife Refuge. If authorized, it should only be undertaken consistent with all environmental laws.](#)

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act? [CLA and Refuges HQ \(Scott\) – Yes.](#)

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the "1002 Area" or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Is the Arctic Refuge still being managed according to this plan? CLA and R7 – Yes, the refuge is managed according to the current CCP, which recommended to Congress that the Coastal Plain of the Arctic National Wildlife Refuge be designated Wilderness. In Alaska, FWS manages such proposed Wilderness as Minimal Management areas, and we do so for the Coastal Plain.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA – R7 - The 2015 CCP is the current management plan for the Arctic National Wildlife Refuge and the Service continues to administer the refuge consistent with this plan and it's underlying science. If Congress enacts legislation that authorizes oil and gas leasing in the 1002 Area of the refuge, the Service will assess whether and how to update the CCP.

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We've heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won't damage the Refuge?

CLA and R7 - ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws to analyze effects, avoid and minimize effects and ensure that development proceeds in way that is consistent with all applicable laws. It is not possible to conduct any development of natural resources without some negative environmental effects. Applicable environmental laws do require no effects, but they ensure effects are avoided or minimized.

Question 2: I am also concerned about the potential for oil spills. We've heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there's a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the "1002 Area" or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7 - Framework answer: ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws to analyze effects, avoid and minimize effects, including by preventing spills and minimizing the effects of spills, including through the deployment of recovery crews. We will ensure that development proceeds in way that is consistent with all applicable laws.

b5 DP

Questions from Senator Bernard Sanders

Question 1: Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels toward energy efficiency and sustainable energy like wind, solar, and geothermal? CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy.

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Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

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What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

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CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

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Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd's continued health.

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Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold

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at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

From: [Howard, Amee](#)
To: [Mitch Ellis](#); [Socheata Lor](#); [Damberg, Doug](#); [Mary Colligan](#); [Jenifer Kohout](#); [Patrick Lemons](#)
Cc: [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#)
Subject: Fwd: Questions for the Record -- Arctic Hearing Due to HQ-CLA by COB Tomorrow (AK Time)
Date: Monday, November 6, 2017 3:23:18 PM
Attachments: [Arctic NWR QFRs Assignments .docx](#)

Hi All,

Please see Barbara Wainman's request below. Ranking Member Senator Cantwell, Senator Wyden, and Senator Sanders has sent a list of Questions.

I am happy to assist with consolidation and get it to Karen for review. Let me know what what works best for the R7 team. I can coordinate with Devin and the HQ-CLA team.

Thanks so much!
Amee

----- Forwarded message -----

From: **Wainman, Barbara** <barbara_wainman@fws.gov>
Date: Mon, Nov 6, 2017 at 5:11 PM
Subject: Questions for the Record -- Arctic Hearing
To: Greg Siekaniec <greg_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>
Cc: Martin Kodis <Martin_Kodis@fws.gov>, "Helfrich, Devin" <devin_helfrich@fws.gov>

Thank you for all your help with preparation for last week's hearing. We received the Questions for the Record from the hearing and we are requesting your quick help with drafting responses to some of the questions. We need your responses by COB (your time) Tomorrow, Tuesday, November 7.

The Questions for the Record are attached. We have noted questions that we would like Region 7's help with responses, and we also included some draft text to help frame our response. Please keep responses brief and coordinate with Devin Helfrich on the responses.

Specifically, the questions we would like Region 7 to help answer are:

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Cantwell – 2
Cantwell – 4
Cantwell -- 5
Wyden – 1
Wyden – 2
Sanders – 6 (only last part regarding the ESA)
Sanders – 7

If you have any questions, feel free to reach out to Marty Kodis or Devin Helfrich in CLA. Thank you so much for your help and sorry for the short turn around time.

Barbara W. Wainman

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Assistant Director, External Affairs
US Fish and Wildlife Service
(202) 208-5256 (office)
(571) 471-4159 (cell)

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Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

Office: (907)786-3509

Mobile: (907)229-8575

<https://www.fws.gov/alaska/>

["Conservation Begins with Hello"](#)

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Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze effects, avoid and minimize effects, and ensure that development proceeds in way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? **CLA and R7 – Yes.**

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act? **CLA and Refuges HQ (Scott) – Yes.**

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

Is the Arctic Refuge still being managed according to this plan? **CLA and R7 – Yes, the refuge is managed according the current CCP, which recommended to Congress that the Coastal Plain of the Arctic National Wildlife Refuge be designated Wilderness. In Alaska, FWS manages such proposed Wilderness as Minimal Management areas, and we do so for the Coastal Plain.**

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Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We've heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won't damage the Refuge?

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Question 2: I am also concerned about the potential for oil spills. We've heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there's a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

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From: [Helfrich, Devin](#)
To: [Amee Howard](#)
Subject: Fwd: Questions for the Record -- Arctic Hearing
Date: Monday, November 6, 2017 3:16:38 PM
Attachments: [Arctic NWR QFRs Assignments .docx](#)

Hey Amee, I think Barbara meant to send this to you too

[Devin Helfrich](#)

Congressional Legislative Affairs Specialist
U.S. Fish and Wildlife Service
Office Direct: (703) 358-2130
Mobile: (202) 365-5971



----- Forwarded message -----

From: **Wainman, Barbara** <barbara_wainman@fws.gov>
Date: Mon, Nov 6, 2017 at 5:11 PM
Subject: Questions for the Record -- Arctic Hearing
To: Greg Siekaniec <greg_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>
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Question 4: Scientists tell us that we must work keep to keep fossil fuels in the ground if we are to avoid the most dangerous impacts of climate change. The U.S. Geological Survey estimates that more than 10 billion barrels of recoverable oil could be held in the Arctic Refuge. How does extracting this oil from the Arctic Refuge help the U.S. transform its energy system, as quickly as possible, from one based on carbon-intensive fuels to one based on clean, sustainable sources? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the**

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hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy

Question 5: According to the State of Alaska, there have been over 640 oil spills on Alaska’s North Slope since 1995, 13 of which were greater than 10,000 gallons. Since 2009, tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope. In April, a BP oil well leaked crude oil and gas for several days due to damage caused by pressure from thawing permafrost. The Alaska Oil and Gas Conservation Commission issued an emergency order to review all wells on the North Slope of Alaska due to the threat posed by warming permafrost.

Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA– I am not aware of any specific projects proposed for the 1002 Area ...XXXXX.

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

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What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ? Framework answer: ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws, including the Endangered Species Act and National Environmental Policy Act, to analyze effects, avoid and minimize effects and ensure that development proceeds in way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and that mitigating measures are prescribed that avoid and minimize effects to prevent jeopardizing the continued existence of the species. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd’s continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? CLA and R7 – Framework answer: ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws to analyze effects, avoid and minimize effects and ensure that development proceeds in way that is consistent with all applicable laws. Should Congress enact legislation to authorize energy development in the 1002 Area, applicable laws do not require guarantees to avoid all adverse impacts.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich’in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich’in Nation and preserves their relationship with the herd? CLA and R7 – answer similar to above

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

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From: [Howard, Amee](#)
To: [Mitch Ellis](#); [Mary Colligan](#); [Socheata Lor](#); [Damberg, Doug](#)
Subject: Fwd: Review Request - Arctic Refuge Questions for the Record
Date: Tuesday, November 7, 2017 12:55:46 PM
Attachments: [11.07.17 Arctic NWR QFRs Assignments R7-Clean .docx](#)
[11.07.17 Arctic NWR QFRs Assignments R7-Track Changes .docx](#)

FYI - Here are the versions that I sent to Greg and Karen for review with everyone's comments/edits combined.

Thank you all for your time and assistance in this effort!!
Amee

----- Forwarded message -----

From: **Howard, Amee** <amee_howard@fws.gov>
Date: Tue, Nov 7, 2017 at 10:53 AM
Subject: Review Request - Arctic Refuge Questions for the Record
To: Gregory Siekaniec <gregory_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>, Sara Boario <sara_boario@fws.gov>

Hi All,

I have attached a clean version and a track changes version of the Questions for the Record. We were assigned specific questions for our response and they are highlighted in Gray in the clean version. The green highlighted responses are from HQ-CLA.

Please review at your earliest convenience and let me know your edits. Once those are incorporated, I will submit to HQ-CLA.

Thanks so much!
Amee

--

Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

Office: (907)786-3509

Mobile: (907)229-8575

<https://www.fws.gov/alaska/>

["Conservation Begins with Hello"](#)

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Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the coastal plain (1002 area) of the Arctic National Wildlife Refuge be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development, if authorized, proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? CLA and R7 – Only Congress can authorize oil and gas development in the 1002 area of Arctic National Wildlife Refuge. If authorized, it should only be undertaken consistent with all environmental laws.

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act?
CLA and Refuges HQ (Scott) – Yes.

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

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Is the Arctic Refuge still being managed according to this plan? CLA and R7 – Yes, the refuge is managed according to the current CCP, which recommended to Congress that the coastal plain (1002 area) of the Arctic National Wildlife Refuge be designated Wilderness. In Alaska, U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so for the coastal plain.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA – R7 - The 2015 CCP is the current management plan for the Arctic National Wildlife Refuge and the USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas leasing in the 1002 area we will assess whether and how to update the 2015 CCP.

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We’ve heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won’t damage the Refuge?

CLA and R7 - ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. It is not possible to conduct any development of natural resources without some negative environmental effects.

Question 2: I am also concerned about the potential for oil spills. We’ve heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

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Since oil spills have happened in places where there’s a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7 - Framework answer: Access to the Refuge would be dependent upon weather and environmental conditions. Recovery crews would have as much access as safe and practicable and within the guidelines of existing laws. ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects and recommend measures to avoid or reduce negative impacts. A credible spill prevention or disaster recovery plan may establish best management practices that would likely include the deployment of recovery crews which in total may reduce the potential for spills and/or minimize the effects of spills. We will ensure that development proceeds in a way that is consistent with all applicable laws.

Questions from Senator Bernard Sanders

Question 1: Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels toward energy efficiency and sustainable energy like wind, solar, and geothermal? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy.**

Question 2: Do you agree with the vast majority of scientists that the combustion of fossil fuels contributes to climate change? **CLA and OCL – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity, including the combustion of fossil fuels.**

Question 3: During your testimony, you said that the Trump administration is being “forward looking” with regard to advancing renewable energy technologies. However, the Administration’s proposed budget has called for a 70% cut to the Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) and zeroing out of ARPA-E. Additionally, the Administration has announced its intention to leave the Paris Climate Accord and proposed to repeal the Clean Power Plan. Can you please explain how such actions are helping advance renewable energy technology? Can you please provide any examples of ways the Trump Administration has increased support for renewable energy since taking office? **DOI is addressing this Question.**

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CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy

Question 5: According to the State of Alaska, there have been over 640 oil spills on Alaska’s North Slope since 1995, 13 of which were greater than 10,000 gallons. Since 2009, tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope. In April, a BP oil well leaked crude oil and gas for several days due to damage caused by pressure from thawing permafrost. The Alaska Oil and Gas Conservation Commission issued an emergency order to review all wells on the North Slope of Alaska due to the threat posed by warming permafrost.

Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA– I am not aware of any specific projects proposed for the 1002 Area ..XXXXX.

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

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The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ? Framework answer: ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act (ESA), the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and designated critical habitat and that mitigating measures are prescribed to avoid or reduce effects that may jeopardize the continued existence of the species or adversely modify or destroy designated critical habitat. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd’s continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? CLA and R7 – Framework answer: ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. If Congress enacts legislation to authorize oil and gas development in the 1002 area, applicable laws do not require guarantees to avoid all adverse impacts.

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What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich'in Nation and preserves their relationship with the herd? CLA and R7 – The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the 1002 area, we will consult with all affected Federally recognized tribes to consider their concerns and establish measures in an effort to avoid or reduce negative impacts to the Porcupine Caribou Herd.

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

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Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the coastal plain (1002 area) of the Arctic National Wildlife Refuge be considered for energy-oil and gas development. -The Administration supports legislation to authorize that development and we will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects, recommend measures to avoid and/or minimize effects, reduce negative effects/impacts, and ensure that development if authorized proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? [CLA and R7 – Yes. Only Congress can authorize oil and gas development in the 1002 area of Arctic National Wildlife Refuge. If authorized, it should only be undertaken consistent with all environmental laws.](#)

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act? [CLA and Refuges HQ \(Scott\) – Yes.](#)

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

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Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We've heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won't damage the Refuge?

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RS-DP

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Question 5: According to the State of Alaska, there have been over 640 oil spills on Alaska’s North Slope since 1995, 13 of which were greater than 10,000 gallons. Since 2009, tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope. In April, a BP oil well leaked crude oil and gas for several days due to damage caused by pressure from thawing permafrost. The Alaska Oil and Gas Conservation Commission issued an emergency order to review all wells on the North Slope of Alaska due to the threat posed by warming permafrost.

Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA – I am not aware of any specific projects proposed for the 1002 Area ...XXXXXX

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the "1002 Area" or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ? Framework answer: ANILCA intended the 1002 area be considered for ~~energy-oil and gas~~ development. -The Administration supports legislation to authorize that development, ~~and~~ We will follow all applicable laws, including the Endangered Species Act ~~and~~ (ESA), the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects, recommend measures to -avoid ~~and or minimize effects-reduce negative impacts; effects~~ and ensure that development proceeds in a way that is consistent with all applicable laws. -Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species ~~and designated critical habitat and that mitigating measures are prescribed that to avoid and or minimize-reduce effects to prevent jeopardizing that may jeopardize~~ the continued existence of the species ~~or adversely modify or destroy designated critical habitat~~. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd's continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? ~~BS-OP~~

BS-OP

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

laws. Should If Congress enacts legislation to authorize energy-oil and gas development in the 1002 Area, applicable laws do not require guarantees to avoid all adverse impacts.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich'in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich'in Nation and preserves their relationship with the herd? CLA and R7 – answer similar to above The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the 1002 area, we will consult with all affected Federally recognized tribes to consider their concerns and establish measures in an effort to avoid or reduce negative impacts to the Porcupine Caribou Herd.

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

From: [Lewis, Cecilia](#)
To: [John Netto](#); [Callie McMunigal](#); [Chris Metcalf](#); [Cynthia Williams](#); [Dan Castleberry](#); [Jessica Hogrefe](#); [Julie Henning](#); [Karin Eldridge](#); [Lisa Heki](#); [Mary Colligan](#); [Michael Daigneault](#); [Stephanie Byers](#); [Walter Boltin](#); [Will Duncan](#); [William Rice](#)
Subject: Fwd: Weekly Congressional Affairs Update
Date: Friday, November 3, 2017 2:26:50 PM
Attachments: [11.3.17.docx](#)

This week's Congressional updates are attached.

Cecilia M. Lewis, National Coordinator
National Fish Habitat Partnership
U.S. Fish and Wildlife Service
Cecilia_Lewis@fws.gov
703-358-2102 (office)
703-615-9961 (cell)

Mailing Address

U.S. Fish and Wildlife Service
5275 Leesburg Pike, MS: FAC
Falls Church, VA 22041

----- Forwarded message -----

From: **Kodis, Martin** <martin_kodis@fws.gov>
Date: Fri, Nov 3, 2017 at 4:22 PM
Subject: Weekly Congressional Affairs Update
To:

Hello folks. Please find attached the CAU for Congressional actions taken this past week related to the Fish and Wildlife Service.

Of particular interest to the Service, yesterday, Principal Deputy Director Greg Sheehan presented the Department of the Interior's testimony on oil and gas exploration and development in the 1002 Area of the Arctic National Wildlife Refuge before the Senate Committee on Energy and Natural Resources. The Committee is instructed by the FY18 budget resolution (H.Con.Res71) to raise at least \$1 billion in revenue and is expected to introduce and mark up legislation to carry out that instruction.

Thank you,

Marty

--

Martin Kodis
Chief, Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service

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Falls Church, VA 22041

000000271

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CONGRESSIONAL AFFAIRS UPDATE

*Division of Congressional and Legislative Affairs
U.S. Fish and Wildlife Service*

November 3, 2017

2017 Congressional Recess Schedule

Senate	Holidays & Special Days	House
Nov. 10	Veterans Day Nov. 10 (Observed)	Nov. 10
Nov. 20 – Nov. 24	Thanksgiving Day Nov. 23	Nov. 20 – Nov. 24
Dec. 18 – Dec. 29	Christmas Day Dec. 25	Dec. 18 – Dec. 29

UPDATES ON LEGISLATION OF INTEREST

House Passes Resilient Federal Forests Act

On Wednesday, November 1, the House of Representatives voted 232-188 to pass H.R. 2936, the Resilient Federal Forests Act. The bill seeks to streamline environmental review for certain forest management activities by providing for categorical exclusions under NEPA and certain exemptions from ESA consultation requirements. The bill also includes language addressing requirements for reinitiating consultation on certain land management plans, as well as provides for an arbitration pilot program in place of existing litigation and judicial review, among other things. The bill next goes to the Senate for consideration.

The White House issued a Statement of Administration Policy supporting the intent of the bill, which can be viewed here:

https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/saphr2936hr_20171031.pdf

HEARINGS AND MARKUPS OF INTEREST

Service Testifies at Committee Hearing on Energy Development in Arctic NWR

On Thursday, November 2, the Senate Committee on Energy and Natural Resources held a hearing on the potential for oil and gas exploration and development in the 1002 Area of the Arctic National Wildlife Refuge to raise at least \$1 billion in revenue pursuant to the reconciliation instructions included in the FY18 budget resolution (H.Con.Res.71). The Service's Principal Deputy Director Greg Sheehan testified before the Committee on behalf of the Department of the Interior. Senators spoke to many issues of interest to the Service, including:

- **Chairman Lisa Murkowski (R-AK)** discussed how advances in technologies reduce the environmental footprint of oil and gas activities; the ability of wildlife like caribou to

coexist with oil and gas infrastructure; the relatively small size of the 2,000 acre proposed development compared to the whole Arctic NWR; the benefits of oil and gas revenues to the State of Alaska and U.S. Treasury; and the national security benefits of increasing domestic fossil fuel production.

- **Sen. Catherine Cortez Masto (D-NV)** asked how oil and gas exploration would be compatible with the Arctic NWR purposes outlined in the Refuge’s Comprehensive Conservation Plan and the Alaska National Interest Lands Conservation Act.
- **Sen. Cory Gardner (R-CO)** asked whether existing environmental laws, including NEPA, would be applicable should Congress pass legislation allowing oil and gas development in the 1002 Area of the Refuge.
- **Sen. Bernie Sanders (D-VT) and Al Franken (D-MN)** asked about the impacts of climate change and the relationship with energy development.

For more information, please visit: <https://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=97CD66D2-BD9D-49AD-87EB-DE4C68A888DF>

House Subcommittee Examines Shark Finning Policies, Enforcement and Reporting

On Thursday, November 2, the House Committee on Oversight and Government Reform Subcommittee on the Interior, Energy, and Environment held an oversight hearing titled “Examining the Regulation of Shark Finning in the United States.” Members spoke to many issues of interest to the Service, including:

- **Chairman Blake Farenthold (R-TX)** asked about the value of shark meat and efforts to reduce demand for shark fin consumption, particularly in China. He also asked about the challenges of enforcing the state’s shark fin trade ban.
- **Ranking Member Stacey Plaskett (D-USVI)** asked about the impacts of climate change on ocean temperatures, shellfish, sharks, and coral reefs. She also discussed the importance of coral reefs to beach protection and sharks.
- **Rep. James Comer (R-KY)** asked about the response of the restaurant industry to state bans on the shark fin trade; how Texas law enforcement has responded to illegal fishing by Mexican fishermen; and whether sustainable shark fisheries could be a solution.

For more information, please visit: <https://oversight.house.gov/hearing/examining-regulation-shark-finning-united-states/>

Senate Committee Hearing on Subsistence Rights and International Treaties

On Tuesday, October 31, the Senate Committee on Commerce, Science, and Transportation Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard, held a hearing titled “Exploring Native American Subsistence Rights and International Treaties” to examine the cultural, economic and noncommercial use of fish and marine mammals for subsistence hunting. The hearing focused primarily on the harvest of bowhead whales for subsistence hunts.

For more information, please visit:

<https://www.commerce.senate.gov/public/index.cfm/hearings?ID=75E3C313-8727-400B-8E2B-53F88223A95D>

House Natural Resources Committee Holds Hearing on Three Water Bills

On Thursday, November 2, the House Natural Resources Subcommittee on Water, Power and Oceans held a legislative hearing on three bills related to water management, one of which is of interest to the Service. H.R. 1176, the Keep America's Waterfronts Working Act, sponsored by Rep. Chellie Pingree (D-ME-1), amends the Coastal Zone Management Act of 1972 to establish a working waterfront task force and working waterfront grant program.

For more information, please visit:

<https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=403204>

House Committee Holds Markup of Weather Resilience, Data Management and Civil Service Legislation

On Thursday, November 2, the House Committee on Oversight and Government Reform marked up a number of bills, including several of interest to the Service. All of the bills passed favorably out of committee.

- H.R. 4174, the Foundations for Evidence-Based Policymaking Act, sponsored by Speaker Paul Ryan (R-WI-1), encourages agencies to collect better data and designate chief evaluation officers, among other provisions. Passed by voice vote.
- H.R. 4174, the Preparedness and Risk Management for Extreme Weather Patterns Assuring Resilience and Effectiveness (PREPARE) Act, sponsored by Rep. Matt Cartwright (D-PA-17), establishes an interagency council to help communities prepare for natural disasters and boost resilience to extreme weather. Passed by voice vote.
- H.R. 4182, the Ensuring a Qualified Civil Service Act of 2017, sponsored by Rep. James Comer (R-KY-1), expands the probationary periods for federal employees looking to take top career management jobs in their agencies. Passed 19-17.
- H.R. 1132, the Political Appointee Burrowing Prevention Act, sponsored by Rep. Ken Buck (R-CO-4), prevents the appointment of an employee in a political position in the civil service to a career position in the civil service for two years after the individual leaves such a political position. Passed by voice vote.
- H.R. 4043, the Whistleblower Protection Extension Act of 2017, sponsored by Rep. Rod Blum (R-IA-1), requires inspectors general to designate a "whistleblower protection coordinator" to help those exposing waste and fraud in agencies. Passed by voice vote.

For more information, please visit:

<https://oversight.house.gov/markup/full-committee-business-meeting-51/>

UPCOMING HEARINGS

Committee to Discuss Hydropower Policy Legislation

On Monday, November 6, the House Committee on Rules will hold a meeting to discuss H.R. 3043, "Hydropower Policy Modernization Act," sponsored by Rep. Cathy McMorris Rogers (R-WA-5), as well as a bill relating to joint employer rules. The bill was marked up and amended by the House Committee on Energy and Commerce on June 28. The meeting is scheduled for 5:00 p.m. in H-313 Capitol Building.

For more information, please visit:

<https://rules.house.gov/news/announcement/meeting-announcement-hr-3043-and-hr-3441>

Committee to Discuss Challenges to Puerto Rico Recovery Efforts

On Tuesday, November 7, the House Committee on Natural Resources will hold an oversight hearing titled “Examining Challenges in Puerto Rico’s Recovery and the Role of the Financial Oversight and Management Board.” The hearing is scheduled for 10:00 a.m. in 1324 Longworth House Office Building.

For more information, please visit:

<https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=403224>

Subcommittee to Discuss Draft Legislation to Overhaul Federal Lands Energy Policy

On Tuesday, November 7, the House Committee on Natural Resources Subcommittee on Energy and Mineral Resources will hold a legislative hearing to discuss draft legislation on the distribution of revenues from offshore energy leases, the establishment of wind lease sale requirements, and incidental take permitting of marine mammals under the Marine Mammal Protection Act. The hearing is scheduled for 2:00 p.m. in 1324 Longworth House Office Building.

For more information, please visit:

<https://naturalresources.house.gov/calendar/eventsingle.aspx?EventID=403237>

INTRODUCED LEGISLATION OF INTEREST

S.2074 — A bill to establish a procedure for the conveyance of certain Federal property around the Jamestown Reservoir in the State of North Dakota, and for other purposes.

Sponsor: Sen. Hoeven, John [R-ND] (Introduced 11/02/2017) Cosponsors: (0)

Committees: Senate - Energy and Natural Resources

Latest Action: Senate - 11/02/2017 Read twice and referred to the Committee on Energy and Natural Resources.

S.2068 — A bill to discourage litigation against the Forest Service and the Bureau of Land Management relating to land management projects, to require the Secretary of the Interior to develop a categorical exclusion for covered vegetative management activities carried out to establish or improve habitat for greater sage-grouse and mule deer, to address the forest health crisis on National Forest System land, to expedite and prioritize forest management activities to achieve ecosystem restoration objectives, and for other purposes.

Sponsor: Sen. Barrasso, John [R-WY] (Introduced 11/02/2017) Cosponsors: (3)

Committees: Senate - Environment and Public Works

Latest Action: Senate - 11/02/2017 Read twice and referred to the Committee on Environment and Public Works.

S.2049 — A bill to amend the Agricultural Credit Act of 1978 to increase support for conservation practices under the emergency conservation program, and for other purposes.

Sponsor: Sen. Moran, Jerry [R-KS] (Introduced 11/01/2017) Cosponsors: (0)

Committees: Senate - Agriculture, Nutrition, and Forestry
Latest Action: Senate - 11/01/2017 Read twice and referred to the Committee on Agriculture, Nutrition, and Forestry.

S.2046 — A bill to amend titles 5 and 44, United States Code, to require Federal evaluation activities, improve Federal data management, and for other purposes.

Sponsor: Sen. Murray, Patty [D-WA] (Introduced 10/31/2017) Cosponsors: (1)

Committees: Senate - Homeland Security and Governmental Affairs

Latest Action: Senate - 10/31/2017 Read twice and referred to the Committee on Homeland Security and Governmental Affairs.

H.R.4231 — To amend title 5, United States Code, to provide requirements for agency decision making based on science.

Sponsor: Rep. Norman, Ralph [R-SC-5] (Introduced 11/02/2017) Cosponsors: (13)

Committees: House - Judiciary

Latest Action: House - 11/02/2017 Referred to the House Committee on the Judiciary.

H.R.4230 — To require the timely publication of any research source code and data used by a Federal agency in assessing the costs and benefits of new regulations, and for other purposes.

Sponsor: Rep. Meadows, Mark [R-NC-11] (Introduced 11/02/2017) Cosponsors: (7)

Committees: House - Judiciary

Latest Action: House - 11/02/2017 Referred to the House Committee on the Judiciary.

H.R.4212 — To amend the Agricultural Credit Act of 1978 to increase support for conservation practices under the emergency conservation program, and for other purposes.

Sponsor: Rep. Marshall, Roger W. [R-KS-1] (Introduced 11/01/2017) Cosponsors: (0)

Committees: House - Agriculture

Latest Action: House - 11/01/2017 Referred to the House Committee on Agriculture.

H.R.4209 — To rebuild the Nation's infrastructure, provide a consumer rebate to the American people, assist coal country, reduce harmful pollution, and for other purposes.

Sponsor: Rep. Larson, John B. [D-CT-1] (Introduced 11/01/2017) Cosponsors: (16)

Committees: House - Ways and Means, Transportation and Infrastructure, Energy and Commerce, Agriculture, Education and the Workforce, Natural Resources, Science, Space, and Technology

Latest Action: House - 11/01/2017 Referred to the Committee on Ways and Means, and in addition to the Committees on Transportation and Infrastructure, Energy and Commerce, Agriculture, Education and the Workforce, Natural Resources, and Science, Space, and Technology, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned.

H.R.4208 — To reduce the risk posed by wildfires to communities and the most at-risk federally owned forests.

Sponsor: Rep. Thompson, Mike [D-CA-5] (Introduced 11/01/2017) Cosponsors: (1)

Committees: House - Natural Resources, Agriculture

Latest Action: House - 11/01/2017 Referred to the Committee on Natural Resources, and in addition to the Committee on Agriculture, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned.

H.R.4202 — To amend the Animal Welfare Act to prohibit animal fighting in United States territories.

Sponsor: Rep. Roskam, Peter J. [R-IL-6] (Introduced 11/01/2017) Cosponsors: (8)

Committees: House - Agriculture

Latest Action: House - 11/01/2017 Referred to the House Committee on Agriculture.

H.R.4182 — EQUALS Act of 2017

Sponsor: Rep. Comer, James [R-KY-1] (Introduced 10/31/2017) Cosponsors: (3)

Committees: House - Oversight and Government Reform

Latest Action: House - 11/02/2017 Ordered to be Reported by the Yeas and Nays: 19 - 17.

H.R.4179 — To amend title 54, United States Code, to apply the same apportionment formula to territories and the District of Columbia as is applied to States with respect to amounts made available for State purposes from the Land and Water Conservation Fund, and for other purposes.

Sponsor: Rep. Bordallo, Madeleine Z. [D-GU-At Large] (Introduced 10/31/2017) Cosponsors: (5)

Committees: House - Natural Resources

Latest Action: House - 10/31/2017 Referred to the House Committee on Natural Resources.

H.R.4177 — PREPARE Act of 2017

Sponsor: Rep. Cartwright, Matt [D-PA-17] (Introduced 10/31/2017) Cosponsors: (13)

Committees: House - Transportation and Infrastructure, Oversight and Government Reform

Latest Action: House - 10/31/2017 Referred to the Committee on Transportation and Infrastructure, and in addition to the Committee on Oversight and Government Reform, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the of the committee concerned.

H.R.4174 — Foundations for Evidence-Based Policymaking Act of 2017

Sponsor: Rep. Ryan, Paul D. [R-WI-1] (Introduced 10/31/2017) Cosponsors: (3)

Committees: House - Oversight and Government Reform

Latest Action: House - 10/31/2017 Referred to the House Committee on Oversight and Government Reform.

From: [Bowen, Diane](#)
To: [Patrick Lemons](#); [Charles Hamilton](#); [Christopher Putnam](#); [Lilian Carswell](#); [Cat Darst](#)
Cc: [Jenifer Kohout](#); [Mary Colligan](#); [Don Morgan](#)
Subject: GAO Audit - Addressing Commitments
Date: Monday, November 6, 2017 2:01:23 PM
Attachments: [IHA 120-Day Processing - Table.docx](#)

Good Day All,

We will need to address the commitments made in response to the recommendations of the GAO Report on Seismic Surveys. I've not received feedback on whether or not we'll be allowed 8 months to complete the table and guidance. But, in the meantime, I figure we can begin working on them as time allows.

I've slightly revised the table mentioned in our response to the GAO recommendation that the Service analyze its time frames for processing IHAs and compare it to the statutory time frame of 120 days (see attached). I've provided dates for most of the columns based on the FR notice and the issued IHA; although a few of the dates don't quite agree between the FR notice and the issued IHA so, it would be helpful to double-check the "Date received" and the "Date issued." I'm not able to input the dates the application was determined to be "adequate and complete" so, please provide this date for the IHAs processed in your office. Also, note that I added a column that will allow us to explain reasons why the 120-day time frame was not met (unless it was). I need to ask your input for this column, too.

I've also been thinking about how to address the recommendation that the Service develop guidance that clarifies how and when to record the "adequate and complete" date for processing incidental take authorizations. b5-DP (and not responsive)

Anyhow, the main purpose of the guidance would be to ensure consistent recording of dates. So, I have a few thoughts that may begin to address this recommendation.

b5-DP (and not responsive)

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

b5-OP (and not responsive)

[Redacted]

b5-OP (and not responsive)
[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted] nyhow, I'm open to other thoughts and suggestions. Please share any comments and let me know what you think.

Thanks, Diane.

Diane Bowen
National Marine Mammal Coordinator
U.S. Fish and Wildlife Service Headquarters
MS: ES
5275 Leesburg Pike
Falls Church, VA 22041-3803
703/358-1709

	Applicant	Date Received	Date of FR Notice	Date Determined “adequate & complete”	Date issued	Dates of effectiveness	Met 120—day timeframe (Y/N) or Explanation why 120-day timeframe was not met
1	AOGA- Shell Offshore, Inc.	Jan 13 2006	May 8 2006		June 29 2006 (IHA-06-01)	June 29, 2006- Nov 30, 2006	
2	AOGA-Conoco Phillips AK Inc	Feb 10 2006	May 8 2006		June 29 2006 (IHA-06-02)	June 29, 2006- Nov 30, 2006	
3	AOGA-GTX Houston	Feb 10 2006	May 8 2006		June 29 2006 (IHA-06-03)	June 29, 2006- Nov 30, 2006	
4	Univ of TX- Austin Institute for Geophys/ USCG “Healy”	Mar 17 2006	June 22 2006		July 24, 2006 (IHA-06-03)	July 24, 2006- Aug 26, 2006	
5	Shell Explor & Prod. Co.	Apr 4 2007	June 1 2007		July 20, 2007 (IHA-07-01)	July 20, 2007- Nov 30, 2007	
6	Akutan Airport-AKDOT	July 9 2008	Aug 27 2008		Nov 10, 2008 (IHA-08-01)	May 1, 2009- April 30, 2010	
7	Akutan Airport-AEB	July 9 2008	Aug 27 2008		Nov 10, 2008 (IHA-08-02)	May 1, 2009- April 30, 2010	
8	Akutan Airport-AKDOT	Jan 25 2010	June 8 2010		July 12, 2010 (IHA-10-01)	July 1, 2010- June 30, 2011	
9	Akutan Airport-AEB	Jan 25 2010	June 8 2010		July 12, 2010 (IHA-10-02)	July 1, 2010- June 30, 2011	
10	Akutan Airport-AKDOT	Feb 11 2011	Apr 1 2011		June 1, 2011 (IHA-11-01)	July 1, 2011- June 30, 2012	
11	Akutan Airport-AEB	Feb 11 2011	Apr 1 2011		June 1, 2011 (IHA-11-02)	July 1, 2011- June 30, 2012	
12	NOAA - Parsons Slough	Apr 27 2010	July 20 2010		Oct 6, 2010 (IHA-10-01)	Oct 6, 2010- Mar 1, 2011	
13	Pacific Gas & Electric	Jun 28 2012; revised – Aug 31 2012	Sept 26 2012	N/A	Not issued	N/A	

14	Apache AK Corp	Apr 15 2014	Aug 29 2014	Apr 15 2014	Nov 10, 2014 (IHA-14-01)	Mar 1, 2015- Apr 30, 2016	
15	SAExploration, Inc.	Oct 28 2013	Aug 29 2014	Apr 15 2014	Nov 10, 2014 (IHA-14-02)	Nov 1, 2014- Oct 31, 2015	
16	BlueCrest AK Operating LLC	Apr 15 2014	Aug 29 2014	Apr 15 2014	Nov 10, 2014 (IHA-14-03)	Nov 1, 2014- Oct 31, 2015	
17	USCG	July 2013; revised - Apr 3 2014; revised - June 20 2014	Sept 30 2014		Nov 3, 2014 (IHA-14-01)	Nov 1, 2014- Oct 31, 2015	
18	Shell Explore/ Production	Sept 7 or 14, 2015?	N/A	N/A	Denied Sept 23 2015	N/A	
19	SAExploration, Inc.	Aug 24 2015	N/A	N/A	Withdrew Mar 22 2016	N/A	
20	BlueCrest	Nov 12 2015	May 13 2016		Withdrew		
21	Quntillion Subsea Operations, LLC	Oct 29 2015; updated - Feb 3 2016; add. changes - Apr 25 2016	June 23 2016		Aug 11 2016 (IHA-16-01)	Aug 11, 2016 - Nov 15, 2016	
22	CA Dept of Fish & Wildlife Elkhorn Slough	May 23 2016	Jan 19 2017		June 23 2017 (IHA-17-01)	Aug 1, 2017 - July 31, 2018	
23	Quintillion Subsea Operations, LLC	Nov 28 2016; amended - Jan 19 2017; add. info - Feb 10 2017	June 1 2017		July 18 2017 (IHA-17-01)	July 18, 2017- Nov 15, 2017	
24	USCG	Feb 2017; revised - July 11 2017					

From: [Google Alerts](#)
To: sara_boario@fws.gov
Subject: Google Alert - Arctic National Wildlife Refuge
Date: Saturday, November 4, 2017 11:00:32 AM

Google Alerts

Arctic National Wildlife Refuge

Daily update - November 4, 2017

NEWS

[The Arctic National Wildlife Refuge should not be open to further oil exploration](#)

The Hill (blog)

After last week when the U.S. Senate voted 52-48 to advance drilling in the **Arctic National Wildlife Refuge**, there is no question that this issue is front ...

[Lawmakers Are Again Fighting Over Drilling In The Fragile Arctic Wildlife Refuge](#) - HuffPost

[Alaskan senator takes next step to opening wildlife refuge for drilling](#) - ThinkProgress

[Canada sees Arctic National Wildlife Refuge drilling threat to border-crossing caribou](#) - Pittsburgh Post-Gazette

[Full Coverage](#)



Flag as irrelevant

[Sen. Maria Cantwell cuts Lt. Gov. Byron Mallott off during ANWR testimony](#)

Must Read Alaska (blog)

Gov. Byron Mallott tends to go long in his remarks. As a Tlingit elder, he holds forth when given the microphone. It can be tedious. But you don't ...



Flag as irrelevant

[Drill, baby, drill: GOP aims to sell wilderness drilling rights — dirt cheap](#)

Salon

On Thursday, the Senate Committee on Energy and Natural Resources held a hearing to open up a huge chunk of the **Arctic National Wildlife Refuge** ...



Flag as irrelevant

[Key energy breaks survive in House overhaul](#)

E&E News

The **ANWR** provision is expected to be folded into the Senate's tax reform bill, which under special budget rules is exempted from a Democratic ...

[New Mexico delegation split on GOP tax cut plan](#) - Las Cruces Sun-News

[Full Coverage](#)



Flag as irrelevant

[Walker: Trump plans meeting with Pacific governors](#)

Washington Post

... where Walker testified before a U.S. Senate committee Thursday in support of opening a portion of the **Arctic National Wildlife Refuge** to oil and gas ...



Flag as irrelevant

[Senate littered with tax reform land mines](#)

Politico

... who secured a major perk in the budget measure that set up a tax overhaul: A chance to raise cash by opening the **Arctic National Wildlife Refuge** to ...



Flag as irrelevant

[Republican tax plan would cut credits for wind, electric vehicles](#)

Midwest Energy News

Lisa Murkowski says climate change is real, but she still wants to open the **Arctic National Wildlife Refuge** to fossil fuel companies. (New York Times).



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[North Korea says 'a nuclear war may break out any moment'](#)

WPXI Pittsburgh

The national security adviser said Trump would address North Korea's a portion of the **Arctic National Wildlife Refuge** to oil and gas exploration.



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[protect the arctic national wildlife refuge](#)

Donate - Wildlife Conservation Society

The **Arctic National Wildlife Refuge** is one of America's last wild places, home to polar bears, caribou, wolverines, musk oxen, and over 200 species of ...



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[VIDEO: Heinrich Fights To Protect Arctic National Wildlife Refuge](#)

Senator Martin Heinrich

Senator Heinrich also noted that allowing drilling in the **Arctic National Wildlife Refuge** sets a dangerous precedent of opening up more of America's ...





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Nuns Stand With Native Alaskans to Oppose Drilling in the **Arctic National Wildlife Refuge**

Earther

“The **Arctic National Wildlife Refuge** is a part of God's creation that stands alone in its wilderness, ecological integrity, and beauty,” a Nov. 1 letter to ...



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[Geology gets political as federal scientists pursue new ANWR oil assessment](#)

KTOO

Pond on ANWR coastal plain. The Trump administration is asking federal geologists for a new assessment of the area's oil potential. (Photo courtesy ...

[Demientieff: Sen. Gardner, please ask yourself: "What legacy do we want to leave?"](#) - The Durango Herald

[Climate change vs. responsible development at Senate ANWR hearing](#) - Alaskajournal.com

[Alaska Wants To Drill For More Oil To Cover The Costs of Climate Change](#) - Newsweek
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Ketchikan Daily News

The Republican-controlled U.S. Senate has started taking steps toward opening the Arctic National Wildlife Refuge to extracting and selling oil. Senate ...



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[Protect Alaska's Wildlife Refuge from Oil & Gas Companies](#)

5 Calls: Make your voice heard

That provision is the first step in reversing the 37-year ban on oil and gas drilling in Alaska's Arctic National Wildlife Refuge (ANWR). The GOP sees ...



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[Drilling in the Arctic National Wildlife Refuge is more likely now than ever before](#)

PRI

The porcupine caribou is one of many species that rely on the coastal plain section of the **Arctic National Wildlife Refuge** for breeding and migration.

[Let's put an end to short-term public land grabs](#) - Chicago Tribune
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[Developing ANWR, Alaska can strike a balance](#)

Juneau Empire

The development in the 1002 Area of **ANWR**, while up to 10 years away from drilling activity, would be an incredible boost to Alaska's economy, even ...



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[A governor, the economy & climate](#)

Fairbanks Daily News-Miner

His challenge with this two-headed approach of climate consciousness and seeking oil production from **ANWR** and elsewhere in the state will be to ...



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[Outdoors | Proposal to increase fees at national parks draws criticism](#)

The Columbus Dispatch

Outdoors | Proposal to increase fees at national parks draws criticism ... to allow oil drilling in the 19.6 million-acre **Arctic National Wildlife Refuge**, ...



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[Republicans Want to Allow Drilling in an Alaskan Wildlife Refuge. But Oil Companies Might Not be ...](#)

TIME

The Tax Cuts and Jobs Act includes a provision to allow drilling in the **Arctic National Wildlife Refuge**, also referred to as **ANWR**, in part because it ...

[Taxes, ANWR and nominees take center stage](#) - E&E News

[Senate panel probes potential oil, gas development in non-wilderness acres of Arctic National ...](#) -

Daily Energy Insider

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[Will the energy industry even want to drill in ANWR?](#)

Washington Examiner

Republicans are closer than ever to achieving their long-time goal of allowing oil and natural gas drilling in the **Arctic National Wildlife Refuge**, but ...



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[Keep refuge off-limits](#)

Las Vegas Sun

Here we go again. The Senate voted recently to advance a budget bill that includes revenue from drilling in the **Arctic National Wildlife Refuge**.



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[Trump urged Native American leaders to extract resources from their land: report](#)

The Hill

Trump has made rolling back regulations a key part of his administration, including opening the **Arctic National Wildlife Refuge** to drilling.



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[Daily on Energy: Clean energy advocates make their push while Trump's away](#)

Washington Examiner

WILL THE ENERGY INDUSTRY EVEN WANT TO DRILL IN **ANWR**? Republicans are closer than ever to achieving their long-time goal of allowing oil ...



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[Jill Latiano's Wiki: Age, Instagram, Net Worth, & Facts about Glenn Howerton's Wife](#)

Earn The Necklace

The stunning landscape that is the **Arctic National Wildlife Refuge** is now in the crosshairs of Congress. Full story:<https://t.co/SJP5DA3t9G>.



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[University of Minnesota AgCultures Team Heads to South America on Adventure Learning ...](#)

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[WATCH LIVE: US Senate starts hearing on opening ANWR for drilling](#)

KTUU.com

All three, as they have previously done, testified to the benefits that opening ANWR for drilling would present for both the state of Alaska, and for the ...

[Alaskans differ as Senate debates drilling in Arctic refuge](#) - ABC News

[Senators spar over proposal to drill in Alaska wildlife refuge](#) - The Hill

[Lisa Murkowski says drilling in Alaska refuge can raise \\$1 billion](#) - Washington Examiner

[Full Coverage](#)



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[Sen. Maria Cantwell cuts Lt. Gov. Byron Mallott off during ANWR testimony](#)

Must Read Alaska (blog)

Gov. Byron Mallott tends to go long in all of his remarks. As a Tlingit elder, he holds forth when given the microphone. It can be tedious. But you don't ...



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[Sonoma West Letters to the Editor, Nov. 2, 2017](#)

Sonoma West

I urge our legislators to stand up for the breathtaking Arctic National Wildlife Refuge by opposing oil drilling exploration and instead supporting the ...



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[Udall having second thoughts on vote for Zinke](#)

Albuquerque Journal

call with reporters to discuss his opposition to oil drilling in Alaska's Arctic National Wildlife Refuge. In late May, Zinke ordered the Interior Department ...



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Murkowski: \$1 Billion Can Be Raised by Opening Alaska Refuge to Drilling

Newsmax

Rexford: "... we know development in **ANWR** can be done safely because it's already being done safely- all over the Arctic." #1002area #**ANWR**.

[Governor Walker, Lt. Governor Mallott Testify in Congressional Hearing on 1002 Area](#) - Alaska

Native News

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Thursday Letters: Where is the America I remember?

Florida Times-Union

Yet the U.S. Senate recently voted to advance a budget bill that includes revenue from drilling in the **Arctic National Wildlife Refuge**. Congress ...



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Overnight Energy: Dems grill Trump NASA pick | House passes wildfire reform bill | Court rejects ...

The Hill

... Resources Committee will hold its first hearing on potential drilling the **Arctic National Wildlife Refuge (ANWR)**. Allowing drilling in parts of **ANWR** is ...



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The Hill

... "The Potential for Oil and Gas Exploration in the 1002 Area," as Republicans look at allowing drilling in parts of the **Arctic National Wildlife Refuge**.



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Heinrich To Participate In Senate Hearing On Arctic National Wildlife Refuge

Senator Martin Heinrich

Senator Heinrich is an original cosponsor of legislation to designate a portion of the **Arctic National Wildlife Refuge** as wilderness and recently called ...



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Opening the Arctic Refuge to Drilling Doesn't Make Sense

National Audubon Society

The Senate budget calls for \$1 billion in revenues for the federal treasury to be raised by opening the **Arctic National Wildlife Refuge** to oil and gas ...



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[Geology gets political as federal scientists pursue new ANWR oil assessment](#)

Alaska Public Radio Network

ond on ANWR coastal plain. The Trump administration is asking federal geologists for a new assessment of the area's oil potential. (Photo courtesy of ...



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[Getting their hands dirty](#)

Ashland Daily Tidings

U.S. Fish and Wildlife Service actually funded some of our monarch habitat projects, so the **U.S. Fish and Wildlife Service** sees it as important to ...



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NEWS

[Alaskans differ as Senate debates drilling in Arctic refuge](#)

Juneau Empire

Congress is a step closer to opening **Alaska's** Arctic National Wildlife Refuge to oil and gas drilling. A budget ... (**U.S. Fish and Wildlife Service**).

[Lawmakers Are Again Fighting Over Drilling In The Fragile Arctic Wildlife Refuge](#) - HuffPost

[Canada sees Arctic National Wildlife Refuge drilling threat to border-crossing caribou](#) - Pittsburgh

Post-Gazette

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[Wolf hunt may be expanded on Prince of Wales Island](#)

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Donald Hernandez, center, of Point Baker, Patricia Phillips, of Pelican, and Michael Douville, of Craig, right, listen to Terry Suminski, with the **U.S.** ...



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[On Thin Ice: Walrus Threatened After US Declines To List As Endangered](#)

NPR

While the **U.S. Fish and Wildlife Service** acknowledged sea ice is declining due to climate ... Pacific walrus live in the Bering and Chukchi seas between **Alaska** and Russia, where they perch on sea ice and the mainland coasts.



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[Nushagak AC favors more local moose hunting](#)

Dutch Harbor Fisherman

(Much of the research is done in conjunction with the **U.S. Fish and Wildlife Service**, which manages the Togiak NWR lands that make up a large part ...



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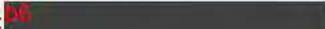
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Oil and gas news briefs from Larry Persily.

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Oil and gas news briefs for Nov. 6, 2017

[U.S. LNG providers hope to win share of expiring supply contracts](#)

(Bloomberg; Nov. 2) - The \$90 billion-a-year liquefied natural gas market will be reshaped in 2018 as several large, long-term contracts start to expire. Growing supplies from the U.S., higher demand in Europe and Asia, and geopolitical tension surrounding Russia and Qatar, the world's top suppliers, promise to shift long-time trading patterns. For decades the majority of LNG bought and sold around the world was governed by long-term contracts of up to 20 years. A fifth of those will expire from 2018 to 2020.

Over the next decade, contracts governing 80 percent of all global LNG trade will be rewritten. For now, the LNG market is in the midst of an enormous supply glut, in part because of the advent of U.S. exports the past two years. That glut is likely to persist until at least 2020, keeping prices low. Most LNG contracts expiring next year involve buyers in Europe, where countries are trying to reduce their reliance on Russian pipeline gas. Europe's quest for more LNG could offer an opening for U.S. exporters.

Meanwhile, the world's top LNG exporter, Qatar, is looking to expand its market share. It recently announced plans to boost LNG production by 30 percent over the next several years. One of the key advantages for the U.S. is its vast shale reserves, along with a pipeline network that allows exporters to bring gas from all over the country to export facilities being developed along the Gulf Coast, ensuring a steady supply. U.S. LNG providers hope to sign big deals in 2018, which could shave billions of dollars off the trade deficit with Japan, South Korea and China. "(It's) going to be a pivotal year," said Kathleen Eisbrenner, CEO of NextDecade, which proposes a terminal in Texas.

[China's winter demand pushes up spot-market price for LNG](#)

(Reuters; Nov. 3) - China is hoovering up liquefied natural gas cargoes worldwide, pushing spot prices for the fuel above those for oil-indexed cargoes, as the country's energy providers scramble to avoid a looming winter supply crunch. China has moved

000000300

millions of households from burning dirty coal to cleaner gas this year, pushing up import demand amid an already tightening overall Asian market. Most Asian LNG supplies are delivered under long-term contracts with prices linked to crude oil.

But with the upcoming winter heating season, Chinese utilities and gas importers have turned to the LNG spot market in desperation to cover themselves to meet surging demand, chartering tankers from as far away as Norway. "We expect China National Offshore Oil Corp., PetroChina and Sinopec to buy 30 percent more on the spot market in the next three months compared with last year to help boost supplies," said Jiang Jin, a gas analyst at JLC Energy. "LNG terminals are running at full capacity."

"The Chinese are in panic mode. They clearly underestimated the push in demand from their gasification program. Now they are soaking up LNG spot cargoes where they can. And suppliers are happy to deliver, at a premium," said a trader with a major commodity merchant. Asian spot LNG prices have soared by more than two-thirds since May to \$9 per million Btu, above oil-linked prices of about \$8. "I'm fairly certain China will break a new import record very soon and spot prices will break through \$10," the trader said.

Japan wants to build power plants in countries that buy U.S. LNG

(Yomiuri Shimbun; Nov. 3) - The Japanese and U.S. governments plan to conclude a memorandum to strengthen bilateral cooperation in the energy field during President Donald Trump's summit with Prime Minister Shinzo Abe, the Yomiuri Shimbun has learned. Trump and Abe will meet Nov. 6. The cooperation will include joint efforts to boost U.S. natural gas exports to developing nations in Asia, Africa and elsewhere, and to expand Japanese infrastructure exports, such as power plant equipment.

The government plans to use about ¥1 trillion (just under \$9 billion) in financial support through joint public-private projects for emerging economies that import liquefied natural gas, sources said. The government has made expanding exports of Japanese-made "high-quality infrastructure" one of its economic growth strategies. The government expects that U.S. efforts to build the LNG industry would help increase the number of overseas infrastructure orders placed with Japanese companies.

Hammering out cooperation in the energy field is also aimed at deflecting the Trump administration's displeasure over the U.S. trade deficit with Tokyo. The memorandum reportedly says that Japan will tap private-public cooperation to establish LNG-related facilities and other plants in emerging economies that will lead to increased U.S. gas exports. Such infrastructure likely will include construction of gas pipelines and highly efficient thermal power plants that use LNG — fields in which Japan excels.

[Japanese, Chinese shipowners partner up on Russian LNG charters](#)

(World Maritime News; Nov. 2) - Japanese shipping major Mitsui O.S.K. Lines said Nov. 2 that China COSCO Shipping Corp. will take an equity stake in MOL's wholly owned subsidiary that will own four liquefied natural gas carriers serving Russia's Yamal LNG project under long-term charter contracts. MOL said ownership will be split 50-50 between MOL and China COSCO.

The ships are intended for delivery and deployment for Yamal in 2019 and 2020, and will transport LNG from the Russian Arctic project to Europe. This is the fourth joint LNG project involving MOL and COSCO Shipping. Other deals involved ExxonMobil, China oil and gas company Sinopec, and ice-class LNG carriers for the Yamal LNG project. The number of vessels co-owned by MOL and COSCO Shipping will total 17 by 2020.

[India's oil and gas minister says LNG suppliers need to adjust](#)

(The Hindu Business Line; India; Nov. 2) - The global natural gas market is undergoing a major transformation driven by new supplies, said India's Minister for Petroleum and Natural Gas Dharmendra Pradhan. "All industry players will need to adjust their operating models. They should expect softer prices, more short-term trades, and demands for contractual flexibility," Pradhan said, addressing the seventh Asian Ministerial Energy Roundtable in Bangkok.

In addition to the U.S., Australia and Qatar ramping up their liquefied natural gas output, he said, "new suppliers such as Mozambique, Tanzania, Egypt, Israel, Canada and Cyprus are expected to enter the LNG market in the coming years." The minister added, "It is expected that more than 100 million tonnes per year of new liquefaction capacity is expected to come onstream 2017-2020, mainly from Australia and the U.S."

Indian companies have signed long-term contracts for about 22 million tonnes per year from different supply sources around the world such as Qatar, Australia, Russia and the U.S., Pradhan said. "They have signed contracts linked to different (price) indices. ... In order to reduce the delivered cost of LNG to the Indian market, Indian importers have adopted innovative approaches."

[Chinese company wants to export gas from Ethiopia](#)

(Bloomberg; Nov. 2) - China Poly Group plans to start exporting natural gas from Ethiopia's eastern Ogaden basin by mid-2019 as it continues to explore near the border with Somalia, Petroleum Minister Motuma Mekassa said. Gas from the Calub and Hilala fields will be transported along a 435-mile pipeline to a port complex being built in neighboring Djibouti, Motuma said. "They want to export the gas to Asia," Motuma said.

Ethiopia is developing gas finds to diversify its economy, the fastest-growing in Africa over the past decade. POLY-GCL Petroleum, a partnership between China Poly and closely held Hong Kong-based Golden Concord, signed five production-sharing agreements with Ethiopia in 2013 to explore a 45,000-square-mile area in the Ogaden basin. The project is being financed by the China Development Bank. Ethiopian soldiers are providing security around the acreage owned by POLY-GCL, the minister said.

POLY-GCL's first exports of LNG are planned to start within 30 months when the new port in Djibouti is expected to be operational, he said. The port will include a small-volume gas liquefaction plant. Djibouti has secured \$4 billion in financing "from different sources" that will enable work on the project to start, the minister added. Gas reserves were first discovered in the Ogaden basin in 1972 by a U.S. company, Tenneco, which was expelled from the country five years later by a Marxist military junta.

[New owner of proposed LNG project in Oregon still hopeful](#)

(Platts; Nov. 3) - The new developer of the proposed Jordan Cove LNG terminal in Oregon said Nov. 3 it is positive about the project's potential and interest it continues to receive from prospective customers. But Calgary-based Pembina Pipeline cautioned that construction costs would play into its decisions about future budgeting. Pembina, which operates a network of oil and gas pipelines in Canada, took over the venture in Coos Bay, Ore., when it bought fellow Canadian pipeline operator Veresen last month.

"It is a huge project and we're looking at it carefully," Pembina CEO Mick Dilger said during a call to discuss third-quarter results. Jordan Cove LNG would provide an outlet for Western Canadian and Rockies gas, but U.S. LNG export developers have been struggling amid fears of a global supply glut as they try sign long-term agreements with buyers to help raise the billions of dollars they need to build the terminals.

The Federal Energy Regulatory Commission cited Jordan Cove's failure to show sufficient demand for its \$10 billion project — to outweigh negative impacts from its pipeline through Oregon — as a key reason for the agency's March 2016 denial of the application. Veresen later reported it had signed preliminary agreements with customers and submitted a new application to FERC this year. Pembina said Nov. 3 it is targeting a final investment decision for 2019 and a potential 2024 in-service date.

Rising spot price for LNG reduces its competitive edge against oil

(Bloomberg; Nov. 3) - A shrinking discount for liquefied natural gas vs. oil will stoke competition for buyers in some markets heading into the winter heating season, said Madeline Jowdy, senior director of global gas and LNG at Pira Energy Group in New York. Rising winter demand has driven up spot-market prices for LNG, making some cargoes less competitive against oil for power generation and industrial use.

WGI Northeast Asia Spot LNG, a regional benchmark, was recently assessed at \$9.20 per million Btu, \$1.37 less than what December Brent crude oil would cost Nov. 2 on an energy-equivalent basis. The spread in favor of LNG was more than \$3 in June. "When LNG reaches or surpasses oil parity, it means that some more price-sensitive utilities or industrial users will switch to oil," Jowdy said. India is one example where industries would switch. Japanese and Korean utilities may follow if the narrow discount holds.

Bangladesh grants 10-year tax holiday to LNG import terminal

(The Daily Star; Bangladesh; Nov. 3) – Bangladesh's National Board of Revenue has granted a 10-year tax exemption to the builder and owner of the country's first liquefied natural gas import terminal to help facilitate the import of gas to help overcome a growing energy crisis. Excelerate Energy Bangladesh, a subsidiary of U.S.-based Excelerate Energy, will build the floating storage and regasification terminal with capacity to send 500 million cubic feet of gas per day into the national distribution grid.

The Revenue Board said the builder and owner of the terminal will be exempt from income taxes on the project. Excelerate Energy will hand over the \$180 million terminal to state-run Petrobangla after 15 years of operations, as per its contract. The LNG import terminal at Moheshkhali is expected to be in service by the middle of 2018, Excelerate Energy said in July. It will enable Petrobangla to increase the country's gas supply by up to 20 percent, sufficient to generate up to 3,000 megawatts of power.

The government in 2010 decided to import LNG against a backdrop of growing local demand and falling domestic reserves of gas. A second import operation is due for commissioning by next October.

Gas is plentiful and affordable, but its clean energy is debatable

(Financial Times; UK; Oct. 30) - Burning natural gas to generate electricity has often seemed like an expensive luxury. Convenient and (relatively) clean, gas-fired plants have always been an attractive option, but have been limited by the availability and cost of fuel. So much so that the U.S. Powerplant and Industrial Fuel Use Act of 1978 banned the construction of gas-fired or oil-fired power plants that did not also have the ability to burn coal or another alternative fuel, because of fears of gas shortages.

As recently as 2008, Fulvio Conti, then CEO of the Italian electricity group Enel, said using gas to fuel power plants is like “burning champagne” — appealing in many ways, but ruinous if you try to do it for too long. Since the U.S. shale revolution, however, gas has become increasingly plentiful. There are shale gas plays worldwide, and countries are attempting to emulate the boom that lifted U.S. output by 50 percent over 2005-15.

The world is now awash with gas, and lower prices are boosting demand. Yet as price and supply concerns have eased, questions about its environmental credentials have started to pile up. Gas-fired power is generally much cleaner than coal in terms of fine particulates and the nitrogen and sulfur oxides that cause smog and acid rain, but the net impact is muted if gas displaces zero-emissions renewables and nuclear.

And although gas emits much less carbon dioxide per megawatt hour than coal, it is a potent greenhouse gas. Leaks from production, processing and transport, by some counts, mean there is little or no net emissions benefit from switching from coal to gas. Other studies, however, show there are “robust climate benefits” from switching to gas.

Fracking set to resume in U.K. 6 years after tremors shut down work

(Reuters; Nov. 2) - Six years after Britain’s first fracking effort was stymied by tremors, its shale gas industry is ready to try again to transform the U.K. gas market and cut its reliance on imports. While environmental concerns over fracking have not gone away, changes to the energy landscape since 2011 have added more complexity to the effort to exploit Britain’s shale gas. Liquefied natural gas imports are cheaper, and last year’s vote to exit the European Union stoked fears of the security of Britain’s energy supplies.

Gas is used to heat as much as 80 percent of British homes, which make up 35 percent of demand, with power plants at 33 percent. About 60 percent of that gas is imported, up from 40 percent less than 10 years ago. The figure could reach almost 95 percent by 2040 as North Sea reserves run out. Weaning Britain off imports is one of the driving forces behind government support for hydraulic fracturing to free gas from shale rock.

The British Geological Survey estimates shale resources in northern England could

contain 1,300 trillion cubic feet of gas. Shortly after fracking started in Blackpool in April 2011, a tremor registering 2.3 on the Richter scale woke residents. It was followed by a 1.4 magnitude tremor a month later, prompting an 18-month ban on fracking nationwide while more research was carried out. The government has since introduced a traffic-light system that suspends work if any seismic activity of 0.5 or above is detected.

Cuadrilla, the first company to attempt fracking in the U.K., expects to begin fracking in Lancashire by early next year. Third Energy wants to begin fracking before the end of the year in Yorkshire. Explorers are anxious to see how estimates match up to reality.

Shale gas helps fuel boom in U.S. petrochemical investment

(Bloomberg; Nov. 3) - A decade ago, chemicals were just another fading U.S. manufacturing business. Companies were reluctant to invest in factories because of soaring prices for the oil and gas that serve as both raw materials and power sources. They were closing plants and moving production to the Mideast to save money. "The conventional wisdom was we are not going to produce a lot of petrochemicals here," said Kevin Swift, chief economist at the American Chemistry Council, an industry group.

Today, Dow, ExxonMobil and Chevron Phillips Chemical are putting the finishing touches on multibillion-dollar plants along the Texas Gulf Coast. They are part of \$185 billion in proposed and recently completed investments, the chemistry council said. Credit fracking. A torrent of cheap gas has made the U.S. among the most profitable places to produce chemicals, beating out the Middle East in attracting projects. U.S. exports of polyethylene plastic to Asia will rise more than five-fold by 2020, with China as the primary destination, said research company IHS Markit.

Almost 20 factories are being built or expanded to convert gas liquids such as ethane and propane into ethylene, the most used petrochemical and the main ingredient in polyethylene plastic. The investment is not limited to the Gulf Coast. Shell has started building an ethylene complex outside Pittsburgh that will begin production in the early 2020s. Shell sees an advantage in being closer to Appalachian shale gas as well as to customers that turn plastic pellets into goods such as packaging, trash bags and bottles.

Small operators in Oklahoma say large horizontals damage their wells

(EnergyWire; Oct. 31) - A unique set of rules has evolved in Oklahoma that allows two companies to pump oil from the same patch of dirt, sometimes in the same formation. But it's not going smoothly. Instead, it has left a trail of older wells damaged by "frack hits,"

flummoxed state regulators and started a civil war within the state's oil industry. The fallout has roiled a state where the small wildcatter is as revered as the family farmer. Most of those wells were drilled when wells went one direction — straight down.

But state leaders have allowed large independent producers, like Newfield Exploration, Devon Energy and Chesapeake Energy, to drill long horizontal wells for up to 2 miles through those old oil fields. Small producers complain the larger companies are siphoning off their oil and damaging their older, vertical wells with high-pressure hydraulic fracturing. They say state officials are allowing it, even encouraging it.

The horizontal wells are allowed as close as 600 feet to the vertical wells, sometimes closer. The underground fractures sometimes reach vertical wellbores and flood them with sand and fluid. A small drillers' group commissioned a study estimating more than 400 wells have been damaged by such "frack hits" in just one county. State oil and gas regulators say they've confirmed 20 such incidents, which sometimes lead to surface spills. Larger drillers say their smaller rivals are exaggerating the problem. But they say if state rules favor horizontal drillers, it's because they have the same interests as the state — pumping as much oil out of the ground as quickly and efficiently as possible.

TransCanada's pipeline capacity plan upsets Alberta gas producers

(Calgary Herald; Oct. 31) – Some natural gas producers in Alberta are frustrated with TransCanada for changing the way it operates its gas pipeline network, which has led to massive commodity price swings. TransCanada operates the largest and most far-reaching network of gas pipelines in Alberta and is the sole outlet for many producers to transport their gas to markets.

TransCanada now gives producers that have firm-service contracts on its gas pipelines priority over shippers that use the service intermittently. Previously, TransCanada would scale back service for firm-service shippers to around 80 percent of contracted capacity during maintenance to make allowances for spot shippers. The uninterrupted, 100 percent service benefit for fixed-service shippers now means at times of maintenance or outages that TransCanada entirely cuts service to shippers with interruptible contracts.

Many gas producers have had to shut in production at some of their wells in response to swings in gas prices to avoid selling their gas for virtually nothing in the spot market. Some producers believe the change in service should have been communicated much earlier to allow them to prepare. Natural gas prices at Alberta's pricing hub have been extremely volatile in September and October — jumping from a closing-day average spot price of about \$2 per thousand cubic feet to a negative 35 cents on some days.

[Exxon leaves one but may join other LNG import project in Pakistan](#)

(Reuters; Oct. 30) - ExxonMobil has pulled out of a major LNG import terminal project in Pakistan, in a potential blow to plans to boost imports of liquefied natural gas after years of winter shortages. Differences among the six-member group behind the project in Port Qasim in Karachi mean that French oil major Total and Japan's Mitsubishi may also quit and join Exxon in a rival project, government officials and industry sources told Reuters.

A senior Pakistani government official put the chances of success for the Port Qasim project, set to be Pakistan's third and biggest by import capacity, at 10 to 20 percent due to the partner disagreements. The project that Exxon is leaving would include a floating receiving, storage and regasification unit, where the LNG will be converted back into gas and fed into the country's grid. Exxon is pulling out because it had "issues with partners," particularly the Turkish developer, one Pakistani energy official said.

Qatar Petroleum, the world's biggest LNG producer, Turkish developer Global Energy Infrastructure and Norway's Hoegh LNG, which will provide the floating facility, are the other partners. While Exxon has pulled out, it is now negotiating to join a separate project, said Hasil Bizenjo, Pakistan's maritime affairs minister in charge of ports. "They are thinking to build a new terminal," Bizenjo told Reuters, adding that Mitsubishi and Total were also in talks about taking stakes with Exxon in the other consortium.

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Oil and gas news briefs for Nov. 6, 2017

[U.S. LNG providers hope to win share of expiring supply contracts](#)

(Bloomberg; Nov. 2) - The \$90 billion-a-year liquefied natural gas market will be reshaped in 2018 as several large, long-term contracts start to expire. Growing supplies from the U.S., higher demand in Europe and Asia, and geopolitical tension surrounding Russia and Qatar, the world's top suppliers, promise to shift long-time trading patterns. For decades the majority of LNG bought and sold around the world was governed by long-term contracts of up to 20 years. A fifth of those will expire from 2018 to 2020.

Over the next decade, contracts governing 80 percent of all global LNG trade will be rewritten. For now, the LNG market is in the midst of an enormous supply glut, in part because of the advent of U.S. exports the past two years. That glut is likely to persist until at least 2020, keeping prices low. Most LNG contracts expiring next year involve buyers in Europe, where countries are trying to reduce their reliance on Russian pipeline gas. Europe's quest for more LNG could offer an opening for U.S. exporters.

Meanwhile, the world's top LNG exporter, Qatar, is looking to expand its market share. It recently announced plans to boost LNG production by 30 percent over the next several years. One of the key advantages for the U.S. is its vast shale reserves, along with a pipeline network that allows exporters to bring gas from all over the country to export facilities being developed along the Gulf Coast, ensuring a steady supply. U.S. LNG providers hope to sign big deals in 2018, which could shave billions of dollars off the trade deficit with Japan, South Korea and China. "(It's) going to be a pivotal year," said Kathleen Eisbrenner, CEO of NextDecade, which proposes a terminal in Texas.

[China's winter demand pushes up spot-market price for LNG](#)

(Reuters; Nov. 3) - China is hoovering up liquefied natural gas cargoes worldwide, pushing spot prices for the fuel above those for oil-indexed cargoes, as the country's energy providers scramble to avoid a looming winter supply crunch. China has moved

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millions of households from burning dirty coal to cleaner gas this year, pushing up import demand amid an already tightening overall Asian market. Most Asian LNG supplies are delivered under long-term contracts with prices linked to crude oil.

But with the upcoming winter heating season, Chinese utilities and gas importers have turned to the LNG spot market in desperation to cover themselves to meet surging demand, chartering tankers from as far away as Norway. "We expect China National Offshore Oil Corp., PetroChina and Sinopec to buy 30 percent more on the spot market in the next three months compared with last year to help boost supplies," said Jiang Jin, a gas analyst at JLC Energy. "LNG terminals are running at full capacity."

"The Chinese are in panic mode. They clearly underestimated the push in demand from their gasification program. Now they are soaking up LNG spot cargoes where they can. And suppliers are happy to deliver, at a premium," said a trader with a major commodity merchant. Asian spot LNG prices have soared by more than two-thirds since May to \$9 per million Btu, above oil-linked prices of about \$8. "I'm fairly certain China will break a new import record very soon and spot prices will break through \$10," the trader said.

Japan wants to build power plants in countries that buy U.S. LNG

(Yomiuri Shimbun; Nov. 3) - The Japanese and U.S. governments plan to conclude a memorandum to strengthen bilateral cooperation in the energy field during President Donald Trump's summit with Prime Minister Shinzo Abe, the Yomiuri Shimbun has learned. Trump and Abe will meet Nov. 6. The cooperation will include joint efforts to boost U.S. natural gas exports to developing nations in Asia, Africa and elsewhere, and to expand Japanese infrastructure exports, such as power plant equipment.

The government plans to use about ¥1 trillion (just under \$9 billion) in financial support through joint public-private projects for emerging economies that import liquefied natural gas, sources said. The government has made expanding exports of Japanese-made "high-quality infrastructure" one of its economic growth strategies. The government expects that U.S. efforts to build the LNG industry would help increase the number of overseas infrastructure orders placed with Japanese companies.

Hammering out cooperation in the energy field is also aimed at deflecting the Trump administration's displeasure over the U.S. trade deficit with Tokyo. The memorandum reportedly says that Japan will tap private-public cooperation to establish LNG-related facilities and other plants in emerging economies that will lead to increased U.S. gas exports. Such infrastructure likely will include construction of gas pipelines and highly efficient thermal power plants that use LNG — fields in which Japan excels.

[Japanese, Chinese shipowners partner up on Russian LNG charters](#)

(World Maritime News; Nov. 2) - Japanese shipping major Mitsui O.S.K. Lines said Nov. 2 that China COSCO Shipping Corp. will take an equity stake in MOL's wholly owned subsidiary that will own four liquefied natural gas carriers serving Russia's Yamal LNG project under long-term charter contracts. MOL said ownership will be split 50-50 between MOL and China COSCO.

The ships are intended for delivery and deployment for Yamal in 2019 and 2020, and will transport LNG from the Russian Arctic project to Europe. This is the fourth joint LNG project involving MOL and COSCO Shipping. Other deals involved ExxonMobil, China oil and gas company Sinopec, and ice-class LNG carriers for the Yamal LNG project. The number of vessels co-owned by MOL and COSCO Shipping will total 17 by 2020.

[India's oil and gas minister says LNG suppliers need to adjust](#)

(The Hindu Business Line; India; Nov. 2) - The global natural gas market is undergoing a major transformation driven by new supplies, said India's Minister for Petroleum and Natural Gas Dharmendra Pradhan. "All industry players will need to adjust their operating models. They should expect softer prices, more short-term trades, and demands for contractual flexibility," Pradhan said, addressing the seventh Asian Ministerial Energy Roundtable in Bangkok.

In addition to the U.S., Australia and Qatar ramping up their liquefied natural gas output, he said, "new suppliers such as Mozambique, Tanzania, Egypt, Israel, Canada and Cyprus are expected to enter the LNG market in the coming years." The minister added, "It is expected that more than 100 million tonnes per year of new liquefaction capacity is expected to come onstream 2017-2020, mainly from Australia and the U.S."

Indian companies have signed long-term contracts for about 22 million tonnes per year from different supply sources around the world such as Qatar, Australia, Russia and the U.S., Pradhan said. "They have signed contracts linked to different (price) indices. ... In order to reduce the delivered cost of LNG to the Indian market, Indian importers have adopted innovative approaches."

[Chinese company wants to export gas from Ethiopia](#)

(Bloomberg; Nov. 2) - China Poly Group plans to start exporting natural gas from Ethiopia's eastern Ogaden basin by mid-2019 as it continues to explore near the border with Somalia, Petroleum Minister Motuma Mekassa said. Gas from the Calub and Hilala fields will be transported along a 435-mile pipeline to a port complex being built in neighboring Djibouti, Motuma said. "They want to export the gas to Asia," Motuma said.

Ethiopia is developing gas finds to diversify its economy, the fastest-growing in Africa over the past decade. POLY-GCL Petroleum, a partnership between China Poly and closely held Hong Kong-based Golden Concord, signed five production-sharing agreements with Ethiopia in 2013 to explore a 45,000-square-mile area in the Ogaden basin. The project is being financed by the China Development Bank. Ethiopian soldiers are providing security around the acreage owned by POLY-GCL, the minister said.

POLY-GCL's first exports of LNG are planned to start within 30 months when the new port in Djibouti is expected to be operational, he said. The port will include a small-volume gas liquefaction plant. Djibouti has secured \$4 billion in financing "from different sources" that will enable work on the project to start, the minister added. Gas reserves were first discovered in the Ogaden basin in 1972 by a U.S. company, Tenneco, which was expelled from the country five years later by a Marxist military junta.

[New owner of proposed LNG project in Oregon still hopeful](#)

(Platts; Nov. 3) - The new developer of the proposed Jordan Cove LNG terminal in Oregon said Nov. 3 it is positive about the project's potential and interest it continues to receive from prospective customers. But Calgary-based Pembina Pipeline cautioned that construction costs would play into its decisions about future budgeting. Pembina, which operates a network of oil and gas pipelines in Canada, took over the venture in Coos Bay, Ore., when it bought fellow Canadian pipeline operator Veresen last month.

"It is a huge project and we're looking at it carefully," Pembina CEO Mick Dilger said during a call to discuss third-quarter results. Jordan Cove LNG would provide an outlet for Western Canadian and Rockies gas, but U.S. LNG export developers have been struggling amid fears of a global supply glut as they try sign long-term agreements with buyers to help raise the billions of dollars they need to build the terminals.

The Federal Energy Regulatory Commission cited Jordan Cove's failure to show sufficient demand for its \$10 billion project — to outweigh negative impacts from its pipeline through Oregon — as a key reason for the agency's March 2016 denial of the application. Veresen later reported it had signed preliminary agreements with customers and submitted a new application to FERC this year. Pembina said Nov. 3 it is targeting a final investment decision for 2019 and a potential 2024 in-service date.

Rising spot price for LNG reduces its competitive edge against oil

(Bloomberg; Nov. 3) - A shrinking discount for liquefied natural gas vs. oil will stoke competition for buyers in some markets heading into the winter heating season, said Madeline Jowdy, senior director of global gas and LNG at Pira Energy Group in New York. Rising winter demand has driven up spot-market prices for LNG, making some cargoes less competitive against oil for power generation and industrial use.

WGI Northeast Asia Spot LNG, a regional benchmark, was recently assessed at \$9.20 per million Btu, \$1.37 less than what December Brent crude oil would cost Nov. 2 on an energy-equivalent basis. The spread in favor of LNG was more than \$3 in June. "When LNG reaches or surpasses oil parity, it means that some more price-sensitive utilities or industrial users will switch to oil," Jowdy said. India is one example where industries would switch. Japanese and Korean utilities may follow if the narrow discount holds.

Bangladesh grants 10-year tax holiday to LNG import terminal

(The Daily Star; Bangladesh; Nov. 3) – Bangladesh's National Board of Revenue has granted a 10-year tax exemption to the builder and owner of the country's first liquefied natural gas import terminal to help facilitate the import of gas to help overcome a growing energy crisis. Excelerate Energy Bangladesh, a subsidiary of U.S.-based Excelerate Energy, will build the floating storage and regasification terminal with capacity to send 500 million cubic feet of gas per day into the national distribution grid.

The Revenue Board said the builder and owner of the terminal will be exempt from income taxes on the project. Excelerate Energy will hand over the \$180 million terminal to state-run Petrobangla after 15 years of operations, as per its contract. The LNG import terminal at Moheshkhali is expected to be in service by the middle of 2018, Excelerate Energy said in July. It will enable Petrobangla to increase the country's gas supply by up to 20 percent, sufficient to generate up to 3,000 megawatts of power.

The government in 2010 decided to import LNG against a backdrop of growing local demand and falling domestic reserves of gas. A second import operation is due for commissioning by next October.

Gas is plentiful and affordable, but its clean energy is debatable

(Financial Times; UK; Oct. 30) - Burning natural gas to generate electricity has often seemed like an expensive luxury. Convenient and (relatively) clean, gas-fired plants have always been an attractive option, but have been limited by the availability and cost of fuel. So much so that the U.S. Powerplant and Industrial Fuel Use Act of 1978 banned the construction of gas-fired or oil-fired power plants that did not also have the ability to burn coal or another alternative fuel, because of fears of gas shortages.

As recently as 2008, Fulvio Conti, then CEO of the Italian electricity group Enel, said using gas to fuel power plants is like “burning champagne” — appealing in many ways, but ruinous if you try to do it for too long. Since the U.S. shale revolution, however, gas has become increasingly plentiful. There are shale gas plays worldwide, and countries are attempting to emulate the boom that lifted U.S. output by 50 percent over 2005-15.

The world is now awash with gas, and lower prices are boosting demand. Yet as price and supply concerns have eased, questions about its environmental credentials have started to pile up. Gas-fired power is generally much cleaner than coal in terms of fine particulates and the nitrogen and sulfur oxides that cause smog and acid rain, but the net impact is muted if gas displaces zero-emissions renewables and nuclear.

And although gas emits much less carbon dioxide per megawatt hour than coal, it is a potent greenhouse gas. Leaks from production, processing and transport, by some counts, mean there is little or no net emissions benefit from switching from coal to gas. Other studies, however, show there are “robust climate benefits” from switching to gas.

Fracking set to resume in U.K. 6 years after tremors shut down work

(Reuters; Nov. 2) - Six years after Britain’s first fracking effort was stymied by tremors, its shale gas industry is ready to try again to transform the U.K. gas market and cut its reliance on imports. While environmental concerns over fracking have not gone away, changes to the energy landscape since 2011 have added more complexity to the effort to exploit Britain’s shale gas. Liquefied natural gas imports are cheaper, and last year’s vote to exit the European Union stoked fears of the security of Britain’s energy supplies.

Gas is used to heat as much as 80 percent of British homes, which make up 35 percent of demand, with power plants at 33 percent. About 60 percent of that gas is imported, up from 40 percent less than 10 years ago. The figure could reach almost 95 percent by 2040 as North Sea reserves run out. Weaning Britain off imports is one of the driving forces behind government support for hydraulic fracturing to free gas from shale rock.

The British Geological Survey estimates shale resources in northern England could

contain 1,300 trillion cubic feet of gas. Shortly after fracking started in Blackpool in April 2011, a tremor registering 2.3 on the Richter scale woke residents. It was followed by a 1.4 magnitude tremor a month later, prompting an 18-month ban on fracking nationwide while more research was carried out. The government has since introduced a traffic-light system that suspends work if any seismic activity of 0.5 or above is detected.

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A Note From Gov. Walker...

Fellow Alaskan -

This morning, I ordered that Alaska flags join U.S. flags at half-staff as our nation mourns the loss of life in the tragedy in Sutherland Springs, Texas. This is a heartbreaking tragedy. Donna and my sincerest prayers and condolences are with the victims and their families during this difficult time.

Lt. Governor Mallott and I spent Thursday in our nation's capital to speak to the Senate Energy Committee about the potential for opening up the 1002 Area of ANWR for responsible resource development. Nine in 10 of Alaska's legislators—on both sides of the aisle—support oil and gas exploration and [development of the 1002](#). The trans-Alaska pipeline is three-quarters empty, and the state is suffering the largest fiscal crisis in our history. When Alaska became a state, we had a promise from the federal government in our statehood compact that we could live off the resources in our land. Responsible resource development in ANWR could be a further fulfillment of that promise.

Alaska is also ground zero for climate change, which is why this week, I signed an Administrative Order to further empower the Last Frontier's response to a stark reality. Even as we continue to responsibly develop our resources, the changing climate will affect us all. Addressing it is a bipartisan issue, and will ensure that we will leave for future generations all of the promise and potential Alaska has to offer. I hope to announce the membership of the Climate Action for Alaska Leadership Team soon.

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Bill Walker

Last Week's Highlights

- **#SaferAlaska** - Last Monday, the Department of Law began the next step in our efforts to combat Alaska's opioid crisis by [filing suit against OxyContin manufacturer Purdue Pharma](#) for deceptive marketing.
- **#SmarterAlaska** - The Ted Stevens Foundation is graciously investing [over \\$150,000 over the next five years in the University of Alaska's Legislative Internship Program](#).
- **#StrongerAlaska** - Even as Alaska remains a resource-based economy, we have a moral obligation to address the impacts of climate change: [Our Climate Change Strategy provides a robust, enduring approach for doing just that](#).



To see photos from the Governor's meetings, visit his [official Flickr Page](#).



Governor Walker and Lt. Governor Byron Mallott provided testimony to the Senate Energy Committee on the balance that Alaska can strike between responsible resource development in the 1002 Area of ANWR and responding to climate change. Watch the full hearing by clicking above.

2018 Health Insurance Open Enrollment



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Don't Miss 2018 Open Enrollment!
Nov 1 - Dec 15

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Open Enrollment for health insurance on the individual marketplace has begun. Visit [healthcare.gov](https://www.healthcare.gov) to enroll, or learn more. This year, open enrollment ends on Dec. 15, and the website will be down multiple Saturday evenings between now and then for routine maintenance.

In Case You Missed It:

Did you see these headlines in the news?

1. [Gov. Walker: Developing ANWR, Alaska can strike a balance](#) (Juneau Empire)
2. [Governor recognizes threat of climate change](#) (ADN)
3. [Rep. Spohnholz: Fiscal gap threatens public safety](#) (ADN)
4. [Alaska salmon season a success in global market](#) (KTOO)

First Lady Donna's Corner...



They did it! Sabrina, Adam, Dennis, and Tessa finished Alaska Strong at the TCS New York City Marathon and Bill and I are Alaska Proud! [These funny photos](#) of them are after they dived into the discarded clothing bin because of the cold and rain before the start and of Adam devouring pizza at 14 miles in. Tessa and Sabrina also calmed their nerves with the race therapy dog. They all finished within minutes of one another!

Out and About

Revisiting some of the highlights from social media this past week.



Halloween @ the House

The Governor and First Lady enjoyed greeting the many trick-or-treaters who stopped by the People's House on Tuesday! A very impressive and wide array of characters graced us with their presence.



Addressing Climate Change

Alaska is ground zero for the impacts of climate change. The Climate Action for Alaska Leadership Team [formed by the Administrative Order Governor signed last week](#) will play a critical role in forming a durable, flexible framework for addressing climate change that will last for decades to come.



ANWR Hearing

Governor Walker and Lt Governor Mallott joined all three members of the Congressional Delegation in Washington, D.C. this week for a Senate Energy Committee hearing on opening the 1002 Area of ANWR to responsible resource development.



National Security in the Pacific

Governor Walker joined other Pacific Rim governors for a meeting with President Trump in Hawaii to discuss the opportunities and challenges in the region, and the North Korean threat. In this photo, Governor is preparing to board Air Force One.



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Subject: Re: Arctic Refuge QFRs Assignments Region 7
Date: Tuesday, November 7, 2017 5:09:50 PM
Attachments: [11.07.17 Arctic NWR QFRs Assignments R7_final_v2.0.docx](#)

Hi All,

I mis-stated "the National Wildlife Refuge System Administration Act" in the earlier version. I have corrected it in version 2.0 attached below. Only 2 references in the document.

Apologies!

Thanks so much!
Amee

On Tue, Nov 7, 2017 at 1:35 PM, Howard, Amee <amee_howard@fws.gov> wrote:

Hi Marty and Devin,

Please find attached the Region 7 comments and suggested language for the Arctic National Wildlife Refuge Questions for the Record. I have attached a clean version and a track changes version.

Let me know if you have any questions or need additional information.

Thanks so much!
Amee

--

Amee Howard

Congressional and Legislative Affairs
U.S. Fish & Wildlife Service
Anchorage, Alaska
Office: (907)786-3509
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<https://www.fws.gov/alaska/>

--

Amee Howard

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<https://www.fws.gov/alaska/>

000000325

"Conservation Begins with Hello"

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

CLA and R7: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, the National Wildlife Refuge System Administration Act, and the National Environmental Policy Act, to analyze potential effects and determine compatibility with established purposes for the refuge. Environmental reviews will recommend measures to avoid and reduce negative impacts and ensure that development, if authorized, proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? **CLA and R7:** Only Congress can authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain. If authorized by Congress, development should only be undertaken in a manner consistent with all applicable laws and the established purposes of the Arctic National Wildlife Refuge, which include conservation of fish and wildlife populations and habitats in their natural diversity including, but not limited to, the Porcupine caribou herd, polar bears, grizzly bears, muskox, Dall sheep, wolves, wolverines, snow geese, peregrine falcons and other migratory birds, and Arctic char and grayling; fulfillment of international treaty obligations of the United States with respect to fish and wildlife and their habitats; providing the opportunity for continued subsistence uses by local residents; and ensuring water quality and quantity within the refuge.

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an

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environmental impact statement in accordance with the National Environmental Policy Act?
CLA and Refuges HQ (Scott) – Yes.

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

Is the Arctic Refuge still being managed according to this plan?

CLA and R7: Yes, the refuge is managed according to the current Comprehensive Conservation Plan (CCP), which recommended to Congress that the Arctic National Wildlife Refuge coastal plain be designated Wilderness. In Alaska, U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so to ensure conservation of wilderness values; adhere to established refuge purposes; respect the continuation of the traditional and cultural way of life for Alaska Natives; and provide the opportunity for continued subsistence harvest for rural residents.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA and R7: The 2015 Comprehensive Conservation Plan (CCP) is the current management plan for the Arctic National Wildlife Refuge and the USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas development in the Arctic National Wildlife Refuge coastal plain we will assess whether and how to amend the 2015 CCP.

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We’ve heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won’t damage the Refuge?

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CLA and R7: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. It is not possible to conduct any development of the Arctic National Wildlife Refuge coastal plain without negative environmental effects.

Question 2: I am also concerned about the potential for oil spills. We’ve heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there’s a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7: Access to the Arctic National Wildlife Refuge coastal plain would be dependent upon industry best management practices and environmental conditions. Recovery crews would have as much access as is safe and practicable and within the guidelines of existing laws. The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects and recommend measures to avoid and reduce negative impacts. A credible spill prevention or disaster recovery plan will establish best management practices that will include the deployment of recovery crews which in total should reduce the potential for spills and/or minimize the effects of spills. We will ensure that development proceeds in a way that is consistent with all applicable laws.

Questions from Senator Bernard Sanders

Question 1: Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels toward energy efficiency and sustainable energy like wind, solar, and geothermal? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy.**

U.S. Senate Committee on Energy and Natural Resources
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Questions for the Record Submitted to Mr. Greg Sheehan

Question 2: Do you agree with the vast majority of scientists that the combustion of fossil fuels contributes to climate change? **CLA and OCL – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity, including the combustion of fossil fuels.**

Question 3: During your testimony, you said that the Trump administration is being “forward looking” with regard to advancing renewable energy technologies. However, the Administration’s proposed budget has called for a 70% cut to the Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) and zeroing out of ARPA-E. Additionally, the Administration has announced its intention to leave the Paris Climate Accord and proposed to repeal the Clean Power Plan. Can you please explain how such actions are helping advance renewable energy technology? Can you please provide any examples of ways the Trump Administration has increased support for renewable energy since taking office? **DOI is addressing this Question.**

Question 4: Scientists tell us that we must work keep to keep fossil fuels in the ground if we are to avoid the most dangerous impacts of climate change. The U.S. Geological Survey estimates that more than 10 billion barrels of recoverable oil could be held in the Arctic Refuge. How does extracting this oil from the Arctic Refuge help the U.S. transform its energy system, as quickly as possible, from one based on carbon-intensive fuels to one based on clean, sustainable sources? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy**

Question 5: According to the State of Alaska, there have been over 640 oil spills on Alaska’s North Slope since 1995, 13 of which were greater than 10,000 gallons. Since 2009, tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope. In April, a BP oil well leaked crude oil and gas for several days due to damage caused by pressure from thawing permafrost. The Alaska Oil and Gas Conservation Commission issued an emergency order to review all wells on the North Slope of Alaska due to the threat posed by warming permafrost.

Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those

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factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA- I am not aware of any specific projects proposed for the 1002 Area ...XXXXX.

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America's most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act (ESA), the Marine Mammal Protection Act, the National Wildlife Refuge System Administration Act, and the National Environmental Policy Act, to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and designated critical habitat and that mitigating measures are prescribed to avoid or reduce effects that may jeopardize the continued existence of the species or adversely modify or destroy designated critical habitat. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

U.S. Senate Committee on Energy and Natural Resources
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Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd’s continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? **CLA and R7:** The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain, environmental review, siting criteria, and recommended measures to avoid and reduce negative impacts will help minimize adverse effects.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich’in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich’in Nation and preserves their relationship with the herd? **CLA and R7:** The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain, we will, through consultation with all affected tribes, identify concerns and establish measures to avoid and reduce negative impacts to the Porcupine Caribou Herd. Consultation will provide an opportunity to identify and address potential disruptions with respect for the Gwich’in Nation’s cultural and spiritual relationship with the coastal plain of the Arctic National Wildlife Refuge and the caribou.

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

From: [Pearce, John](#)
To: [Latty, Christopher](#)
Subject: Re: Birds of 1002 coastal plain
Date: Friday, November 3, 2017 6:40:45 PM

b

Thanks for this Chris. I look forward to figuring out the bird abundance and distribution question for the 1002 Area and hope we can help out with that. Regarding UASs, you should talk with Dan Monson here at our Center. He is looking into using UASs for a number of different projects, but I haven't kept up with where they are currently.

Cheers,
John

John M. Pearce, Ph.D.
Supervisory Wildlife Biologist
Manager, Wetland and Terrestrial Ecosystems Office
U.S. Geological Survey, Alaska Science Center
4210 University Drive
Anchorage, Alaska 99508
Tel. 907.786.7094
Email: jpearce@usgs.gov
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

On Wed, Nov 1, 2017 at 10:17 PM, Latty, Christopher <christopher_latty@fws.gov> wrote:
Thanks John!

I guess I've been cautious to use the 30-40 year old datasets from the 1002 baseline studies as representing current species richness and abundance on the Arctic Refuge ACP. Rather,

US - DP

And while I'm constantly learning what products are available for some of those historic data, the [final baseline report](#) from 1986 and the [EIS](#) (I'm sure you are familiar with both of these) are the best synopses I'm aware of for the baseline studies (though the annual progress and specific study reports like Jerry found always provide more detail). For example, on page 68 of the baseline report, they state they recorded 135 species in the their study areas, 64 of which were known breeders. The reason I sent you the info from the CCP rather than the older surveys is simply because the CCP includes not only data from the 1002 studies, but should also include observations from more recent work.

Random question - have you guys done much with UASs? Reason I ask is I'm very interested in exploring the option of using UASs, potentially with infra-red cameras, to conduct high resolution surveys of waterbirds specially at the Canning next summer and I know USGS has been one of the lead agencies for that sort of wildlife work.

000000333

Cheers
Chris

On Tue, Oct 31, 2017 at 12:50 PM, Pearce, John <jpearce@usgs.gov> wrote:

Hi Chris,

Jerry found the attached document on the web. See page 160 for a species list of what was observed in 1978 and 1982. Total across those two years for one site was 58 species.

JP

John M. Pearce, Ph.D.
Supervisory Wildlife Biologist
Manager, Wetland and Terrestrial Ecosystems Office
U.S. Geological Survey, Alaska Science Center
[4210 University Drive](#)
[Anchorage, Alaska 99508](#)
Tel. 907.786.7094
Email: jpearce@usgs.gov
<http://alaska.usgs.gov/staff/staffbio.php?employeeid=173>

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Christopher Latty
US Fish and Wildlife Service
Arctic NWR
[101 12th Avenue](#)
[Room 236](#)
[Fairbanks, AK 99701](#)
cell 907-347-4300

000000334

From: [Joanna Fox](#)
To: [Steve Berendzen](#)
Subject: Re: Hangar meeting
Date: Monday, November 6, 2017 6:28:20 PM

Sorry - I propose we meet for our planning meeting on Friday, December 8.

Sent from my iPad

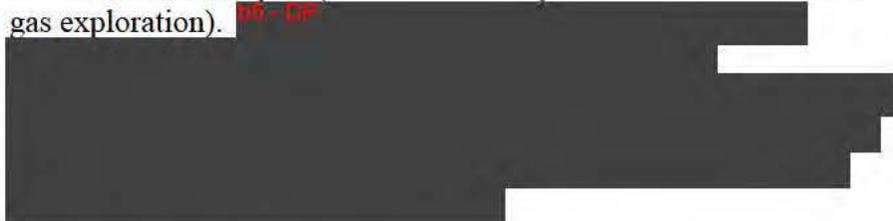
On Nov 6, 2017, at 1:34 PM, Steve Berendzen <steve_berendzen@fws.gov> wrote:

Since Doug wants to meet with all staff on the 7th, are you thinking we all meet outside the hours Doug has scheduled, or did you intend to say we'd meet all day the 8th?

Sent from my iPhone

On Nov 6, 2017, at 7:56 AM, Fox, Joanna <joanna_fox@fws.gov> wrote:

I propose we leave December 7 on the schedule for an all-day meeting to discuss priorities in light of the high potential we're all likely going to be spending a fair amount of time doing things we haven't done in the past (related to the Department's focus on oil and gas exploration). b6 - CP



In the past we've asked all staff to have itemized budget requests completed in advance of our annual planning meeting, with priorities identified. If we spend a day identifying the things we HAVE to do, regardless of any unknowns or additional workloads that are determined at higher levels, it will be fairly simple to make some preliminary allocations based on the highest priorities, with additional allocations to be determined down the road when we know more about our budget.

We could give staff a heads up at the staff meeting tomorrow that we will have a one-day meeting on December 7 to focus on the above, and that they should prepare their itemized budget requests as usual, but put some additional thought into what really MUST be done, vs. what we'd really like to do or really should do.

Joanna L. Fox
Deputy Refuge Manager
Arctic National Wildlife Refuge

000000335

101 12th Avenue, Room 236
Fairbanks, AK 99701
(907) 456-0549

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*"Do what you can, with what you have, where you are." --
Theodore Roosevelt*

On Mon, Nov 6, 2017 at 8:40 AM, Steve Berendzen

<steve_berendzen@fws.gov> wrote:

I agree that we definitely need to be discussing upcoming possibilities & plans with staff so at least a 1 day meeting would be good. Timing is more my concern, but we might never have the perfect timing. What do you think about discussing with staff at meeting tomorrow? If you expect that would just confuse the issue more, we can plan to stick with both December 7&8

Sent from my iPhone

On Nov 6, 2017, at 6:03 AM, Fox, Joanna <joanna_fox@fws.gov> wrote:

No, we did not set any alternative dates. We still have December 7-8 on the schedule, and have not informed staff of any changes. If you still think it would be a good idea to hold off we can, but I'm not confident we're going to know anything more about our budget any time soon. I think we should at least consider meeting sometime fairly soon to identify the things we must do under any circumstances (like issuing permits, for example), and to talk about how everyone's work priorities may well change significantly this year with the potential for oil and gas development increasing. I think we can identify work we can't ignore, even without a budget, so we are able to start some preliminary planning. Perhaps we can even do that in just a 1-day meeting - December 7 or 8?

Let me know what your thoughts are. If we decide to do something different, it would be good to let staff know soon, as they're firming up use/lose plans.

Joanna L. Fox
Deputy Refuge Manager

000000336

Arctic National Wildlife Refuge
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[\(907\) 456-0549](#)

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"Do what you can, with what you have, where you are." -- Theodore Roosevelt

On Sun, Nov 5, 2017 at 4:53 PM, Steve Berendzen
<steve_berendzen@fws.gov> wrote:

Joanna, I think we considered holding off the Dec. 7&8 staff meeting to learn about passage of the budget. Did we commit to that, & if so, do we have alternative dates?

Sent from my iPhone

Begin forwarded message:

From: "Banyas, Paul"
<paul_banyas@fws.gov>
Date: November 5, 2017 at 10:32:11 AM HST
To: "Hawkaluk, Nathan"
<nathan_hawkaluk@fws.gov>
Cc: "Guldager, Nikki"
<nikki_guldager@fws.gov>, David Sowards <david_sowards@fws.gov>, "Spindler, Mike" <mike_spindler@fws.gov>, Christopher Daniels <christopher_daniels@fws.gov>, Brandon Bosch <brandon_bosch@fws.gov>, Hollis Twitchell <hollis_twitchell@fws.gov>, Stephan Shelden <stephan_shelden@fws.gov>, Brett Nigus <brett_nigus@fws.gov>, Steve Berendzen <steve_berendzen@fws.gov>, Ed Mallek <ed_mallek@fws.gov>, Clay Hamilton <clay_hamilton@fws.gov>, Timothy Whisler <timothy_whisler@fws.gov>
Subject: Re: Hangar meeting

000000337

Some of you are forgetting that
December 7 and 8 are set aside for
Arctic staff annual planning meeting at
the Morris Thompson Visitor Center.
Paul

On Thu, Nov 2, 2017 at 3:21 PM,
Hawkaluk, Nathan

<nathan_hawkaluk@fws.gov> wrote:

Nikki,

I can do either the 7th or 8th of
December.

Nathan

On Thu, Nov 2, 2017 at 9:15 AM,
Guldager, Nikki

<nikki_guldager@fws.gov> wrote:

Hi all,

I think it is going to be too difficult to get
everyone together this week. November is
not a good month, given we all have flying
planned. Let's shoot for December. How
about 7 or 8 December, or the week of 18
December?

Thanks,
nikki

Nikki Guldager
Wildlife Biologist/Pilot
Yukon Flats National Wildlife
Refuge
[101 12th Ave, Rm 264](#)
[Fairbanks, Alaska 99701](#)
[\(907\) 455-1815 office](#)
[\(907\) 978-8480 cell](#)

On Tue, Oct 31, 2017 at 4:16 PM,
Guldager, Nikki

<nikki_guldager@fws.gov> wrote:

Hi folks,

Do people happen to be available short
notice this Friday, 3 November, for a
hangar meeting? The weather is supposed
to be bad, so folks with flights planned
may have weather days. 8:30?

Nikki

Nikki Guldager
Wildlife Biologist/Pilot
Yukon Flats National Wildlife
Refuge
[101 12th Ave, Rm 264](#)
[Fairbanks, Alaska 99701](#)
[\(907\) 455-1815](#) office
[\(907\) 978-8480](#) cell

--

Nathan Hawkaluk
Yukon Flats National Wildlife Refuge
Acting Refuge Manager
Fairbanks, AK 99701
907-456-0408
907-388-6723 (cell)

"The world offers you comfort. But
you were not made for comfort. You
were made for greatness." Pope
Benedict XVI

--

Paul W. Banyas

Maintenance Mechanic

Bear Awareness Instructor, Firearms
Instructor,

Armorer, MOCC Instructor, CDSO,
COR

Arctic National Wildlife Refuge

101 12th Avenue Room 236

[Fairbanks, Alaska 99701](#)

cell [\(907\) 750-8278](#)

Office [\(907\) 456-0240](#)

FAX (907) 456-0428

paul_banyas@fws.gov

"The sting of poor quality lasts long
after the thrill of a cheap price has
faded"

From: [Lor, Socheata](#)
To: [Howard, Amee](#)
Cc: [Mitch Ellis](#); [Sara Boario](#)
Subject: Re: Questions for the Record -- Arctic Hearing Due to HQ-CLA by COB Tomorrow (AK Time)
Date: Tuesday, November 7, 2017 12:22:28 PM
Attachments: [Arctic NWR QFRs Assignments FES and Refuges Nov 6.docx](#)

[Amee](#),

I had only one small edit to Doug's and Mary's. See attached.

[Soch](#)

~~~~~  
*Socheata Lor, Ph.D.*  
*Deputy Assistant Regional Director - Region 7*  
*National Wildlife Refuge System*  
*U.S. Fish and Wildlife Service*  
*1011 E. Tudor Road*  
*Anchorage, AK 99503*  
*Office: 907.786.3420*  
*Cell: 907.891.6194*  
~~~~~

On Mon, Nov 6, 2017 at 2:20 PM, Howard, Amee <amee_howard@fws.gov> wrote:

Thank You Mary!

I have started a combo document and have your comments incorporated.

I appreciate the quick review and turn around.

Amee

On Mon, Nov 6, 2017 at 2:11 PM, Colligan, Mary <mary_colligan@fws.gov> wrote:

A few comments for your consideration

On Mon, Nov 6, 2017 at 1:23 PM, Howard, Amee <amee_howard@fws.gov> wrote:

Hi All,

Please see Barbara Weinman's request below. Ranking Member Senator Cantwell, Senator Wyden, and Senator Sanders has sent a list of Questions.

I am happy to assist with consolidation and get it to Karen for review. Let me know what what works best for the R7 team. I can coordinate with Devin and the HQ-CLA team.

Thanks so much!

Amee

000000341

----- Forwarded message -----

From: **Wainman, Barbara** <barbara_wainman@fws.gov>
Date: Mon, Nov 6, 2017 at 5:11 PM
Subject: Questions for the Record -- Arctic Hearing
To: Greg Siekaniec <greg_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>
Cc: Martin Kodis <Martin_Kodis@fws.gov>, "Helfrich, Devin" <devin_helfrich@fws.gov>

Thank you for all your help with preparation for last week's hearing. We received the Questions for the Record from the hearing and we are requesting your quick help with drafting responses to some of the questions. We need your responses by COB (your time) Tomorrow, Tuesday, November 7.

The Questions for the Record are attached. We have noted questions that we would like Region 7's help with responses, and we also included some draft text to help frame our response. Please keep responses brief and coordinate with Devin Helfrich on the responses.

Specifically, the questions we would like Region 7 to help answer are:

Questions:

Cantwell – 1
Cantwell – 2
Cantwell – 4
Cantwell -- 5
Wyden – 1
Wyden – 2
Sanders – 6 (only last part regarding the ESA)
Sanders – 7

If you have any questions, feel free to reach out to Marty Kodis or Devin Helfrich in CLA. Thank you so much for your help and sorry for the short turn around time.

Barbara W. Wainman
Assistant Director, External Affairs
US Fish and Wildlife Service
(202) 208-5256 (office)
(571) 471-4159 (cell)

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Amee Howard
Congressional and Legislative Affairs
U.S. Fish & Wildlife Service
Anchorage, Alaska
Office: (907)786-3509
Mobile: (907)229-8575
<https://www.fws.gov/alaska/>

000000342

"Conservation Begins with Hello"

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Mary Colligan
Assistant Regional Director
Fisheries and Ecological Services
U.S. Fish and Wildlife Service, Alaska Region
[1011 E. Tudor Road](#), MS-361
Anchorage, AK 99503
907-786-3505
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Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

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"Conservation Begins with Hello"

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze effects, avoid and minimize effects, and ensure that development, if authorized, proceeds in way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? **CLA and R7 – Yes.** [Only Congress can authorize oil development in the 1002 area of Arctic National Wildlife Refuge. If authorized, it should only be undertaken consistent with all environmental laws.](#)

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act? **CLA and Refuges HQ (Scott) – Yes.**

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

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Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA – R7 - The 2015 CCP is the current management plan for the Arctic National Wildlife Refuge and the Service continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas leasing in the 1002 Area of the refuge, the Service will assess whether and how to update the CCP.

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Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We've heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won't damage the Refuge?

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Question 2: I am also concerned about the potential for oil spills. We've heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

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b5-DP

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Question 4: Scientists tell us that we must work keep to keep fossil fuels in the ground if we are to avoid the most dangerous impacts of climate change. The U.S. Geological Survey estimates that more than 10 billion barrels of recoverable oil could be held in the Arctic Refuge. How does extracting this oil from the Arctic Refuge help the U.S. transform its energy system, as quickly as possible, from one based on carbon-intensive fuels to one based on clean, sustainable sources?

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Question 5: According to the State of Alaska, there have been over 640 oil spills on Alaska’s North Slope since 1995, 13 of which were greater than 10,000 gallons. Since 2009, tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope. In April, a BP oil well leaked crude oil and gas for several days due to damage caused by pressure from thawing permafrost. The Alaska Oil and Gas Conservation Commission issued an emergency order to review all wells on the North Slope of Alaska due to the threat posed by warming permafrost.

Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA– I am not aware of any specific projects proposed for the 1002 Area ...XXXXX

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

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CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ? Framework answer: ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws, including the Endangered Species Act and National Environmental Policy Act, to analyze effects, avoid and minimize effects and ensure that development proceeds in way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and that mitigating measures are prescribed that avoid and minimize effects to prevent jeopardizing the continued existence of the species. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd's continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? CLA and R7 – Framework answer: ANILCA intended the 1002 area be considered for energy development. The Administration supports legislation to authorize that development and will follow all applicable laws to analyze effects, avoid and minimize effects and ensure that development proceeds in way that is consistent with all applicable laws. Should Congress enact legislation to authorize energy development in the 1002 Area, applicable laws do not require guarantees to avoid all adverse impacts.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich'in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich'in Nation and preserves their relationship with the herd? CLA and R7 – answer similar to above

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold

05 - DP

**U.S. Senate Committee on Energy and Natural Resources
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at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

From: [Colligan, Mary](#)
To: [Howard, Amee](#)
Cc: [Mitch Ellis](#); [Socheata Lor](#); [Damberg, Doug](#); [Jenifer Kohout](#); [Patrick Lemons](#); [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#)
Subject: Re: Questions for the Record -- Arctic Hearing Due to HQ-CLA by COB Tomorrow (AK Time)
Date: Monday, November 6, 2017 4:12:03 PM
Attachments: [Arctic NWR QFRs Assignments FES .docx](#)

A few comments for your consideration

On Mon, Nov 6, 2017 at 1:23 PM, Howard, Amee <amee_howard@fws.gov> wrote:

Hi All,

Please see Barbara Weinman's request below. Ranking Member Senator Cantwell, Senator Wyden, and Senator Sanders has sent a list of Questions.

I am happy to assist with consolidation and get it to Karen for review. Let me know what what works best for the R7 team. I can coordinate with Devin and the HQ-CLA team.

Thanks so much!

Amee

----- Forwarded message -----

From: **Wainman, Barbara** <barbara_wainman@fws.gov>
Date: Mon, Nov 6, 2017 at 5:11 PM
Subject: Questions for the Record -- Arctic Hearing
To: Greg Siekaniec <greg_siekaniec@fws.gov>, Karen Clark <karen_clark@fws.gov>
Cc: Martin Kodis <Martin_Kodis@fws.gov>, "Helfrich, Devin" <devin_helfrich@fws.gov>

Thank you for all your help with preparation for last week's hearing. We received the Questions for the Record from the hearing and we are requesting your quick help with drafting responses to some of the questions. We need your responses by COB (your time) Tomorrow, Tuesday, November 7.

The Questions for the Record are attached. We have noted questions that we would like Region 7's help with responses, and we also included some draft text to help frame our response. Please keep responses brief and coordinate with Devin Helfrich on the responses.

Specifically, the questions we would like Region 7 to help answer are:

Questions:

- Cantwell – 1
- Cantwell – 2
- Cantwell – 4
- Cantwell -- 5
- Wyden – 1
- Wyden – 2
- Sanders – 6 (only last part regarding the ESA)
- Sanders – 7

If you have any questions, feel free to reach out to Marty Kodis or Devin Helfrich in CLA. Thank you so much for your help and sorry for the short turn around time.

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Barbara W. Wainman
Assistant Director, External Affairs
US Fish and Wildlife Service
(202) 208-5256 (office)
(571) 471-4159 (cell)

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b5-CP

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DOI Budget Office is drafting a response

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From: [Reed, Jennifer](#)
To: [Stephen Arthur](#)
Subject: Re: Reminder: Lunch with Steve Arthur at Gallo"s - 11:45am today
Date: Friday, November 3, 2017 6:00:04 PM

Hi there,

I'm sorry I was not around to participate in this event. I hope to stay in contact with you, recognizing your availability may be very limited. I learned a lot from you during your time in the office, and appreciate your wisdom. Good luck with your transition and please keep in touch!

Jennifer J. Reed

U.S. Fish and Wildlife Service:

Interagency Visitor Use Management Council Representative
Interagency Wild & Scenic River Coordinating Council Representative

Arctic National Wildlife Refuge:

Public Use Manager
101 12th Ave, Rm 236
Fairbanks, AK 99701
Telephone: (907) 455-1835
Fax: (907) 456-0428

[IVUMC: ensuring quality visitor opportunities on public lands.](#)

[It's your river. Make your splash!](#)



On Fri, Oct 20, 2017 at 11:07 AM, Fox, Joanna <joanna_fox@fws.gov> wrote:

----- Forwarded message -----

From: **Fox, Joanna** <joanna_fox@fws.gov>
Date: Thu, Oct 19, 2017 at 2:48 PM
Subject: Lunch with Steve Arthur - Friday, October 20 at 11:45am
To: FW7 FAIR ANWR Staff <fw7_fair_anwr_staff@fws.gov>

My apologies to all of you on this late notice, but I haven't been able to share details until now, as we've been working with HR and others in the RO to navigate a path forward. Steve Arthur **b6**
b6 Recognizing we are still under a hiring freeze and unable to refill behind him if he were to depart, we have been working with Steve and our regional office leadership to find a way to delay Steve's retirement so he can still assist us with some critical tasks, while at the same time being able to spend time with his wife (already retired) **b6**
b6

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So that we're able to utilize Steve's expertise as we respond to the Secretary of Interior's direction to re-open the 1002 area to oil and gas exploration, Steve has requested his work schedule be changed from full time to intermittent, and to telework [REDACTED], where he plans to start moving this weekend. Most of the duties he will be performing will be related to potential oil development in the Refuge (advising us on known resources/assets and those needing further study or analysis, representing the Refuge at inter-agency science forums/workshops, analyzing potential impacts, assessing and recommending mitigation factors, etc.). He will also continue coordinating and setting biological priorities, particularly as we prepare for our annual planning meeting in December (review budgets and study plans, etc.). Steve will be working on an as-needed basis, mostly remotely, but may return to Alaska occasionally for meetings or workshops. He will coordinate his work schedule with me, and will plan to be available by telephone and email when he is working.

We are very happy Steve is willing to help us respond to the Secretary's order, and are looking forward to continuing our work with him. Since he plans to depart [REDACTED] this weekend (before hard winter sets in), we'd like to thank him and see him off on this next chapter of his life. So please join us for lunch at Gallo's at 11:45 a.m. tomorrow.

Hope you can join us!
Joanna

Joanna L. Fox
Deputy Refuge Manager
Arctic National Wildlife Refuge
[101 12th Avenue, Room 236](#)
[Fairbanks, AK 99701](#)
[\(907\) 456-0549](#)

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www.facebook.com/arcticonationalwildliferefuge

"Do what you can, with what you have, where you are." -- Theodore Roosevelt

From: [Arthur, Stephen](#)
To: [Bertram, Mark](#)
Cc: [Harwood, Christopher](#)
Subject: Re: biological districting
Date: Tuesday, November 7, 2017 10:10:07 AM

Yes, I'll plan to call in then. Just let me know what phone number to call.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist
Arctic National Wildlife Refuge
101 12th Ave., Room 236
Fairbanks, AK 99701
(907)455-1830*

On Mon, Nov 6, 2017 at 9:02 AM, Bertram, Mark <mark_bertram@fws.gov> wrote:

Steve and Chris,

Would you both be available for a teleconference Monday November 13 at 1:30 pm Alaska Time to discuss biological districting?

Cheers,
Mark

Mark_Bertram@fws.gov

Supervisory Wildlife Biologist
US Fish and Wildlife Service
Yukon Flats National Wildlife Refuge
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On Mon, Nov 6, 2017 at 8:52 AM, Harwood, Christopher <christopher_harwood@fws.gov> wrote:

I think Nov 13 is ok, but we generally have 9:00 staff meeting on Mondays so a later time would be better.

On Mon, Oct 30, 2017 at 4:35 PM, Mark Bertram <mark_bertram@fws.gov> wrote:

Thanks Steve, I will wait for Chris to weigh in and we will pick a date and time

Sent from my iPhone

On Oct 30, 2017, at 3:43 PM, Arthur, Stephen <stephen_arthur@fws.gov> wrote:

000000360

Nov 13 should work for me, and the previous week would be ok as well (assuming I can call in).

Steve

Stephen M. Arthur, Ph.D.

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[\(907\)455-1830](#)*

On Wed, Oct 25, 2017 at 2:42 PM, Bertram, Mark

<mark_bertram@fws.gov> wrote:

Hi Chris and Steve,

I note you are both out of town with Steve gone thru Nov 10 and Chris thru Nov 5. I propose we get together at 9am Monday Nov 13 to discuss the districting idea. Please let me know if that day/time will work for you.

Cheers,
Mark

Mark_Bertram@fws.gov

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As is often the case we are given very little information or direction to

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have this discussion so I am looking at this as a possible scenario building exercise. b5 - DP

So after we talk then we could put together a more organized agenda to have a broader discussion among the full Fairbanks refuge biological staff.

Would you both be available to talk Friday Nov 10 at 9am? Steve, I know you are in the process of moving; so please suggest an alternate date/time if this one is too soon for you.

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Christopher Harwood
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[\(907\) 456-0506](#) (fax)

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"In my house, anyone who uses one word when they could have used ten just isn't trying hard."

- Josiah Edward Bartlet, PhD, Nobel Laureate

From: [Arthur, Stephen](#)
To: [Bertram, Mark](#)
Subject: Re: biological districting
Date: Tuesday, November 7, 2017 10:45:30 AM

OK, my number is b6

Talk to you on Monday.

Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist
Arctic National Wildlife Refuge
101 12th Ave., Room 236
Fairbanks, AK 99701
(907)455-1830*

On Tue, Nov 7, 2017 at 8:34 AM, Bertram, Mark <mark_bertram@fws.gov> wrote:

Steve,

My number is 907 456-0446. We can save you a dime and call you as well if you want to pass on your number.

So we will all talk on Monday November 13 at 1:30pm Alaska time.

Cheers,
Mark

Mark_Bertram@fws.gov

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Steve

Stephen M. Arthur, Ph.D.

*Supervisory Wildlife Biologist
Arctic National Wildlife Refuge
[101 12th Ave., Room 236](#)*

000000364

[Fairbanks, AK 99701](mailto:mark_bertram@fws.gov)
[\(907\)455-1830](tel:(907)455-1830)

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Alaska Time to discuss biological districting?

Cheers,
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Mark

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Christopher Harwood

Wildlife Biologist

U.S. Fish and Wildlife Service

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"In my house, anyone who uses one word when they could have used ten just isn't trying hard."

- Josiah Edward Bartlet, PhD, Nobel Laureate

From: [Harwood, Christopher](#)
To: [Bertram, Mark](#)
Cc: [Arthur, Stephen](#)
Subject: Re: biological districting
Date: Monday, November 6, 2017 11:12:10 AM

I will put it on my calendar if Steve agrees.

On Mon, Nov 6, 2017 at 9:02 AM, Bertram, Mark <mark_bertram@fws.gov> wrote:
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Arctic National Wildlife Refuge

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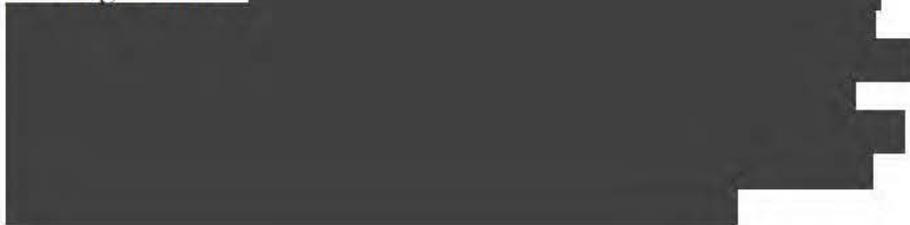
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Christopher Harwood

000000370

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From: [Howard, Amee](#)
To: [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#)
Subject: Review Request - Arctic Refuge Questions for the Record
Date: Tuesday, November 7, 2017 12:53:20 PM
Attachments: [11.07.17 Arctic NWR QFRs Assignments R7-Clean .docx](#)
[11.07.17 Arctic NWR QFRs Assignments R7-Track Changes .docx](#)

Hi All,

I have attached a clean version and a track changes version of the Questions for the Record. We were assigned specific questions for our response and they are highlighted in Gray in the clean version. The green highlighted responses are from HQ-CLA.

Please review at your earliest convenience and let me know your edits. Once those are incorporated, I will submit to HQ-CLA.

Thanks so much!
Amee

--

Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

Office: (907)786-3509

Mobile: (907)229-8575

<https://www.fws.gov/alaska/>

["Conservation Begins with Hello"](#)

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U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the coastal plain (1002 area) of the Arctic National Wildlife Refuge be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development, if authorized, proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? CLA and R7 – Only Congress can authorize oil and gas development in the 1002 area of Arctic National Wildlife Refuge. If authorized, it should only be undertaken consistent with all environmental laws.

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act?
CLA and Refuges HQ (Scott) – Yes.

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
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Is the Arctic Refuge still being managed according to this plan? CLA and R7 – Yes, the refuge is managed according to the current CCP, which recommended to Congress that the coastal plain (1002 area) of the Arctic National Wildlife Refuge be designated Wilderness. In Alaska, U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so for the coastal plain.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA – R7 - The 2015 CCP is the current management plan for the Arctic National Wildlife Refuge and the USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas leasing in the 1002 area we will assess whether and how to update the 2015 CCP.

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We’ve heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won’t damage the Refuge?

CLA and R7 - ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. It is not possible to conduct any development of natural resources without some negative environmental effects.

Question 2: I am also concerned about the potential for oil spills. We’ve heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

U.S. Senate Committee on Energy and Natural Resources
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Since oil spills have happened in places where there’s a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7 - Framework answer: Access to the Refuge would be dependent upon weather and environmental conditions. Recovery crews would have as much access as safe and practicable and within the guidelines of existing laws. ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects and recommend measures to avoid or reduce negative impacts. A credible spill prevention or disaster recovery plan may establish best management practices that would likely include the deployment of recovery crews which in total may reduce the potential for spills and/or minimize the effects of spills. We will ensure that development proceeds in a way that is consistent with all applicable laws.

Questions from Senator Bernard Sanders

Question 1: Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels toward energy efficiency and sustainable energy like wind, solar, and geothermal? **CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy.**

Question 2: Do you agree with the vast majority of scientists that the combustion of fossil fuels contributes to climate change? **CLA and OCL – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity, including the combustion of fossil fuels.**

Question 3: During your testimony, you said that the Trump administration is being “forward looking” with regard to advancing renewable energy technologies. However, the Administration’s proposed budget has called for a 70% cut to the Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) and zeroing out of ARPA-E. Additionally, the Administration has announced its intention to leave the Paris Climate Accord and proposed to repeal the Clean Power Plan. Can you please explain how such actions are helping advance renewable energy technology? Can you please provide any examples of ways the Trump Administration has increased support for renewable energy since taking office? **DOI is addressing this Question.**

U.S. Senate Committee on Energy and Natural Resources
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Question 4: Scientists tell us that we must work keep to keep fossil fuels in the ground if we are to avoid the most dangerous impacts of climate change. The U.S. Geological Survey estimates that more than 10 billion barrels of recoverable oil could be held in the Arctic Refuge. How does extracting this oil from the Arctic Refuge help the U.S. transform its energy system, as quickly as possible, from one based on carbon-intensive fuels to one based on clean, sustainable sources?

CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy

Question 5: According to the State of Alaska, there have been over 640 oil spills on Alaska’s North Slope since 1995, 13 of which were greater than 10,000 gallons. Since 2009, tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope. In April, a BP oil well leaked crude oil and gas for several days due to damage caused by pressure from thawing permafrost. The Alaska Oil and Gas Conservation Commission issued an emergency order to review all wells on the North Slope of Alaska due to the threat posed by warming permafrost.

Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA– I am not aware of any specific projects proposed for the 1002 Area ..XXXXX.

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

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The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ? Framework answer: ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act (ESA), the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and designated critical habitat and that mitigating measures are prescribed to avoid or reduce effects that may jeopardize the continued existence of the species or adversely modify or destroy designated critical habitat. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd’s continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? CLA and R7 – Framework answer: ANILCA intended the 1002 area be considered for oil and gas development. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; recommend measures to avoid or reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. If Congress enacts legislation to authorize oil and gas development in the 1002 area, applicable laws do not require guarantees to avoid all adverse impacts.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich’in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

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What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich'in Nation and preserves their relationship with the herd? CLA and R7 – The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the 1002 area, we will consult with all affected Federally recognized tribes to consider their concerns and establish measures in an effort to avoid or reduce negative impacts to the Porcupine Caribou Herd.

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

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Questions from Ranking Member Maria Cantwell

Question 1: Your testimony states that the Administration supports oil and gas development in the Arctic National Wildlife Refuge. The Fish and Wildlife Service is charged with managing the Arctic refuge “to protect fish and wildlife and their habitat in their natural diversity.”

The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

FWS CLA and R7 – ANILCA intended the coastal plain (1002 area) of the Arctic National Wildlife Refuge be considered for energy-oil and gas development. -The Administration supports legislation to authorize that development and we will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, and the National Environmental Policy Act, to analyze potential effects, recommend measures to avoid and/or minimize effects, reduce negative effects/impacts, and ensure that development if authorized proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? [CLA and R7 – Yes. Only Congress can authorize oil and gas development in the 1002 area of Arctic National Wildlife Refuge. If authorized, it should only be undertaken consistent with all environmental laws.](#)

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act? [CLA and Refuges HQ \(Scott\) – Yes.](#)

Question 4: The 2015 Comprehensive Conservation Plan (CCP) for the Arctic Refuge was the result of years of scientific work and public input. As part of the plan, the Fish and Wildlife Service recommended that the Coastal Plain of the Arctic Refuge be designated as wilderness. In your testimony, you mentioned the original CCP but did not mention the current CCP, which is the Fish and Wildlife Service’s most recent scientific review of the Refuge, management policy for the Refuge, and recommendations to Congress.

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Is the Arctic Refuge still being managed according to this plan? ~~CLA and R7 – Yes, the refuge is managed according to the current CCP, which recommended to Congress that the Coastal Plain (1002 area) of the Arctic National Wildlife Refuge be designated Wilderness. In Alaska, FWS U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so for the Coastal Plain coastal Plain plan~~

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

~~CLA – R7 - The 2015 CCP is the current management plan for the Arctic National Wildlife Refuge and the Service USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas leasing in the 1002 Area Area Area of the refuge, the Service we will assess whether and how to update the 2015 CCP.~~

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We've heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

Given the lack of drilling experience in the uniquely-rugged terrain of the Refuge, how can the Administration be certain that oil exploration and production won't damage the Refuge?

~~CLA and R7 - ANILCA intended the 1002 area be considered for energy oil and gas development. The Administration supports legislation to authorize that development and We will follow all applicable laws to analyze potential effects, recommend measures to avoid and/or minimize reduce negative effects impacts, and ensure that development proceeds in a way that is consistent with all applicable laws. It is not possible to conduct any development of natural resources without some negative environmental effects. Applicable environmental laws do require no effects, but they ensure effects are avoided or minimized.~~

Question 2: I am also concerned about the potential for oil spills. We've heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of

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gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there's a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

How much access would disaster recovery crews have to respond to a spill in the Refuge?

CLA and R7 - Framework answer: Access to the Refuge would be dependent upon weather and environmental conditions. Recovery crews would have as much access as safe and practicable and within the guidelines of existing laws. ANILCA intended the 1002 area be considered for energy-oil and gas development. The Administration supports legislation to authorize that development, and We will follow all applicable laws to analyze potential effects and recommend measures to avoid and minimize effects or reduce negative effects/impacts. A credible spill prevention or disaster recovery plan may establish best management practices that would likely include the deployment of recovery crews which in total may, including by preventing-reduce the potential for spills and/or minimizing-minimize the effects of spills, including through the deployment of recovery crews. We will ensure that development proceeds in a way that is consistent with all applicable laws.

HS-CP

Questions from Senator Bernard Sanders

Question 1: Do you agree with the vast majority of scientists that climate change is real, it is caused by human activity, and that we must aggressively transition away from fossil fuels toward energy efficiency and sustainable energy like wind, solar, and geothermal? CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration's energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy.

Question 2: Do you agree with the vast majority of scientists that the combustion of fossil fuels contributes to climate change? CLA and OCL – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity, including the combustion of fossil fuels.

Question 3: During your testimony, you said that the Trump administration is being "forward looking" with regard to advancing renewable energy technologies. However, the Administration's proposed budget has called for a 70% cut to the Department of Energy Office of Energy Efficiency and Renewable Energy (EERE) and zeroing out of ARPA-E. Additionally,

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Question 4: Scientists tell us that we must work keep to keep fossil fuels in the ground if we are to avoid the most dangerous impacts of climate change. The U.S. Geological Survey estimates that more than 10 billion barrels of recoverable oil could be held in the Arctic Refuge. How does extracting this oil from the Arctic Refuge help the U.S. transform its energy system, as quickly as possible, from one based on carbon-intensive fuels to one based on clean, sustainable sources? CLA – As I stated at the hearing, I believe that climate change is real and is caused at least in part by human activity. As Principal Deputy Director of the Fish and Wildlife Service, I am not responsible for developing the Administration’s energy policy. However, as I stated at the hearing, I am aware that the Administration supports securing our energy future by developing energy from all sources, including renewable sources of energy

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Do you agree with the Alaska Oil and Gas Conservation Commission that warming permafrost poses a threat to fossil fuel infrastructure? If not, why not? What specific technology can guarantee no spills in the face of melting permafrost?

CLA FWS – As Principal Deputy Director of the FWS I am not in a position to understand the effects of the environment on fossil fuel infrastructure. However, any consideration of those factors and the potential effects on the refuge would be assessed by environmental reviews in applicable laws.

Can you provide an example of an oil well on the scale of the \$1 billion dollar project proposed in the 1002 area of the Arctic Refuge that has not had a spill?

CLA – I am not aware of any specific projects proposed for the 1002 Area ...XXXXXX

Question 6: The Arctic Refuge is home to hundreds of plant and wildlife species, including America’s most iconic animals such as polar bears, grizzly bears, musk ox, wolves and caribou.

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This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

The Arctic Refuge is also the nesting ground for millions of birds, including waterfowl such as Northern Pintail and Tundra Swans, which migrate from all 50 states.

What specific technology can guarantee that the infrastructure and technology used for extraction does not adversely affect this pristine ecosystem?

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NS-CP

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laws. Should If Congress enacts legislation to authorize energy-oil and gas development in the 1002 Area, applicable laws do not require guarantees to avoid all adverse impacts.

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DOI Budget Office is drafting a response

From: [Howard, Amee](#)
To: [Gregory Siekaniec](#); [Karen Clark](#); [Sara Boario](#); [Mitch Ellis](#); [Damberg, Doug](#); [Socheata Lor](#); [Steve Berendzen](#)
Subject: Upcoming House Natural Resources Hearings Next week (November 6 - November 9)
Date: Friday, November 3, 2017 1:48:29 PM

FYI - Upcoming House Natural Resource Committee Hearings where they may take up Arctic Refuge issues.

Link: <https://naturalresources.house.gov/calendar/default.aspx?Year=2017&Month=11&Earliest=11/7/2017>

Legislative Hearing on Discussion Draft Legislation to Overhaul Federal Lands Energy Policy

Tuesday, November 7, 2017 2:00 PM

[Energy and Mineral Resources](#)

1324 Longworth House Office Building Washington D.C. 20515

 [Add to my calendar](#)

LEGISLATIVE HEARING ON:

- **Discussion Draft of H.R. _____**, To distribute revenues from oil and gas leasing on the Outer Continental Shelf to certain coastal States, to require sale of approved and scheduled offshore oil and gas leases, to establish offshore wind lease sale requirements, and to empower States to manage the development and production of oil and gas on available Federal land, and for other purposes.

FULL COMMITTEE MARKUP ON FEDERAL LANDS ENERGY OVERHAUL, 8 OTHER BILLS

Wednesday, November 8, 2017 10:00 AM

[Full Committee](#)

1324 Longworth House Office Building Washington D.C. 20515

 [Add to my calendar](#)

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Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

Anchorage, Alaska

Office: (907)786-3509

Mobile: (907)229-8575

<https://www.fws.gov/alaska/>

["Conservation Begins with Hello"](#)

000000385

From: [Howard, Amee](#)
To: [Gregory Siekaniec](#)
Cc: [Karen Clark](#); [Sara Boario](#)
Subject: Updated QFR Response with Edits from Greg
Date: Tuesday, November 7, 2017 2:53:06 PM
Attachments: [11.07.17 Arctic NWR QFRs Assignments R7_RD.docx](#)

Hi Greg,

Here is a clean version for your review with the changes we discussed over the phone incorporated. Give me a call with any edits and I will get those updated.

Thanks so much!
Amee

--

Amee Howard

Congressional and Legislative Affairs

U.S. Fish & Wildlife Service

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The Arctic refuge Coastal Plain is a critical calving area for the Porcupine Caribou herd—as your testimony notes—and almost the entire area has been designated as critical habitat for polar bears, which are listed as a threatened species under the Endangered Species Act.

What analysis did the Administration undertake in assessing the impact of oil development on its obligation to protect the Arctic refuge and its wildlife, including a polar bear population that is listed under the Endangered Species Act, before deciding to promote oil development in the refuge?

CLA and R7: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act, the Marine Mammal Protection Act, the National Wildlife Refuge System Improvement Act, and the National Environmental Policy Act, to analyze potential effects and determine compatibility with established purposes for the refuge. Environmental reviews will recommend measures to avoid and reduce negative impacts and ensure that development, if authorized, proceeds in a way that is consistent with all applicable laws.

Question 2: Do you agree that oil development in one of the most pristine and ecologically important national wildlife refuges in the country should be undertaken only if consistent with all environmental laws? **CLA and R7:** Only Congress can authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain. If authorized by Congress, development should only be undertaken in a manner consistent with the established purposes of Arctic National Wildlife Refuge, including the continuation of subsistence opportunity for rural residents, and consistent with all applicable laws.

Question 3: Do you agree that allowing an oil field to be developed inside a national wildlife refuge is a major federal action requiring a full public process and the development of an environmental impact statement in accordance with the National Environmental Policy Act?
CLA and Refuges HQ (Scott) – Yes.

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Is the Arctic Refuge still being managed according to this plan?

CLA and R7: Yes, the refuge is managed according to the current Comprehensive Conservation Plan (CCP), which recommended to Congress that the Arctic National Wildlife Refuge coastal plain be designated Wilderness. In Alaska, U.S. Fish & Wildlife Service (USFWS) manages such proposed Wilderness as Minimal Management areas, and we do so to ensure conservation of wilderness values; adhere to established refuge purposes; respect the continuation of the traditional and cultural way of life for Alaska Natives; and provide the opportunity for continued subsistence harvest for rural residents.

Question 5: Is current Department of the Interior leadership committed to the scientific analysis behind the 2015 Comprehensive Conservation Plan for the Arctic National Wildlife Refuge?

CLA and R7: The 2015 Comprehensive Conservation Plan (CCP) is the current management plan for the Arctic National Wildlife Refuge and the USFWS continues to administer the refuge consistent with this plan and its underlying science. If Congress enacts legislation that authorizes oil and gas development in the Arctic National Wildlife Refuge coastal plain we will assess whether and how to amend the 2015 CCP.

Questions from Senator Ron Wyden

Question 1: Mr. Sheehan, in your spoken testimony you referred to research and best practices to avoid complications from drilling. But I am still concerned that drilling could seriously damage the pristine nature of the Refuge. We’ve heard that using ice pads and ice roads can reduce the environmental footprint of drilling, but the Refuge has a hillier terrain and less standing water than other drill sites on the North Slope. That means it could be harder to use ice drilling techniques in the Refuge.

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Question 2: I am also concerned about the potential for oil spills. We’ve heard that drilling technology has advanced, but oil spills still happen. In fact, since 2009 tens of thousands of gallons of crude oil and drilling fluids have spilled on the North Slope, damaging waters and local wildlife.

Since oil spills have happened in places where there’s a longer history of drilling, how could a spill prevention or disaster recovery plan for the Refuge be credible?

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This area includes more polar bear den sites than any other area on the north coast of Alaska and has been designated as a critical habitat for these threatened animals, which are listed as a threatened species under the Endangered Species Act.

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CLA will answer. (There are no guarantees, environmental laws will be followed and effects will be avoided/minimized)

What specific technology can guarantee that the infrastructure and technology used for extraction does not violate the Endangered Species Act?

CLA with R7 and ES HQ: The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws, including the Endangered Species Act (ESA), the Marine Mammal Protection Act, the National Wildlife Refuge System Improvement Act, and the National Environmental Policy Act, to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. Section 7 of the ESA provides the mechanism to ensure federally funded or permitted actions are analyzed for effects on listed species and designated critical habitat and that mitigating measures are prescribed to avoid or reduce effects that may jeopardize the continued existence of the species or adversely modify or destroy designated critical habitat. If, following that scientific analysis, the Secretary makes the necessary scientific findings under the ESA, the ESA will not be violated.

U.S. Senate Committee on Energy and Natural Resources
November 2, 2017 Hearing: *The Potential for Oil and Gas Exploration and Development in the Non-Wilderness Portion of the Arctic National Wildlife Refuge, Known as the “1002 Area” or Coastal Plain, to Raise Sufficient Revenue Pursuant to the Senate Reconciliation Instructions included in H. Con. Res. 71*
Questions for the Record Submitted to Mr. Greg Sheehan

Question 7: Nearly 200,000 Porcupine Caribou, currently the only healthy caribou herd in North America, birth their calves in the Arctic Refuge. Disrupting these calving grounds could have a significant adverse impact on the herd’s continued health.

What specific measures and technology can guarantee that the infrastructure used for extraction does not adversely impact this herd? **CLA and R7:** The Alaska National Interest Lands Conservation Act (ANILCA) reserved the decision to develop oil and gas resources in the coastal plain of the Arctic National Wildlife Refuge for Congress. The Administration supports legislation to authorize that development. We will follow all applicable laws to analyze potential effects; determine compatibility with established purposes for the refuge; recommend measures to avoid and reduce negative impacts; and ensure that development proceeds in a way that is consistent with all applicable laws. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain, environmental review, siting criteria, and recommended measures to avoid and reduce negative impacts will help minimize adverse effects.

The herd is also an essential part of life for the Gwichyaa Zhee Gwich’in Nation. The Nation has survived off the food from the herd for 20,000 years and the land where the herd lives is sacred.

What specific measures and technology can guarantee that the infrastructure and equipment used for extraction does not disrupt the Gwich’in Nation and preserves their relationship with the herd? **CLA and R7:** The USFWS recognizes that Alaska Native people and their tribes are spiritually, physically, culturally, and historically connected to the land, wildlife, and waters. If Congress enacts legislation to authorize oil and gas development in the Arctic National Wildlife Refuge coastal plain, we will, through consultation with all affected Federally recognized tribes, identify concerns and establish measures to avoid and reduce negative impacts to the Porcupine Caribou Herd.

Question 8: The average lease sale per acre on the neighboring North Slope is \$194 per acre. In order to meet the Senate reconciliation instructions to the Senate Committee of Energy and Natural Resources, every single acre in the Coastal Plain would need to be leased at an average rate of \$1,333 per acre. What is the likelihood that every acre in the Coastal Plain would be sold at this rate? Describe the specific modeling and methods used to estimate the revenue that would be generated from leases on the Coastal Plain.

DOI Budget Office is drafting a response

From: [Burkart, Greta](#)
To: [Stephen Arthur](#); [Joanna Fox](#); [Steve Berendzen](#); [John Trawicki](#); [Cathleen Flanagan](#)
Subject: attached poster presentation on immediate needs for water quantity and quality studies
Date: Tuesday, November 7, 2017 11:41:13 PM
Attachments: [NAASH Greta one slide.pptx](#)

Hi Everyone,

I have attached a power point. I also hung a printed copy outside of Joanna's office.

Greta

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Aquatic Ecologist
US Fish and Wildlife Service
Arctic National Wildlife Refuge and Alaska Refuges Inventory and Monitoring Program
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www.facebook.com/arcticnationalwildliferefuge



Immediate Needs for Water Quantity & Quality Studies in the 1002 Area of the Arctic National Wildlife Refuge



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Immediate Aquatic Habitat Degrading Wintertime

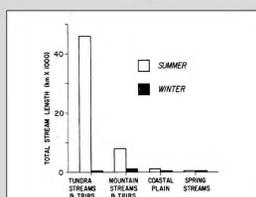
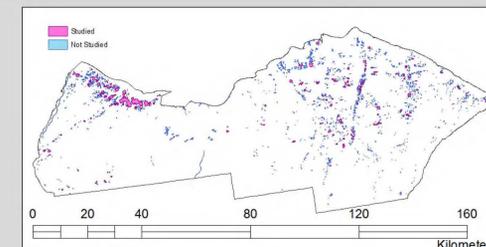


Figure 10. Total lengths of North Slope stream types available to fish in summer and winter.

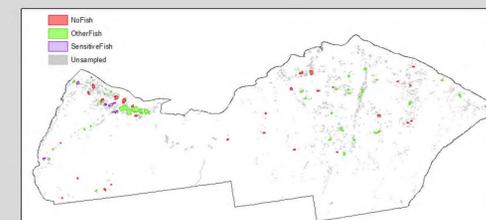
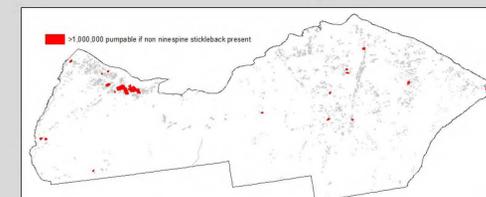
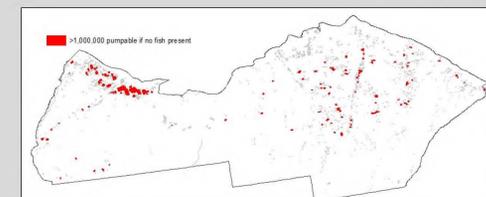
Current State of Knowledge

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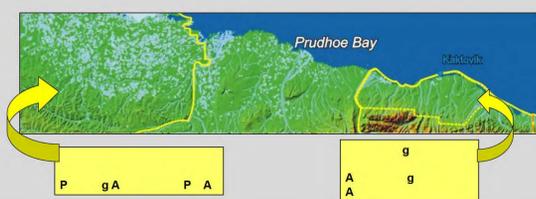
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Water Resources on the North Slope of Alaska



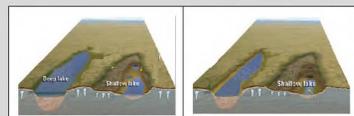
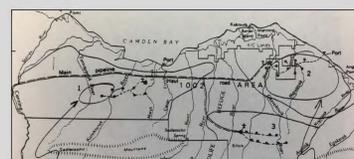
Immediate Threats to Water Resources within the next 14 months

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Water Resources in the Arctic Refuge 1002 Area

lakes and ponds

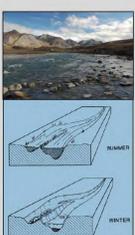


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Rivers

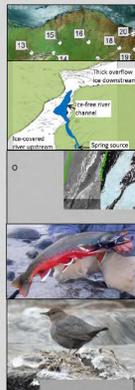


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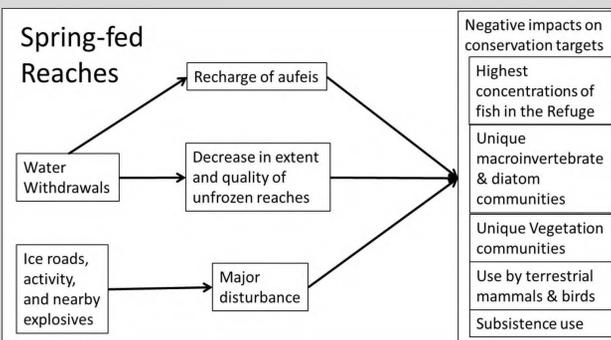
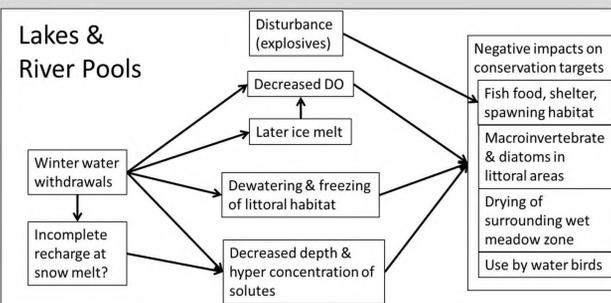
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Spring-fed Reaches Critical Overwintering Habitat

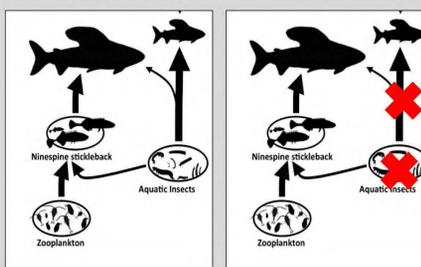
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Lake food web effects on denizens and nutrients on food shelter and denning and spawning habitat (Cottrell 2008)



High Priority Questions

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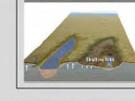
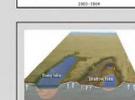
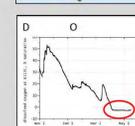
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From: [Damberg, Doug](#)
To: [Mitch Ellis](#)
Subject: Fwd: Notes from Embassy Canada's ANWR Event
Date: Tuesday, November 7, 2017 3:01:19 PM
Attachments: [ANWR Nov 7 Panel Notes.docx](#)

FYI

Doug Damberg
Refuge Supervisor, AK North Zone
U.S. Fish and Wildlife Service
1011 E. Tudor Rd.; Anchorage, AK 99503
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Cell: (907) 947-6302

----- Forwarded message -----

From: **Close, Ryan** <ryan_close@ios.doi.gov>
Date: Tue, Nov 7, 2017 at 12:49 PM
Subject: Fwd: Notes from Embassy Canada's ANWR Event
To: Doug Damberg <doug_damberg@fws.gov>, Gilbert Castellanos <Gilbert_Castellanos@fws.gov>

FYI

[Ryan Close](#)
Office of International Affairs
U.S. Department of the Interior
(202) 208-3004
www.doi.gov/intl

----- Forwarded message -----

From: **Murray (Awad), Miriam L** <AwadML@state.gov>
Date: Tue, Nov 7, 2017 at 2:49 PM
Subject: Fwd: Notes from Embassy Canada's ANWR Event
To: Ryan Close <ryan_close@ios.doi.gov>, OES-OPA-Arctic <OES-OPA-Arctic@state.gov>, Ottawa – ESTH <Ottawa-ESTH@state.gov>, WHA-CAN-Internal <WHACANInternal@state.gov>, "Swiney, Gabriel" <SwineyG@state.gov>, "Phelps, Elizabeth (OES)" <PhelpsE@state.gov>, "Lee, Marcus D" <LeeMD@state.gov>, "Maniscalco, Danielle A" <ManiscalcoDA@state.gov>
Cc: WHA Congressional <WHACongressional@state.gov>, "Guest-Bakker, Janelle R" <GuestBakkerJR@state.gov>, "Hom, Kathleen" <HomK@state.gov>

Please see attached notes from the Canadian Embassy Nov 6 panel on the future of ANWR. The notes have been cleared by ENR who also attended the event.

Given the Congressional interest, copying H and WHA - Congressional.

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Read-out of Embassy Canada Panel on the Future of ANWR:

On November 6, the Embassy of Canada hosted a panel titled the future of ANWR moderated by Canadian Embassy's Energy and Environment Counselor Rachel McCormick. Participants included Gwich'in Tribal Council President Bobbi-Jo Greenland Morgan, Vuntut Gwich'in Deputy Chief Esau Schafer, Gwich'in Council Member Joe Temchi, Larry Bagnell, Member of Parliament, Yukon, Pauline Frost, Minister of the Environment, Government of Yukon, and Basil van Havre, Director General, Domestic and International Biodiversity Policy, and Canadian Wildlife Service.

Canadian Ambassador to the U.S. David MacNaughton made welcoming remarks at the start of the panel and stressed that the Canadian Government along with the U.S. had committed in 1987 to conserve the Porcupine Caribou herd and protect the grounds from development. He restated the Prime Minister's priority to preserve the rights of the indigenous people and culture. Gwich'in Tribal Chief Bobbi-Jo Greenland Morgan spoke about the importance of the Caribou and the way of life and how tools to handle the hide are passed down from generation to generation. Vuntut Gwich'in Deputy Chief Esau Schafer reiterated the importance of the Caribou to the culture and the Gwich'in people.

From the Canadian Wildlife Service Basil Van Havre spoke of the migratory bird treaty with the U.S. that had served to conserve the biology of the area over the last 100 years. Van Havre also noted how little changes in the environment can have a big impact on the herd's migration such as a soup can. He explained how the Caribou who are calving need heavy food and a safe place away from predators, insects, noise and other activities. The Yukon Minister of Environment Pauline Frost credited the preservation of the 1002 area as supporting the Caribou population. Gwich'in Tribal Member Joe Timchi discussed how President Clinton had vetoed the bill to open the Arctic and Senator Jim Jeffords had crossed the aisle to vote against opening the Arctic. Timchi also discussed how the tribes tracked the population of the Caribou and the Canadian side was allowed to harvest if the Caribou numbered at 115,000 or more but not if the population was under 45,000.

The Yukon MP Larry Bagnell said that environmental conditions were impacting the herd and called for protections to the economy in the north, particularly as it was a form of subsistence for tribes on both sides of the border. There are fourteen communities with about 8-10,000 people total on the migratory path with four Gwich'in tribes from the Northwest Territories, three from the Yukon, and seven Gwich'in tribes in Alaska. The Caribou typically migrate from June 1 and calve until about August, but can also return as early as July.

The audience asked whether there was a way to ensure no permanent structure was set up during those months. Gwich'in members said they would be happy to discuss options. The panelists also raised the existing board as a means of discussing this issue and cited some of the absent seats as impeding the convening of the board. [Note: They believed that four co-chairs on the American side are not in their positions. The CAN desk will fact-check. End note] Another audience member (Gwich'in Tribe) said that she had met with many members of Congress to discuss concerns raised by the Gwich'in Tribes on the potential exploration. Another audience member (Gwich'in Tribe) gave an impassioned plea on behalf of the youth in the Gwich'in Tribe. Finally, an audience member asked about the terms of the Treaty.

McCormick replied that the Treaty creates a venue for notifying and consulting but does not direct party members to come to an agreement; it merely serves an opportunity for stakeholders to share information and coordinate.