Project(s) Proposal

Date Generated: XXXXX, XX, 2018

# Alaska Department of Fish and Game

Sport Fish Restoration (Freshwater)

# Table of Contents

### Project Statement Details:

[Project # 216274124 - AK - Kenai Peninsula Northern Pike Monitoring and Native Fish Restoration (F-10-34 R-2-15)](#_bookmark1)

[Project Statement # 216274126 - AK- Kenai Peninsula Northern Pike Monitoring and Native Fish Restoration (F-10-34 R-2-15)](#_bookmark2)

### Appendix A: Project Details

[Project # 216274124 - AK - Kenai Peninsula Northern Pike Monitoring and Native Fish Restoration (F-10-34 R-2-15)](#_bookmark3)

# Project Statement Details

## Project Snapshot #216274124 - AK - Kenai Peninsula Invasive Northern Pike Monitoring and Native Fish Restoration (F-10-34 R-2-15)

[[View Project Details]](#_bookmark3) [[top]](#_bookmark0)

Primary Agency Alaska Department of Fish and Game Start Date July 1, 2018

End Date June 30, 2019

Project Categories Conservation/Management

## Project Statement Details - #216274124 - AK - Kenai Peninsula Invasive Northern Pike Monitoring and Native Fish Restoration (F-10-34 R-2-15)

[[top]](#_bookmark0)

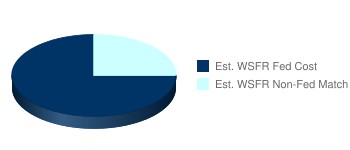
### Properties

Is Revision? No

Grant Programs Sport Fish Restoration (Freshwater) Project Statement

|  |  |
| --- | --- |
| Estimated WSFR Federal Cost: | $36,855 |
| Estimated WSFR Non-Federal Match: | $12,285 |
| Total Estimated Cost: | $49,140 |

Cost Breakdown

Cost Breakdown Graph

### Need Statement

Invasive northern pike on the Kenai Peninsula are the result of an illegal introduction first confirmed by ADF&G in 1976 which expanded through additional introductions and dispersion. To date, pike have been confirmed in at least two dozen local waterbodies. Pike are known to prey heavily on rearing salmonids, and in some cases, have been implicated in the decline of wild salmon populations and stocked fisheries on the Kenai Peninsula and elsewhere. Because of the ecological and economic impacts associated with their presence outside their native range, northern pike are an invasive species in Southcentral Alaska.

The Kenai Peninsula is one of the premier sport fishing areas in Alaska, receiving approximately 500,300 freshwater angler-days in 2016 which represents 40.4% of the total freshwater sport fishing effort in Alaska. Historically, most angling effort on the Kenai Peninsula is expended on the Kenai River, which is renowned world-wide for its large Chinook salmon (Oncorhynchus tshawytscha) and is the site of other popular fisheries for coho salmon (O. kisutch), sockeye salmon (O. nerka), rainbow trout (O. mykiss), and Dolly Varden (Salvelinus malma).

To protect valuable fisheries, by ADF&G began a program to eradicate northern pike on the Kenai Peninsula through the use of chemical treatments (rotenone), and in some limited situations, through intense gillnetting efforts. The program goal has been to restore waters invaded by northern pike by eradicating them and to prevent new pike populations from invading suitable habitats, such as low-gradient Kenai River tributaries (i.e., Moose River, Beaver Creek) and the Swanson River drainage. By 2017, the pike eradication program had successfully removed all known northern pike populations from the Kenai Peninsula except for a group of eight small lakes located south of Soldotna and commonly known as the Tote Road pike lakes. It is the intent of the Department to remove pike from all of the Tote Road pike lakes in the fall of 2018.

A cornerstone of successful invasive species control programs is early detection and rapid response actions. If an invader is present, early detection offers the best chance of successfully removing the population before the population becomes unmanageable in scale and the impacts irreversible. It is imperative that ADF&G be vigilant in monitoring Kenai Peninsula waters believed most vulnerable to northern pike. Northern pike populations could result from new intentional releases, survivors of eradication attempts or currently existing in an area yet to be identified.

The detection and subsequent removal of invasive northern pike can restore the aquatic habitat of an area; however, restoration of the fisheries within that habitat may require additional work. In open and highly connected systems, wild fishery restoration can often occur through natural mechanisms like dispersion and migration of native fish. In areas with poor or no connectivity to other wild fish populations, fishery restoration may require stocking wild fish. Likewise, hatchery-stocked lakes are restocked with hatchery-reared fish once free of pike.

This project provides five months of technician support to monitor Kenai Peninsula waters for the presence of invasive northern pike and to conduct wild fishery restoration work that includes collecting and releasing wild fish into restored waters, conducting fish surveys to assess native fish populations restoration efforts and will collect will data needed to prepare a pike removal plan should pike be detected.

### Approach

There are two components to this grant for FY19:

Tote Road Restoration Support:

The Kenai Peninsula Invasive Northern Pike Monitoring and Native Fish Restoration project provides support to an existing project (Tote Road Restoration funded by AKSSF), which is a multi-year pike eradication project designed to remove the last known northern pike populations from the Kenai Peninsula. The primary goal is to conduct rotenone treatments in eight lakes in the Tote Road area during the fall of 2018. After the rotenone fully degrades, the treated Tote Road lakes will have wild salmonids released into them to initiate a new fishery in 2019. This restoration effort will be monitored long-term.

Kenai Peninsula Invasive Northern Pike Monitoring and Native Fish Restoration:

Beyond providing support to the Tote Road restoration project, the Kenai Peninsula Invasive Northern Pike Monitoring and Native Fish Restoration project will conduct general area-wide fish surveys in FY19 that may include using gillnets and/or eDNA sampling methods in an attempt to detect northern pike in waters previously restored or deemed highly vulnerable to pike invasion. Other work will involve maintaining field equipment and fish barriers, restoring and assessing native fish populations in habitats where pike have been removed and providing public outreach and education opportunistically.

FY19 Tasks:

1. Collect and analyze eDNA samples for all selected waters where gillnet effort alone is insufficient to meet Objective 1 precision criteria.

2. Map any waters where new pike discoveries are made to verify surface acreage and volume.

3. Measure water quality (temperature, DO, pH, specific conductance) monthly for one calendar year from all waters where new pike discoveries are made.

4. Conduct surveys to calculate the mean CPUE of salmonids/resident fish in selected lakes.

5. Estimate the length frequency distribution of each salmonid species collected in surveyed lakes.

6. Inventory dominant invertebrate taxa from any waters where new pike discoveries are made.

7. Prepare and/or implement a pike eradication/control plan for any waters where new pike discoveries are made.

8. Prepare & submit Fish Transport Permits.

9. Prioritize and categorize area waters for surveying to detect northern pike presence and to assess restored native fish populations

### Expected Results

This program’s monitoring efforts should help prevent a wide-spread reinvasion of northern pike on the Kenai Peninsula. This program is expected to aid in the restoration and assessment of wild and hatchery-stocked fisheries to waters where invasive pike have been removed. If needed, this project will do the field work and data collection needed to create a plan for the removal of newly detected northern pike populations and to implement include a quick response emergency control/eradication action where appropriate.

Overall this project is expected to benefit all local salmonid users by reducing a local threat to the sustainability of wild salmonid resources.

### General

See attached budget summary for costs associated with this project Budget Category:

71000 –Fish and Wildlife Technician III – 5 months

72000 – None

73000 –None

74000 –gillnets, eDNA consumable supplies, fuel, bait, Hydrolab, hardware, tools, PPE, clothing, lumber, office supplies

75000 – None

### Relationship with Other Grants

Alaska Sustainable Salmon Fund

Augmentation for Tote Road Restoration Project--Tote Road pike lakes rotenone treatment ($159,143 over multiple years. Timeline: 3/1/17 through 11/30/19.

### Narrative Objectives

1. 1. Detect the presence of northern pike in a minimum of eight high threat waters that are void of native salmonids during the open water season between July 1, 2018 and June 30, 2019 such that the probability of detection is 0.80 given the population is at least 20 northern pike.
2. Detect the presence of northern pike in a minimum of four high threat waters that are have native salmonids present during the open water season between July 1, 2018 and June 30, 2019 such that the probability of detection is 0.50 given the population is at least 20 northern pike.
3. ~~Estimate the mean CPUE of each salmonid species present in selected waters such that the estimate is within 6 fish of the true value 95% of the time for each surveyed waterbody~~.

# Appendix A: Project Details

## Project Details #216274124 - AK - Kenai Peninsula Invasive Northern Pike Monitoring and Native Fish Restoration (F-10-34 R-2-15)

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### Properties

Status Active

Primary Agency Alaska Department of Fish and Game Primary Contact Rob Massengill

Start Date July 1, 2018

End Date June 30, 2019

Is Project Sensitive? No

Project Categories Conservation/Management

Action Categories Direct Management of Natural Resources,

Education,

Species Reintroduction and Stocking, Data Collection and Analysis, Outreach

### Project Description

The purpose of this project is to protect and restore Kenai Peninsula aquatic habitat and its associated wild and stocked fisheries by surveying waters deemed highly vulnerable to northern pike invasion, aiding and assessing the recovery of native fish populations in areas where invasive pike have been removed, and if pike are detected, conduct the site evaluations needed to devise and implement a pike removal or control plan.

### Location Details

Is Statewide Project? No

Acres 2,189,209.9

|  |  |
| --- | --- |
| **States** | **Counties** |
| Alaska | Kenai Peninsula Borough, |

### Related Projects

### Project Statement Summaries

**Project Statement #216274124 - AK-Kenai Peninsula Northern Pike Control (F-10-34 R-2-15)**

[[View Statement Details]](#_bookmark2)

Grant Programs Alaska Sustainable Salmon Fund (AKSSF)