The Alaska Department of Environmental Conservation has a fellowship opportunity for an individual interested in environmental quality; pollution control; remediation of environmental damage; and ensuring compliance with environmental laws, policies, and regulations.

This fellowship will support two programs within the Division of Water: Nonpoint Source (NPS) Water Protection and Restoration Program and Alaska Monitoring and Assessment Program (AKMAP). The NPS Program protects the water quality of Alaska’s streams, lakes, and rivers from nonpoint source pollution and restores polluted waters to a healthy condition. AKMAP is responsible for surface water quality monitoring of Alaska’s waters, both marine and freshwater. Currently, we have three projects the selected fellow be working on - Crooked Creek Watershed Assessment, Arctic Stream Survey, and Arctic Estuaries Survey.

**Crooked Creek Watershed, Interior Alaska, NPS.** Water quality monitoring of the Crooked Creek watershed began in the early 1990’s due to historic and ongoing placer mining activities. The watershed was listed for non-attainment of the turbidity criteria of Alaska’s Water Quality Standards in 1992. Additional water quality assessment was completed in 1995 and documented major improvements in water quality. DEC recently developed and began implementing a watershed sampling plan to assess current attainment of water quality standards and to develop a restoration plan that includes development of total maximum daily loads (TMDLs) for creeks in the watershed that exceed standards. One summer of data was collected in 2014 and additional sampling will occur in the summer of 2015. The monitoring results will provide current data that will determine if further regulatory action is needed for the Crooked Creek watershed.

**Arctic Streams, Arctic Coastal Plain, AKMAP.** The objective of the Arctic Streams, Arctic Coastal Plain project is to conduct stream assessments in the Arctic Coastal Plain eco-region within the National Petroleum Reserve-Alaska (NPR-A). The assessments will be conducted in conjunction with the Environmental Protection Agency’s (EPA) 2014 National Rivers and Streams Assessment (NRSA). Alaska will randomly select 30 sites within the region. The sites will be monitored using protocols developed by EPA for the NRSA. The protocols dictate methods for the collection of physical, chemical, and biological data.

**Arctic Estuaries, Arctic Coastal Plain, AKMAP.** The Arctic Estuaries survey will be conducted as part of EPA’s 2015 National Coastal Condition Assessment (NCCA), which is a nation-wide assessment of coastal conditions. Uniform sampling methods and analytical procedures will be followed to allow for nation-wide comparisons of conditions. Indices of conditions that are typically assessed include water quality, sediment quality, benthic community condition, and fish tissue contaminants. AKMAP will use NCAA protocols and a probability-based sampling design to assess the ecological condition of estuaries within NPR-A. The overall goals for the survey are to assess the ecological condition of the estuary aquatic resources, to assess attainment of water quality standards, and to provide a baseline for future trend assessment.

Responsibilities may include:
1. Participate in sample collection of water, sediment, and biological samples;
2. Carry out all field documentation and complete chain of custody forms;
3. Complete sample preservations;
4. Observe and assist with sample analysis, when feasible;
5. Review analytical results and quality assurance documents;
6. Prepare summary statistics on results;
7. Compile historical water quality information to compare against current or new data;
8. Assist in technical interpretations of results;
9. Provide presentation on results of sampling efforts to internal staff, general public and scientific conferences; and
10. Become familiar with and ensure use of technical guidance documents:
   a. Quality Assurance Project Plans,
   b. Laboratory Reference Manual, and

Special Note
This fellowship will require field work in remote locations or on marine research vessels. The participant will be expected to spend ~50% of the summer in remote field camps. This may be day trips, overnights, three week field camp projects in the arctic, or three weeks aboard an arctic research vessel.

Knowledge, Skills, and Abilities:
- Some knowledge of the principles of an environmental, ecological, biological, or physical science.
- Some knowledge of research techniques, statistical measurements, and report writing.
- Ability to analyze and evaluate technical scientific data.
- Ability to work effectively with people having a variety of backgrounds and potentially conflicting goals.
- Ability to communicate, both orally and in writing, with the general public, business representatives, and professionals in a variety of fields on technical environmental issues and requirements.

Minimum Qualifications:
A bachelor's of science degree from an accredited college in an environmental, physical, biological, or natural science; environmental engineering, or natural resources. Physical sciences include fields such as chemistry, physics, geology, hydrology, oceanography, and limnology. The selected candidate must have recently completed or will be completing a master's or doctorate program from an accredited college.

Location: Anchorage or Fairbanks field office
Supervisor: Terri Lomax, Water Quality Monitoring Program Manager