

NSSI Emerging Issues – Preliminary Identification of Management Questions/Challenges/Needs

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