



# Introduction to Invasive Species Management:

Lessons learned from the  
Tyonek Tribal Conservation District

# What is a 'native' species?

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- Native species are those that normally live and thrive in a particular area. They occupy specific habitats and have not been placed there by humans. They have natural predators that help to keep their populations in check.



Fireweed, *Chamaenerion angustifolium*



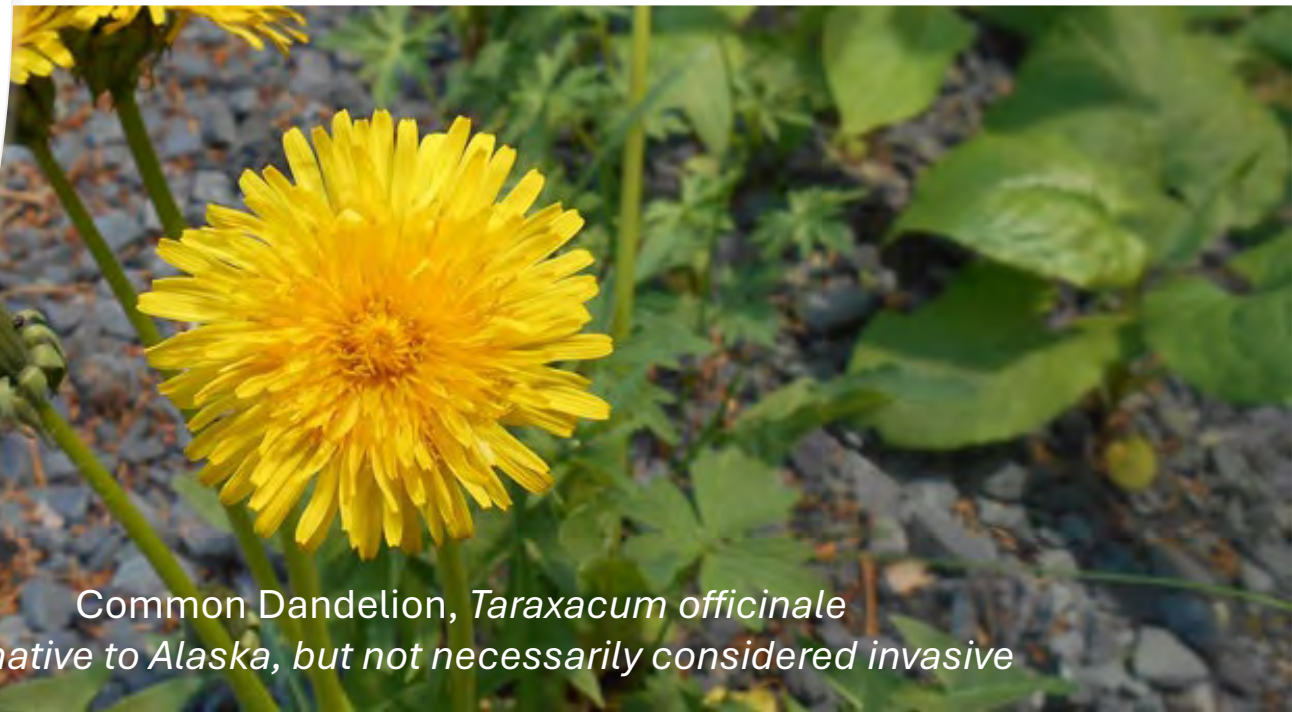
Chinook (King) Salmon,  
*Onchorhynchus tshawytscha*

# What is a non-native species?

- A species living outside its native distributional range, which has arrived there by human activity, either deliberate or accidental. Non-native species are not necessarily invasive.



Cat (*Felis catus*), introduced by humans, not native but not considered invasive



Common Dandelion, *Taraxacum officinale*  
Not native to Alaska, but not necessarily considered invasive

# What is an **invasive** species?

- A non-native species that have negative effects on ecosystems or cause harm or economic losses to humans. They generally produce large numbers of offspring and have the potential to establish and spread into natural areas.



Northern Pike, *Esox lucius*, picture from Second Lake. These pike can eat THOUSANDS of baby salmon each summer. They have the capability of decimating native salmon runs.



Orange Hawkweed, *Heiracium aurantiacum*, infestation in Beluga. Takes over native areas, blocks native plants, takes over yards, can change the bank structure and affect salmon.

# Why do we care?

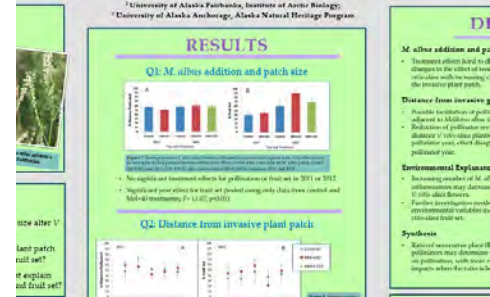
- Changes in habitats and those that depend on them
- Changes in water chemistry
- Direct impacts on subsistence resources
- Impacts on economics



## White sweetclover invasion on the pollination and reproduction of *Vaccinium vitis-idaea* in Alaska

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## Two moose calves die after likely eating poisonous ornamental plants

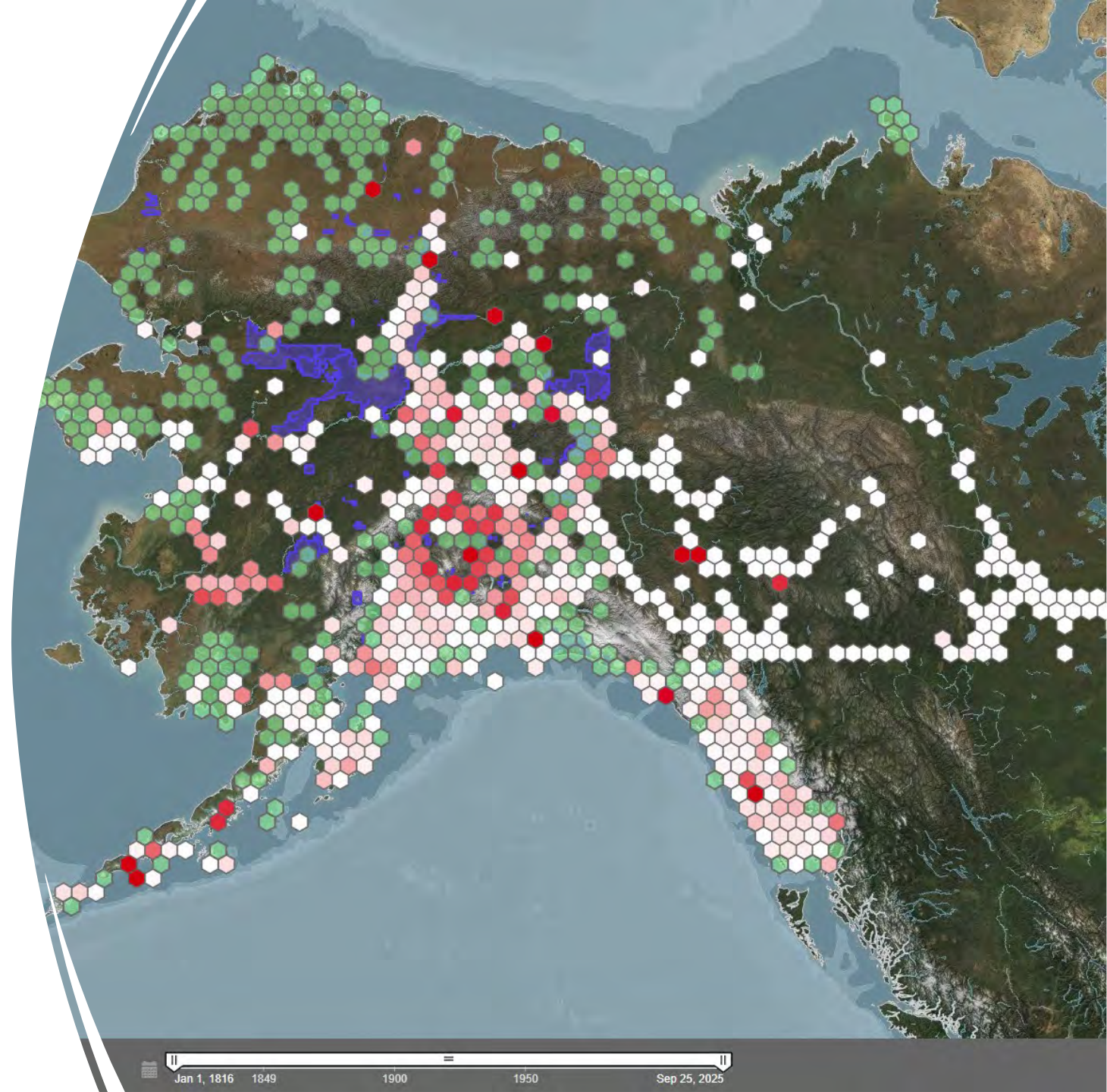


(KTUU)  
By Cameron Mackintosh  
Published: Dec. 2, 2017 at 7:03 PM AKST



# Alaska is Unique

- Can look to other regions of the world for lessons learned
- Species ranking system
- Statewide data clearinghouse
- Statewide grassroots organization
  - AKISP



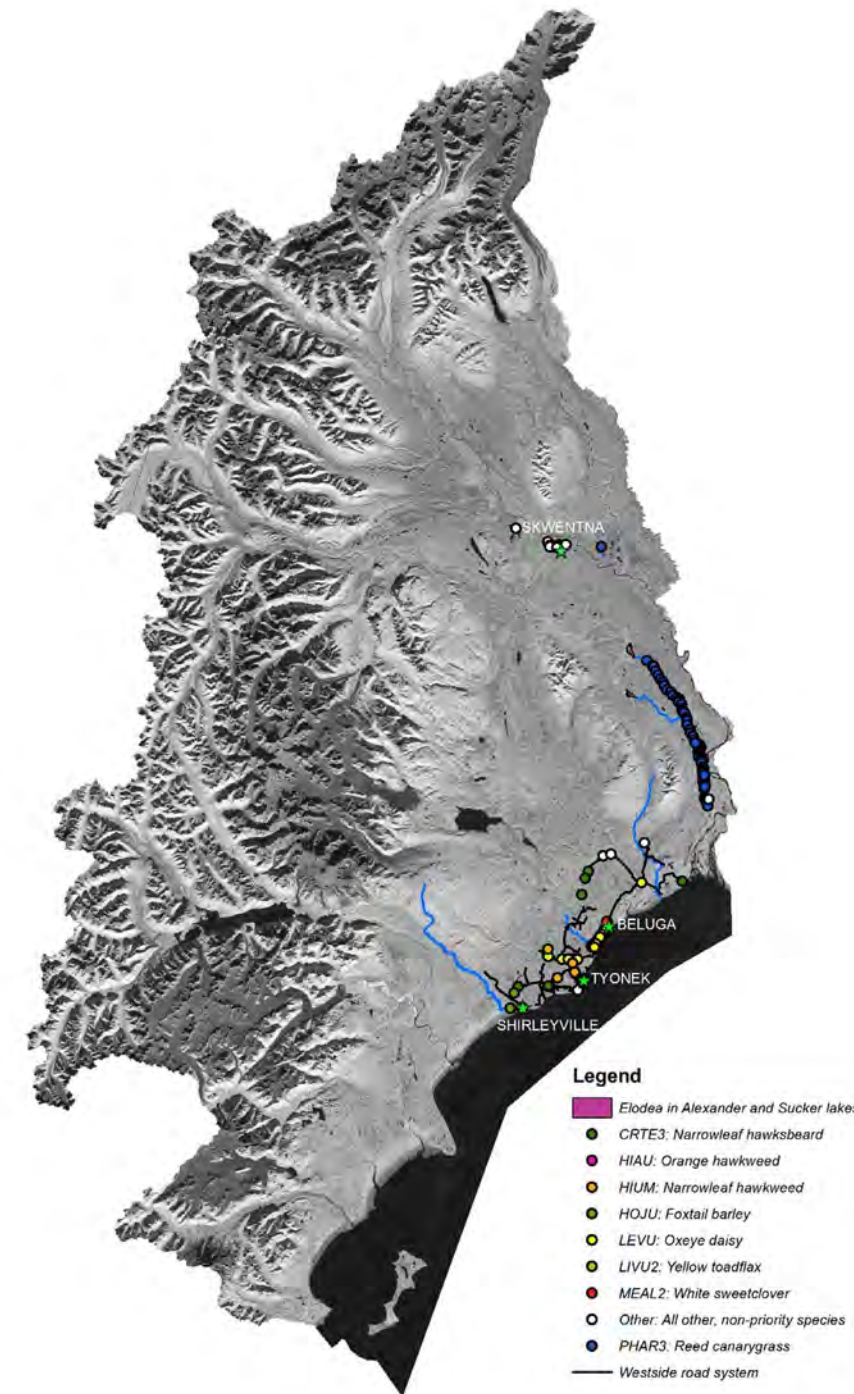


## How do you start?

- Reach out to any one of us, we are alllll faking it until we make it!!
  - Invasive species management requires persistence, purpose, trial and error, and partnership
  - Speaking of partnership...
- [Join Alaska Invasive Species Partnership!](#)
- [Visit AKepic](#) to see what species have been documented in your community

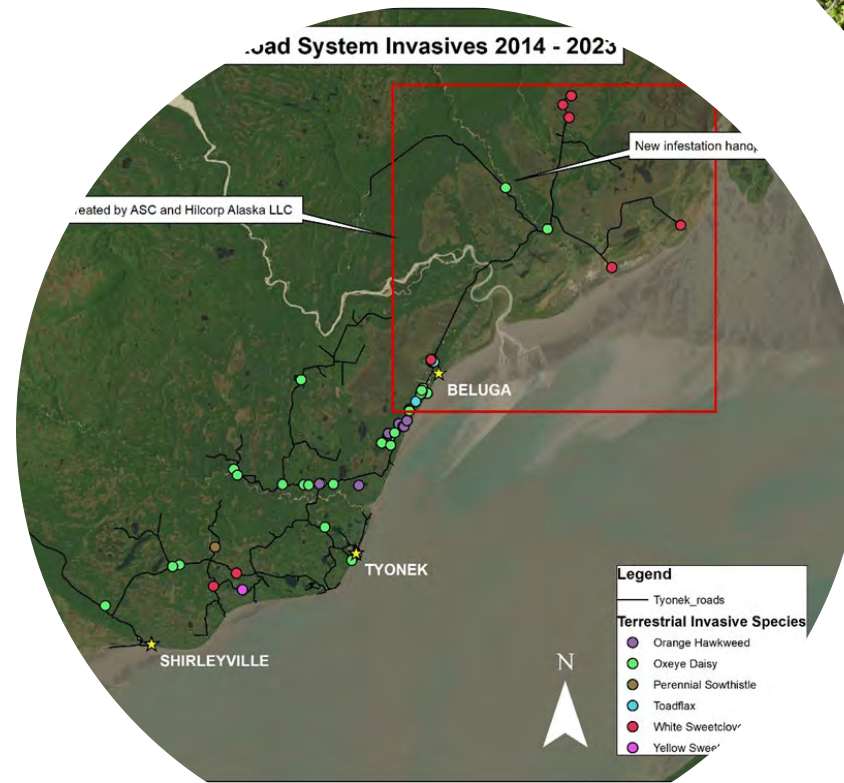
# Developing IS Programs in TTCD

- Invasive species initial priority of TTCD's Board of Directors
- Began monitoring for terrestrial invasive species in 2014
  - Surveyed 135 miles of road
  - Surveyed 60 miles of streams and rivers
  - Surveyed 20+ lakes for elodea
  - Found and prioritized infestations and looked for partners to take action
- Pike priority concern for the stakeholders of our District
  - Known problem, unknown extent
  - Goal to manage and develop control plans



# Terrestrial Species (Plants!)

- Mapped species first and prioritized infestations
  - Airstrips = high chance of spread
  - Small = high likelihood of success with small investment
    - Values will be different for each perspective!
- Partnered with contractor in 2015
  - Eventually got staff certified to apply herbicide
- Developed treatment plans for Beluga, Tyonek, and Shirleyville
- Successes:
  - White sweet clover rapid response –gravel pit closure
  - Hillcorp pads – annual investment (and match!)
  - Skwentna and Beluga airstrips reduced by at least 90%
  - Landowners reaching out to us and removing plants themselves when found



# Progress in Skwentna!

2021 vs 2024



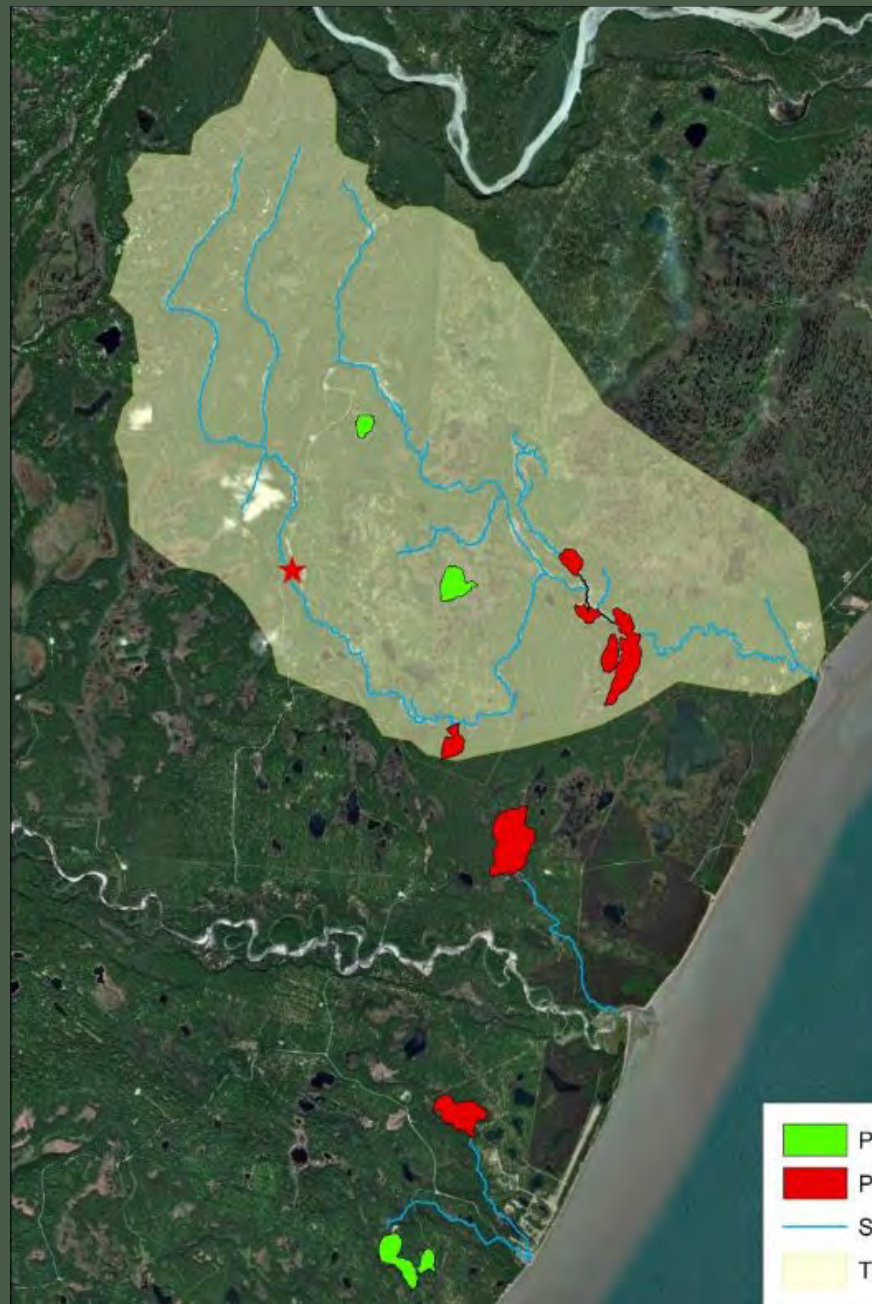
2021



2024

# Northern Pike

- Introduced Susitna watershed in the 1950's
- 2015- invasive northern pike identified as concern in district
- Extent definition unknown
- Derbies
- Outreach, community engagement, partnership building
- Exploratory netting



# Suppression and Eradication

- 2018- partnership with ADFG to assess populations and begin suppression
- Pike Camp
  - Threemile Lake
  - Chuitbuna Lake
  - Rollercoaster





# TTCD's Current Pike Management Status

- 2 complete population assessments throughout suppression efforts
  - Data-driven adaptations in suppression strategy and tweaks in methods
- 10 years of suppression; 11k+ pike removed from TTCD waters
  - 2 populations - eradication within reach
- Continuing to determine invasion extend with eDNA
- Exploring innovation in toolkit

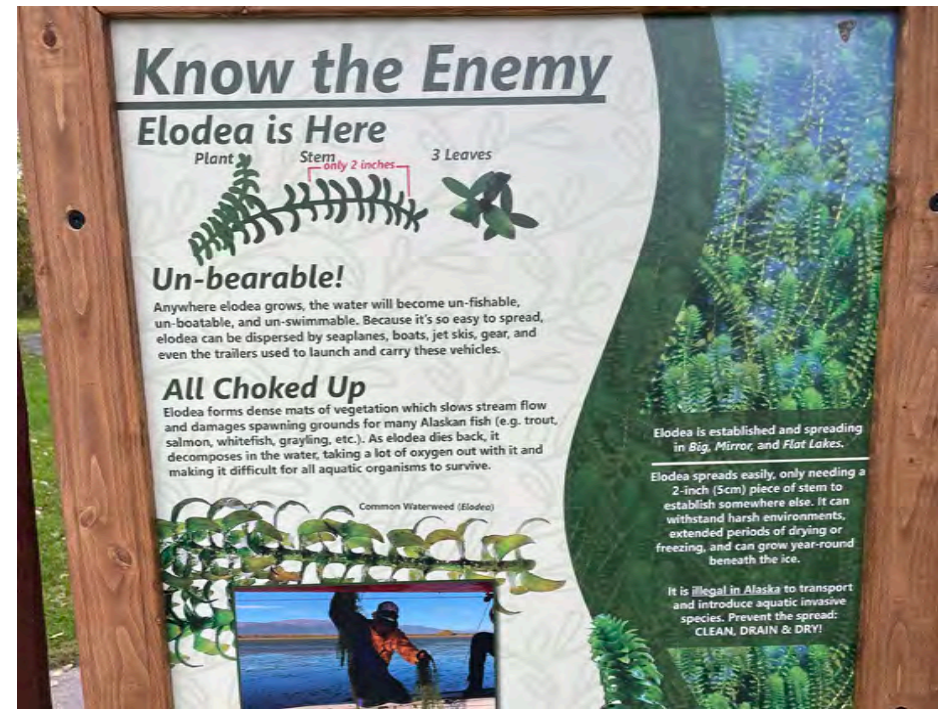


## Elodea

- **Alaska's first and only invasive aquatic plant**
  - **Habitat degradation and safety concerns**
- Found in district in 2014 in Alexander and Sucker Lakes
- Concern of vector transport when detected in popular seaplane lakes in Anchorage in 2011
- TTCD's response:
  - Coordinate, educate, survey, and fundraise

## Elodea Actions

- Prevention: Outreach and education efforts
  - Vector lake focus; Elodea Rodeo and targeted outreach surveys
- Early Detection
  - Remote lake elodea surveys
  - Prioritization efforts
- Monitoring and Control
  - Capacity sharing to survey and understand current infestation extents
  - Fundraising and close partnership with DNR, Knik,





P A

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Partnerships,  
Committees, Taskforces

# What Invasive Species are in your district?

- [AKNHP AKEPIC 2.0](#)
- <https://ttcd.org/our-district/>



# Key elements of invasive species management

**Partnership**

Prevention

Detection

Control and  
Management

Restoration &  
Rehabilitation

# TTCDD's Invasive Species Projects

## Prevention

- Outreach and Education

## Early Detection

- Annual elodea surveys
- Terrestrial invasive plant surveys
- eDNA sampling

## Control

- Terrestrial invasive plant treatment
- Northern pike suppression/eradication projects