



Conserving Hydrologic Conditions for Fish Habitat on the Kenai Peninsula

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ADF&G's Instream Flow Program

- Within the Division of Sport Fish – Research and Technical Services (statewide programs)
- *Instream flow* = the amount of water flowing in a stream channel or the volume of water in a lake

The screenshot shows the Alaska Department of Fish and Game website. The header includes the department's logo and name, a search bar, and a navigation menu with categories like Home, Fishing, Hunting, Subsistence, Viewing, Education, Species, Habitat, and Regulations. The 'Habitat' section is active, with sub-links for Access & Planning, Conservation Areas, Ecosystems, Habitat Permits, and Restoration & Enhancement. The main content area is titled 'Instream Flow Program Overview' and features a sidebar with navigation links, a main text block, a photo of a moose and a dog, and a section titled 'What is Instream Flow?' with a puzzle-piece graphic.

Alaska Department of Fish and Game

Home Fishing Hunting Subsistence Viewing Education Species **Habitat** Regulations

Access & Planning Conservation Areas Ecosystems Habitat Permits Restoration & Enhancement

Habitat

Habitat Home

Access & Planning

- Fishing & Hunting Access
- Land Use & Access Planning
- Instream Flow Program
- Special Areas Planning

Conservation Areas

Ecosystems

Habitat Permits

Maps & GIS

Restoration & Enhancement

ADF&G Home » Habitat » Access and Planning


Sign in myADF&G

Instream Flow Program

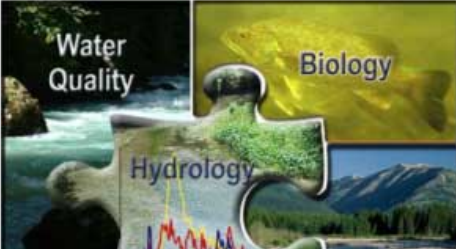
Overview

[Reservations of Water](#) [Hydroelectric Projects](#) [Alaska Clean Water Actions](#) [Contact](#)

From the robust sockeye salmon runs in Bristol Bay to the well-fed coastal Brown bears in southeast, Alaskan waters produce some of the most viable fish and wildlife populations in the world. These populations have remained healthy, in part, because of limited resource and population development. However, the demand for water is increasing and continued wise management of these resources is essential to the overall economic and social well-being of Alaskans. Water is used for residential purposes, hydropower generation, industry, fish hatcheries, fish processors, agriculture, artificial snowmaking, and other uses. By determining the amount of water available and how much should remain in the river or lake to sustain fish and wildlife, we help promote wise development and conservation that benefits everyone.



What is Instream Flow?



Instream flow is simply the amount of water flowing in a stream or the volume of water in a lake. Fish and other aquatic and terrestrial species have adapted to natural streamflows and lake levels that provide essential seasonal habitats utilized by the various life stages of each species. These natural flow regimes play a vital role in creating and maintaining instream habitat that fish depend on to meet their spawning, rearing, incubation, overwintering, and migration requirements.

Reservation of Water

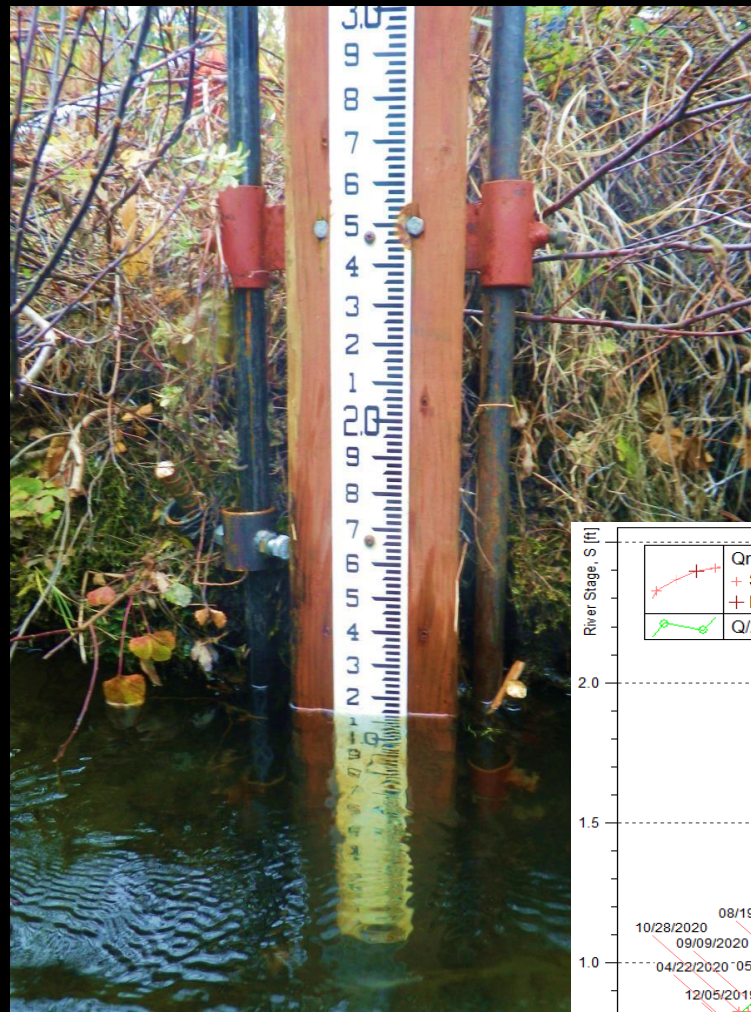
Alaska Statute 46.15.145

- Water management tool to protect stream flow and lake levels
- Out of Stream water uses:
 - Power generation
 - Water supply
 - Mining
- Instream uses:
 - Fish and wildlife
 - Recreation/aesthetics
 - Navigation
 - Water quality

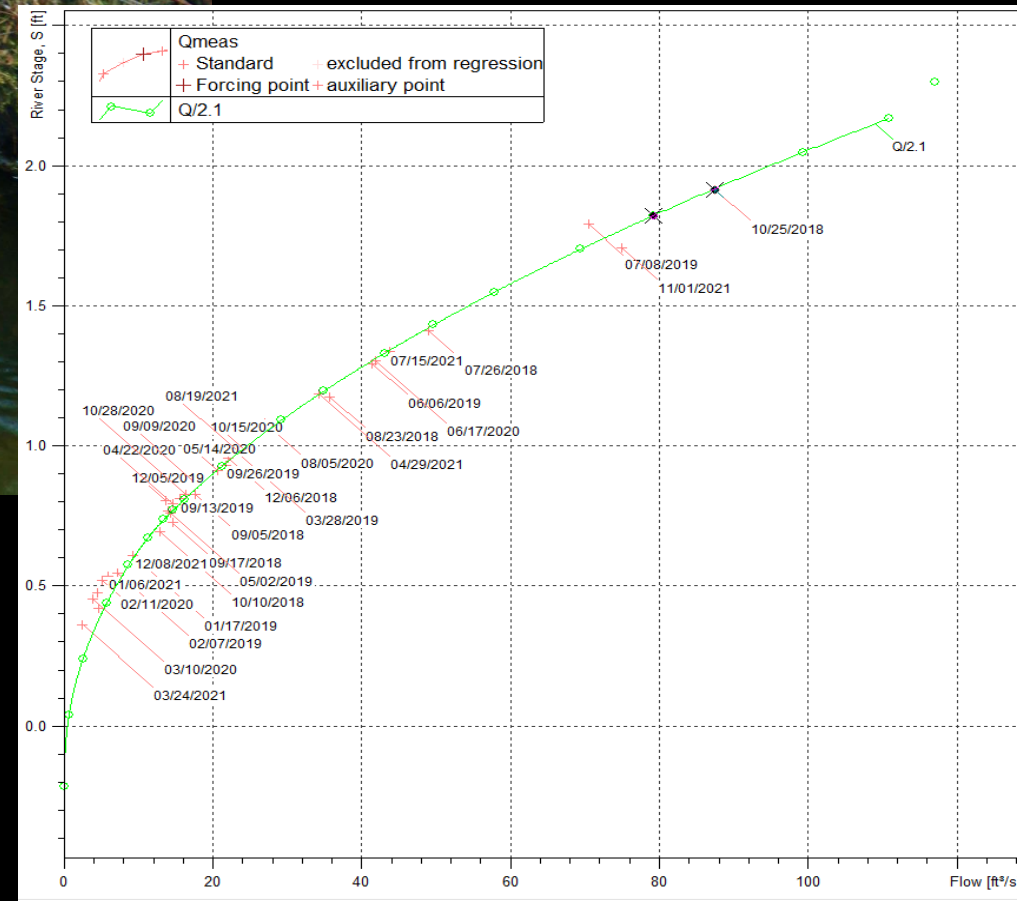


Discussing Water Rights, A Western Pastime

Hydrological Methods

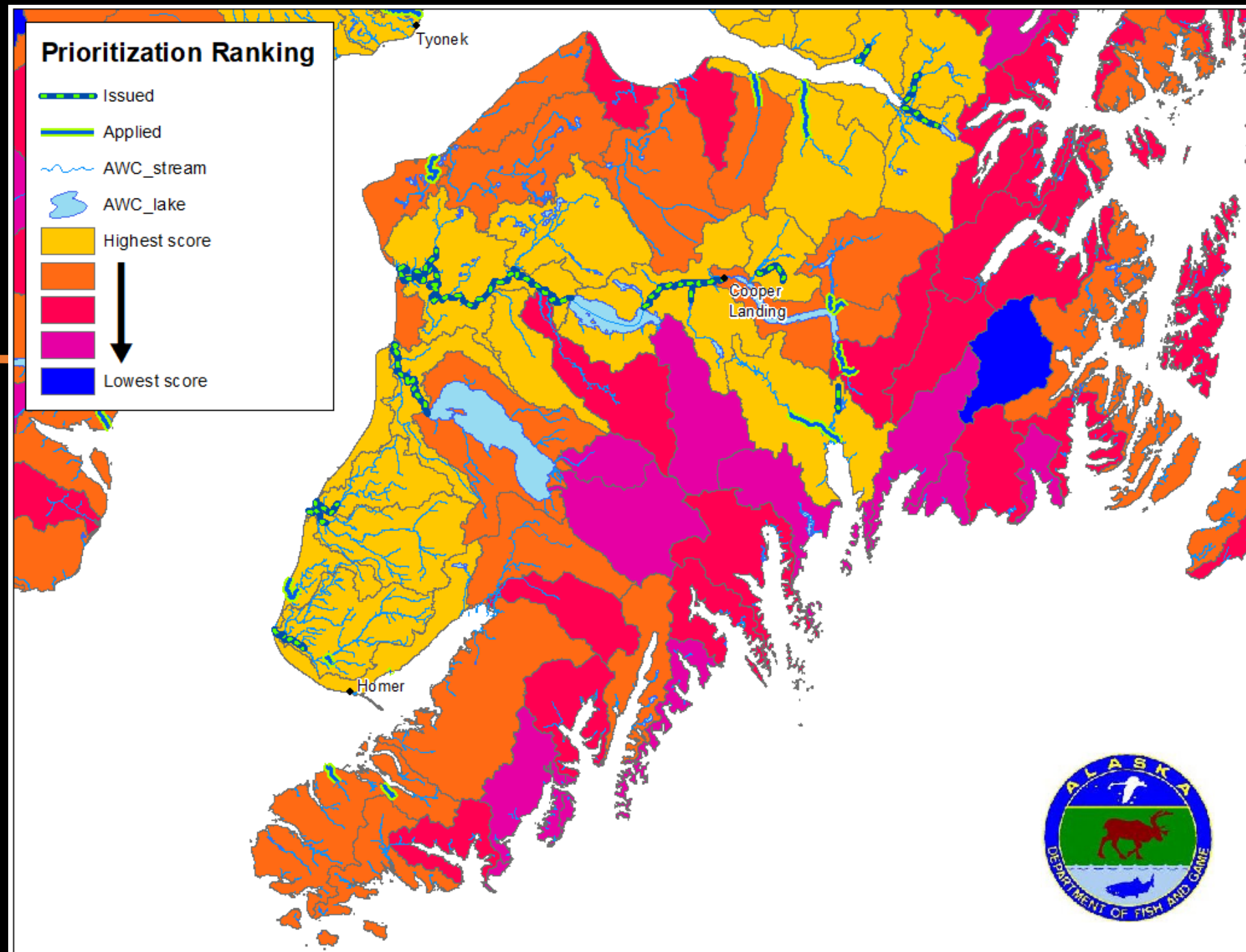


- Field work
 - Streamgaging
 - Discharge measurements
- Data analysis
 - Rating curves (WISKI software)
 - Correlations
- Instream Flow Analysis
 - Fish use and fish periodicity
 - Natural flow regime



Prioritization Model

- Where would instream flow protection be most beneficial?
- Statewide datasets describing fish resources and environmental stressors



Prioritization Ranking

- Issued
- Applied
- AWC_stream
- AWC_lake
- Highest score
- ↓
- Lowest score

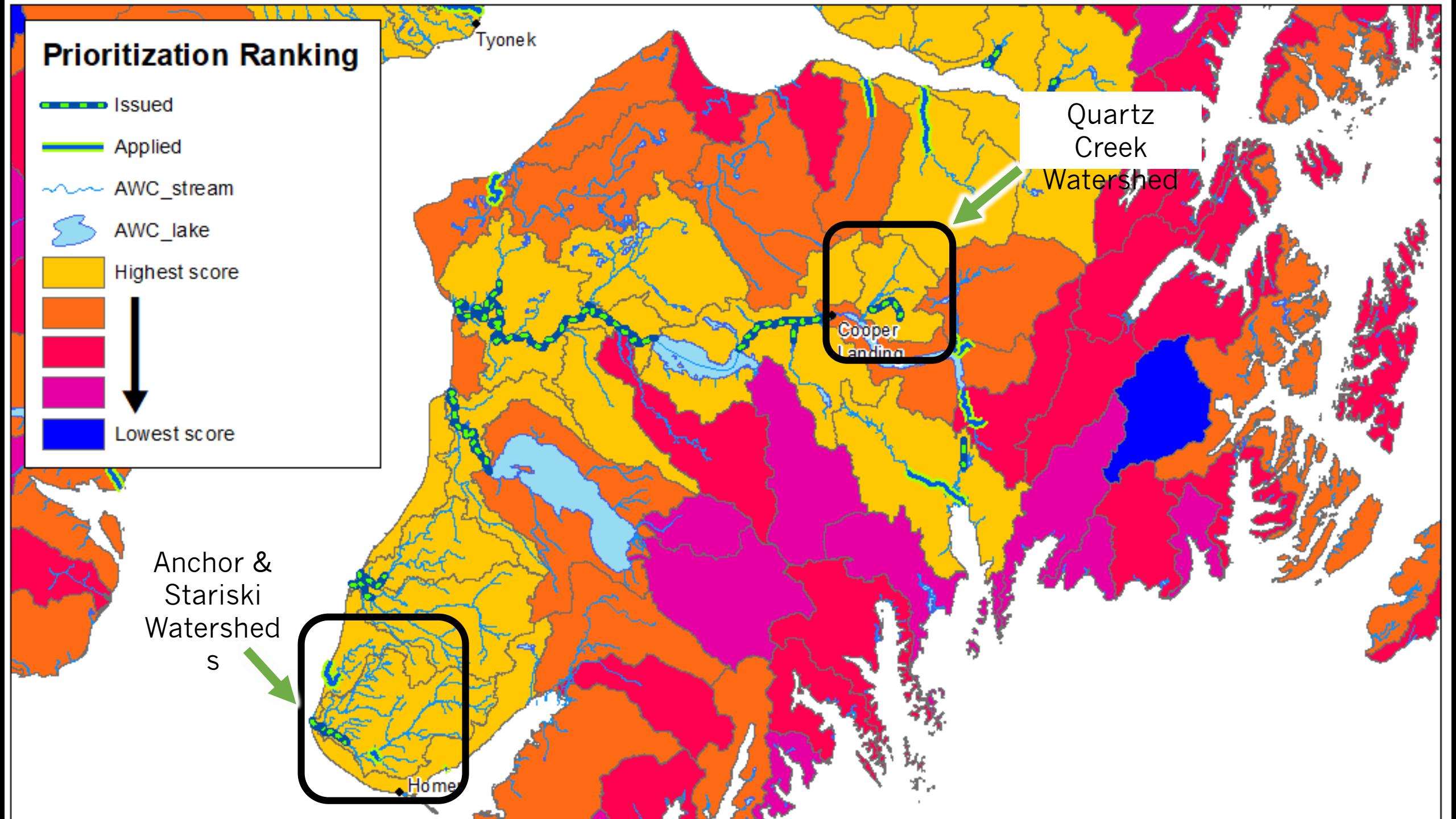
Tyonek

Quartz Creek Watershed

Cooper Landing

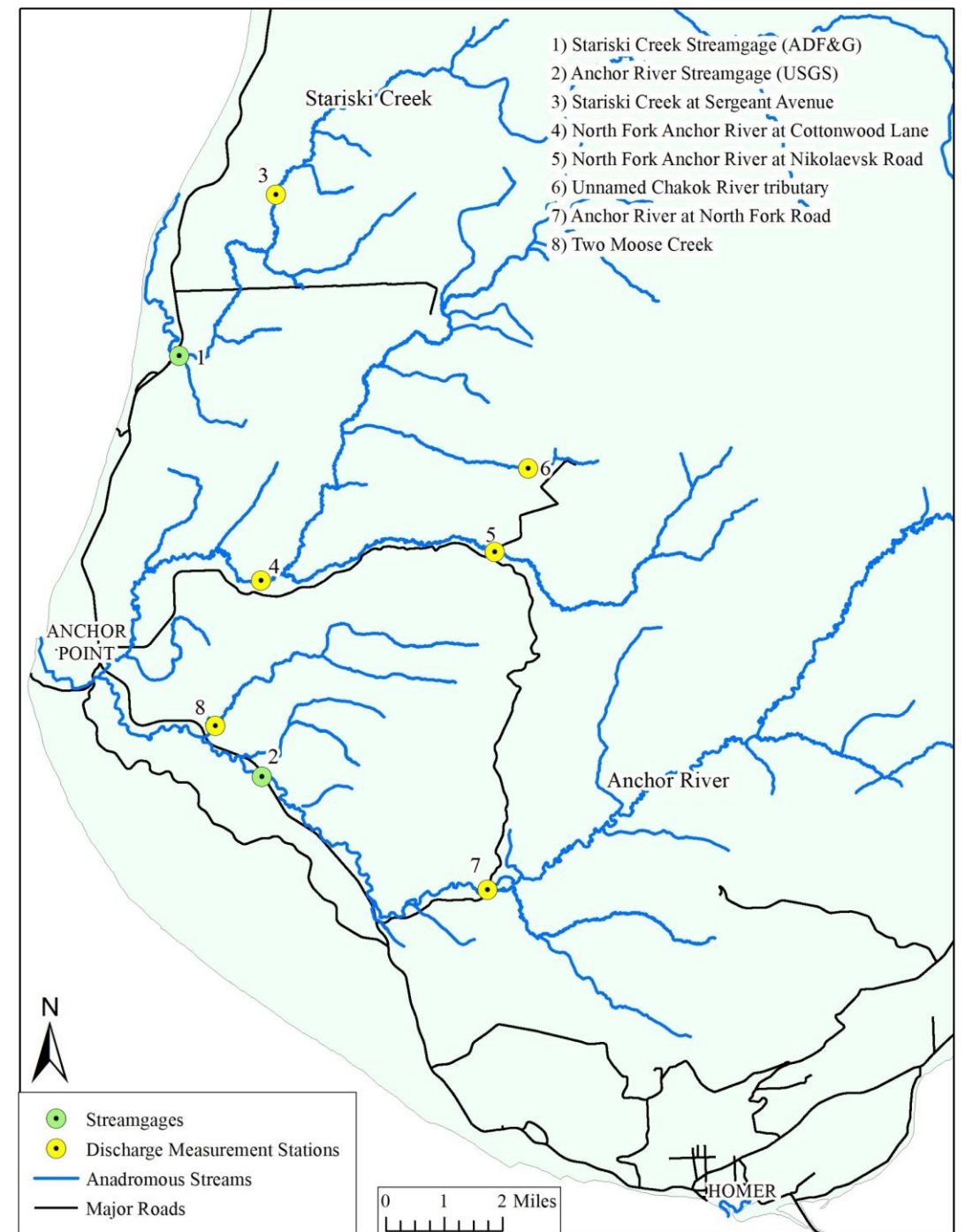
Anchor & Stariski Watersheds

Home



Anchor River & Stariski Creek Streamgaging Network

- Two streamgages
 - Stariski Creek (ADF&G)
 - Anchor River (USGS)
- Six discharge measurement sites



Reservation of Water Applications Filed

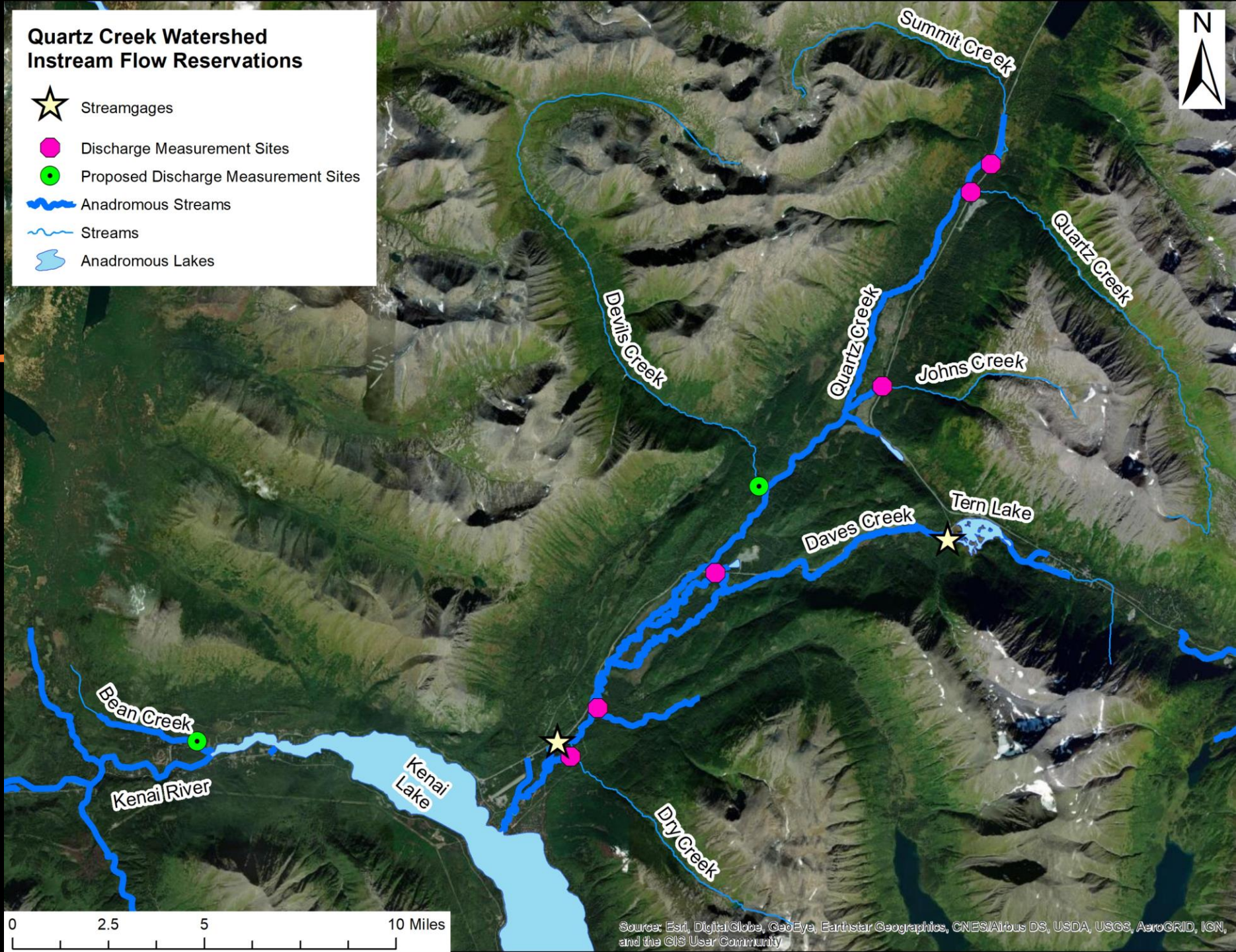
- **Anchor River** (two reaches = *13 miles*)
- **Stariski Creek** (Reach B = *12 miles*)
- **Chakok River** (two reaches = *12 miles*)
- **North Fork Anchor River** (*8 miles*)
- **Two Moose Creek** (*4 miles*)



Stariski Creek

Quartz Creek Streamgauge Network

- Two streamgages
 - Quartz Creek
 - Daves Creek (Tern Lake)
- Six discharge measurement sites
- Two **new** discharge measurements sites!

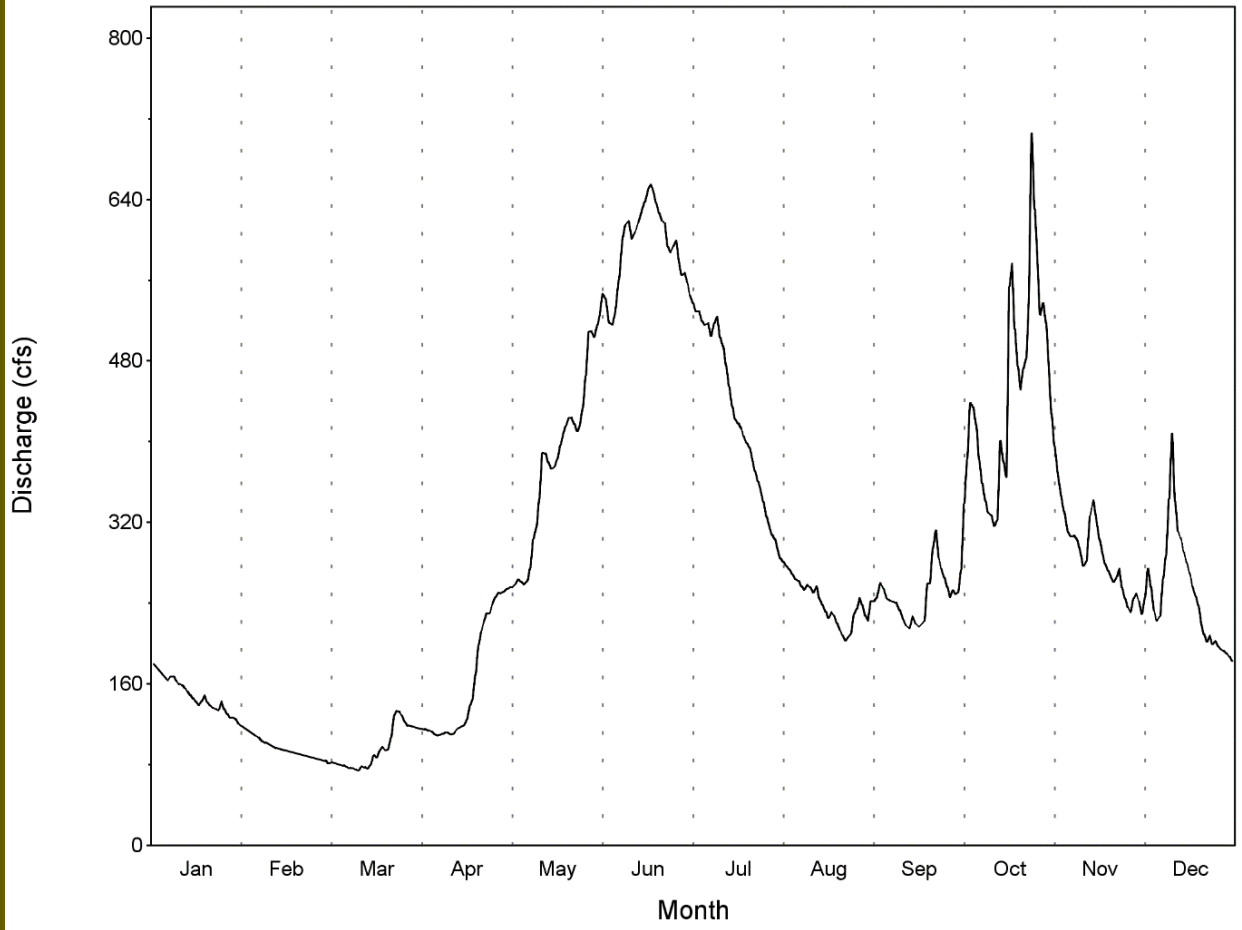


Reservation of Water Applications Filed

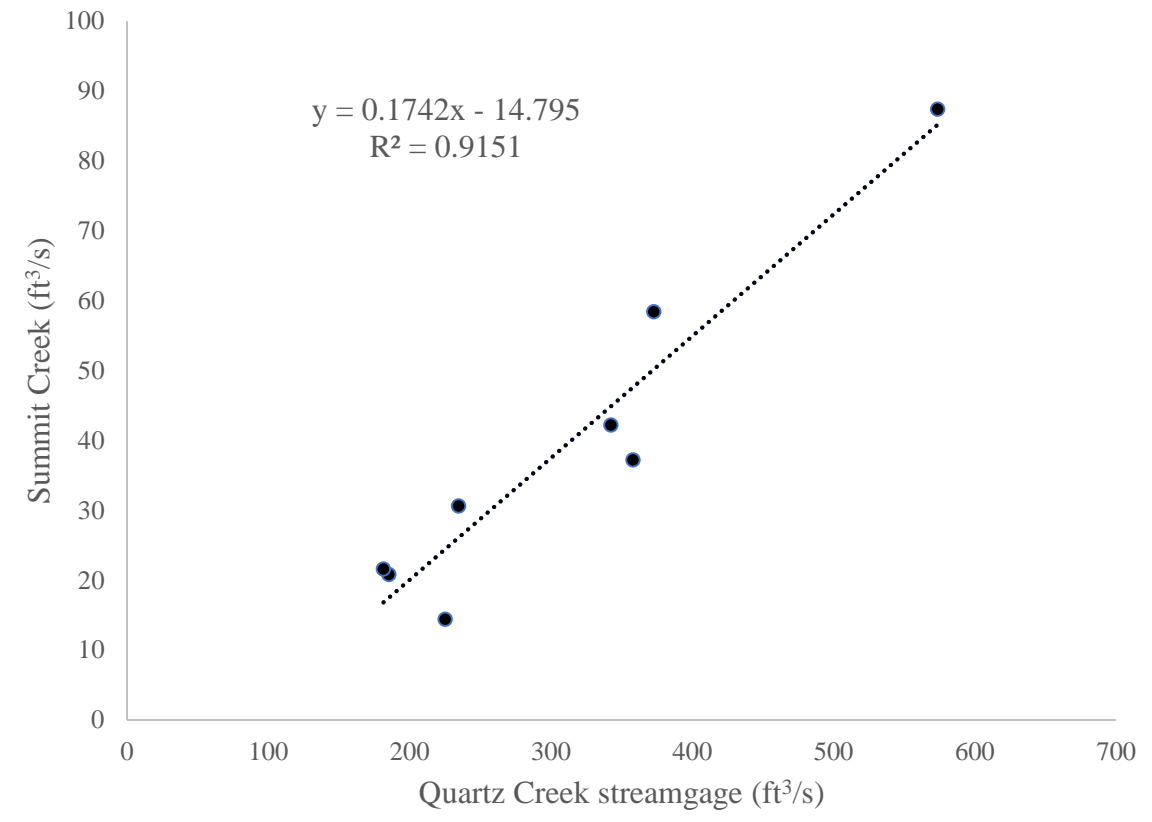
- Quartz Creek (3 miles)
- Daves Creek (6 miles)
- Dry Creek (3 miles)
- Summit Creek (1 mile)



Quartz Creek



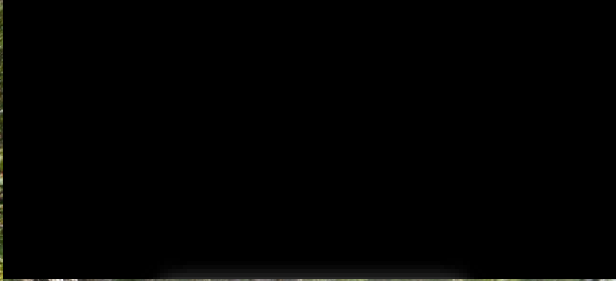
Correlation of **Quartz Creek** and **Summit Creek** streamflow measurements



Quartz Creek – Annual Mean Daily Flows
(Aug 2018 – Nov 2021)



Summit Creek



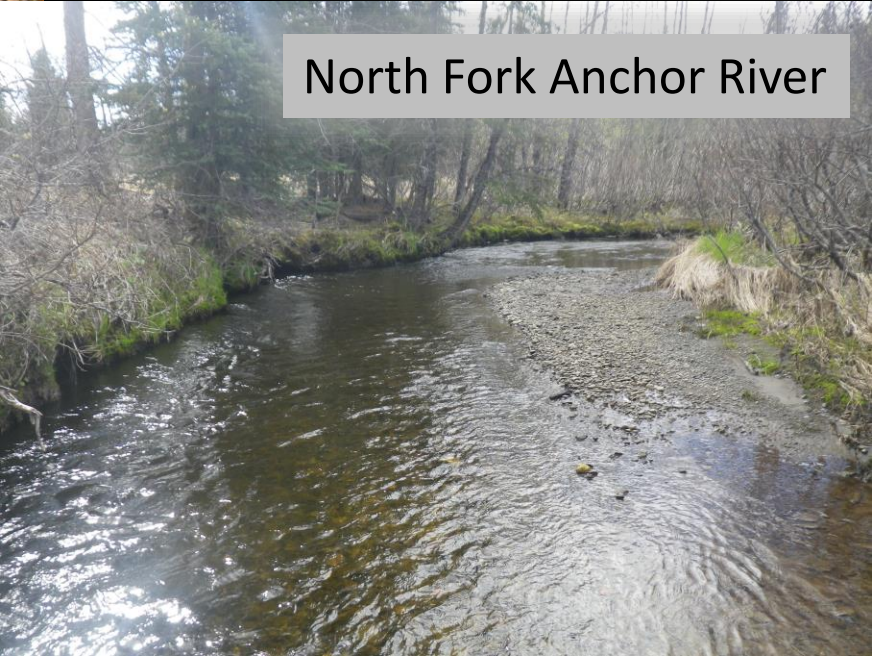
Dry Creek



Stariski Creek



Two Moose Creek



North Fork Anchor River



State
Wildlife
Grants

Thank you!

- Kenai Peninsula Fish Habitat Partnership
- Other field helpers on Kenai Projects:
 - Kenai Watershed Forum
 - Cook Inletkeeper
 - Chugach National Forest
 - Salamatof Native Association
 - Sven & Ole 🐾🐾
- Instream Flow Program
 - Joe Klein, Program Manager
 - Ann Marie Larquier, Project Manager
 - Leah Ellis, FERC Hydropower Coordinator
 - *New hire coming soon!*

