



State of Alaska
Governor's Climate Change Sub-Cabinet

**Adaptation Advisory Group Meeting
Meeting #6**

Natural Systems TWG

April 3, 2009




Overview of NS Options

- NS-1 Incorporate CC into commercial fisheries management and assist fishing communities and users in adaptation.
- NS-2 Review and modify Alaska's wildland fire policy and programs.
- NS-3 Address effects of CC on Alaska's freshwater resources through adaptive management, supported by improved hydrologic data.
- NS-4 Reduce introduction and spread of invasive species, in context of climate change.

Overview of NS Options

- NS-5 Prepare for adaptive management of fish and wildlife.
- NS-6 Develop capacity in new forestry and wood biomass opportunities.
- NS-7 Support local sustainable agriculture in Alaska, as a contributor to a sustainable food policy.

NS-1 Incorporate CC into commercial fisheries management and assist fishing communities and users in adaptation.

1. Review commercial fishing-related statutes, policies, management actions, programs to determine if and how CC can be considered. *State agencies or commission.*
2. Analyze existing fish species, stock & habitat monitoring programs. *Agency & independent experts.*
3. Establish centralized source of information, tools, assistance re: CC effects on commercial-fishing (such as *Center for ... CC*). *State, federal, University, other.*
4. Identify & support provision of modified/new infrastructure needs for communities & businesses. *State, federal, business, communities.*

NS-1 Feasibility, benefits, costs

- State could feasibly implement in cooperation with other agencies, University, communities, industry.
- If changes to statutes needed to assure adaptation, legislative action required. Agency regulation changes may be required.
- Analysis/design of long-term comprehensive monitoring program affordable, but enhanced monitoring would require substantial funding.
- Potential costs for assistance (construction, loans) for modified or new infrastructure for industry / communities.
- Benefits major sector of Alaska's economy, in terms of industry & community adaptation, accuracy of fisheries management, resource conservation.

NS-2 Review and modify Alaska's wildland fire policy and programs.

1. Increase capacity of communities to complete & implement Community Wildfire Protection Plans (CWPP). *Establish statewide CWPP coordinator – multiple agencies & communities involved.*
2. Review & revise Alaska Interagency Wildland Fire Management Plan, to consider response in tundra environment and other CC related issues. *Agencies, communities, landowners, University. Research needed.*
3. Develop comprehensive fuels management program in high-risk areas. *Wildland fire suppression agencies, in consultation with communities, land managers, landowners.*

NS-2 Feasibility, benefits, cost

Options build on programs and coordinating bodies in place.

1. CWPPs

- Highly feasible - not high cost. One new State CWPP coordinator position (\$100K/year) and planning funds (~\$125K/year for five plans/year over 10 years)
 - Benefits: prevention & preparedness, public safety
- ### 2. Review fire management - focus on tundra response
- Highly feasible - not high cost (via annual review of Alaska's Interagency Wildland Fire Management Plan)
 - Research & modeling needed - more detailed cost/benefit analysis for change in tundra response.

NS-2 Feasibility, benefits, cost

Fire Response - Tundra (cont)

- Increased tundra fire response = \$650K-\$2million/year
 - Benefits: potential for preventing large carbon releases.
- ### 3. Fuels Management in High Risk Areas
- Highly feasible. Implement through ongoing interagency work and funding avenues.
 - Funding highly variable for treatment projects, depending on techniques and project size (\$5K-\$550K/acre).
 - Benefits: management of fire events, public safety, ecological resilience, jobs, woody biomass projects.

NS-3 Address CC Effects on Freshwater Resources; Improved Hydrologic Data

1. Obtain additional data re: surface and groundwater hydrology, through gap analysis and strategic plan for data acquisition. *State agencies, federal agencies, University, industry, communities.*
2. Reestablish Alaska Water Resources Board. *State & public body.*
3. Increase State efforts to appropriate instream flow reservations. *DNR, ADFG, federal agencies.*
4. Continue to assess water management laws, policies practices to ensure capability to adapt to CC. *DNR, Alaska Water Resources Board, other water managers & users.*

NS-3 Feasibility, benefits, costs

- Highly feasible to reestablish Alaska Water Resources Board and staffing to process instream flow reservations. Costs ~\$50K/year for Board; \$500K/year for five years for instream flow work.
- Feasible to consider adaptive capacity of Alaska's water management laws, policies and practices - but likely not without controversy. Board role.
- DATA needs are paramount -- and very expensive to address. Need collaborative roundtable effort, gap analysis, strategy. Secure additional funding.
- Benefits: increase coordination; strategic approach to address critical data gaps, that improve modeling, risk assessments & adjudication decisions.

NS-4 Reduce introduction and spread of invasive species, in context of CC

1. Create Alaska Invasive Species Council - HB 12. *State, federal, public, University.*
2. Under Council direction; examples of actions:
 - Develop regulations (e.g., noxious weeds.)
 - Encourage expansion of native-plants-as-revegetation-materials markets.
 - Cross-boundary coordination with Canada.
 - Address marine invasives (e.g., shellfish sources, ballast water, hull fouling.)

NS-4 Feasibility, benefits, costs

- Highly feasible. Builds on existing coordination (such as ad hoc Alaska Invasive Species Working Group). Need State commitment & limited staff increases.
- Legislative action to establish Council (HB12).
- Council: \$190K/year fiscal note.
- Staffing: 2 positions, ~\$150K/year.
- Cost-effective to prevent problems before they are critical, rather than to respond & control.
- Benefits: build on collaboration to accomplish more at lower cost; prevent impacts to ecosystem functions & dependent economies.

NS-5 Prepare for adaptive management of fish and wildlife.

1. Adopt more timely regulatory process for harvest of game, to adapt to short- and long-term changes in climate. *ADFG, Board of Game, F&G Advisory Committees and Resource Advisory Committees, tribal orgs.*
Pilot in selected, more remote area(s) of state. Working group draft pilot proposal to Board of Game.
2. Develop coordinated framework for monitoring abundance of fish and wildlife, to facilitate adaptive management. *Fish and wildlife mgt. agencies, University, industry, NGOs, others.*
Common structure for data management & sharing (such as through "Center for ... CC)."

NS-5 Feasibility, benefits, costs

Game Harvest

- Feasible; Board of Game approval needed. Pilot in non-road access area(s), with history of good cooperation.
- Costs: Funds for working group process for pilot proposal.
- Benefits: reduced proposals to Board; allow hunting at times when travel is safe and meat can be kept in good condition.

F&W Monitoring Program

- Feasible, but large, comprehensive effort to coordinate all entities who monitor fish and wildlife resources.
- Tie data management into proposed *Center for ... CC*.
- Data collection costs continue to be borne by contributors.

NS-6 Develop capacity in new forestry and wood biomass opportunities

1. Develop and demonstrate wood biomass technologies at different scales to produce heat and power for rural and urban communities.
2. Develop and demonstrate harvesting and transportation systems and silvicultural techniques suitable for wood biomass projects.
3. Establish wood-energy coordinator position in Division of Forestry.
Involve Alaska Energy Authority, Wood Energy Task Force, Division of Forestry, USFS State & Private Forestry, Tanana Chiefs Conference, University, Cold Climate Housing Research Center, others.

NS-6 Feasibility, benefits, costs

- Highly feasible at small and large scales.
- Demonstration projects, coordinated by new DOF position, build on work by Alaska Wood Energy Development Task Group.
- Costs: DOF Wood Coordinator, \$100K/year; project funding generally available.
- Benefits: wood use offsets fossil fuel w/ locally-produced fuel supply; help achieve Gov. Palin's energy goal of 50% renewable by 2025; carbon-neutral from GHG perspective (research needed).

NS-7 Support local sustainable agriculture in Alaska as contributor to sustainable food policy.

1. Research Alaska's food demand and supply (all food sectors) and role of agriculture sector.
2. Create stakeholder group, Alaska Food Coalition, of producers, providers and consumers.
3. Develop Alaska food policy, to increase reliance on locally produced food sources.
4. Support community-based agriculture initiatives.
5. Fund two positions in Division of Agriculture (DOA). *DOA leadership of coalition of existing organizations (USDA, UAF Cooperative Extension, UAF Agricultural and Forestry Experiment Station, Denali Commission, others).*

NS-7 Feasibility, benefits, cost

- Highly feasible; implement through recently-completed DOA strategic plan.
- Costs: Fund two new positions in DOA to accomplish coordination and specific projects; funding for research of Alaska food demand and supply (~\$100K); funding for work of Alaska Food Coalition.
- Benefits: Improve, secure and sustain the supply of quality food for all Alaskans.



Thank you!

<http://climatechange.alaska.gov/>

Contact info:

Jan Caulfield, NS TWG Facilitator

janc@gci.net

(907)523-4610