

## Alaska Boreal Forest Council

### "Hydrologic Assessment of Shaw Creek Watershed and Adjacent Southern Tributaries of the Tanana Basin, Alaska"



*FY03 Grant Award \$111,200*

*Project Match \$100,000*



#### **Description and Purpose:**

The purpose of this project was to provide an assessment and long term monitoring of the water resources of the Shaw Creek watershed. The hydrologic characterization of this watershed was compared to that of three other neighboring streams that were concurrently being monitored by ABFC on the south side of the Tanana River. The overall goal was to provide much needed baseline data for sustainable development of the Shaw Creek basin, such that multiple land uses can be supported while protecting the natural qualities of this watershed.

Data collection efforts for the streams south of the Tanana River were performed in coordination with the Whitestone Farms community so that the local school could participate and benefit from these activities. Installation of all monitoring equipment was conducted in coordination with the ADNR Division of Forestry, ADF&G Habitat and Restoration Division, and other land users.

All data collected in this study was made available on the internet through the project website. This ensured that the results of the project are available to the public and managers with little delay. A section of the website contains near-real time data updates of key watershed parameters.

#### **Evaluation of Environmental Benefits:**

The project results were shared with state resource agencies to help develop best management practices for the Tanana Valley State Forest and reduce non-point source pollution impacts from planned road development and resource extraction activities such as timber sales. The ABFC will work with these agencies to further evaluate the usefulness of the project results. The evaluation is summarized in the final report.

This project's products are available over the Internet and print media. Actual use of the information by agencies and the public will be an important measure of its value. ABFC will be able to directly track success by making scientific data, project information, and education materials available over the Internet and tracking their usage. Engineering and Environmental Internet Solutions ([www.eeinternet.com](http://www.eeinternet.com)) will provide Internet usage summary statistics for the project.

The project evaluation takes into account both data-collection objectives and use of the Internet site to gauge public participation in the project and use of the data and environmental information. Data-collection objectives will target data loss not to exceed 10% for all environmental data elements. Self-diagnostics programming and "expert system" QA/QC programming is used to limit data loss due to routine problems typical of environmental monitoring systems.

The web-site provides data on ground-water and surface-water interactions and basic hydrologic parameters for the area.

**Deliverables for this project include:**

- Upgrade of one existing station with a precipitation gage and establishment of one new index station to monitor hydrologic parameters on Shaw Creek at its mouth.
- Collection of continuous hydrologic data, which includes surface-water levels; stream discharge; air, soil, surface-water, and river-bed temperatures; stream conductivity and soil moisture; and relative humidity. Data will be uploaded onto the project website, URL: [http://www.tanana-watershed.org/shaw\\_creek/shaw\\_creek.html](http://www.tanana-watershed.org/shaw_creek/shaw_creek.html).
- Establishment of a citizen-based water-quality data-collection program. Data from community groups will be presented in the project web-site.
- Fish habitat stream survey data to be provided as part of the final report.
- Monthly Internet updates on all data elements. A subset of the data will be provided hourly to promote data applications to policy, public interest, and research groups in the Tanana Basin.
- Interpretative and analysis products of the hydrologic data collected in the watershed. These products will be available through the project web-site and the final project report.
- GIS database for spatially distributed data collected in the project and a website for distribution/dissemination of GIS products.



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