

Natural Resource Damage Assessment in Arctic Waters: The Dialogue Begins

A Coastal Response Research Center/ NOAA Workshop

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As required by the Oil Pollution Act of 1990, Natural Resource Damage Assessment (NRDA) is a process to determine what restoration actions are needed to compensate for harm to natural resources and their human uses that occur as a result of an oil spill. The process requires natural resource trustee agencies (NOAA, DOI, and state agencies) to: link the release of oil, its fate and transport in the environment, exposure of natural resources to the oil, and its effects on the biota and human uses. Determining the amount of injury and appropriate restoration requires an understanding of the condition of the natural resources and human uses in the absence of the spill (baseline conditions). The liability for natural resource damages is in addition to liability for cleanup. In the case of large spills where response options are limited, the cost of restoring the environment through NRDA can far exceed the cost of cleanup.

Current scientific information suggests that environmental changes are occurring in the Arctic at rates much greater than those projected even 5 years ago. These changes are manifesting themselves in sea ice extent and distribution and other ecosystem shifts. Recent models suggest that Arctic waters could be free of multi-year ice in the summer within the next 20 years. These changes suggest that over the next 10 – 20 years, ship activity will dramatically increase. Predictions of large reserves of oil and gas are increasing pressure for hydrocarbon exploration and production. One likely result of increased activity in this harsh environment will be the accidental release of petroleum into the marine environment. When significant amounts of oil are released into Alaskan Arctic waters, it will be challenging to recover, especially if ice is present. Even under best-case scenarios, spilled oil could have serious consequences for natural resources and local communities, requiring an NRDA to be initiated. However, little NRDA work has been done in this region.

On April 22, 2010, the Coastal Response Research Center (CRRC) and NOAA's Office of response and Restoration completed a workshop on planning for NRDA in the Arctic. Attendees included natural resource trustees, industry representatives, non-governmental organizations, academic scientists, and Arctic community representatives.

Outcomes:

- 1) Arctic Baseline Shifts: Physical conditions and biological use of Arctic habitat are changing. Indications include: Bering Sea fish moving north; walrus and polar bear moving into the tundra and shoreline areas; changes in ice cover and thickness; and longer periods of tundra thaw.
- 2) Baseline Data: A large body of environmental data was identified that has been collected at various locations and for several purposes (e.g., fisheries monitoring, oil and gas lease

development). In order to maximize its usefulness for NRDA, this data must be synthesized and made publically available. Targeted additional data collection would also be useful.

- 3) Restoration Planning: Because options for restoring coastal natural resources in the Arctic have not been developed, workshop participants felt it was vital to begin restoration planning immediately. Incorporating local and traditional knowledge of natural resources and subsistence and cultural uses is crucial to identifying and developing restoration options.
- 4) Coordination and Outreach: The participants felt that the workshop was a necessary first step in coordinating activity and interaction among NRDA stakeholders. However, there must be a concerted effort to build upon this initial coordination in two ways: linking emergency response and NRDA planning and preparation; and improving collaboration among government, industry, and community interests through drills, training, and joint planning efforts (e.g., development of protocols and agreements to support on-scene NRDA activities).