Lessons learned and challenges facing other national restoration efforts: Arctic

“An ounce of prevention is worth a pound of [restoration]”

Fran Ulmer
Chair, USARC
Arctic

Alaska
Arctic region (defined in US law)
Sea ice extent is decreasing
Sea ice is also thinning...

March 1985

March 2011
Warming thaws permafrost: erosion & methane release
Alaskan Arctic coastal villages

Two-hour time lapse showing storm damage in Shismaref, Alaska
“The opening of the ‘fifth ocean,’ the Arctic, for longer periods of time, will provide new access to resources, migration of fishing stocks and eventually new trade routes, that can’t be overstated.”

-Chief of Naval Operations
“Only 7% of the Arctic Ocean has been mapped to modern (multibean) standards”

-Larry Mayer (10/11)
Univ. of New Hampshire
Arctic has much of world’s remaining “undiscovered” fossil fuel

13% oil
30% natural gas
20% natural gas liquids

2009 USGS CARA report
Oil’s new frontier
A federal proposal to lease, or re-lease, federal waters off Alaska’s coast has stirred controversy.

**Chukchi**
- **Proposal:** Lease sales in 2010, 2012, 2014.
- **Estimated reserves:** 15 billion barrels of oil, 77 trillion cubic feet of gas.
- **Issue:** Development could disrupt subsistence whaling; questions of ability to clean up oil spill in icy waters.

**North Aleutian Basin**
- **Proposal:** Lease sales in 2011 and 2014.
- **Estimated reserves:** 750 million barrels of oil, 9 trillion cubic feet of gas.
- **Issue:** Development could disrupt migration of salmon to Bristol Bay and other rivers.

**Cook Inlet**
- **Proposal:** Lease sales in 2011, 2015, if industry shows interest.
- **Estimated reserves:** 1 billion barrels of oil, 1 trillion cubic feet of gas.
- **Issue:** Oil companies are active on state leases in Upper Cook Inlet but have shown little interest for years in leasing federal waters to the southwest and in Shelikof Strait.

Source: U.S. Minerals Management Service and Anchorage Daily News research
Recommendations for the Arctic

• Drill with utmost care…sensitive environment

• Stronger science foundation is needed

• Industry & Coast Guard should address:
  – Oil-spill response
  – Containment
  – Search and rescue

• Develop Arctic intl’ drilling standards
Arctic Challenges

• Threats to subsistence culture
• Incomplete baseline data to design mitigation strategies and assess environmental impact
• Cumulative impacts
• Shipping impacts
• Response in icy conditions
  - Human health & safety concerns
  - Appropriate technology/tools
Baseline data, syntheses, research

• USGS “gap analysis”

• New syntheses of Arctic marine ecosystem research by federal agencies, industry, and others

• DOI/BOEM Environmental Studies Program (SOAR)

• Shell/CP/Statoil/NOAA partnership
USARC’s Oil Spill White Paper

Recommends:

• Expanded endowment funding for research
• Oil spill trajectory research
• Research into fate, metabolism and effects
• Improve stakeholder consultation
• Reinvigorate the Interagency Coordinating Committee on Oil Pollution Research (ICCOPR)
Improve Prevention & Preparedness

• Environmental risk and impact assessments

• Emergency response assets, equipment, and supplies

• Improve knowledge for Arctic incident response through training and engagement of the communities, responders, and industry

• International cooperation and sharing best practices (Arctic Council)
Today’s recommendations (1):

- Develop US Arctic strategy to complement policy *(action plan)*
- Expand “Arctic Observing Network” *(know the region)*
- IMO needs to complete “Polar Code” *(safer shipping)*
- Oil-spill-in-ice research *(ICCOPR, industry JIP, NAS Study, X Prize)*
- Conduct spill response drill *(“Spills of National Significance”, 2013?)*
Today’s recommendations (2):

- Ocean infrastructure *(we’re down to one icebreaker)*
- Learn from Arctic neighbors *(SINTEF, Canadians)*
- Develop environmental response tools *(NOAA’s Arctic ERMA)*
- Ratify UNCLOS *(join 162 other nations)*
- Complete and enforce an Arctic Council instrument on Marine Oil Pollution Preparedness & Response *(new int’l’ treaty)*
Exxon Valdez Oil Spill Alaska 1989
Exxon Valdez Oil Spill Trustee Council

- Formed ‘91 to oversee restoration of the ecosystem via $900M settlement
- Consists of 3 state and 3 federal trustees
- Still monitoring, 20-years later
- Investing:
  - $216M reimburse fed. & state govt. (and Exxon)
  - $178M research, monitoring & restoration
  - $375M habitat protection
  - $145M restoration reserve
  - $42 M public info, sci. management, admin.
Exxon Valdez Oil Spill: 20th Anniversary

Orcas Facing Extinction

40% loss of Orca whales following oil spill

- AB pod: Slow recovery
- AT1 pod: No recovery

Matkin 2006
About USARC

The Arctic Research Policy Act of 1984 established USARC. Its principal duties are to develop and recommend an integrated national Arctic research policy and to assist in establishing a national Arctic research program plan to implement the policy. USARC Commissioners facilitate cooperation among the federal government, state and local governments, and other nations with respect to basic and applied Arctic research. <more>

PROMOTING ARCTIC RESEARCH. USARC Chair Fran Ulmer discussed Arctic research with Senator Lisa Murkowski (R-AK), Senator Mark Begich (D-AK) (shown here), and Mr. Scott Leathard, a Legislative Assistant to Congressman Don Young (R-AK) on May 18, 2011 in Washington, DC. Photo credit Senator Mark Begich’s Office.