



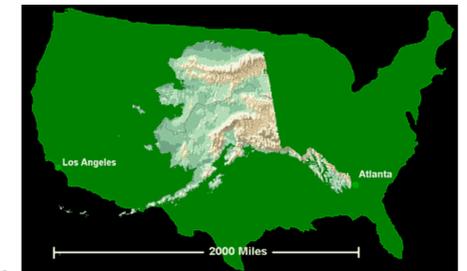
Alaska's Statistical Monitoring Survey's - Implementation through Partnerships

Terri Lomax (DEC, Alaska Monitoring and Assessment Program)



Challenges to Monitoring in Alaska

- The vast majority of Alaska's water resources are in undisturbed condition due to Alaska's size, sparse populations, and the remote character of the state. Alaska is experiencing rapid climate change, impacts of trans-boundary pollution, and increasing resource extraction activities which may impact current conditions.
- Because of the abundance of its waters, Alaska must prioritize how limited state resources should be applied in monitoring and assessing its water resources.
- Alaska's surface waters provide much of the economic, cultural, and aesthetic qualities which draw people to Alaska from all over the world. They include over 15,000 salmon streams.
- Alaska contains over 40% of the United States freshwater resources:
 - hundreds of glaciers, over 20,000 navigable rivers, over 3 million lakes, and millions of acres of wetlands.
- Alaska's shoreline makes up more than 50% of the total United States coastline:
 - 45,000 miles of coastal marine shoreline, and 33,000 mi² of bays and estuaries.
- EXAMPLE: to characterize 3 millions lakes, it would take every man, woman and child in Alaska to visit 5 or 6 different lakes each.



Regional Approach to the National Rivers and Streams Survey- Yukon River

The Yukon River Basin is the 4th largest basin in North America and the 5th largest in terms of average discharge. The river flows for more than 2,000 miles in a broad arc through the Yukon Territory of Canada and central Alaska, emptying into the Bering Sea.

The Yukon River Basin is approximately 330,000 mi² in area and home to 126,000 people. The River is characterized by annual winter freeze-ups and summer thaws. Nearly all the people in the basin depend to varying degrees on fish and game resources for livelihood and subsistence use.



Survey Design



- Stratified Systematic Design- Provided by EPA Tony Olsen.
- Synoptic Survey-completed in two weeks, teams camped each night as they made their way down river.
- 587 river miles from Fort Yukon, AK to Kaltag, AK. Eleven villages along the reach provided shipping and logistic support.
- Three teams worked simultaneously- one water quality team, and two habitat teams.
- 50 transects along the river, totaling: 50 water quality sites and 550 physical habitat sites.
- Parameters included: In situ- DO, pH, temp, conductivity, nutrients, DOC, TOC, TSS, secchi, metals, dissolved gases, chlorophyll-a, enterococci, sediment enzymes, periphyton, benthic macro-invertebrates, fish contaminants, physical habitat.

Partnerships are Critical

EPA funding for National Resource Surveys provides approximately half of the full project costs. Other funding or match support must come from agencies or industry with the knowledge that each will have certain requirements or needs that must be met. As the project is not solely funded by one agency everyone must work together collaboratively to provide a project useful to all and protective of Alaska's resources.

Partners Included:
 Environmental Protection Agency
 Yukon River Inter-Tribal Watershed Council
 UAA Environment & Natural Resource Institute
 U.S. Geological Survey

U.S. Fish and Wildlife Service
 Council of Athabaskan Tribal Governments
 National Park Service
 DEC Environmental Health Laboratory
 Bureau of Land Management

