BLM National Petroleum Reserve in Alaska

Regional Mitigation Strategy for NPR-A
Educational Forum and Process Design Workshop

March 31 – April 1, 2015
Fairbanks, Alaska

Workshop Summary

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Introduction

The Alaska State Office of the Bureau of Land Management (BLM) hosted a workshop on March 31-April 1, 2015 in Fairbanks, Alaska, regarding development of a Regional Mitigation Strategy (RMS) for the northeast National Petroleum Reserve in Alaska (NPR-A). The facilitated workshop was attended by 92 people, including residents of the North Slope; members of Tribal governments, local governments, and Alaska Native Corporations on the North Slope; representatives of industry, universities, and conservation and other organizations; and staff from state and federal land and resource management agencies.[1] The workshop agenda and participant list are included in Attachments 1 and 2.

The objectives of the workshop were to:

- Build shared understanding of the Greater Mooses Tooth-1 (GMT1) mitigation requirement that provides for development of the Regional Mitigation Strategy for the northeast NPR-A, and background on how mitigation strategies have been developed and used by BLM in other states.
- Provide initial input from diverse stakeholders on key questions to help guide the design of the BLM Regional Mitigation Strategy for the Northeast NPR-A, to ensure it will effectively mitigate development impacts.

The two-day workshop marked the beginning of the process of developing the Regional Mitigation Strategy for the NPR-A. The initial input received from workshop participants will substantially influence the design of the planning process, the types of impacts researched and assessed, and the types of mitigation actions and locations that will be included in the mitigation strategy. Following the workshop, BLM will hire a technical contractor and, with the facilitation team, design the rest of the planning process – which will include additional workshops and community meetings, scientific assessments and consideration and incorporation of traditional knowledge, and opportunities for involvement by diverse stakeholders. It is expected that it will take 18 months to complete the Regional Mitigation Strategy.

This meeting summary documents the key points presented and comments received at the March 31-April 1 workshop. Additional information, copies of the PowerPoint presentations, and a summary of the post-workshop feedback forms are available at the project website: http://www.blm.gov/ak/st/en/prog/NPR-A/RMS.html

Day 1 – March 31, 2015

[1] The workshop was facilitated by Jan Caulfield of Jan Caulfield Consulting (www.jancaulfield.com) and Tahnee Robertson of Southwest Decision Resources (www.swdresources.com)

Opening Remarks – Development of a Regional Mitigation Strategy for the Northeast NPR-A

Bud Cribley, State Director, BLM Alaska State Office

BLM State Director Bud Cribley welcomed the workshop participants. He expressed his appreciation for their time, their travel to this meeting, and their willingness to learn about the Regional Mitigation Strategy and contribute their ideas and advice early in the process.

The National Petroleum Reserve in Alaska is located on Alaska's North Slope and, at nearly 23 million acres, is the largest single block of federally managed land in the United States. By law, the BLM administers the NPR-A for the purposes of oil and gas leasing along with protection of areas containing significant subsistence, recreational, fish and wildlife or historical or scenic value. Several Inupiaq villages are located in and adjacent to the NPR-A. Residents of Nuiqsut and other northern Alaska communities use the NPR-A's subsistence resources to sustain their traditional ways of life.

In February 2015, BLM approved development of the Greater Mooses Tooth-1 project (GMT1), opening the way for the first production of oil and gas on BLM-managed lands in the NPR-A. Record of Decision (ROD) for GMT1 incorporated a robust package of mitigation requirements. This includes an $8 million contribution from ConocoPhillips, Alaska, Inc into a compensatory mitigation fund to offset impacts, including major impacts to subsistence uses that cannot be fully mitigated by avoidance or minimization. The fund will be used to develop a landscape-level Regional Mitigation Strategy (RMS) for the northeast NPR-A, and to finance mitigation projects identified in that strategy.[2]

The Regional Mitigation Strategy will be developed through a transparent, stakeholder-driven process to identify projects or measures that will offset major impacts to subsistence uses that cannot be fully mitigated by established avoidance and minimization measures and best management practices. This workshop is the first step in that collaborative public process. It is expected that the full planning process will take 18 months.

The Regional Mitigation Strategy will serve as a roadmap for mitigating impacts from the GMT1 project, as well as from future projects enabled by the GMT1 development. BLM will transition from making project-by-project decisions about mitigation requirements, to proactive regional-scale planning for mitigation. This transition will help ensure that development in the NPR-A is conducted in an environmentally responsible manner.

Greater Mooses Tooth-1 and Context for the Regional Mitigation Strategy

Stacie McIntosh, BLM Arctic Field Office
Bridget Psarianos, BLM Alaska State Office

The development of a Regional Mitigation Strategy for the NPR-A is an action that builds on a history of planning, management, and permitting within the reserve. BLM's management objectives for the NPR-A are:

- Conduct an expeditious program of competitive oil and gas leasing.
- Manage exploration, development, and all other uses consistent with the purposes of the reserve.

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[2] The use of compensatory mitigation and development of regional mitigation strategies are relatively new tools for BLM, and provide a way to address unavoidable environmental impacts from development that cannot be mitigated through avoidance or minimization measures. Compensatory mitigation for such unavoidable impacts is provided for under Order 3330 issued by Department of the Interior Secretary Jewell in October 2013. The text of Order 3330 can be found at: http://www.doi.gov/news/upload/secretarial-order-mitigation.pdf

- Protect environmental, fish and wildlife, and historical or scenic values.
- Designate and protect special areas.
- Protect subsistence opportunities.
- Comply with other laws (e.g., Endangered Species Act).

The Integrated Activity Plan (IAP) for the NPR-A, approved in February 2013, provides the framework for development and conservation in the reserve. The IAP mitigates for development impacts in many ways. The IAP avoided impacts on important natural and cultural resources by designating Special Areas, buffer zones, and other areas where leasing and/or development will not be allowed to occur. The plan also minimized negative impacts by requiring development activities to follow best management practices.

In 2013, ConocoPhillips of Alaska, Inc applied to BLM-Alaska for approval to develop a drilling pad at Greater Mooses Tooth-1, which would connect to the Alpine Central Processing Facility. The BLM's Record of Decision for GMT1, issued in February 2015, approved project Alternative A – which the US Army Corps of Engineers identified as the least environmentally damaging practicable alternative.

The Supplemental Environmental Impact Statement (SEIS) prepared by BLM for GMT1 identified minor to moderate impacts to air quality, wildlife, water quality and hydrology, vegetation, and wetlands, as well as minor to moderate potential for an oil spill. The SEIS also identified potentially major impacts to subsistence from aircraft flights and vehicle traffic, including potential localized impacts to caribou migration, subsistence user avoidance of development areas, and impacts to access to subsistence use areas. The SEIS also identified potentially major impacts to sociocultural systems in Nuiqsut.

The GMT1 Record of Decision stipulated that the project comply with best management practices to avoid and minimize adverse impacts from the development. These best management practices focus on subsistence and aircraft impacts, caribou, spill response planning, pipeline lead detection and design, air quality, and public health.

The Record of Decision also identified "residual impacts" that could not be fully mitigated through avoidance and minimization measures. By Order of the Secretary of the Interior and in keeping with new national mitigation policy (described more fully below), BLM must require compensatory mitigation to offset these residual impacts, including major impacts to subsistence uses and habitats that support those uses.

Supplemental Best Management Practice 1 (in the Record of Decision) requires BLM to develop a Regional Mitigation Strategy for the northeastern region of the NPR-A, with two goals:

1. Plan for use of the compensatory mitigation funds provided by ConocoPhillips to mitigate unavoidable impacts from GMT1, and
2. Prepare a proactive plan for how to mitigate potential residual impacts from future development in this area.

The Record of Decision further indicated that the objectives of the regional mitigation strategy should include, but not be limited to:

1. Maintain functioning habitat to sustain fish and wildlife abundance and distribution,
2. Ensure access to subsistence use areas, and
3. Contribute to cleanup of previously disturbed sites.

BLM plans to work with stakeholders to further develop the objectives for the regional mitigation strategy and to identify mitigation actions that can be taken to effectively compensate for unavoidable, residual impacts at GMT1 and future development in the area.

BLM Mitigation Policy and Regional Mitigation Strategy Examples

The morning presentations on Day 1 described the national mitigation policy that will guide BLM's development of a Regional Mitigation Strategy for the northeast NPR-A. As an example, BLM also presented information about a regional mitigation strategy developed to address impacts from large-scale solar energy projects in Arizona.

Secretary of the Interior Order for Improving Mitigation

Tomer Hasson, Office of Policy Analysis, Department of the Interior
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Department of the Interior (DOI) Secretarial Order 3330, *Improving Mitigation Policies and Practices at the Department of the Interior*, was signed by Secretary Sally Jewell in October 2013. The Order directs agencies within the Department, including BLM, to take a strategic approach to mitigating impacts of development – to ensure consistency and efficiency in permitting development projects, while also conserving the Nation's valuable natural and cultural resources. The goals of the Secretarial Order are to reduce conflict, provide for efficient permit processes, and improve environmental and community outcomes. The Secretarial Order calls for BLM to change when and how it considers mitigation – from the current "project-by-project" basis – to creating an up-front (proactive) mitigation strategy that is prepared at a regional, landscape-scale. The Secretarial Order lays the policy foundation for development of a Regional Mitigation Strategy for the northeast NPR-A.

National Regional Mitigation Strategy Policy and Perspective

Matt Preston, National Lead for Regional Mitigation Strategy Policy Development, BLM Washington Office (202-912-7175; mpreston@blm.gov)

To implement the Secretarial Order, BLM is taking new approaches to mitigate for impacts from development – with the goal of being more strategic, more effective, and more consistent in the mitigation that it requires of development. BLM's new national mitigation policy (due out in 2015) moves the agency toward pre-planning for mitigation, through development of mitigation strategies or plans – rather than addressing mitigation only during individual permit reviews (where options for effective mitigation are generally more limited). This emphasis on pre-planning for mitigation is the foundation for the NPR-A Regional Mitigation Strategy.

Key principles of the BLM's new national mitigation policy include:

- Full spectrum / comprehensive – address the direct, indirect and cumulative impacts to all resources, values and functions.
- Landscape-scale – consider mitigation in the context of the conditions and trends in the landscape, and be consistent in mitigation across the landscape
- Durable and effective – make sure mitigation requirements are durable for the duration of the impact, have clearly defined outcomes that must be met, and are monitored to make sure the mitigation is done and is effective.
- Address the full mitigation hierarchy (generally in this order) – avoid, minimize, rectify, reduce or eliminate impacts over time, compensate for impacts

- Compensatory mitigation – make sure that any compensatory mitigation has maximum benefit; has a nexus to the impact; is roughly proportional to the scale and effect of the impact; and is timely and "additional" (provides a benefit that would not be achieved through avoidance or minimization).

Attributes of a regional mitigation strategy include:

- The strategy will pre-identify mitigation opportunities before land use activities (and impacts) occur.
- Benefits to development of a regional mitigation strategy:
  - Engage all interested stakeholders
  - Consider opportunities across administrative boundaries (e.g., non-BLM lands)
  - Increase permitting efficiency
  - Increase certainty for development proponents, as well as other stakeholders with concerns about resources, values, and functions
  - Identify potential mitigation measures and compensatory mitigation sites or actions
  - Invest in larger-scale and more effective mitigation efforts
- The scope of a regional mitigation strategy may consider all resources and uses, or could focus on a particular type of land use (such as solar energy zone development, or particular resources (such as sage grouse).
- The geographic area included in a mitigation strategy should include the landscape necessary to sustain the resources, values and functions that are the focus for mitigation.

Components of a mitigation strategy would typically include:

- Baseline conditions and trends
- Assessment of reasonably foreseeable impacts (direct, indirect, and cumulative impacts)
- Avoidance and minimization measures (first steps in mitigation hierarchy)
- Reasonably foreseeable impacts that cannot be avoided or minimized (called "residual effects")
- Residual effects that may require compensatory mitigation
- Compensatory mitigation measures that may be effective – including prioritization of those measures or sites
- Any compensatory mitigation investment options that could be used (such as existing mitigation banks or funds)
- Durability, monitoring, and reporting

In the case of a regional mitigation strategy developed outside of a National Environmental Policy Act (NEPA) process, the recommendations of the strategy would be analyzed by BLM during NEPA and permit processes for future land use activities. This would be the case for a Regional Mitigation Strategy developed for the northeast NPR-A – which would be developed outside of a NEPA process.

BLM Regional Mitigation Strategies in Solar Energy Zones

Eddie Arreola, Renewable Energy Coordination Office Supervisor, BLM Arizona (602-417-9505; earreola@blm.gov)

BLM has developed regional mitigation strategies to effectively address impacts from solar energy zone development in Arizona, Colorado, and Nevada. The intent is to prepare in advance for solar

development in Solar Energy Zones (SEZ), better define the needed mitigation and costs, set a per acre fee, and accomplish this planning through a collaborative process that involved stakeholders.

In considering large-scale solar energy development in Arizona, the BLM first worked to avoid impacts, through establishment of zones where solar energy could be developed and where it could not. To minimize impacts, BLM also required certain design features be incorporated into the projects. As a final step in the mitigation hierarchy, BLM-Arizona is now developing a regional mitigation strategy to compensate for unavoidable impacts from SEZs.

BLM-Arizona addressed seven basic elements or steps in developing the mitigation strategy development for the Solar Energy Zones – in collaboration with stakeholders and supported by science:

1. Collect baseline data for resources that are expected to incur unavoidable impacts – important to have this baseline data
2. Assess degree of impacts and identify resources that may warrant regional mitigation – this included vegetation and riparian areas, wildlife and migratory birds, animals with special status (e.g., threatened), surface water, soils/erosion, visual, cultural resources, Native American concerns, public access and recreation, specially designated areas
3. Identify regional mitigation goals and objectives – specific goals and objectives were developed for each of the resources and values that would be unavoidably impacted by the SEZ development
4. Evaluate appropriate mitigation locations and actions – developed and applied criteria and a matrix for comparing and ranking mitigation sites and actions, with multi-agency and stakeholder involvement (for the Arizona SEZ, identified 24 sites where mitigation could occur)
5. Recommend method for calculating mitigation compensation
6. Recommend solar regional mitigation fee structure - for the Arizona SEZ, a one-time, per/acre fee paid by the developer has been found to be an efficient and effective way to cover the cost of mitigation for the life of the project.
7. Develop mitigation monitoring and adaptive management plan – that will serve as a recommendation to BLM in future project-specific NEPA analyses

The Arizona SEZ regional mitigation strategy will be completed by the summer of 2015. Following that, the agency will complete its monitoring plan, to ensure that the required mitigation is implemented and is effective.

BLM Mitigation Policy and Examples – Participant Comments

Following the morning presentations on Day 1, workshop participants offered the following key comments and questions (not prioritized):

Subsistence

- Must view the regional mitigation strategy's objective "to ensure access to subsistence use areas" (identified in the GMT1 Record of Decision) in the very broadest sense. North Slope residents need to insist on maintaining that access – which can be difficult when infrastructure is developed.
- Villages and Tribes need input in identifying subsistence sensitive areas in the NPR-A.
- Must have unimpeded access to hunting areas on public lands.

- The pace of development is very fast and the scale of impact is very great. Concerned about impact to wildlife migrations; will require a large geographic scope to address potential impacts (e.g. fish camp 75 miles out of Barrow).
- Concern about displacement of primary hunting areas.
- There should be a clear nexus between the use of the mitigation funds and impacts to subsistence (since the SEIS identified the potential for major impacts to subsistence). The people who need to be consulted are the people of Nuiqsut and others who subsist in that area.
- Food security is a huge issue. The caribou herds are declining and we are reducing our harvest, but no development restrictions have been put on industry.
- Our use of the land is impeded by land development. There have already been impacts – air traffic impacts on caribou and on hunting success.
- Need to ensure subsistence access to healthy resources within a reasonable and accessible distance.
- North Slope Borough, Title 19 requires - Need to maintain a reasonable assurance that subsistence resources continue to be available to the people.
- Concern about air traffic impacts to subsistence hunting; need follow through on this issue.

Pollution

- Concern that these mitigation funds should not be used to clean up old contaminated sites. These sites pre-date GMT1 and are the responsibility of the federal government (Department of Defense, now handed to BLM) to clean up.

Human Health

- There is no way to mitigate for everything that we are losing. Very concerned about human health impacts. Need to make sure there are studies of health impacts. Meet in Nuiqsut, where we are in the middle of the impacts. Our children are impacted (e.g., asthma). How do we mitigate for impacts to health?
- Strong concern that promises made earlier by BLM have not been met. For example, studies of health or social impacts were not completed or, if completed, results were not shared with the North Slope communities.
- Concern about air quality impacts to human health.

Climate Change

- Concern about climate change; Colville River flooding.

Cumulative Impacts

- It is essential to evaluate cumulative impacts.

Management & Coordination

- Collaborate with the North Slope Borough. The Borough has a lot of experience in dealing with industry and development permitting. There are existing mechanisms. The Borough can share insights on how it has dealt with mitigation, can assist with public processes/meetings, use of local planning and zoning power, and bringing together people with traditional knowledge. Note that there is an advisory group to the Mayor on use of mitigation funds from the Alpine development.
- *The Inupiat View* (printed 1979, p. 19) calls for Arctic Alaska to be managed by a single agency of the federal government, and for local governments to have policy level participation with the federal government in this management (through the Inupiat Community of the Arctic Slope).
- Mitigation funds should not go through State of Alaska, as the state does not recognize Alaska Native tribes.
- The North Slope Borough meets monthly with State agencies to discuss large development projects; should do this with federal agencies too.

Process of Developing Regional Mitigation Strategy

- Come to the Arctic communities (especially Nuiqsut) to discuss these very important and real impacts.
- Concern about chemical pollution of water resources.
- Concern that Tribes and villages will not have the capacity to fully participate in the planning process – it takes time, travel funding, etc. Their participation needs to be supported.
- Noted that different stakeholders will likely have shared concerns that can be worked on in this collaborative process.
- Statement that this regional mitigation strategy should be completed before there is any additional development permitted in northeast NPR-A.
- Q – In the Arizona Solar Energy Zone mitigation strategy, what action was taken if the development could not avoid an important cultural site? A – Cultural sites were identified early in the process and avoided.

Other Landscape Level Strategy Approaches

The early afternoon presentations on Day 1 described four additional examples of large-scale, landscape level resource and land use design strategies – that may include elements or approaches that would be applicable to development of the NPR-A Regional Mitigation Strategy.

The Nature Conservancy, Development by Design: Blending Science, Policy and Practice to Improve Mitigation in the Real World

Joe Kiesecker, Lead Scientist and Director, Development by Design, The Nature Conservancy (www.nature.org/ourinitiatives/urgentissues/smart-development/index.htm)

The Nature Conservancy (TNC) has developed and been implementing its "Development by Design" approach to strategic mitigation planning with a goal of achieving no net loss of habitat functions and values. TNC's focus is on biodiversity, so it was noted that mitigation for impacts to social and cultural values and resources would involve different types of information, assessment, and considerations.

The Development by Design process is done at a landscape scale (rather than a site-level or project-level scale) and is done in advance of potential development actions that will create impacts. (Key words: "Go Big and Go Early"). Steps in the process include:

- Create a conservation vision – How much mitigation is enough? Involve stakeholders in creating this vision.
- Project future development – Where will it occur? How much will there be?
- Estimate impacts that will require mitigation.
- Estimate the effectiveness of mitigation actions that could be taken.

Examples of TNC Development by Design projects that have resulted in landscape scale regional mitigation plans include:

- Mapping Oil and Gas Development Potential in the US Intermountain West and Estimating Impacts – TNC used a systematic approach to forecast patterns of future oil and gas development and calculated impacts to species (with a focus on sage-grouse), by using data about subsurface geology and surface lease stipulations to predict the location and scale of development in sage-grouse range. The information can be used to predict impacts, weigh tradeoffs and between species conservation and energy development, and consider appropriate mitigation options prior to development. (See http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0007400)

- Mitigating Wind Development's Impacts on Wildlife in Kansas – TNC used the Development by Design process to (1) consider the potential impacts of wind development on seven key habitats and species in Kansas, (2) identify proper siting of development and areas to avoid, and (3) identify compensatory mitigation actions and costs. (See http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0026698)

BLM North Slope Rapid Ecoregional Assessment

Jamie Trammel, Program Landscape Ecologist, Alaska Natural Heritage Program, University of Alaska Anchorage (ejtrammell@uaa.alaska.edu; http://aknhp.uaa.alaska.edu/landscape-ecology/north-slope-rea/)

The Alaska Natural Heritage Program at the University of Alaska, in cooperation with BLM, the Institute for Social and Economic Research (ISER), and the Scenarios Network for Arctic Planning (SNAP), is developing a Rapid Ecoregional Assessment (REA) for the North Slope of Alaska. The REA is a rapid assessment of how regional ecosystem resources might change in the future – including biophysical resources (wildlife, vegetation, soils, areas of importance), socioeconomic conditions (subsistence), and change agents (climate change, land use development, invasive species, fire, permafrost). The REA considers what types of information will be of most use to land and resource managers, in selecting the species, habitats, and other topics that it addresses in the assessment.

Key outcomes of the Rapid Ecoregional Assessment process include:

- Synthesis of baseline data for the resources considered (expecting baseline data to be available by fall 2015 – about 500 datasets)
- Models showing how the ecosystem works
- Models showing how major agents of change are distributed on the landscape
- Analysis of how the models intersect – to show the current and future (2025 & 2060) condition of bio- and socio-ecological conditions on the North Slope, and the extent and type of changes that will occur

Products from the Rapid Ecoregional Assessment that will be of particular value to the NPR-A Regional Mitigation Strategy include: (1) baseline conservation data, and (2) spatial (mapped) information about cumulative impacts and landscape condition, that managers can use to evaluate impacts and mitigation opportunities. In response to a question, it was noted that the REA is trying to include traditional knowledge (such as using notes from the NPR-A Subsistence Advisory Panel meetings); this is recognized as an important information source.

North Slope Science Initiative, North Slope Scenarios Identification Project

John Payne, Executive Director, NSSI
(907-271-3431; jpayne@blm.gov; http://www.northslope.org/scenarios/)

The North Slope Science Initiative (NSSI) is using Scenarios Planning as a tool to: (1) identify plausible future development scenarios on Alaska's North Slope and adjacent seas through 2040, (2) identify the information needed for future resource management decision-making under the probably development scenarios, and (3) use project results to identify and address research and monitoring needs. NSSI's overall objective is to ensure that agencies will have the information they need in the future (supported by research and monitoring) to make effective decisions.

Products from the North Slope Scenarios project that would be useful to the NPR-A Regional Mitigation Strategy will include maps, statistics, and detailed narratives that describe the plausible

development scenarios for the future of energy development, resource extraction, and supporting activities on the North Slope through 2040.

Solar Energy Zone Regional Mitigation Strategy

Mike Dwyer, Environmental Scientist, Argonne National Laboratory
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Argonne National Laboratory, which has an existing interagency agreement with BLM, developed the first Regional Mitigation Strategy for the Dry Lake Solar Energy Zone, in Nevada – and also prepared a Technical Reference document that is being used to develop similar strategies for SEZs in Arizona, Colorado, and Nevada.

The Regional Mitigation Strategy process includes seven key steps:

1. Determine impacts from future development
2. Determine which of those impacts are unavoidable
3. Determine which unavoidable impacts should be compensated for through off-site mitigation
4. Set mitigation goals
5. Identify mitigation actions and locations
6. Set a mitigation fee (when that is an appropriate tool)
7. Monitor the mitigation effectiveness; use "adaptive management" to change mitigation requirements as needed

Key issues and challenges that must be addressed in the design, development, and implementation of Regional Mitigation Strategies include:

- Meaningful Tribal consultation and collaboration
- Effective stakeholder engagement
- Determining which impacts are unavoidable and require compensatory mitigation
- Calculating the mitigation fee (when appropriate)
- Determining the geographic area included in the strategy
- Making sure the mitigation actions will appropriately and effectively compensate for the impacts
- Ranking the proposed mitigation actions/locations
- Management of mitigation funds
- Developing and implementing effective adaptive management plans

Other Landscape Level Strategy Approaches – Participant Comments

Following the afternoon presentations on Day 1, workshop participants offered the following key comments and questions (not prioritized):

Subsistence

- Mitigation funds must be used to address subsistence impacts on local people. Ask the local people what the impacts are and how to mitigate for them. (Concerned that "stakeholders" may include people who use or have knowledge of subsistence resources, and who will not really be affected by impacts to subsistence).
- Frustrated that there is not enforcement to address impacts that are already occurring – especially disturbance from air traffic to subsistence hunting.
- The people who live on the North Slope must get the greater deference in determining how to use mitigation funds to address impacts to subsistence.

Pollution

- Concerned that toxic fall out and stench from hydrocarbon flaring is contaminating the lichen eaten by caribou, polluting the main calving area, and causing the caribou to change their migration routes. There is also visual pollution – glittering lights from development are also causing the caribou to change their behavior.

Consultation with Local Residents / Traditional Knowledge

- It is essential to use traditional knowledge. Don't study for ten years just to tell us, "you were right."
- You must work with the Inupiat History, Language and Culture (IHLC) documents and oral recordings.

Geographic Scope

- It is important to evaluate a large geographic area. When you protect some areas, you concentrate development and associated impacts in other areas.

Relationship of Strategy to other Permitting/Planning/NEPA Processes

- Concerned that the mitigation fund of $8 million is not much, in the context of GMT1.
- Need to clarify how the Regional Mitigation Strategy would fit into implementation of the NPR-A Integrated Activity Plan (IAP) and NEPA analyses for future projects and permitting.
- Comment that the IAP and NEPA analyses have evaluated and planned for development impacts (including "residual impacts") and appropriate mitigation.

Process of Developing Regional Mitigation Strategy

- Request that there be meetings – explaining the Regional Mitigation Strategy and getting input – in all four communities within the NPR-A, not just Nuiqsut.
- Must come to Nuiqsut to listen to the people who will be affected by the development.
- Nuiqsut is the closest village to the development. We are dealing with a lot of change and blending of employment with subsistence lifestyle. The $8 million mitigation fund needs to benefit the impacted people; not be spent elsewhere. Ask the local people.
- Recommend a strong role for the NPR-A Working Group, as it represents the North Slope stakeholders (Tribes, local governments, Native Corporations).
- Need to clarify how the Regional Mitigation Strategy relates to the North Slope Borough Mitigation Advisory Committee.
- People in the villages most impacted (e.g., Nuiqsut) must have the strongest say in use of mitigation funds. Agree that NPR-A Working Group is the right group to represent North Slope residents in this long-term planning.

Possible Benefits, Impacts and Issues - Table Discussions

To conclude the first day of the workshop, participants divided into eight facilitated small groups and were asked to provide input on two questions:

1. **Benefits**: How do you see a Regional Mitigation Strategy benefiting NPR-A management and the issues that you care about?
2. **Impacts and Issues**: What impacts and issues do you think BLM should consider in this Regional Mitigation Strategy?

A summary of the responses to these questions is provided below. The detailed input from these small groups is provided in Attachments 3 and 4.

Benefits of Regional Mitigation Strategy

The primary benefits to developing a Regional Mitigation Strategy for the northeast NPR-A identified by the small groups include the following (see detailed list in Attachment 3):

- Local involvement
  - NPR-A Working Group, Tribes, communities
  - Ensure benefits to local residents, who are the most impacted
- Proactive – Determine potential mitigation projects in advance of permitting decisions for individual development projects
- Scale – Landscape-scale mitigation planning gives more opportunity to effectively address impacts, particularly cumulative impacts
- Certainty – Increase certainty for industry and public about what mitigation would be required
- Improved decision-making / monitoring
- Better use of scientific data and other information
  - Traditional knowledge
  - Baseline studies; existing science
  - Information about future industrial activity
- Opportunity to address wide range of impacts (e.g., impacts to resources, subsistence, social)
- Community benefits – Economies, jobs, facilities, training
- Process – If well done, will improve communication, relationships, trust

Impacts to Consider in Regional Mitigation Strategy

The potential impacts to environmental, cultural and social resources identified as important to consider in the Regional Mitigation Strategy fell into the following six main topic categories (see detailed list of impacts, in Attachment 4A):

I. **Aquatic Resources & Wetlands**
   - Water quality impacts
   - Fisheries impacts
   - Wetlands impacts
   - Changes in hydrology / drainage
   - Contamination

II. **Community, Cultural & Social Health**
   - Importance of cultural health & transmission to younger generation
   - Loss of access to areas important to culture
   - Protection of the homeland important
   - Social issues – use of mitigation funds to address variety of issues & improve community social health

III. **Economic Needs**
   - Importance of appropriate development to strong economy / jobs
   - Need for affordable energy, transportation, housing
   - Community infrastructure & facilities
   - Consider revenue sharing with Tribes

IV. **Human Health**
   - Human health impacts (concerns about asthma, cancer, other disease)
   - Air quality impacting health

V. **Subsistence & Food Security**
   - Access to subsistence resources
   - Displacement – further to hunt
   - Disturbance to hunting (e.g., aircraft traffic)

VI. **Wildlife & Habitat Impacts**
   - Air traffic disturbance
   - Human activity and noise
   - Habitat fragmentation
   - Habitat contamination
   - Impacts to migration corridors / patterns
   - Impacts to important habitat areas (e.g., calving)

Many participants also said that **cumulative impacts** and impacts from **climate change** must be addressed in development of a Regional Mitigation Strategy for the NPR-A.

Issues to Consider in Regional Mitigation Strategy

Workshop participants identified a number of Issues to be considered in the design, development and implementation of the Regional Mitigation Strategy (see detailed list of impacts, in Attachment 4B):

- Assessment of impacts from projected development
- Data/Information – from science, traditional knowledge, development scenarios
- Development approval processes – efficiencies, barriers
- Local influence in decisions that affect North Slope residents
- Monitoring and enforcement
- Potential effectiveness of the Regional Mitigation Strategy
- Process design
- Relationship to NEPA processes
- Resources needed for development – such as future gravel sources
- State and Federal agency decision processes

Day 2 – April 1, 2015

Mitigation Options / Geographic Area to Include – Table Discussions

On the second day of the workshop, participants had the opportunity to discuss the six impact categories in much more depth – and share ideas about mitigation measures that should be considered in the Regional Mitigation Strategy to address these impacts. People participated in three facilitated small group sessions – choosing from among the following six categories of impacts:

I. Aquatic and Wetland Resources
II. Community, Cultural and Social Health
III. Economic Needs
IV. Human Health
V. Subsistence
VI. Wildlife and Habitat

The small groups were asked to address the following questions:

1. ***Understanding the Impact:*** Further discussion of the nature of the impact, as necessary
2. ***Mitigation Options:*** For this impact, what types of mitigation actions would you want to see included in the strategy, and why? (These could include actions that avoid or minimize impacts, as well as compensation)
3. ***Geographic Scope:*** What geographic area should the Regional Mitigation Strategy cover, to include areas where impacts might occur and mitigation actions might be located?

The detailed input from these small groups on potential mitigation options to address these six primary areas of impact is provided in Attachment 5. For each of the six topics listed above, there was substantial discussion of the nature of the impacts and the types of mitigation approaches and actions that should be evaluated in the Regional Mitigation Strategy. This input will be fully considered in development of the strategy.

There was less input on the geographic area to include in the RMS. The general response was that the geographic scope will need to be determined later in the planning process, based upon more detailed review of the area and resources impacted by development, additional stakeholder consultation, and the location of potential mitigation activities/sites.

Proposed Regional Mitigation Strategy Process

Jan Caulfield and Tahnee Robertson, Facilitators

The workshop facilitators reviewed the proposed process for the design and development of the NPR-A Regional Mitigation Strategy (below), based on guidance from BLM's national mitigation policy and experience in other areas (such as the Arizona Solar Energy Zones). Early steps include process design and identification of the geographic area that will be included in the strategy. The seven steps in Strategy Development include documenting baseline environmental and sociocultural conditions; identifying residual impacts from development for which compensatory mitigation is required; setting mitigation goals; identifying mitigation projects; designing a method for determining how much and what types of mitigation will be required for future developments; and a structure to manage the mitigation decisions and funds.

As shown above, implementation of the Regional Mitigation Strategy will accomplish two goals: (1) guide the use of the compensatory mitigation fund for the GMT1 development, and (2) guide potential future mitigation projects and use of any future funds associated with development in the northeastern section of the NPR-A. This matches the guidance given in the GMT1 Record of Decision, Supplemental Best Management Practice 1.

Proposed Process – Participant Comments

The facilitators then led a full group discussion to hear comments from workshop participants about the process design. The following comments regarding the process for developing a Regional Mitigation Strategy for the northeast NPR-A were offered during the group discussion, or in written comments submitted by workshop participants.

1. **What would make this a successful collaborative process?**
   - Collaborate and meet with North Slope communities – not just those located in the NPR-A
   - Role for NPR-A Working Group
   - Incorporate traditional knowledge
   - Regular and transparent communication
   - Iterative process: brainstorm with stakeholders, draft products, bring drafts back to seek feedback
   - Develop a Vision Statement; provide a solid foundation for strategy development
   - Communicate effectively, at all levels, and with communities
   - Timely responses and information sharing
   - Develop clear (not complicated) process and goals
   - Include Tribal consultation; government-to-government communication as directed through Executive Order 13175
   - Transparency in administration
   - Listen to local people

- Provide for general public involvement
- Incorporate these general principles:
  - Local (North Slope) control
  - Most impacted need to be listened to
  - Yet, must be balanced – must address the environmental and economic needs of North Slope residents

2. How – Do you have specific process suggestions?

- Share initial results with communities through forums to hear their feedback
- Hold next meeting in the near future in Nuiqsut, since they are the most impacted – consider two-day meeting, one with leadership of Tribe, corporation, local government; one with elders/public/town meeting
- Need serious thought on how to explain the (complex) Regional Mitigation Strategy purpose and process before additional meetings are held, especially in communities
- Report back to communities on how mitigation funds are used
- Need clear definitions of terms and common understanding of meaning of terms
- Hold a Subsistence Advisory Panel meeting in Barrow to discuss subsistence impacts and mitigation
- Considering workshop "tacked onto" Subsistence Advisory Panel meeting
- Suggested process elements:
  - Series of four workshops in person (Fairbanks, Nuiqsut, Barrow and Fairbanks) – every four months
  - Public input process with comment period within first six months. Public review 12-months in.
  - In-person recorded meeting with Nuiqsut elders.
  - Draft RMS after 12 months with public review and input.
  - Webinars and teams meet between workshops.
- In addition to larger workshops, BLM hold meetings in Wainwright, Point Lay, Point Hope, Atqasuk, Anaktuvuk Pass (make contact in all villages on the North Slope)
- Need to have complete and regularly updated website; not too technical
- Bi-weekly/monthly calls with active participants – for BLM updates and continued input from stakeholders
- Need to present data/information in language that can be well understood by all participants in the process

3. Who needs to be involved in this process?

- Noted that stakeholder engagement will be expensive
- Need to provide resources to communities/Tribes to support their participation in the process – they need capacity and funding to participate (noted that Tribes and communities have been sharing their traditional knowledge, which is used by researchers and managers, without compensation)
- NPR-A Working Group - have Working Group meet with communities regarding impacts and mitigation options
- Inupiat Community of the Arctic Slope (ICAS) representatives and Tribal governments
- Elders – An in-person talking process
- BLM Resource Advisory Council
- Nuiqsut – community in general/Local Government/Tribe – they need special attention; most directly impacted by GMT1

- All other North Slope communities
- North Slope Borough Wildlife Management Department
- Fairbanks-based (urban) stakeholders
- NPR-A Subsistence Advisory Panel
- State and Federal agencies
- Resource owners
- Land owners
- Recreationists
- Conservationists
- Hunters/anglers
- Outfitter/Guide companies
- Scientists (on wildlife, hydrology, cultural, etc.)
- The general public – opportunity for public comment and engagement

4. **Other comments from this session:**
    - Need a realistic reckoning of how much can be done with the initial $8 million compensatory mitigation fund; expect that it will take more than $1 million to develop the Regional Mitigation Strategy
    - RMS will need to address what mitigation fees / funds would be required to effectively mitigate for future impacts
    - Dedicate the majority of the compensatory mitigation for GMT1 to mitigating the identified subsistence impacts from that project
    - Uncertain how you would put a monetary value on subsistence, because it is a way of life

Closing Remarks – Next Steps

Bud Cribley, Director, BLM Alaska State Office

Bud Cribley, BLM State Director for Alaska, again thanked those in attendance for their time, thoughtfulness, and active participation. BLM will use the initial input from this diverse set of stakeholders as it moves forward with design and development of the NPR-A Regional Mitigation Strategy. He reiterated BLM's intent to use a collaborative and transparent process to develop a Strategy that will guide future decisions about mitigation associated with NPR-A development. Immediate next steps will include preparing a workshop summary to distribute to participants and post on the website, hiring a technical contractor, designing the planning and public involvement process, and preparing for meetings on the North Slope.

BLM National Petroleum Reserve in Alaska

Regional Mitigation Strategy for Northeast NPR-A
Educational Forum and Process Design Workshop

March 31 and April 1, 2015
8:30AM – 5:00PM
Chief David Salmon Tribal Hall, Fairbanks (111 W. Clay Street)

Workshop Goals:

1) Build shared understanding of the Greater Mooses Tooth 1 mitigation requirements and background on Regional Mitigation Strategies.
2) Provide input on key questions to help guide the design of the BLM Regional Mitigation Strategy for the Northeast NPR-A, to ensure it will effectively mitigate development impacts.

Agenda

DAY 1 – TUESDAY, MARCH 31

8:30 AM	**Welcome** **Invocation** **Workshop Overview** **Introductions** **Opening Remarks and Regional Context** *Bud Cribley, State Director, BLM Alaska State Office*
9:00 AM	**NPR-A Greater Mooses Tooth 1 and Context for the Regional Mitigation Strategy** *Stacie McIntosh, BLM Arctic Field Office* *Bridget Psarianos, BLM Alaska State Office*
9:30 AM	**Regional Mitigation Strategy in the NPR-A – National Policy and Context; BLM Case Example** **Panel Introduction & Overview** *Steve Cohn, Deputy State Director–Resources, BLM Alaska State Office* **Secretary of the Interior Order for Improving Mitigation** *Tomer Hasson, Office of Policy Analysis, Department of the Interior* **National Regional Mitigation Strategy Policy and Perspective** *Matt Preston, National Lead for Regional Mitigation Strategy Policy Development, BLM Washington Office* **Regional Mitigation Strategies in Solar Energy Zones** *Eddie Arreola, BLM Arizona State Office and Matt Preston, BLM Washington Office*
11:15	**Comments and questions for morning speakers**
12:00	**LUNCH**
1:30pm	**Other Landscape Level Strategy Approaches** **Panel Introduction & Overview** *Serena Sweet, Lead Planning and Environmental Coordinator, BLM Alaska State Office* **The Nature Conservancy, Development by Design** *Joe Kiesecker, Lead Scientist and Director, Development by Design, The Nature Conservancy* **BLM North Slope Rapid Ecoregional Assessment** *Jamie Trammel, Program Landscape Ecologist, Alaska Natural Heritage Program, University of Alaska Anchorage* **North Slope Science Initiative (NSSI), North Slope Scenarios Identification Project**

	John Payne, Executive Director, NSSI **Solar Energy Zone Regional Mitigation Strategy** *Mike Dwyer, Environmental Scientist, Argonne National Laboratory*
3:00 PM	**Comments and questions for afternoon speakers**
3:25 PM	**Table Discussions -- Possible Benefits / Impacts & Issues** 1. ***Benefits:*** How do you see a regional mitigation strategy benefiting NPR-A management and the issues that you care about? 2. ***Impacts and Issues:*** What impacts and issues do you think we should consider in this regional mitigation strategy?
4:55 PM	**Wrap Up and Day 2 Overview**
5:00 PM	**Adjourn**

DAY 2 – WEDNESDAY, APRIL 1

8:30AM	**Welcome and setting the stage for our work today** *Jan Caulfield and Tahnee Robertson, Facilitators* Present to large group – Results of Day 1 small group discussions on: • ***Benefits*** of a Regional Mitigation Strategy, and • ***Issues and Impacts*** to address in development of a Regional Mitigation Strategy
9:30	**Table Discussions -- Mitigation Options / Area to Include in Regional Mitigation Strategy** 1. ***Understanding the Impact:*** Discussion of the nature of the impact 2. ***Mitigation Options:*** For this impact, what types of mitigation actions would you want to see included in the strategy, and why? (These could include actions that avoid or minimize impacts, as well as compensation) 3. ***Geographic area to Include in the Regional Mitigation Strategy:*** What geographic area should the Strategy cover, to include areas where impacts might occur and mitigation actions might be located? (Sketch on maps provided)
12:00 PM	**LUNCH**
1:30 PM	**Review Results (Gallery Tour) – Mitigation Options**
2:15 PM	**Proposed Regional Mitigation Strategy Process and Roles** *Jan Caulfield and Tahnee Robertson, Facilitators* **Large Group Discussion**
3:30 PM	**Closing Remarks and Next Steps**
4:00 PM	**Thank You and Adjourn**

Regional Mitigation Strategy for NPR-A
Educational Forum and Process Design Workshop

Participants

Alaska Department of Natural Resources	Jeff Bruno	Permitting Manager
Alaska Wilderness League	Darcie Warden	BLM Outreach Coordinator
Alaska Wilderness League	Rosemary Ahtuangaruak	EJ Advisor
Arctic Landscape Conservation Cooperative	Philip Martin	Science Coordinator
NPR-A Working Group Co-Chair/ Arctic Slope Regional Corporation	Crawford Patkotak	Chairman/EVP
Arctic Slope Regional Corporation	Erik Kenning	Director, Land Mgmt. & Enforcement
Arctic Slope Regional Corporation	Theresa Imm	Director, Resource Development
Argonne National Laboratory	John Krummel	Director, Env. Science Division
Argonne National Laboratory	Michael Dwyer	Environmental Scientist
Argonne National Laboratory	Tom Boyd	
BLM RAC and Ahtna	Kathryn Martin	Senior Vice President,
BLM RAC and ConocoPhillips Alaska Inc	David Brown	Land Manager, Conoco Phillips
BLM RAC and Pew Charitable Trust	Suzanne Little	BLM RAC Chair
Citizens' Advisory Commission on Federal Areas	Sara Taylor	Director
NPR-A Working Group Co-Chair/City of Wainwright	John Hopson Jr.	Mayor
ConocoPhillips Alaska Inc.	Lynn DeGeorge	Sr. Environmental Coordinator
Conservation Lands Foundation, Anchorage	Danielle Murray	Policy Director
Conservation Lands Foundation, Anchorage	Lindsey Hajduk	Alaska Program Director
US Army Corps of Engineers	Mike Salyer	Chief, North Branch Chief
US Army Corps of Engineers	Sheila Newman	Chief, Special Actions
Doyon Limited	Ray Richards	
Environmental Protection Agency	Gayle Martin	
Environmental Protection Agency	Jennifer Curtis	
Fairbanks resident	Gerald Rexford	
Forester / retired FS	Gary Morrison	
Inupiaq Community of the Arctic Slope	Doreen Lampe	Executive Director
Inupiaq Community of the Arctic Slope	George Olemaun	President
Kuukpik Corporation	Roxy Oyagak Jr	
Kuukpik Corporation	Andy Mack	Consultant
Kuukpik Corporation	Archie Ahkivian	
Kuukpik Corporation	Emily Wilson	
Kuukpik Corporation	Gordon Brown	
Kuukpik Corporation	Joe Nukapigak	
Kuukpik Corporation	Lanston Chinn	CEO
Native Village of Nuiqsut	David Arnold	Consultant
Native Village of Nuiqsut	Edward Nukapigak	
Native Village of Nuiqsut	Eli Nukapigak	
Native Village of Nuiqsut	Hazel Kunaknana	
Native Village of Nuiqsut	John Nicholls	
Native Village of Nuiqsut	Joseph Akpik	
Native Village of Nuiqsut	Margaret Pardue	
Native Village of Nuiqsut	Martha Itta	Tribal Administrator
Native Village of Nuiqsut	Sam Kunaknana	Tribal President
Native Village of Nuiqsut	Robert Nukapigak	

North Slope Borough	Crystal Tulai	Advisor to the Mayor
North Slope Borough	Gordon Brower	Deputy Director, NSB
North Slope Borough	John Boyle	Special Counsel
North Slope Borough	Lauren Berdrow	Borough Attorney
Northern Alaska Environmental Center	Jill Yordy	Dir., Clean Water & Mining Program
Northern Alaska Environmental Center	Elisabeth Dabney	Executive Director
Northern Alaska Environmental Center	Jessica Girard	Arctic Programs Director
North Slope Science Initiative	Dennis Lassuy	Deputy Chief
North Slope Science Initiative	John Payne	Chief
Office of the Governor	Craig Fleener	Senior Advisor, Arctic Policy & Climate Change
Olgoonik Corporation	Vincent Bodfish	Land Tech
Pew Charitable Trusts	Leslie Duncan	Manager, Public Lands
State of AK, Department of Natural Resources, Office of Project Management & Permitting	Sara Longan	Executive Director
The Nature Conservancy	David Albert	Director of Conservation Science
The Nature Conservancy	Joseph Kiesecker	Lead Scientist
The Nature Conservancy, Anchorage	Ann Rappaport	Director of Conservation, AK Program
The Wilderness Society	David Krause	Arctic Lands Conservation Specialist
The Wilderness Society	Lois Epstein	Engineer and Arctic Program Director
The Wilderness Society	Nicole Whittington-Evans	Alaska Regional Director
The Wilderness Society	Tim Fullman	Senior Ecologist
Trustees for Alaska	Brook Brisson	Staff Attorney
Trustees for Alaska	Suzanne Bostrom	
University of Alaska Fairbanks	Olivia Lee	Research Associate
University of Alaska Fairbanks	Todd Brinkman	Asst. Professor Wildlife Ecology
University of Alaska Fairbanks	Matt Sprau	Graduate Student
University of Alaska Anchorage Alaska Natural Heritage Program	Jamie Trammell	Program Landscape Ecologist
University of Alaska Anchorage Alaska Natural Heritage Program	Monica McTeague	Ecologist
US Department of Interior	Tomer Hasson	Office of Policy Analysis
US Fish and Wildlife Service	Jewel Bennett	Supervisory Fish & Wildlife Biologist
US Fish and Wildlife Service	Louise Smith	Biologist

BLM

Bud Cribley	Alaska State Director
Steve Cohn	Deputy State Director - Resources
Stacie McIntosh	Acting Arctic Field Office Manager
Serena Sweet	Lead Planner
Stacey Fritz	Anthropologist
Lesli Ellis-Wouters	Chief-Communications
Bridget Psarianos	Planning and Environmental Coordinator
Dave Yokel	Wildlife Biologist
Deb Nigro	
Donna Wixon	
Roy Nageak	Natural Resource Program Manager
Thom Jennings	Visual Information Specialist
Wayne Svejnoha	Branch Chief, Energy & Minerals
Josh Hanson	Senior Advisor to the Director, Washington Office
Matt Preston	Mitigation Team Chair, Washington Office

Facilitation

Jan Caulfield	Jan Caulfield Consulting
Tahnee Robertson	Southwest Decision Resources

Potential Benefits to NPR-A Mitigation Strategy – Table Discussions

Potential BENEFITS to NPR-A Regional Mitigation Strategy (benefits recorded by small group facilitator, as stated by workshop participant)
Better data / information
A way to advance traditional knowledge
Baseline studies - understanding of animal migration and habitat use
Consolidation and coordination of science and research
Maximum inclusion of indigenous science & traditional knowledge
Use of traditional ecological knowledge
Will involve industry in predicting future development, which will improve planning
Certainty
Certainty for industry
Master plan of development
More notice on what mitigation will be required (for industry and public)
Need to identify areas that are available for development
Provide long-term plan for communities
Provides clear expectations to industry
Climate Change
Be able to consider effects of climate change. Development in a changing landscape, how do those drivers interact? Need to understand this to inform mitigation. (e.g., hydrology, fish patterns, roads, etc.
Communication / Relationships
BLM gets a "barometer" for issues
May help establish trust
Opportunity to inform agencies and corporations
Lots of outreach on RMS process - better outcome with all parties on the same page
Community Facilities
Construct Cultural Center - traditional hunting gear, food preparation/processing
Create recreational park
ICAS Regional Facility with videoconferencing (to communicate with all 8 Tribes)
Recreation /sports opportunities in schools and communities
Improved Decision-making
A clear path to a balanced and targeted approach
Decision-making process more efficient
Harmonize federal, state and local permitting
Less arbitrary decisions on behalf of authorizing agencies
More dynamic management.
Regional Mitigation Strategy could serve as a model for other parts of Alaska
Set appropriate mitigation ratios for Alaska's North Slope
Streamline permitting
Don't over complicate permitting/mitigation - can lead to deterring development. But a reasonable RMS with local input could help expedite permitting for smaller projects.

Local Involvement
BLM can know what people think and what is important to them
BLM manage in consultation with Tribes
Community understanding of outcome
Community-driven "wish list" for mitigation
Empower NPR-A Working Group
Identify mitigation to address local concerns; weighted responsiveness to local concerns
Local control of process
Maximum benefit to local people
More local involvement of fish and game management
North Slope residents more involved in decision-making process
Opportunity to build into the process, communication with villages about important information (such as health assessments)
Village should be here; go to Nuiqsut
Monitoring
Fund local/tribal oversight & monitoring of oil and gas activities
Monitor air quality and impacts to health
Monitor subsistence resources
Proactive
Chance to be more proactive than reactive
Conduct plan in front of NEPA process
Early planning
Find suitable mitigation sites and opportunities in advance - with time to do a good job at that.
Impacts are avoided
Mitigation early and throughout development activity.
Proactive - get ahead of the curve; plan ahead to preempt in future
RMS will lead the way to better decisions in the future
Resource Conservation
Address impacts to caribou
Improve ecosystem health; mitigate for development impacts on wildlife
Improve habitat resilience, especially important in face of climate change
Improved management of fish and game resources
Lessen impacts to wildlife
Put teeth into protection of special areas (e.g., Teshekpuk Lake)
Targeted conservation measures
Identify beneficial projects that would improve subsistence opportunities (e.g., build nesting islands for hunting nesting birds)

Scale
Can look for mitigation opportunities off-site (if that is reasonable / effective)
Larger scale mitigation projects can lead to bigger results
Look at bigger scale
Look at larger area - when we look just at discrete development sites, we underestimate impacts and do not adequately assess cumulative effects
Looking at the bigger picture of impacts; bigger picture mitigation
Strategy allows for addressing a larger vision and what is important
Work at broader scale than NEPA analysis to look at and address impacts
Historically, narrow scope for mitigation. This process allows for a number of different values to be considered.
Socioeconomic Issues
Address social impacts in communities, particularly with young people
Can address socioeconomic impacts (in addition to ecological)
Direct funds to address social issues (e.g., youth, education, housing)
Help for local business
Opportunity to get more work in oilfields for locals; training opportunities
Plan for sustained local communities, revenue generation, affordable energy
Revenue sharing with tribes
Subsidize gas/fuel prices
Access to infrastructure - roads to Anchorage, Internet, phones, etc.
Local jobs and dividends - use of mitigation money for projects
Local jobs and dividends - development leads to local jobs
Development = increase NSB tax to provide services to North Slope communities
Subsistence
Address impacts to subsistence areas, such Fish Creek (Nuiqsut)
Enhance subsistence activities
Identify important/high value resource/subsistence areas and set them aside
Opportunity for infrastructure to provide access to subsistence opportunities
Address impacts to subsistence and access
Opportunity for people to clarify goals and contribute their vision (especially with regard to subsistence)

Impacts & Issues to Address in Regional Mitigation Strategy - Table Discussions

IMPACTS to Address in Regional Mitigation Strategy (as written by individual participants)
Climate Change
Climate change (3 comments)
Climate change adaptation especially on coast
Climate change, permafrost on rivers and lakes
Climate change, resilience
Coastal erosion
How impacts may change as climate changes
Limitations to the access to the land
Monitor climate change; permafrost change
Community economic needs
Meeting community needs
Consolidate infrastructure and design (e.g., share roads); cooperation (i.e., infrastructure that better fits local culture and values)
Transportation; no roads, planes are incredibly expensive
Affordable energy, transportation and housing
Desperate need for strong economy
Economic impacts - certainty for agencies, industry and stakeholders so more oil into pipeline
Long term employment
Minimize impacts to local economy; maintain sustainable economy. Don't forget the people in doing the RMS!!
Reduce cost of living
Revenue sharing with tribes to empower and involve
Social and economic
Community and Social Health
Alcohol and drug abuse - need funds for aid
Barter/trade
Degradation/diffusion of culture
Disappearance of productive traditional lands
Influx of outsiders
Inupiaq language is being forgotten because the school programs are demanding English-speaking language to children. This is the problem today. Only the elderly people are speaking Inupiaq.
Loss of cultural areas
Loss of cultural areas
Loss of cultural transmission
Oil and gas expansion marching farther and farther onto the cultural traditional use land
Protection of the homeland and environment is important
Social impact, youth need safe community facilities, more active in community, community social health
Social impacts of oil work force vs. residents
Social impacts, mitigation funds
Very high suicide rates
Contamination
Contaminated sites
Full clean up of contaminated sites that are a priority to Nuiqsut.
Impact from spill or disaster

Cumulative Impacts
Cumulative development
Cumulative impacts (3 comments)
Need to analyze effects of multiple development areas not one-at-a-time
Regional impacts
Future impacts as a whole
Development Impacts - General
Fracking impacts
Impacts from development activity and infrastructure
Impacts from development activity and infrastructure
Noise (4 comments)
Visual - impacts on humans
Ecosystem Protection
Air and water quality exemptions removed
Intact ecosystems to ensure habitat durability
Protection of biological environment
Protection of physical environment
Remediate degraded habitat
Restoration all existing and proposed sites
Health and Welfare
Air quality (4 comments)
Air quality – Dust (2 comments)
Air quality in Nuiqsut
Air quality, asthma
Asthma, cancer, in utero health impacts
Environmental health impacts to people
Environmental justice
Evaluate and understand human health impacts; incorporate into strategy in a meaningful way
Health impacts (7 comments)
Health impacts - understanding all potential causes
Health issues related to impact on subsistence
Health issues/animal harvest - caribou, fish, ocean/rivers, birds/waterfowl
How to address potential human health issues
Human impact analysis with native elder input
Impacts to residents - health, subsistence, mental health, economic
Increasing social/health related stresses associated w/ growing development activities/facilities near communities
Life, health, safety
Loss of subsistence foods and health effect of increased western/processes food
Need more studies on human issues, health, cancer
People
Reduce overall emissions
Residents are getting sick from breathing particulates
Safety of community, evacuation

Infrastructure – Location / Density
How development is conducted - permanent vs. temporary roads, condensed vs. spread out, roaded vs. roadless
Development density - availability of subsistence resources potentially reduced as a result of animal avoidance of developed areas
Development density impacts on migration routes
Industrial disposal sites, injection wells, other development support infrastructure
Sprawl
Expansion of infrastructure (state land to east and westward)
Subsistence and Food Security
3 mile buffer zone Fish Creek (important subsistence area for Nuiqsut)
Access - limitation on access to land with development limitations
Access to subsistence resources (2 comments)
Access to subsistence resources (not just populations of hunted species)
Access- for Anaktuvuk Pass, Kaktovik, Nuiqsut, Atqasuk
Aircraft disturbance of hunting (2 comments)
Cost to hunt
Development impacts change patterns
Displacement of hunters and resources
Each NPR-A community is unique, different wants - subsistence at different times
Farther to travel to harvest resources, local communities
Food security (2 comments)
Food security, loss of traditional foods
Fragmentation and compounding effects of climate changes on subsistence resources
Going further and further for subsistence
Having to travel farther to procure subsistence
Health of subsistence resources (caribou, fish)
Impacts to local subsistence activities
Impaired access to subsistence use areas. Disruption to subsistence activities from increased air traffic and other disturbances
Limitations to land for subsistence, health
Loss of land and traditional hunting grounds
Loss of protection to Fish Creek for subsistence users
Loss of traditional cultural resources/access
Maintain subsistence as economic livelihood
Need to meet subsistence needs
New areas impacted - new trails, etc.
Noise - impacts to subsistence hunting
Production and access to subsistence resources
Safety concerns - new areas further from home
Scoping/assessment of subsistence resources fish/mammal/plants/birds
Subsistence (4 comments)
Subsistence areas diminishing
Subsistence difficulties
Subsistence impacts (access and values)
Travel time for subsistence
Understanding impacts of global events (Fukushima) on subsistence foods
Wildlife availability

Wetland / Aquatic Resources
All species of fish and their habitats considered during water withdrawals; no buffer zone exceptions.
Ecosystem function/water
How to coordinate with mitigation funds for wetland impacts - 404 Clean Water Act
Hydrology changes - Impacts associated with a gravel road that runs east-west across the north-south gradients of wind, sheet flow, stream flow, and topography. These impacts include desiccation on the downward (north) side, ponding of water on the upward (south) side, deposition of fugitive dust onto vegetation -- which results in smothering and killing plants, erosion, thermokarsting.
Impacts to aquatic resources, especially any unique or high value resources (i.e., Teshekpuk Lake)
Integrity of wetlands and rivers
Spill risks to waters that support fish species important for subsistence or prey for protected birds
Water quality and fisheries
Water quality and quantity not impacted - by avoiding pollution and removal of water or changes in hydrology.
Wetlands
Wetlands/streams - road dust affecting local water quality
Wilderness
Loss of wilderness values
Wild lands and their inherent value for science, art, human spirit
Wildlife and Habitat
Air traffic disturbing wildlife
Air traffic scaring caribou and waterfowl
Caribou calving habitat
Disturbance - Human activity disturbs wildlife
Disturbance - Noise disturbs wildlife
Disturbance - Road disturbances to wildlife, esp. caribou
Disturbance - Visual impacts disturbs wildlife
Flaring -> lichen -> caribou (leading to population decline)
General - wildlife impacts (including habitat values) (2 comments)
Habitat fragmentation (2 comments)
Habitat fragmentation - connectivity - ensuring wildlife can move to access important resource areas
Habitat fragmentation - Conservation/wildlife connectivity
Habitat fragmentation - loss of unfragmented habitat/natural landscape converted to fragmented habitat
Habitat fragmentation - road network
Invasive species impacts to ecological integrity
Invasive species that come with roads/trucks/gravel
Loss of high value habitat
Migration - impacts to caribou migration (3 comments)
Migration - wildlife (caribou, waterfowl) migration corridors
Migration - Wildlife migration corridors moving
Migration patterns
Migration- traditional migration route changes due to development

ISSUES to address in RMS (as written by individual participants)
Assessment of Impacts
Assess existing oil and gas development areas; full assessment of past impacts
Need collaborative identification of resources that are important, scarce or fragile
No way to quantify cumulative impacts
Prioritize areas of avoidance, minimization, and compensatory mitigation
Data/Information - Science, Traditional Knowledge, Future Development Scenarios
Future development is unknown
Information/data (e.g., TEK, research, monitoring) that will be needed to make good decisions in the future and even how to effectively target mitigation
Infrastructure development, similar to Prudhoe Bay and Kuparuk or different footprint?
Need communication of science and co-development of science (communities, managers, researchers)
Reluctance of industry to help with identification or prediction of regional landscape level developments
Tribal risk assessment, not industry site assessment
What data are BLM missing to effectively mitigate?
Development Approvals
Complicated decision making process (more conflict between federal/state/local regulations)
Conflicting government missions and regulations
State/federal conflicts (legal authorities)
Use of RMS as a weapon by individuals/groups to stop responsible natural resource development
Distribution of Benefits
How benefits accrue locally, regionally and nationally
Local influence in decisions that affect North Slope residents
Lack of meaningful and timely local say and control over impacts (e.g., ability to halt activities when subsistence use conflicts with industry)
Empowering rural communities
Local empowerment
Impacts which concern the community
Intergovernmental affairs, work, local government entity processes
ANCSA corporations have limited land for conservation easements
Local community bears the risk
Local control
Local impacts vs. national interests on these federal lands
Nuiqsut role/relationship as neighbor to industry
Participation by local people in decisions (the Inupiat View)
Uncertainty in future for other villages
Limit ability of North Slope Borough to permit activity
Monitoring/Enforcement
Monitor to maintain land health and intactness and to ensure mitigation effectiveness
Monitoring / enforcement - need more field inspectors
Monitoring / enforcement - The pipelines are corroding and oil spills are increasing as the infrastructure ages and inspections decline
Need bigger fines on oil companies
The agencies are too slow to react to impacts

ISSUES to address in RMS (as written by individual participants)
Potential Effectiveness of the Regional Mitigation Strategy
Is there adequate money?
Mitigation funds
Potential need for additional $ if 7 million isn't enough for on-the-ground measures
This would only work if BLM stopped development to figure it out (it seems like the mitigation strategy process is going to take a long time to get finalized and even longer to implement, yet BLM has already permitted the [GMT-1] development
Process Design
Allow national interest to supersede local interests
Lack of follow-up after meetings
Lack of understanding
Local input is most important input
Meeting exhaustion
Need more meetings in community concerning litigation, oil and gas development area
Outside perspectives overwhelming local needs
The process we are going through is the main issue
Think about and solve problem of agencies and local talking at cross purposes - theoretical vs. specific threats - developing a conservation vision with specific goal, such as "Keep Fish Creek Pure & Flowing" might get everyone talking in the same terms.
Relationship to NEPA Process
Ensuring that compensatory mitigation options or menu of options that comes out of this strategy will efficiently and swiftly go through NEPA with a subsequent development so that it gets implemented Environmental assessment
Need to address impacts that are significant as defined by existing NEPA
Resources Needed for Development
Gravel resources (lack of gravel to support development)
Source of gravel to use for roads
State & Federal Agency Decision Processes
Federal agencies themselves are at a stalemate and no one know who they should deal with
Fragmentation of decision making processes

Mitigation Options – Table Discussions

Topic 1: Aquatic & Wetland Resources

Further discussion of impacts (not already mentioned)

- Invasive aquatic species
- Faunal habitat
- Floristic habitat
- Water chemistry (ground and surface)
- Soils and permafrost
- Ponding following East-West infrastructure

Mitigation Options

Conservation areas, plans

- Conservation of areas with special values
- Expansion of special areas
- Step down plan for fish Creek area
- Expand three mile Fish creek buffer to protect entire drainage and downstream areas
- More durable setbacks from water bodies and the coast
- Increased protections against invasives

Infrastructure/development

- Roadless development
- Collection of baseline data for future development
- Keep infrastructure out of flood zones and better mapping of these zones
- Seasonal drilling

Collaboration, management

- Federal agencies (Corps and BLM) should work together to ensure management consistency and consistency of terminology and definitions. Consider revisiting regulations and policy to reflect Alaska ecosystems (e.g., 404 and NEPA regulations and policies)
- Establish partnership with a trusted source or facilitator to develop a method to translate scientific knowledge with the community and pass TEK back to western scientists.
- Utilize IHLC for TEK input
- Utilize NPRA Working Group for direction and mitigation types
- Establishment of a watershed council
- Form co-management with NSB

Monitoring, data

- Groundwater monitoring wells
- Comprehensive anadromous fish surveys in potential development areas
- Identification of future gravel sources, since these areas are certain to be impacted by mining in the future
- Youth training program to collect water quality samples as part of scientific studies
- Clearly defined adaptive management actions

Geographic scope

- Not just BLM managed lands
- Bioregional approach - where are subsistence resources?
- Watersheds impacted by GMT1 and cumulative impacts
- Broader northeast NPRA
- Areas with potential for development

- Follow fish migration

Topic 2: Community, Cultural and Social Health

Further discussion of Impacts

- Importance of cultural health
- Transmission to younger generations
- Loss of access to important cultural areas
- Protection of homeland
- Social issues: using mitigation fund to address variety of issues and improve social wealth
- Hard to keep straight: funds and how they should be used, and future mitigation with regard to broader RMS

Mitigation Options

Subsistence Representative Program

- Companies need to better understand subsistence representative role. Make sure they do the job they are hired for and have the ability to do it. Make sure there is clear understanding of the program.
- Make sure companies understand the importance of having Subsistence Rep, and the importance of the job they do.
- Clearly define role and responsibilities of the Subsistence Rep.
- Ensure there is regular communication between Subsistence Rep and communities.
- Provide good communication methods if they don't already exist (like a SAR). If there is no effective tool for communication (radios, phone, etc.) make sure they are provided.
- Subsistence Rep program should be expanded (like MMO on boats). Subsistence Reps on helis and land for aviation, road traffic.

Engaging youth so they don't fall victim to social ills/Ensuring cultural transmission to youth/Ensuring youth have options for future

- Put Inupiaq history into the curriculum
- STEM (Science Technology Engineering Math)/ANSEP (Alaska Native Science and Engineering Program) expansion in communities
- Have a curriculum in school for job growth - focus on skills needed for industry jobs
- Training programs that encourage future job opportunities
- Regional education center focusing on oil and gas jobs in NUI/regional communities, not just at a regional center.
- Local hire for BLM modeled on FWS Refuge jobs - Info technician program
- Form local youth group to develop long-term plan for community
- Sex-education program to try to address youth having kids - teen pregnancy issue. Also youth parenting classes.
- Culture camps by age group for teens and younger children (insurance concerns handled through school district).
- Need to involve elders and not leave them out, they have much info/TEK to share
- Programs that build self-esteem
- Future options = hope for the future
- Drug use increasing: have activities to occupy youth to counter this
- Address issues early in youth so they that have mechanisms to help them as they move into adulthood.

Importance of a Cultural Center in Nuiqsut

- Build a cultural center!!!!!
- Programs in Cultural Center: skin processing, dancing, boat building, elevates sense of community pride, place for cultural activities, center for Inupiaq identity and transmission of culture
- Continue instilling cultural pride: individual responsibility, subsistence rights protection

- Language program to increase use of Inupiaq language

Existing Compensatory Mitigation Fund disbursement issues/suggestions

- Current mitigation funds leave a lot of people out because it is distributed by household and multiple families live in same household. This creates divisions in families
- Make sure any impact fund disbursement program is equitable (by person, by family)
- Enrollment in village corporation - issues of disproportionate benefits to shareholders only. If kids are future, they should belong/have shares.
- Lack of acknowledgment by the native Corporation = lack of identity
- Mitigation funds need to go directly to community

Housing Issues/Community Planning

- Lack of housing in NUI. Could build new houses (population is growing)
- Community expansion planning. Have process with landowners, city, tribe, NSB to have more houses - economic expansion

Local Entrepreneurial or Economic Efforts

- Create local economic opportunities – cottage industries that support O&G (like NUI cleaning services, build duck ponds).
- Educational programs for entrepreneurial options.
- Any programs need to start at grassroots level not something people are told they must do

Road/Access Mitigation

- Road access points should gradually go from road to tundra to facilitate snow machine access
- Create picnic areas/beautification areas at road pull outs to enjoy being out in the country
- Make sure there is no potential for trespass to private lands by outsiders - gates with card issued to residents to open the gates?
- Ensure new roads don't impede winter access
- Road from Nuiqsut to Colville for access to river - for subsistence and evacuation route

Health Recommendations

- More effective health programs in individual communities to address need for drug/alcohol programs. Need health aide focus on this.

Conflict Avoidance Agreements (CAA) Good Neighbor Policy

- Understand difference between CAA and good neighbor policy and use these for increased communication. Work together to not duplicate efforts
- Very important not to duplicate mitigation applied by all regulators - work together - MOU or MOA
- CAA/co-management needs to continue. Could expand from offshore focus (whaling) onto land. Apply this concept to aviation especially
- Good neighbor policy with communities. Some oil companies are really good at working with kids (example - robot program at school)

Identification of Sensitive Areas for Communities (Subsistence and cultural) and Access to Areas

- Identify sensitive areas for each community that are important for subsistence, or historically important areas. Make restrictions through avoidance
- Native Land trust for NUI and other communities – the community would administer/manage those lands
- Allotments - concept of compensatory mitigation to preserve to individuals
- Avoid oil and gas activities in sensitive areas
- Facilitate access to current important areas (i.e., help people to get to those areas, provide transportation, have access agreements, etc.)
- Figure out how to access previously important areas that currently have oil and gas activity so that people can use them again

- Fuel vouchers
- Need for local oversight of industry activities: monitoring drilling, contaminant use (injection). Make sure there's a forum for communicating info back to community

Other

- Establish a BLM office in Nuiqsut

Topic 3: Economic Needs

Further discussion of impacts

- Importance of appropriate development to strong economy/jobs
- Need for affordable energy, transportation and housing
- Subsistence areas are further and further from the community, making subsistence even more costly.
- Community infrastructure and facilities are very costly!
- Don't only think about economic needs of North Slope residents. The state is also dependent on oil and gas production.

Mitigation Options

Transportation, access, infrastructure

- Transportation costs are high. Cost of bringing in raw materials more expensive (e.g. wood to make sleds).
- NSB has a large fleet of diesel vehicles. Considering moving towards a natural gas fleet, but transition is costly. Barrow already has a gas source and Nuiqsut gets natural gas from Alpine, which helps lower costs.
- Infrastructure development (roads) helps by facilitating access for subsistence and reduces costs of bringing in materials. Road maintenance also provides steady employment. But – how would traffic and access be controlled?
- Challenge: how to keep the subsistence economy alive. Sharing, trading, knowledge. Greater connectivity between communities would facilitate trade and commerce. Roads would enhance subsistence access and facilitate commerce, as well as access to job sites. Lack of roads is resulting in economy going outside. Air traffic and cost of air travel isolates communities, and results in higher health care costs.
- Economic costs of subsistence are increasing. Can mitigation funds off-set these increasing costs (e.g. fuel or equipment subsidy, etc.)? ASRC provides fuel subsidies to help off-set higher costs, to make subsistence easier.
- Need a long-term look at future infrastructure development. Chukchi pipeline vs. tankers. Which has a lower environmental risk from spills? Where to locate? Possibility of long-term revenue to Native communities. How to fund – public-private partnership. Possibility of natural gas to communities.
- Future major infrastructure (pipeline, road) needs to be carefully thought out relative to caribou crossing.
- Wetland opportunities for future road/pipeline across NPRA are huge. Identify lands not suitable for development that could be available for easements. Provide opportunities for communities that are more isolated and do not have oil development now.
- No coastal roads (erosion, high value habitat, disturbance to brood-rearing and staging birds).

Education, training

- Training opportunities needed for youth, leading to employment with ASRC, Kuukpik Corporation, industry. Also need students trained in biology and environmental science. All these training programs take time.
- Conservation curriculum (including TEK on how and when to harvest fish and wildlife) in high school would benefit subsistence. Not all youth are learning about this at home – there are many distractions and parents are often working more.

Pay to conserve

- "Iowa Farmer" concept (farmer paid not to farm, to provide for larger societal benefit). Off-sets for impacts – projects could be large economic drivers, but there could also be compensations for areas that would not be developed. These compensations are an additional source of revenue for communities.
- Pay for areas not to be developed, tied to impacts. Private landowners – areas with high ecological systems. Need to be protected – could put lands in trust, for the life of the impact. An option in the suite of economic opportunities. Incorporate federal lands into the trust/easement/ or lease off-sets.

Fund disbursement, funding

- Lump sum compensatory fund is not much. Would be better if it was an annual fund that would support programs that benefit subsistence. Mitigation funds could be invested in an endowment that would give back annually.
- Need to think carefully about who is eligible for annual fund disbursements. If people move into communities do they become eligible.
- Federal revenue sharing to fund additional mitigation. Revenue sharing fed govt to govt. Recognized federal Tribal only. Have state and municipalities feel the effect of being left out of NPRA revenue sharing.
- Remove the red tape! Funds need to go directly to communities. Avoid the "BIA Syndrome", where dollars go to pay bureaucrat salaries and little gets to the ground.
- Consider revenue sharing with tribes.

Other

- Research and monitoring should be contracted locally. Data generated should also be available locally.
- Zoning – could identify subsistence districts (across jurisdictions), as well as resource development districts, science districts, in coordination with the landowner.
- Reindeer herding. Anaktuvuk Pass could pilot this. Offset caribou that are being diverted.
- ICAS economic opportunities across landscape. Across NPRA. Homeland concept.
- Local economic independence/self-reliance.

Topic 4: Human Health

Further discussion of impacts

Respiratory health (air quality impact)

- Lack of monitoring: need to collect all data not just minimum (VOCs)
- Wrong location for monitoring tools: testing now picks up vehicle exhaust then bad or wrong baseline data is used
- Need testing at exposed sights versus non-exposed sites for data collection and need more than one data site for comparison
- On the North Slope pollutants travel long-distances due to atmospheric conditions
- Consider meteorological condition effects
- Three studies needed: 1) baseline health impacts across the villages, 2) focus on the impacted areas (Nuiqsut), 3) adverse event analysis

Flaring (air quality impact)

- Impacts from ash and wind adversely impacts human health Need to study cumulative impacts of flaring to gain a better understanding of flaring events, how many flaring events are allowed, and what are the restrictions
- Studies need to be conducted on the sensitivity to chemicals produced by oil and gas development

Subsistence

- Important to understand resources and impacts to human health
- Food security is important: use of traditional/wild foods versus processed foods

  - Insecurity in the quality of the wild foods due to contaminants
  - Processed foods are over consumed
  - Marine mammals bio-accumulate the contaminants
- Mental Health
- Social networks
- Physical health
  - Poor health = unsuccessful subsistence hunts
- Traditional activities allow people to get outside more
- Need more funding for summer camps for kids to teach for traditional activities
- Family lifestyle in the villages very different now, jobs are needed to do subsistence activities

Water Quality

- Testing/monitoring
- What tests are needed to know chemistry?
- Complete not just minimum testing requirements
- Downstream impacts of development need to be understood (i.e. Umiat)

State of Alaska – Health Impact Assessment

- Health Impact Assessments should be included as a chapter in EISs
- Health impact assessments should be completed by the state of Alaska or EPA or other agencies with expertise rather than BLM
- Current Health impact assessments may not be complete or accurate
- Background data is lacking
- Ensure good quality data is used and work with villages to ensure appropriate data is used
- Health impact assessments need to be related back to the local community in a meaningful way
- Provide training to North Slope communities to understand assessments
- Compare health impact assessments outcomes with communities on the North Slope to understand if there are differences between communities adjacent to development and those not adjacent to development
- Fertility issues and reproductive health concerns need to be analyzed
- Increased occurrence of diabetes
- increased occurrence of leukemia above average, may be related to issues at home but the number is still too high, a study is needed of the nexus causing the illness

Mitigation Options

Asthma

- Asthma trigger assessments
- Studies to develop understanding of all triggers for asthma (such as smoking in the home) and other environmental factors
- Increased access to asthma medication

Studies, data, analysis

- Epidemiological studies - North Slope Natives
- CDC analysis for federal land and impacts
- Identify good science to ensure responsible development
- Create a partnership with the North Slope department to develop a data collection and implementation study to be used for baseline health information in comparison with other villages
- Study wind direction affects edible plants and lichens when flaring occurs

Youth, education

- Impact funds could pay for youth summer camps
- Conservation programs available in schools

Other

- Ensure BLM has capacity to follow through... no more "not enough people or money"
- Evacuation plan without planes, need a community center to wait out adverse events and need alarms to notify of poor air conditions

Topic 5: Subsistence

Further discussion of impacts

Access to resources

- Oil field security restricts hunting near fields. CPAI says this is not true, all residents claim it is. Security guards either say no hunting allowed or take control of weapons and escort hunters across lease.
- Economic disparity and associated social impacts (wealthier can afford vehicles etc. to travel further, poor cannot)

Displacement - Travel farther to hunt

- Increases fuel costs
- Increases risks
- Increases wear on equipment/repair or replacement costs
- Increases time
- Increases grub needs
- Decreases success rates
- Hunters forced to hunt in new and unfamiliar areas

Disturbance

- Aircraft
- Airboats
- Non-local hunters

Health of subsistence resources

- Competition from muskoxen for resources
- Population declines reasons unknown

Other

- Maintaining subsistence rights and jurisdiction
- Feds and state can't work together so can't use regional approach
- Too many hunting regulations decreasing independence
- Strict rules on ducks/geese hunting
- History of enforcement has not built trust or respect
- Confusion over regulations

Mitigation Options

Transportation

- Reduce flight – no unnecessary tours (industry and government)
- Restrict air traffic during peak hunting times
- Have permittees camp out instead of travel back and forth by plane
- Have permittees use ATVs and boats
- Hire locals for surface transportation
- Coordinate with locals on flights
- More roads (fewer aircraft)
- Fuel vouchers
- Restrict tourist travel on highways and rivers

- Create flight aircraft corridors to avoid key use areas

Hunting

- Fewer regulations on hunting
- Encourage and recognize pride and independence of hunting
- Clarify hunting regulations, fines, limits, boundaries
- Co-management of hunting resources for conflict avoidance (using AEWC as a model) especially with North Slope Borough in regards to monitoring programs

Wildlife

- Bird sanctuaries
- Fish hatchery
- Insect relief corridors
- Reindeer herding program
- Get rid of muskoxen

Data, monitoring

- Require data to be presented clearly showing any trends to determine whether annual studies are required
- Monitoring program must be done in the least invasive way possible
- Reduce frequency of monitoring
- Monitoring program must insure that populations are healthy but residents and agencies could agree to accept smaller data sets to have fewer invasive studies
- Use cameras and other non-invasive methods to study whether and how infrastructure deflects caribou
- Studies should be required to be non-invasive
- Optimize and consolidate monitoring, facilitate data sharing. NSSI - time to come with results
- Get data on Dalton Impacts where hunters go, where caribou go, cumulative effects

Education, information

- Better signage to inform tourists
- Overall education of tourists and recreationalists
- Cross education/data sharing on vegetation: where and what people gather and data on pollution

Collaboration, co-management

- Co-management on caribou before enforcement /restrictions
- Involve the state and Prudhoe Bay security to increase the working relationship to help caribou continue migration (herd through Prudhoe)
- Village meetings with oil field security
- Co-management between BLM, NSB, and SOA
- Utilization of NPR-A Working Group
- Elevate use and implementation of local traditional knowledge
- Village meetings with all security personnel and companies to clarify rules and policies.
- Need communication process
- Facilitate food sharing between villages, including local practices

Sticks

- Local oversight of stick picking
- Enforce accounting for sticks

Topic 6: Wildlife and Habitat

Further discussion of impacts

- Air traffic disturbance
- Human activity and Noise
- Habitat fragmentation
- Habitat contamination
- Impacts to migration corridors/patterns
- Impacts to important habitat areas (e.g. calving)
- Food security
- Too many predators (i.e. competitors to subsistence)
- Invasive species
- Future gravel mining and other winter activities

Mitigation Options

Buffers, restrictions, designations

- 3 mile buffer on both sides of all of Fish and Judy creeks
- Limit all ground work (research, stick-picking, etc.) to summer every 3 years everywhere, i.e. limit ground-based disturbances to subsistence activities to just one summer out of every three
- Restrict development activities during sensitive life stages
- Durable protection (e.g. conservation easement, right-of-way, buffer) of high value habitat or movement corridors
- Increased protections for special areas (not just formally designated "Special Areas")

Transportation

- Minimize air and ground traffic during migration and calving
- Restrict air traffic over important waterfowl and shorebird areas: nesting, brood rearing, and staging, including coastal areas from Nuiqsut to Barrow 3 miles in from coast

Leases

- In areas made available to leasing in IAP, leave some tracts unleased and restrict/forbid surface infrastructure on others
- Buy out older lease tracts within high value areas e.g. lease "in-holdings" in areas no longer available for leasing in current IAP.

Data, monitoring

- Do we know impacts of winter oil/gas activities (e.g. seismic surveys, exploratory drilling, ice road traffic, gravel pad/road construction, etc.) on wildlife? No? Study them.
- Future research funds should go towards something we don't already know
- Real time monitoring of wildlife movement coupled with local knowledge; use to stop industry activities when wildlife approach
- Effectiveness monitoring of mitigation with adaptive management
- Review of all study reports by local people before they are used to inform management agencies

Connectivity

- Develop conservation plan for NE NPR-A to ensure connectivity for both terrestrial and aquatic habitats
- Using durable conservation tools, ensure connectivity for caribou and fish

Collaboration, coordination

- All development around Nuiqsut under one umbrella
- Form co-management between BLM, NSB, and State of Alaska for management of subsistence resources
- Utilization of NPR-A Working Group
- Synthesize and share what we do know

Caribou

- Herders on foot to help caribou get out of Prudhoe area to Teshekpuk Lake area
- Provide southerly SE to northern NW caribou access to coast for insect relief
- Do not impede caribou access for insect relief

Other

- No more introductions of muskoxen
- Hunting rights/indigenous
- Rename subsistence to indigenous hunting/cultural living
- Manage wildlife populations to provide for subsistence needs
- Manage for abundance – Food security – a subsistence priority over non-existent resources feeds no one