

NSSI STAP Meeting  
UAF Campus, Fairbanks, Alaska  
May 9, 2008

**Present:**

John Payne, NSSI	Wendy Loya, The Wilderness Society (STAP)
Denny Lassuy, NSSI	Sue Moore, NOAA/AFSC (STAP)
John Kelley, UAF/SFOS (STAP Chair)	Robert Suydam, NSB (STAP)
Dan Reed, ADF&G (STAP)	Brent Sheets, US DOE (Oversight Group)
Bob Shuchman, MTRI (STAP)	Dave Yokel, BLM (Interagency Staff Committee)
Doug Kane, UAF (STAP)	Gary Schultz, ADNR (Interagency Staff Committee)

**Guests:**

Ramone McCoy, BLM  
Pete Hickman, UAF  
Cheryl Haase, UAF, GINA  
Amy Tidwell, UAF – INE  
Will Fisher, UAF, GINA  
Sally Nardin, UAF, SFOS  
Randi Jandt, BLM, AFS  
Mary Lynch, BLM, AFS

All handouts (agenda, list of tasks, etc.) and presentations referenced in these notes are located on the NSSI website: [www.northslope.org](http://www.northslope.org)

**Friday, May 9, 2008**

**Welcome and introductions:**

John Kelley welcomed the group and briefly addressed housekeeping items such as parking, lunch, restrooms, etc. Group members introduced themselves, giving their names and affiliations.

John Payne distributed the agenda and announced that he, Sue, and Ramone would be leaving early in the afternoon in order to catch the early flight back to Anchorage. John was traveling on to Washington, DC.

**Status of STAP Appointments:**

John Payne welcomed Wendy Loya of The Wilderness Society as a new STAP member. Pending final notification of approval, Wendy was appointed for a 3-year term.

**Questions/Comments:**

John Payne distributed the NSSI newsletter (and announced it was also online). He complimented the BLM Office of Communications for putting together a nicely done and colorful newsletter. John also discussed budget issues, saying the FY 08 budget was reduced to a

million dollars; the projected FY 09 budget is somewhat better, about 1.4 million, and if NSSI is to see any significant increase in funding, it will probably not be until FY 2010. John stressed the importance of NSSI getting long term funding to move NSSI forward in two-, five- and ten-year planning outlooks.

During his last trip to DC, John met with Henri Bisson (BLM), Tom Lonnie (BLM AKSO, Lynn Scarlett (OS), and many others to improve the visibility and understanding of NSSI as a major collaboration between federal, state and local representation and support, as well as to communicate NSSI accomplishments, goals and objectives to a wider audience. He felt the meeting was positive and supportive of getting a long term funding. The only somewhat negative comments were from Patty Beneke regarding her concern that conservation entities were not involved, but John was able to address this concern by noting the nomination (now appointment) of a representative from The Wilderness Society and Oil Spill Recovery Institute.

Questions for John Payne:

Wendy asked if any of the potential funding is tied to oil revenues. John replied in the affirmative.

John Kelley asked John Payne how can the STAP help to make John's job easier? John spoke of the challenge involved when there is a consortium of agencies that have very different mandates, making agreeing on anything really tough. However, the model of NSSI is being looked at for other initiatives in the country. NSSI's focus is on science, and John Payne restated the need to plan for programs 2, 5, and 10 years down the road. At the same time, STAP members need to keep the STAP enthusiastic. He said if the members don't see results from their feedback, it is hard to stay motivated. John Payne asked for the group to have a vested interest; knowing what the follow up is will help to understand some of the issues coming up.

### **Update on GINA:**

Cheryl Haase, Will Fisher and Peter Hickman presented the outcome and status of GINA's tasks as identified at the last meeting:

#### **Task 1 – GINA staff actively recruit data and develop collaborative relationships.**

#### **Outcome:**

Cheryl said the North Slope data from key research projects and other data systems will be accessible within the NSSI Data System.

#### **Status:**

- Leveraging against existing partnerships:
  - AOOS, SSMI, DNR, BLM
- Initial stages of developing new collaborations:
  - Conoco Phillips, Institute for Northern Engineering (INE)

## **Task 2 – Additional functional capabilities to website as directed by STAP input**

### **Outcome:**

- Major functional improvements to web site

### **Status:**

Suggestions made at last STAP were added. Progress to date includes:

- Greatly enhanced interface and application
  - Updated the UI to allow the user to view multiple granules/metadata/extent maps at the same time.
  - Granule search results grid has a new menu system.
  - Added a calendar popup with which to select date ranges.
  - Improved the speed of the site.
- Ability to create new granules and uploading data files to be ingested.
  - Admin. Interface version 0, including Authorization
  - Disabled currently pending implementation of access restrictions.
- Integrated data with GINA's State Wide Mapping Initiative (SDMI)
  - Added GINA WMS Feed to the Google map used to show imagery.
- NSSI Forums URL:
  - <http://forum.gina.alaska.edu/forum>

## **Task 3 – GINA staff will conduct the necessary research to complete the metadata where possible and host the data on-line.**

### **Outcome:**

- Based on the prioritization supplied by the STAP and available funds.

### **Status:**

- Metadata not yet available in Geospatial One-Stop (GOS)
  - Continued work on:
    - Data Ingestion
  - Ongoing ingestion of data and metadata as per GIS base layers
  - Put a newer version out on NSSI website (Documents section) with current status
  - Make the metadata available in the web accessible folders–Geospatial One-Stop (GOS).

Will Fisher stated that the <http://catalog.northslope.org> site has been updated and briefly addressed some of the changes:

1) Updated the user interface to allow the user to view multiple granules/metadata/extent maps at the same time; 2) Improved the speed of the site; 3) Added a calendar popup to select date ranges with, and 4) Demonstrated a sample screen for creating new granules and uploading data files. He also showed how to do keyword searches which would assist in finding the data by entering the project owner's name or the project name to retrieve the data.

A demonstration can be viewed at <http://catalog.northslope.org>.

GINA homework assignments (due June 27, 2008) include:

1. How do owners/maintainers/stewards wish to be credited on the NSSI Data System website.
2. Take GINA portable hard drives, register with GINA, fill them up with NSSI data, return to GINA.
3. Use the Feedback mechanism built into the NSSI Data System - <http://catalog.northslope.org/contact> to send information, ask questions or provide feedback.

Questions for Cheryl:

Ramone: How does this fit in with BLM's SDMS system? John Payne says it fits right in. The SDMS system is fully integrated with information pulled from GINA.

The group asked for progress on accessing data. Cheryl answered that GINA has a list of what is necessary but doesn't know the point of contact. John Payne said the GIS remote sensing committee will reconvene and revisit the priorities, addressing GINA's need for point of contacts. John said the responsible agency and keeper of the data are not always the same organization, and said there is a struggle with who owns versus who the keeper of the information is. John asked for Denny Lassuy's help in identifying a point of contact.

John Kelley asked how is GINA dealing with different formats? Any problems? The answer is no problems.

Cheryl provided drives for attendees to take (a sign-out sheet will be maintained so that the whereabouts of the drives can be tracked), to their GIS expert or who has knowledge of the data and its appropriateness for NSSI.

Wendy asked: "Who ultimately will be able to access the NSSI data?" The goal is everyone, but Bob Shuchman further stated that the subcommittee had discussed that there may be some sensitive data set that have restricted access and one aspect of this is NSSI, however, most all will eventually have access.

### **Update on Landcover:**

Last fall, John Payne attended workshops in Anchorage and Fairbanks and going into these meetings, John's original idea was to develop protocols for a common land cover map across the North Slope. What came out of them instead were user requirements that actually helped drive the look of a digital land cover map into the future. He noted that Torre Jorgenson pointed out the likely similarity between NSSI landcover categories and those of the national Landfire and

GAP programs. Torre suggested that NSSI work with LandFire and GAP to create a common database that is already Congressionally mandated to get done. This spring, John met with Henry Bastian (DOI Business Lead for LandFire), and with his Forest Service counterpart and initially sought a delay, asking for more time to go out and collect additional data, but he was told no. John stated he would be hard pressed to explain to Congress why he was spending a million dollars, why LandFire was spending a million dollars and why GAP is spending a million dollars to do essentially the same thing. At this meeting, what all agreed to was an accelerated revisit of LandFire using new data for the North Slope. NSSI is now working closely with the National LandFire Program to develop high quality digital land cover products for the North Slope. While LandFire has a national mandate to complete its first comprehensive view of fire fuels in early 2009, it is also tasked with updating its products at regular intervals. NSSI will be collecting field data this summer to help validate and improve the next generation of LandFire products that will be available to a broader user community. The next generation of LandFire will incorporate all the new data. The image processing will be done by a combination of the Heritage Program, Ducks Unlimited, and USGS out of Sioux Falls. Those three entities will be getting together in June in Sioux Falls for a week-long training session, so we are not processing this imagery in a different environment. Out of 25 user requirements, we will be able to answer about 19, which is a considerable achievement. The other 6 actually require much higher resolution imagery.

### **Questions:**

Dave Yokel: Are you talking about next summer, the summer of '09?

John Payne: Yes, because of the timing and the need to do Section 7 consultation. John said a survey crew will travel to the western side of the North Slope this summer in a 2-week effort to collect some 500 validation points and will be expanded when another crew is added in the summer of 2009.

### **Update on North Slope Fire Studies:**

Randi Jandt, BLM Fire Ecologist, showed slides and brought a few copies of the proposed study of the implications of changing climate on tundra fire occurrence in northern Alaska, titled "Assessment of Tundra Fire on Alaska's North Slope" (document was distributed at the February meeting and can be viewed at [www.northslope.org](http://www.northslope.org)). Randi stated in 2007, the largest fire in the State of Alaska (the Anaktuvuk River Fire) burned 256,000 acres across several ecotones on the North Slope, and although started by lightning in July, major fire growth occurred in a record warm September prompting speculation that large fire such as this may be more prevalent as climate conditions change in the north. Randi said that fires are relatively rare on the North Slope: In the last 50 years, only 134 fires have been reported north of 68 degrees. The big question is –was it just an anomaly, or a sign of things to come with a warmer climate?

Some effects of western AK tundra fires appear to be very long-term changes in plant communities, including increases in low shrub and dwarf shrub communities and graminoid dominance at previously lichen-rich communities. These effects are augmented by climate warming (producing better effective drying of fine continuous fuel beds), direct competition by vascular plants, and caribou/reindeer grazing.

Proposed research on Anaktuvuk River Fire include:

- Burn severity
- Plant recovery
- Does run-off from this burn affect lakes or fish?
- Does windblown ash hasten snow melt?
- Caribou movements
- Permafrost

She said that Gus Shaver and Donie Bret-Harte with Arctic LTER were able to secure a small emergency response grant from NSF. BLM is using agency funding from Arctic Field Office and AFS to augment their efforts—by helping with burn severity and additional permanent transects. North Slope Borough is hiring a field assistant from AKP to go with the BLM team and help with technology transfer to local stakeholders. NPS and FWS personnel are also involved in designing the survey. NSSI has been involved in assisting with this collaboration.

NSSI indicated the need to understand if the scope of inference included the whole North Slope. Randi said it was clear to her from the preceding slides that a potential shift in fire regime does affect the entire region and this fire provides an opportunity to study it. She further stated there was a strong connection between weather and fire, showing a graphic of a burned area tied to weather, especially summer temperature. “Long term weather patterns have a strong influence on fires,” she said. More information can be obtained at <http://climate.gi.alaska.edu>.

“Where do we go from here?” Randi said:

- 1) Large number of cooperating agencies, universities, and scientists—held together by mutual interest and email. NSSI indicated in February some interested parties were not included. Randi asked NSSI to identify them. NSSI subsequently coordinated fire study conversations between BLM, FWS, and NSB personnel and others.
- 2) Require funding to monitor transects in 2009. Ideally we could monitor annually for 3-5 years then at 5-year increments.
- 3) Help identify researchers interested in pursuing important issues identified in the white paper. NSSI, at the February STAP meeting, endorsed the concept of a Fire Workshop in FY09.

### **Questions for Randi:**

Robert Suydam asked Randi where did the information come from? She said she got the information from the geological institute. Randi expressed much interest in the potential effects on the ecology, the subsistence resources, and other aspects on life on the North Slope if fire becomes more prevalent up there. Fire is a really important indicator of ecological change. To read more, go to: <http://climate.gi.alaska.edu>

### **Update on Hydrology Gauging Stations:**

John Payne said late last summer, Doug and others got involved with where to place gauging stations; this is a legacy left over from some of our 2004 public meetings, things that we needed to do, where do we place them. NSSI budgeted \$170,000 for 3 gauging stations, one in NPRA and 2 in FWS, however what's happened is that NSSI is dependent on BLM helicopters and hydrologists, not to read these, but to be able to utilize the helicopter to get access to these stations. They run anywhere from \$30 to \$60 thousand dollars per year to maintain an individual station. BLM got hit unexpectedly with some rescissions on budgets, and in doing so, it made their helicopter availability unsure. BLM currently has 5 gauges in NPRA; some of those are concurrent with met stations; some are not. BLM is unsure whether they'll have the money, beginning in 2009 to run all 5 of those stations, so to put a 6<sup>th</sup> gauge in to NPRA somewhere with the idea that we might have to pull it out permanently would not be something John thinks the OG, the science group, the senior staff committee, or the agencies really want to do. Denny and John met with FWS last week and they have the same issue there. They asked if FWS was willing to pick up \$30, \$40, or \$50 thousand dollars in logistics costs to get USGS and their hydrologists to the North Slope, and the answer thus far seems to be that's it is a refuge responsibility, and they are unsure if they have the money. However, further clarification is needed on whether the USGS cost estimates included logistics. Over a 5 year agreement with USGS, to load these gauging stations would be just about a million dollars. This committee really needs to go back to this task order, and specifically Doug, who has been key to this project, take the time now to look at alternative technologies. John prefers to put some of the monies available now to investigate new technologies. John does not have a confirmed decision out of FWS yet, but he does have out of BLM, and BLM is not going to put in another gauging station. John would like to use what gauging stations exist and asked the STAP to suggest ways we could use those as validation points.

Wendy asked if the gauging stations were BLM or NSSI-funded. John replied that the gauging stations are NSSI funded. Getting an independent helicopter is no longer an option because of increased logistics costs. The NSSI started the stations with the intent to turn them over to the benefiting agency after 5 years. The strategy behind this was to allow enough time for the agencies to realize that after 5 years they were going to have to take over and start placing them in their budgets. John said he was unsure that it is wise to continue to put these in at the cost of the traditional way of measuring flow.

### **Comments:**

Robert Suydam: "The potential for NSSI has always been collaboration." Robert asked if anyone in NSSI met with anyone other than FWS about ways that these stations could be deployed? John said the staff committee has gone to different agencies and looked at joint logistics. John approached Conoco Philips, but their helicopters are tied up and won't be available. John has not yet talked to the Borough. There have been various studies done on the North Slope--to do this right, we need so many gauging stations. John said what the committee should address is what are alternative collaborative procedures that could do a better job of addressing the insufficiency of funds. He encouraged "thinking out of the box" to come up with alternative ways. John sought partnerships with USGS. They will share a very minor portion on gauging stations. John also met with Mark Meyer, FWS Director, who said that as long as NSSI continues to put in gauging stations the traditional way, it impacts USGS's ability to go to Congress and seek monies. John said if the report mimics the old report, to properly gauge the North Slope, there's not enough money.

Bob Shuchman said he thought what John Payne was asking STAP to do is to ask what are alternative, collaborative procedures that could do a better job of addressing the real problem, which is there is not enough money in operation maintenance, so we are encouraged to “think out of the box” and suggest alternative ways of where and how this has to go.

### **Update on the Best Practices Symposium:**

Last fall, several members of industry and STAP attended a Canadian-sponsored **Oil and Gas Best Practices Forum** in Whitehorse and thought that a joint forum, co-sponsored by industry and NSSI would be beneficial for Alaska to host. Bill Streever (who was unable to attend today’s meeting) prepared a draft proposal of a U.S. and Canada Northern Oil and Gas Research Forum and a copy of the proposal, dated April 28, 2008, was distributed and reviewed by the STAP. Bill was in touch with the Canadian counterparts and stated the Canadians were willing to put up \$50,000 toward a forum to be held in Alaska, and John Payne said that NSSI is also willing to put up \$50,000 and asked the STAP if they were ready to move forward toward the facilitating the forum. Since the STAP group were just given the proposal, they did not have time to thoroughly review and commit to the idea of moving forward. Several concerns were expressed:

John Kelley said this proposal just came from Canada yesterday afternoon. The STAP felt they needed more time and to give more thought into making a recommendation. Sue Moore commented that she would support the agenda, although it appears to be an overachiever type of agenda and did not think that October 2008 was a realistic timeframe.

Wendy expressed concerns about how to take the results of this forum and get specific end products that we can apply to potential management changes; she said NSSI’s involvement in advance should be strategic and that a non-agency member should be involved.

John Kelley: The Canadians have put up money. The Oversight Group wants to insure we will get a product or something from the forum for our money. Robert Suydam said let’s not call it a Best Practices forum; this is a form to present results. All felt it wasn’t realistic to pull this off by October. John Kelley asked if a subcommittee should be formed with Bill, Wendy and anyone else interested. The Director will also be involved. John Kelley asked if Wendy would be interested, and Wendy said although she is willing to assist in any way, she isn’t sure if she’s the right person.

John Kelley asked for some guidance to our Oversight Group about what we want out of it. So far, we only have a Canadian proposal, and a lead time or date. Bob Suydam said he could endorse this draft in principle, but with the caveats that the October 2008 timeframe is too short to carry out our concerns.

Official Response: If the group endorses it, it will not be called a Best Practices forum.

- The STAP endorses the Canadian Draft Proposal on a U.S. and Canada North Slope and MacKenzie Delta.
- Current Status and Future Directions Forum—Robert Suydam said it’s a good idea but he has concerns about the proposal being too broad.

The STAP members agreed the core of this proposal is a good idea, but said that the draft proposal is not a best practices forum. This group felt that Bill agreed to push this thing forward in February, but since Bill is not here to address the group's concerns, and some recommended this topic be tabled. John Kelley said that the next Senior Staff meeting is June 2<sup>nd</sup>, and he would like this issue to be resolved by the end of this month. Sue felt that STAP should communicate with Bill and do it soon, by email, to see if this is sufficiently similar to what Bill envisioned and if it's not, then we may have a different action but we do not know that. This group wants to know what will we get with the \$50K. Robert said if a best practices forum, rather than this broader oil and gas research forum, is important then maybe industry should facilitate that forum. We would like to hear more from the STAP member who is the lead (Bill Streever) and then make a decision in the future. There is not enough time to come up with a good recommendation today.

It is imperative that we bring focus. This is different than the agenda presented before.

John would like to see this committee have time to review this proposal because it is a somewhat different proposal than what was initially decided upon. STAP would like Bill's input and has restrictions to give to Bill to consider.

#### **Comments/Remarks:**

Sue Moore favors a joint U.S.-Canadian forum, but believes clarifications need to be addressed; she thinks the proposed date of October 2008 is highly unrealistic.

The STAP committee agreed to move forward on this topic to the extent that Bill Streever could respond to this group's concerns. John Kelley asked the group if they could come up with a recommendation to present to John Payne before he leaves this afternoon. At lunch, Dan Reed and Sue Moore drafted the following recommendation:

- I. The STAP endorses the idea of a joint US-Canada forum.
- II. The need for specific end products to be identified—i.e., Proceedings
- III. Get clarification from Bill Streever on:
  - The overreaching goal—is it about best practices or broader research? Rethink calling it a Best Practices forum if it's the latter.
  - Focus – is it OCS and/or terrestrial?
  - Set priorities.
  - It's date – October 2008 seems unrealistic. Suggest February 2009, perhaps in conjunction with the Alaska Forum on the Environment.
- IV. Recommend Bill respond and discuss these items with STAP via email and provide recommendation and clarification to John Kelley by the end of the month (May) so that he can provide STAP input to the Director prior to the staff committee meeting on June 2, 2008.

#### **Update on the Fisheries Workshop:**

Denny Lassuy noted that the Oversight Group had already indicated its support for a North Slope Fisheries Workshop and that the STAP, at its February meeting, similarly endorsed moving ahead with this workshop but recommended that it be held in conjunction with the Alaska

Chapter of the American Fisheries Society (AFS). Communications between NSSI staff, the STAP and the Interagency Staff Committee have since made it apparent that a workshop on the full breadth of fish and fisheries issues facing the North Slope will not be possible by the time of the 2008 meeting of the Alaska Chapter AFS. However, the Alaska Chapter and the NSSI will work jointly on developing a half-day session for the 2008 meeting to highlight ongoing work on the North Slope and include a panel discussion to serve as a kickoff to organizing the full scale workshop for the 2009 Alaska Chapter AFS meeting (which is to be held in Fairbanks). Since this STAP meeting, Denny has confirmed this arrangement with the Alaska Chapter AFS (submitted a session description – see below) and begun to develop a slate of speakers who can address freshwater, anadromous and marine fish and fisheries issues on the North Slope.

Draft Alaska Chapter AFS 2008 Session on North Slope Fish and Fisheries:

*Session Title: Fish and Fisheries of Alaska's Arctic: What Now, What Next?*

*Session Description:*

Alaska's Arctic is an "epicenter" for the dual challenges of climate change and energy development. This session is intended to start gathering fish folks who are active or interested in freshwater, anadromous and marine fishes of the North Slope of Alaska, to share our current knowledge and share our thoughts on what more we need to know. The session will highlight some of the ongoing work in this huge chunk of Alaska geography and conclude with a panel discussion. The panel, working with session attendees, will be the kickoff of an effort to identify the pressing management and science needs that can position us all to help ensure the continued health of Alaska's arctic fish resources under these changing conditions. The culmination of this effort may be a collaboration between the North Slope Science Initiative and the Alaska Chapter AFS to put on a "full scale" workshop at the 2009 meeting of the Alaska Chapter as a way to share our knowledge, share our priorities, and share the load in meeting these emerging challenges.

### **Reports from the STAP Chair:**

Gary Kofinas was unable to attend today's meeting, however he sent an email with an attached draft paper presenting a rationale for creating an NSSI working group on local knowledge and the human dimension. Gary encouraged feedback.

John Kelley stated the proposal was to establish a STAP working group to study the challenges and opportunities of inclusion of local knowledge and the human dimension as part of the NSSI. At their first meeting, members of STAP of NSSI identified the need to examine the role of local communities in the NSSI adaptive management process, both with respect to how local knowledge can contribute to monitoring, research, and decision making and the extent to which social data are part of resource management. Since that meeting there have been discussions by STAP, including a formal presentation by Gary Kofinas (UAF) to STAP with input from Stacey Mackintosh (BLM) and Sverre Pederson (ADFG). Unfortunately, there has been limited participation in STAP by North Slope community residents, although there has been North Slope Wildlife Department participation. It was proposed that the STAP seek the NSSI Oversight Committee endorsement to support a small working group that will explore the role of local knowledge and the human dimensions as part of adaptive resource management on the North Slope. This working group will be composed of 4 to 6 experienced individuals who represent a

range of community, agency, and research perspectives. The group will meet in conjunction with STAP meetings and more frequently if needed for a 2-year period, and consider the following questions:

- 1) What is the current use and utility of local knowledge in North Slope resource management decision making, including the NSSI process?
- 2) How can local knowledge contribute to adaptive management?
- 3) Is there a need for greater inclusion of local knowledge?
- 4) What are best practices for inclusion of community knowledge in North Slope adaptive management?
- 5) How can social and ecological sciences best contribute to this process?
- 6) How are community data best managed to inform adaptive management and ensure archiving?
- 7) How can communities and agencies best improve their capacity to harness the benefits of community knowledge as a part of the NSSI?

Gary's paper also listed several community-based observation systems, programs, projects, and initiatives in monitoring, research, and decision making underway that can inform the discussions of the working group. While there is a history of community contributions in these areas, he notes that there is limited understanding of how well these various activities are integrated and coordinated and how effective the overall process is in informing regional decision making and enhancing the adaptive capacity of communities to cope with change.

The STAP discussed the proposal and concluded that the formation of such a working group likely did not require Oversight Group endorsement, but could proceed under the aegis of the STAP. The group further concluded that while an update to the Oversight Group on the need for and formation of this working group was appropriate, the STAP was not prepared to have the proposal presented as a request for funding support. The group was asked to further review the proposal and provide their input to Gary in sufficient time for him to make any needed changes before his planned presentation at the June 10 meeting of the Oversight Group in Barrow.

### **Discussion Science Relevant to OG "Emerging Issues" Management Concerns:**

Denny Lassuy led a discussion of the Staff Committee's expansion of the first 3 of identified emerging issues – 1) permafrost; 2) coastal/riverine erosion; and 3) species at risk, caribou. Denny noted that one comment already received was that "Species of Concern" may be a more appropriate title, since "Species at Risk" had a specific legal meaning in Canada (similar to U.S. Endangered Species Act connotations). Pending approval of the Director, this "emerging issue" will be renamed. The existing summary of Staff Committee input on the questions, concerns and needs associated with these three emerging issues had been provided to the STAP in advance of the meeting (see below). After a brief review of the summary, the group discussed whether the STAP felt any significant questions or concerns were either missing, in need of clarification, or were simply not answerable.\* After the STAP meeting, Denny will continue to interact with the STAP via e-mail to get their input on the appropriate science needed to address these emerging issues.

<u>Permafrost</u>	<u>Coastal/Riverine Erosion</u>	<u>Species at Risk (Caribou)</u>
<ul style="list-style-type: none"> <li>a) NSSI agencies need to be able to predict how permafrost will change temporally and spatially over the next one to two decades;</li> <li>b) How do we deal with the potential instability of current infrastructure, and how can new infrastructure be engineered to withstand a changing environment;</li> <li>c) How changes in permafrost condition manifest for winter tundra travel, does the increasing depth of the active layer impact seasonal tundra travel;</li> <li>d) What are the restoration methods for such structures as VSMs in a changing environment;</li> <li>e) What is the interaction between seabed permafrost and coastal areas as exploratory drilling and off-shore to on-shore infrastructure is developed;</li> <li>f) What is the impact on seabed permafrost from noise generated by exploration and production drilling in the marine environment, and how can it be mitigated;</li> <li>g) What are the changes in habitat and vegetation related to changing permafrost conditions, and what will these changes mean to wildlife and habitats;</li> <li>h) How does the changing</li> </ul>	<ul style="list-style-type: none"> <li>a) What are the links between coastal and riverine erosion and changing permafrost conditions;</li> <li>b) What are the considerations for current and future infrastructure as erosion processes accelerate;</li> <li>c) What are the expected changes to habitat as a result of erosion and related redistribution of both fresh and saline water;</li> <li>d) What are the impacts to water quality (sediment, dissolved oxygen, conductivity, etc.) to the fresh water and near-shore environments;</li> <li>e) What are the spatial and temporal dynamics of erosion;</li> <li>f) What are the mechanisms to consider for adaptation;</li> <li>g) How can cultural sites be addressed/salvaged;</li> <li>h) How will erosion patterns change with the changing weather patterns and sea level changes, and how do we plan for this in the future; and</li> <li>i) What are the links between coastal/riverine erosion and contaminant risk?                             <ul style="list-style-type: none"> <li>• (Note: There is a separate “emerging issue” category focused on arctic contaminants, but this question seeks to understand the possible links between the two subjects.)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>a) Need a comprehensive caribou management plan that covers all four North Slope herds;</li> <li>b) Need a caribou monitoring and research plan, including beyond NPR-A to full North Slope;</li> <li>c) Establish a network to share caribou information between herd managers and researchers;</li> <li>d) Need more information on the winter ecology of caribou;</li> <li>e) Need to develop a database of industry activities for the winter and spring;</li> <li>f) Identify caribou related parameters that need to be gathered to measure impacts from anthropogenic activities versus natural cycles;</li> <li>g) Better reporting of subsistence and sport harvest information would aid in determining relationship with impacts from exploration and development activities;</li> <li>h) Need to review the appropriateness of stipulations and their value to caribou;</li> <li>i) Are there baseline measurements that are not already being documented that are needed;</li> <li>j) Seasonal variation in caribou food production under changing climate conditions; and</li> <li>k) Is there a better (technological) way to gather consistent census</li> </ul>

i) What is the impact of changing permafrost to traditional ice cellars?		information across the Slope?
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**Action:** Discussion led to the following suggested changes or items in need of clarification.

**Permafrost**

- e) What is the interaction between seabed permafrost and coastal areas as exploratory drilling and off-shore to on-shore infrastructure is developed?

**Add:** “and is seabed permafrost mapped adequately?” Clarify the question (with MMS?).

**Add items j, k, and l:**

- j) How/where is permafrost being measured; is it adequate; and is the information accessible? [Note: STAP felt this question may be relevant to all 3 emerging issues discussed.]
- k) Is current measurement technique sufficiently precise, e.g., to account for subsidence?
- l) Add a bullet regarding the effect of fire on permafrost.

**Erosion:**

- b) What are the considerations for current and future infrastructure as erosion processes accelerate?

Add a reference to include “engineering”.

- e) What are the spatial and temporal dynamics of erosion? Clarify that this means extent and rate.
- f) What are the mechanisms to consider for adaptation? Clarify the difference between this item and “b.” Also, add “mitigation.”
- g) How can cultural sites be addressed/salvaged? Cultural sites, clarify the reference to threats (from what) and add a reference to technologies that can help, e.g., with locating sites, salvaging sites, protecting sites).
- h) How will erosion patterns change with the changing weather patterns and sea level changes, and how do we plan for this in the future? Add “sea ice” and “wave climate.”
- i) What are the links between coastal/riverine erosion and contaminant risk? Identify contaminant sites and their overlap with expected erosion pattern.

Add item j): Reference to community risks, subsistence opportunities/access.

### **Caribou:**

On items a, b, and c: There was a discussion of whether it's 4 herds with a need for 4 plans or whether there was value in slope-wide planning that links management of all herds (will follow up with NSB and ADFG)

- a. Need a comprehensive caribou management plan that covers all four North Slope herds;
- b. Need a caribou monitoring and research plan, including beyond NPR-A to full North Slope;
- c. Establish a network to share caribou information between herd managers and researchers

Add items l, m, and n as follows:

- l) Add – a reference to effect of caribou changes (e.g., numbers, distribution, condition) on subsistence use.
- m) Add – caribou (especially naïve herd) response to oil/gas exploration and development.
- n) Add – effect of changing fire regime and fire response on caribou.

\* All listed questions/needs were seen by STAP as having value to pursue. None were dropped.

### **Selection of Next Set of “Emerging Issues” for STAP Consideration:**

John Kelley led the STAP through a discussion of which set of emerging issues they would like to consider next as the NSSI works its way through assessing the emerging management concerns and appropriate science needed to address them. The group did some shuffling and renaming of the existing list (without deleting any) and settled on the following short list:

Ocean Issues/Concerns/Needs:

- Sea Ice Degradation (or more broadly, Oceanic Climate)
- Species Impacts from Increasing Marine Activity (OCS, shipping, infrastructure)
- Oceanographic changes (currents, temperature, water chemistry)
- Species of Concern: Marine Mammals and their Prey Base

**Other comments:**

Bob Kelley praised the Skype software program. He said it is free to download and you can make free video calls; he said it would be a great way for the STAP to communicate. John Payne said they are looking at that too, however, the problem is this is shareware, and the government can't necessarily put it on our computers. It can be downloaded to your personal laptops, however, shareware cannot be downloaded to government computers.

**Public Comments:** None.

Meeting adjourned.