**Project Title:** Penobscot Indian Nation (PIN) Diadromous Fisheries and Water Quality Research

**Project Location:** Penobscot Nation Dept. of Natural Resources, Indian Island, ME

**Project Leaders: Dan McCaw** (dan.mccaw@penobscotnation.org), **Dan Kusnierz** dan.kusnierz@penobscotnation.org)

**Project Time Frame:** May 2020 – September 2020

**Total Hours:** up to 520

**Semester Hour Allocation:** 40 hours per week as available

The PIN Fisheries Program operates in a cooperative management framework with USFWS, NOAA-Fisheries, and the ME-DMR Division of Sea-run Fisheries and Habitats, with the purpose of preserving Atlantic salmon within the Gulf of Maine. PIN Fisheries is responsible for developing and protecting sustenance fishing opportunities. The PIN also manages, monitors and helps to restore the entire suite of sea-run fish to Tribal waters in the Penobscot River drainage. This is accomplished by supplementation, population monitoring, habitat connectivity projects, participation in the hydroelectric compliance and relicensing arenas, and the writing, updating and execution of management plans, both Tribal and collaborative.

The PIN Water Resources Program conducts a wide range of water quality monitoring activities throughout the Penobscot watershed and tribal trust lands. Data from these projects are used to assess attainment of water quality standards (tribal, federal, state), to assess habitat quality for aquatic life, to determine compliance with license/permit limits, and to recommend changes to improve water quality. PIN cooperates with federal and state agencies and shares data for use in water quality related decision making.

 The intern would be involved in:

* Conducting research into the Federal Energy Regulatory Commission E-library for Hydro licensing support and review of Tribal Fisheries Management Plans
* Operating rotary screw traps for the purpose of collecting out-migrating Atlantic salmon smolts in the East Branch of the Penobscot River
* Monitoring and documenting the return of river herring to recently stocked Tribal lakes
* Surveying habitat quality and abundance in various Penobscot River tributaries
* Assisting in habitat connectivity and habitat restoration projects
* Monitoring water quality and benthic insect communities in the Penobscot watershed and PIN Trust land waters
* Researching movement of anadromous fish returning to Penobscot watershed and identifying potential sources of toxic contaminant exposure

Opportunities Include:

* Getting to know and work with scientists from state and federal agencies
* Exposure to fisheries science and enumeration techniques like smolt population estimate models
* Practical experience in fisheries techniques like electrofishing and habitat surveying
* Learning methods, techniques, and equipment used for assessing water quality and aquatic communities