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Lichen Biomonitoring of Air Quality on Alaska's National Forests Air Resources and Wilderness Programs FY2012 Accomplishments Chugach and Tongass National Forests, Alaska Region

State: Alaska

Project Costs: \$30,000 (FY2012)

Congressional District: 1st

Internal Partners:

Alaska Region Air Resources Program,
Alaska Region Wilderness Program.

Accomplishments:

- The U.S. Forest Service uses lichens to monitor air quality on the Tongass and Chugach National Forests in Alaska.
- Lichen biomonitoring is a cost-effective way to determine air pollution trends and track forest changes from both air pollution and climate change that can affect wildlife and fisheries habitat.



*Wilderness rangers Barbara Lydon and Garrison Vizina collect *Platismatia glauca* for lichen biomonitoring of air quality in Prince William Sound on the Chugach National Forest in Alaska.*

- Since the early 1990s, ecologists have monitored 39 permanent lichen plots on the 5.5-million-acre Chugach National Forest and 107 plots on the 17-million-acre Tongass National Forest.
- On the Tongass National Forest, baseline concentrations of 27 pollutants in lichen tissue, along with provisional thresholds for change have been set. Baseline concentrations have been determined on the Chugach and work is underway to determine thresholds.
- Most plots are in wilderness. These plots help the Forest Service monitor an element of wilderness character important to recreation, tourism, watershed, and forest health.
- The project improves knowledge of local and global air issues, including deposition of trans-Pacific air pollutants from shipping lanes and Asian coal-fired energy plants.

Project Contact: Karen Dillman, 907-772-5865, kdillman@fs.fed.us