

Inventory and Monitoring Program 2011 Spring Update

National Park Service
U.S. Department of the Interior

Inventory and Monitoring Program
Alaska Region



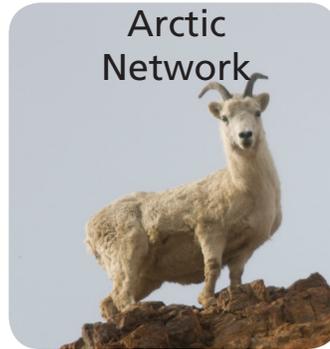
The Inventory and Monitoring Program provides consistent information about natural resources within national parks, including species diversity, distribution, and abundance; and determines the current condition of park resources and how they change over time.

Landscape patterns report released: Historical data analyzed; in more heavily vegetated areas, 10-20% increase in greenness over past 20 years

Permafrost monitoring: Mapping shows areas of active thermokarst in NOAT and GAAR; 3D models are being developed for these target areas to better track and understand effects of melting ground ice on the landscape

GIS tool for caribou: ArcGIS extension tool developed; displays lines representing speed and distance traveled by individuals

BELA KOVA NOAT CAKR GAAR



DENA WRST YUCH

Central Alaska Network



Dall's sheep monitoring: New, cost-efficient methodology developed by Central and Arctic Networks, implemented in WRST after successful implementation in GAAR

Vegetation monitoring: Completed tenth season of network-wide project; 300 permanent sampling plots installed in 2010, 1600 installed over the course of the project; Totals: measured 50,319 trees and an additional 4,350 seedlings, collected and identified 20,000 plant specimens, collected 1600 soil samples

Wolves: Structured decision making model developed for YUCH population; used to support decision by superintendent to close sport trapping season

Oceanography: Completed evaluation and re-processing of GLBA data; represents longest-running, most intact dataset from SE Alaska waters; now available online

Lichen inventory: KLGO inventory complete; 766 species identified in small 13,000 acre area; 75 species new to science discovered

Kittlitz's murrelets: Second year of monitoring complete; technical paper on methodological advances accepted for publishing in peer-reviewed scientific journal, Marine Ornithology

LACL KATM KEFJ ANIA ALAG

Southwest Alaska Network



Vegetation monitoring: Established 37 permanent monitoring plots in LACL; these plots will be monitored annually, used to track changes related to climate change

Sea otters: Completed third survey along the Kenai Peninsula; estimated 1322 individuals; three year density average shows slightly lower density than Prince William Sound, partially a result of limited habitat along the Kenai due to steep terrain

GLBA SITK KLGO



Climate Change Response: Enhance Existing Monitoring Efforts

Glaciers:

- Develop detailed profiles of representative glaciers
- Determine volume change on glaciers in parks
- Produce illustrated guide to glaciers in Alaska's national parks

Permafrost:

- Map location and condition using landscape inventory products and modeling tool
- Monitor core ground temperatures

Seasonal changes:

- Track greenness, ice formation and break up with satellite imagery
- Support data from satellite imagery and track smaller-scale changes with time lapse cameras

Weather:

- Improve and expand historical data with new monitoring stations
- Maximize weather station use by co-locating with other monitoring efforts

Provide decision support:

- Strategic region-wide communication effort
- Structured decision making



2011 Field Season: Highlighted Plans

Arctic: Continue long-term monitoring of two populations of Muskox in BELA and CAKR (initial data shows differences in teeth wear in two populations); determine species composition in study areas

Arctic: collaborative effort to study chemistry and ‘plumbing’ of Serpentine hot springs will continue; represents first comprehensive study of the hot springs. Initial results of water quality testing in 2010 resulted in decommissioning of cold water intake pipeline to the springs.

Central: Complete synthesis and analysis of vegetation monitoring data, for which the tenth field season was completed in 2010. Determine trends in vegetation of all three network parks.

Central: Actively engage in monitoring 14 of the vital signs identified by the network -- the highest amount of activity since the start of the program in 2005

Southeast: As result of evaluating proposed methods of monitoring and characteristics of the unique area, develop methods for inventorying intertidal zone species in SITK

Southeast: Install additional remote weather stations in KLG0 and GLBA

Southwest: Host Southwest Alaska Science Symposium in Anchorage: Crossing Boundaries in a Changing Environment, November 2-4, 2011

Southwest: Conduct fish contaminant sampling in KATM and LACL to establish baseline levels for resident lake fish; analyze for heavy metals and persistent organic pollutants

Regional Inventory program: Conduct field work for landcover and soil inventories in KLG0; Finalize landcover survey for ANIA, Conduct field work for soils inventory in LACL; acquire DEMs for all of KATM and part of DENA base cartography inventories

Communication Efforts Support Inventory & Monitoring Program

Develop formal communication plan to include audiences served, internal communication needs, and proposed methods of evaluating communication efforts among other things

Produce additional communication products to support park staff based on employee feedback

Strengthen interdisciplinary communication and collaboration efforts by actively engaging with Science & Learning Centers and the Interpretation & Education team

Increase accessibility of I&M information to internal and external audiences through organization of web-based communication tools

Natural Resources Information Portal (NRInfo)

NR Info is the beginning of a one-stop online shop for information on park natural resources including reports, GIS datasets, and species lists. It is currently in development and, when complete, will serve as both a repository and resource for park staff. This NPS-wide effort is being led in Alaska by a team effort involving the I&M, GIS, and NR teams at the regional office, park staff, and in collaboration with the Alaska Resource Library Information System. NRInfo is accessible from any government computer by typing in “nrinfo” into your web browser. Once complete, a large portion of it will be available through a public website.



Inventory and Monitoring Program Goal: improve park management through greater reliance on scientific information

Arctic Network
Jim Lawler, Program Manager
455-0624
jim_lawler@nps.gov

Southeast Alaska Network
Brendan Moynahan, Program Manager
364-2621
brendan_moynahan@nps.gov

Alaska I&M Program
Sara Wesser, Regional Coordinator
644-3699
sara_wesser@nps.gov

Central Alaska Network
Maggie MacCluskie, Program Manager
455-0660
maggie_maccluskie@nps.gov

Southwest Alaska
Michael Shephard, Program manager
644-3681
michael_shephard@nps.gov

Regional Inventories
Parker Martyn, Program Manager
644-3697
parker_martyn@nps.gov

Contact Brooke Carney for additional information on I&M communication efforts: celeste_carney@nps.gov 907-644-3695