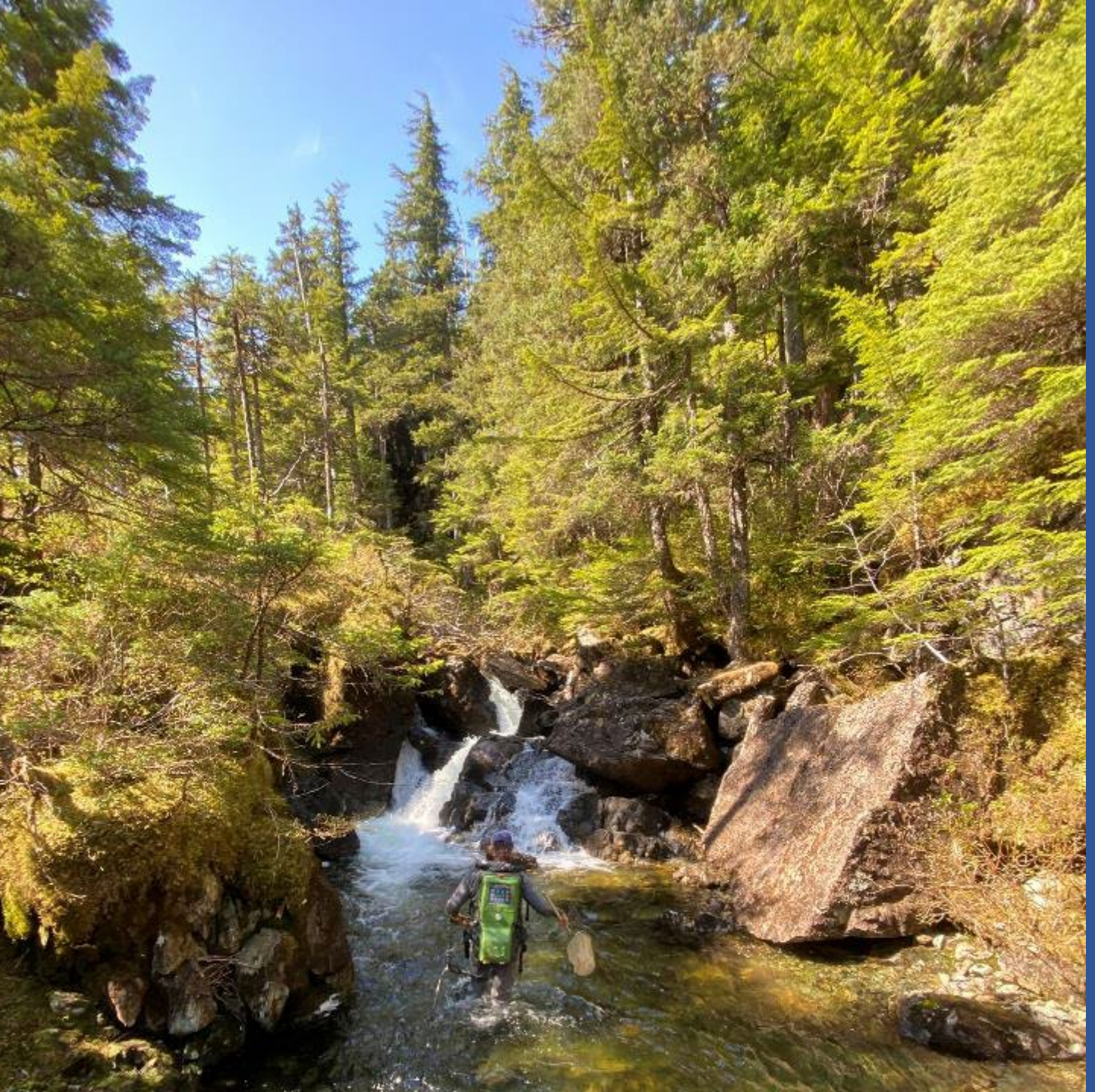


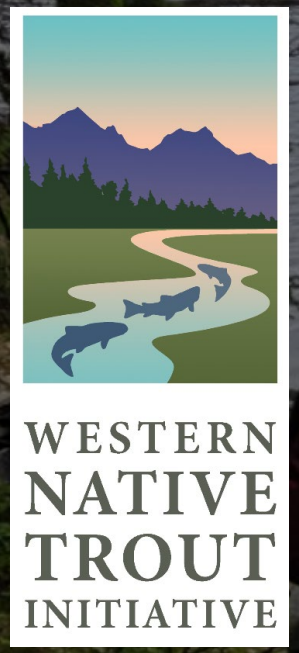
Documenting Prince William Sound's Coastal Cutthroat Trout: Informative anglers, electrofishing, and future plans

Donnie Arthur, Charles N. Cathcart, Brittany Blain-Roth, Taylor Cubbage, Joe Giefer, Duncan Green

and

featuring "Quontch"

Coastal Cutthroat Trout: The Phantoms of Prince William Sound




Poquontchn
Donnie
Nate
Duncan

Anadromous fishes

- Fish that spawn in freshwater but use the sea for non-spawning periods
- Examples: **Pacific salmon**, **whitefishes**
- Variable life histories: Rainbow trout, Dolly Varden, cutthroat trout

Anadromous fishes

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- Examples: Pacific salmon, whitefishes
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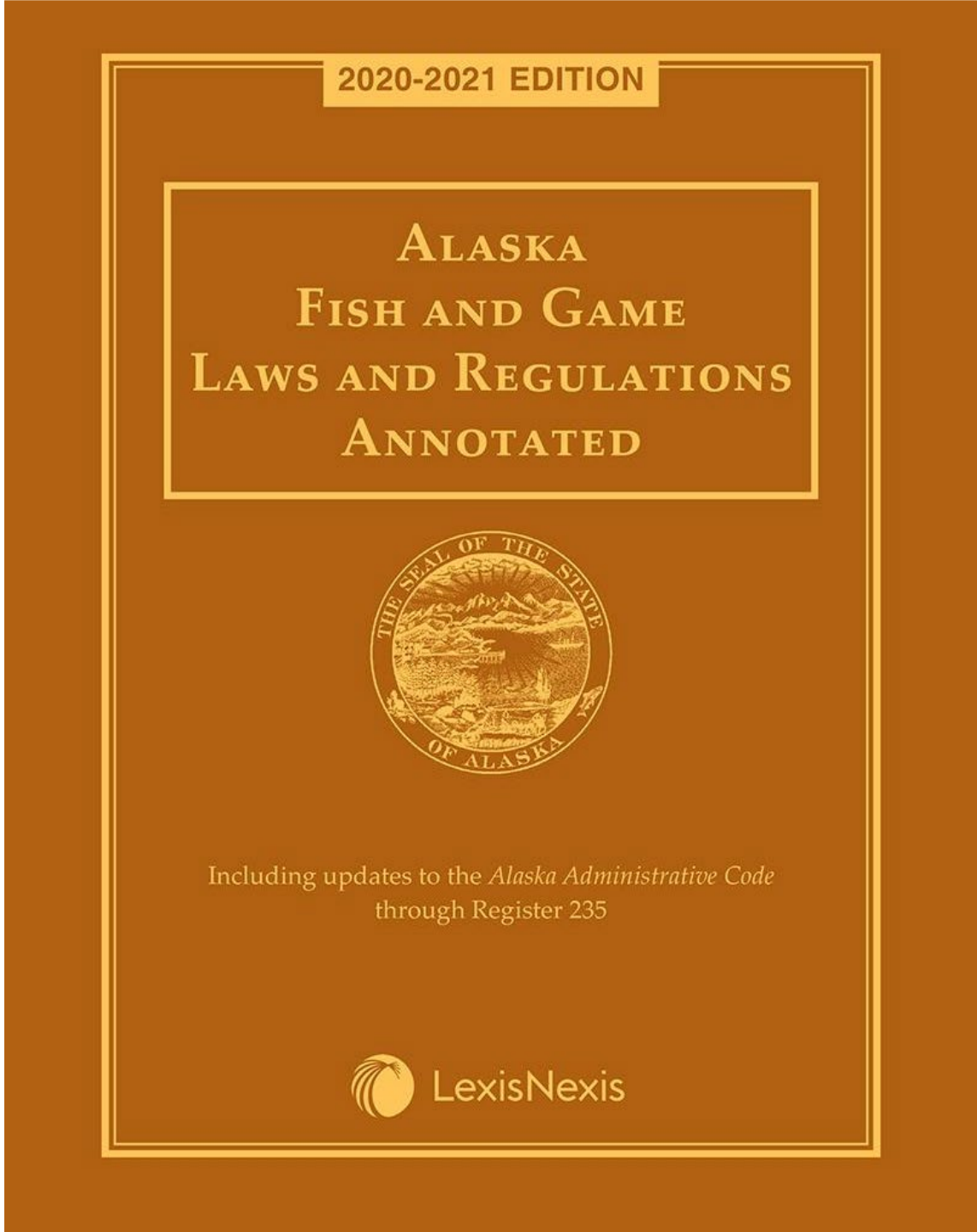
The Anadromous Fish Act

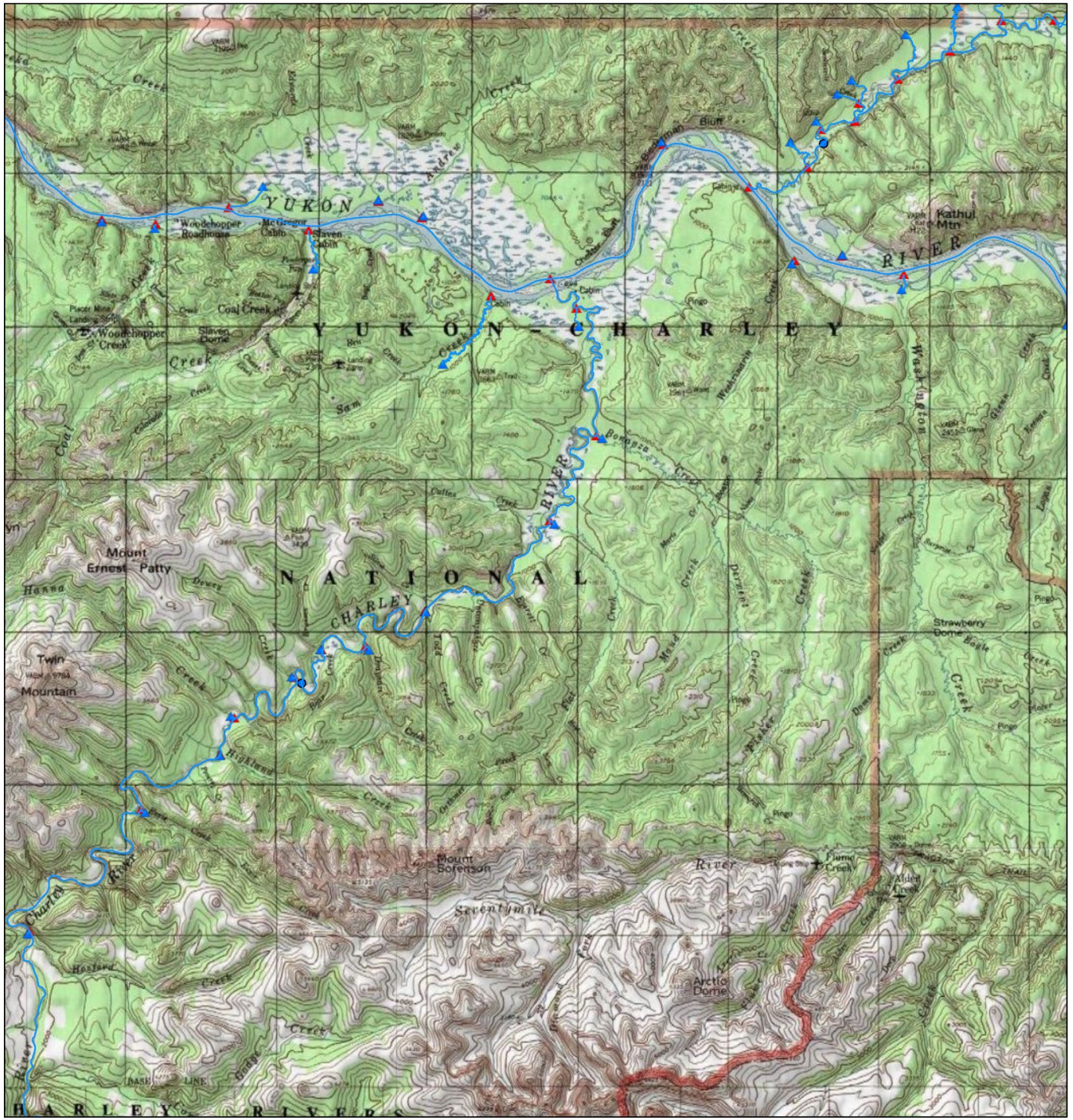
(Alaska Statute 16.05.871)

Requires the ADF&G to "specify the rivers, lakes, and streams" that are important to the spawning, rearing, or migration of anadromous fish.

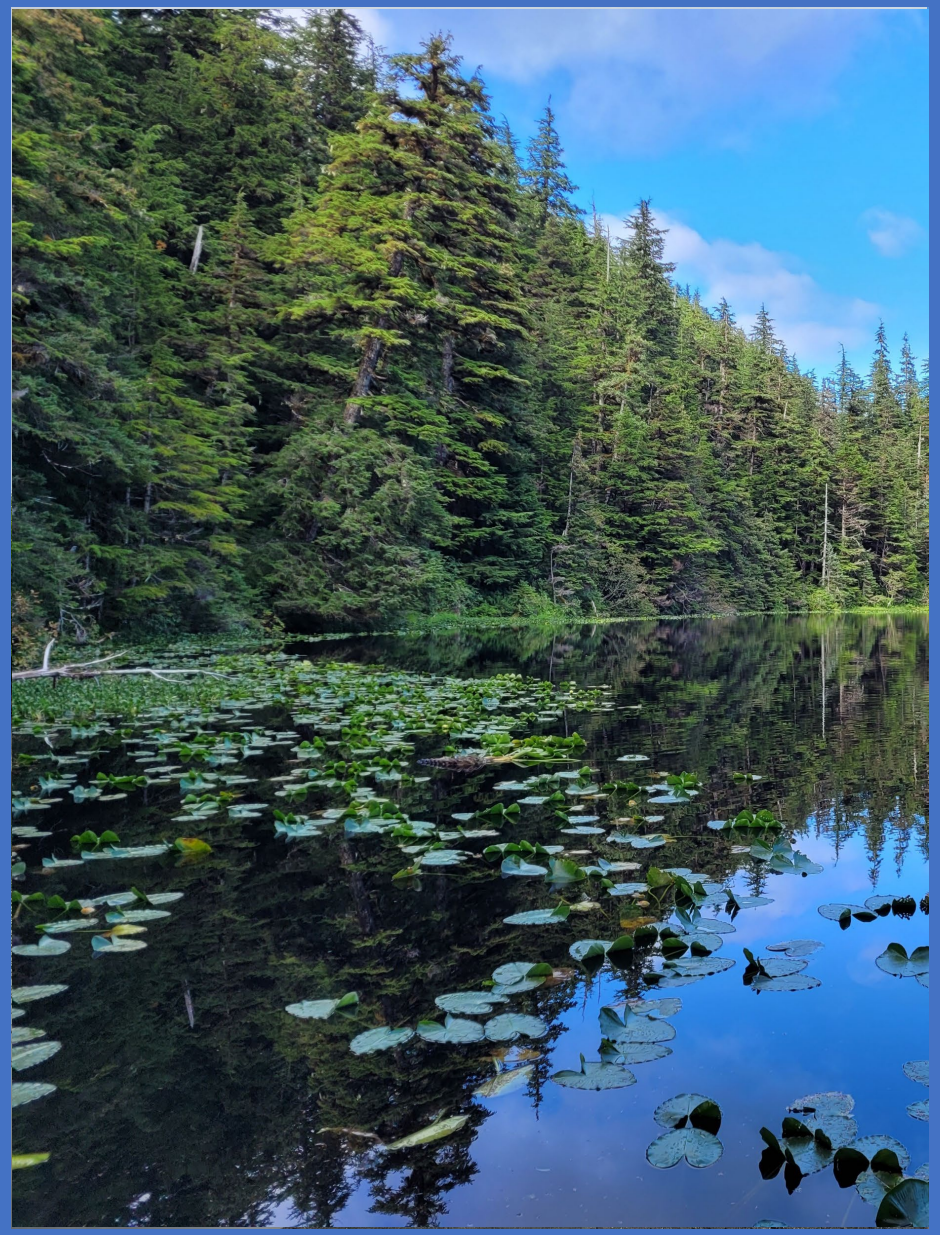


The Anadromous Waters Catalog (AWC)

"Catalog of Waters Important for the Spawning, Rearing, or Migration of Anadromous Fishes"



Sampling for the AWC



GPS Location

2 fish in hand standard per species

Life stage: spawning, rearing, etc.

We have the tools to protect fish habitat, but we don’t know all the habitats used by fish such as coastal cutthroat trout….

Background

- Coastal Cutthroat Trout (CCT) anadromous member of Cutthroat Trout species complex
- Extend from northern California to Prince William Sound (PWS)
- Variable life history - resident fluvial and lacustrine forms, anadromous forms

Background

- Spawn and rear in headwater streams - need highly intact ecosystems
  - Habitat loss/degradation and climate change have caused declines
- CCT Interagency Committee Goal: Document distribution to protect CCT

Pacific States Marine Fisheries Commission · Idaho · Oregon · Alaska · Washington · California

Alaska Department of Fish and Game

Forest Service U.S. Department of Agriculture

Western Native Trout Initative

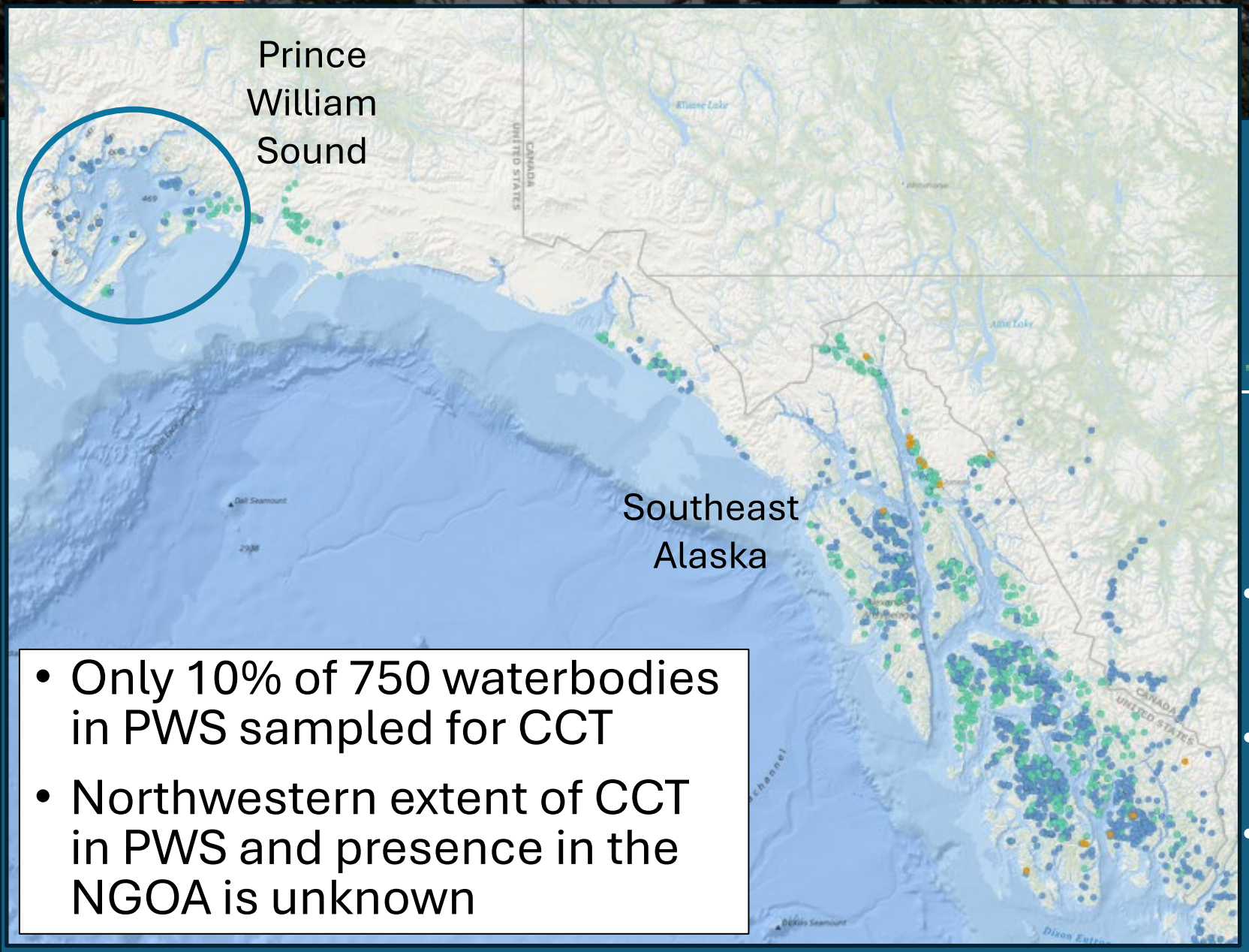
Northwest Indian Fisheries Commission

U.S. Fish & Wildlife Service · Department of the Interior

Washington Department of Fish and Wildlife

Prince William Sound

Southeast Alaska



- Only 10% of 750 waterbodies in PWS sampled for CCT
- Northwestern extent of CCT in PWS and presence in the NGOA is unknown

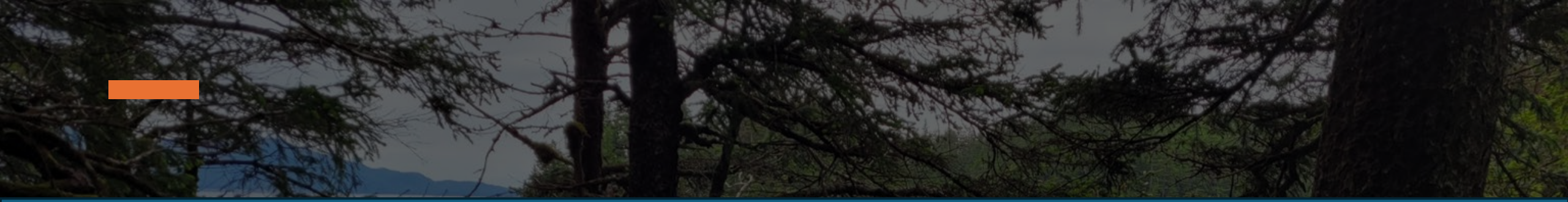
PWS Coastal Cutthroat Trout

- Populations more vulnerable at edge of range
- Populations generally small
- Harvest is low, but interest in catch and release angling increasing

Influential landscape patterns in PWS


SIMMS

Anadromy can be directionally dependent....



Objectives

- Document Coastal Cutthroat Trout and their associated fish communities , specifically in northwestern PWS – Anadromous Fish Act Protection
- Conduct outreach events to collaborate with anglers
- Create outreach materials summarizing CCT angling opportunities in PWS

Methods – prioritize sample locations

- Conduct outreach events with local anglers
- Post fliers
- Post on social media

HAVE YOU CAUGHT A NATIVE COASTAL CUTTHROAT TROUT?

The Alaska Department of Fish and Game (ADF&G) Division of Sport Fish is seeking information from the public regarding the catch or observation of Coastal Cutthroat Trout in Prince William Sound.

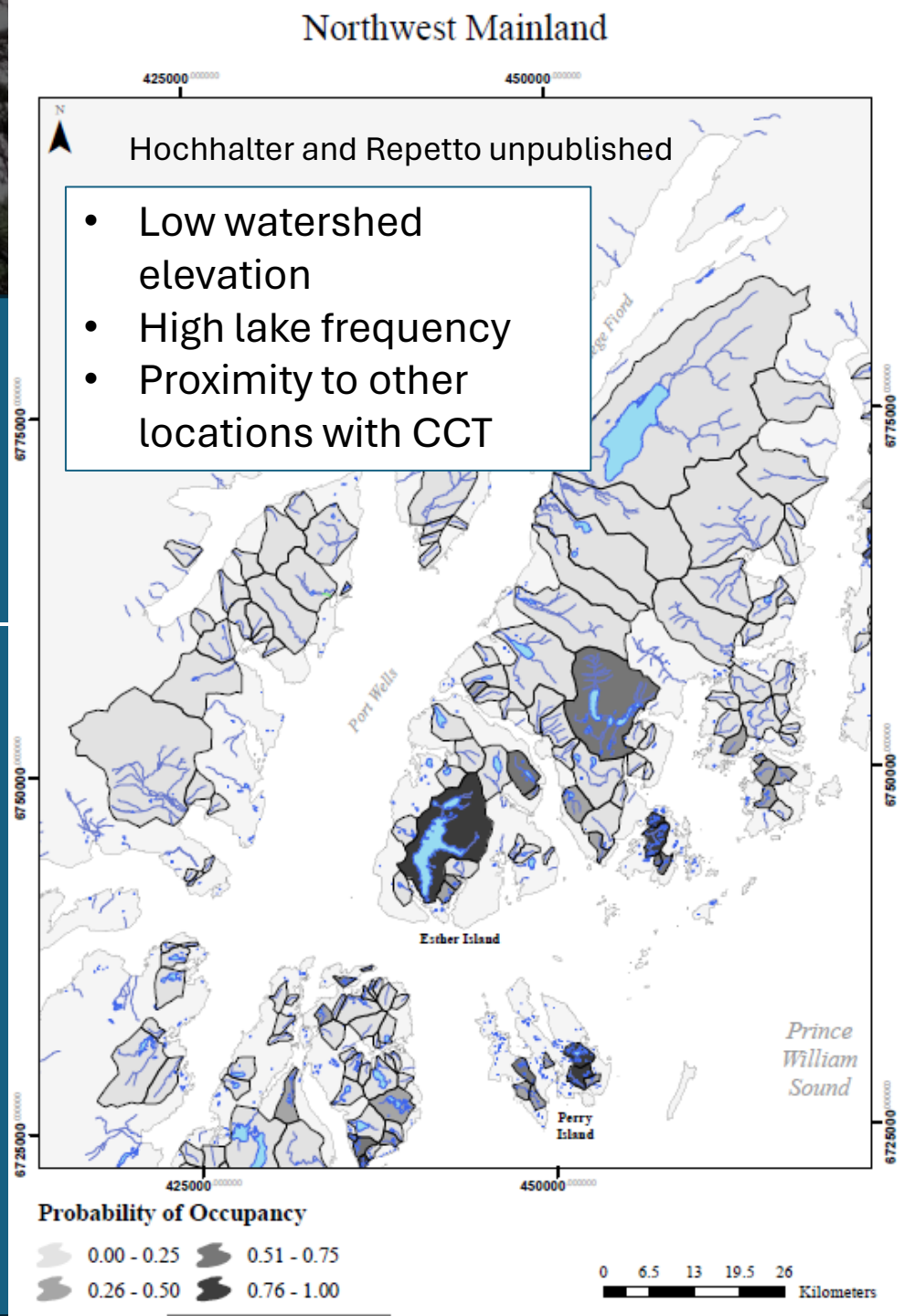
If you catch or have caught a Coastal Cutthroat Trout, please provide the following information:

- Location (Water Body or GPS latitude/longitude coordinates).
- Approximate length.
- Date and time it was caught.
- How it was caught.
- Any photos.

Contact: ***Donald.Arthur@alaska.gov or (907)-267-2265*** to share information about your Coastal Cutthroat Trout catch or observation.

Methods – prioritize sample locations

- Occupancy model (Hocchalter and Repetto)
- Angler Observations
- CCT Mapper



Methods - sampling

Electrofishing

Hook and Line

Minnow Trapping

Some details

- Electrofishing
  - 150-300 m reaches (channel width dependent)
- LOW conductivity = block net

Results – Angler outreach 2021-2023

- 2 ADF&G Reel Times Articles
- 7 flier postings
- 3 Instagram/Facebook posts
- 1 presentation at the Sportsman's Show
- 1 panel discussion with a flyfishing group
- 2 Native Alaskan Corporation connections

- 17 angler reports of possible CCT

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Results – CCT sampling

Year	2020	2021	2022	2023	Total
					56
					17
					24% of successes provided by anglers

4 CCT documentations came from 6 of the streams/lakes sampled with angler reports


7
8
15


9
10
11
12
13
14
15

Coghill Lake

Robe River

Columbia Bay area

Backyard Creek

Eshamy Lake

226-10-16938

San Juan Lake

Valdez

Cordova

Prince William Sound

CCT

Absent

Present

Likelihood

0.0–0.25

0.26–0.50

0.51–0.75

0.76–1.0

Backyard Creek

(1 of 2)

AWC 2022 Layer - Anadromous streams: *Backyard Creek

AWC Code: 222-20-12242
Species at Mouth: CHp,Psp
Nomination Info: Click Here
Go to map, Click here

Zoom to

AWC 2023 - AWC stream: *Backyard Creek

AWC Code: 222-20-12242
Species at Mouth: COrp,CHp,Psp,Sp,CTp,DVr
Nomination Info: Click Here
Go to map, Click here.

San Juan Lake – Armin F Koernig Hatchery (PWSAC)

Coghill Lake

Robe River

Columbia Bay area

Backyard Creek

Eshamy Lake

226-10-16938

San Juan Lake

Valdez

Cordova

Prince William Sound

CCT

- Absent
- Present

Likelihood

- 0.0–0.25
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- 0.51–0.75
- 0.76–1.0


GORE-TEX


226-10-16938
2022/05/25

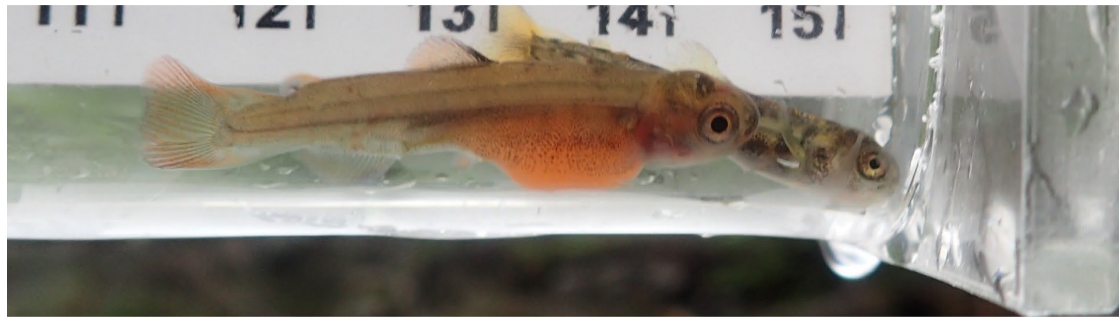

Female
Male


2022/05/25

Beyond CCT

- 20 species encountered or captured during sampling trips

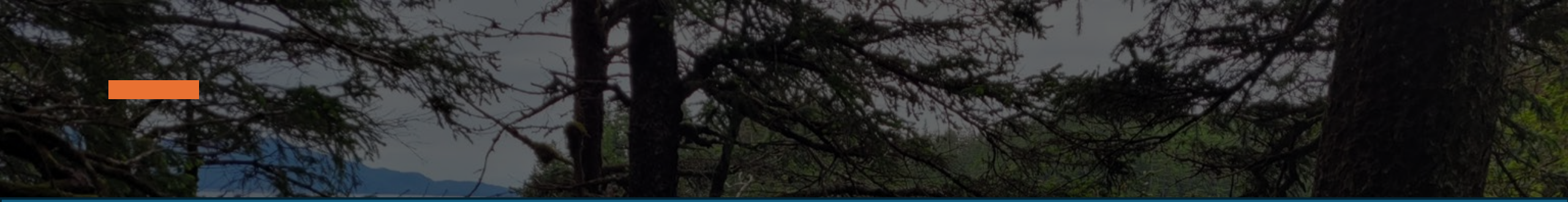

SIMMS


111
121
131
141
151

AWC Results

- 33 nominations total
  - 33 streams
  - 6 lakes
- 5 species total*
  - Pink Salmon
  - Coho Salmon
  - Sockeye Salmon
  - Dolly Varden
  - Coastal Cutthroat Trout
- ~7 km added in total
  - Spawning
  - Rearing
  - Presence

- Doesn’t include Chinook Salmon and Threespine Stickleback

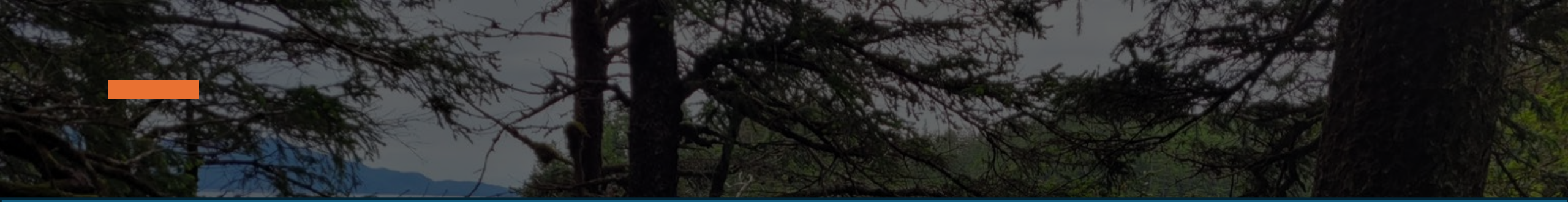


Conclusions

- Range of CCT documentation expanding – if we look, we will find them.
- Angler reporting proved to useful and credible (66% success rate).
- Embrace social media.
- Life history information (i.e., spawning, rearing, SW migration) is lacking.
- We know much more know than we did 4 years ago.

Conclusions

- Sampling efforts also lead to protecting other anadromous fishes.
  - And vice versa (CCT protection).

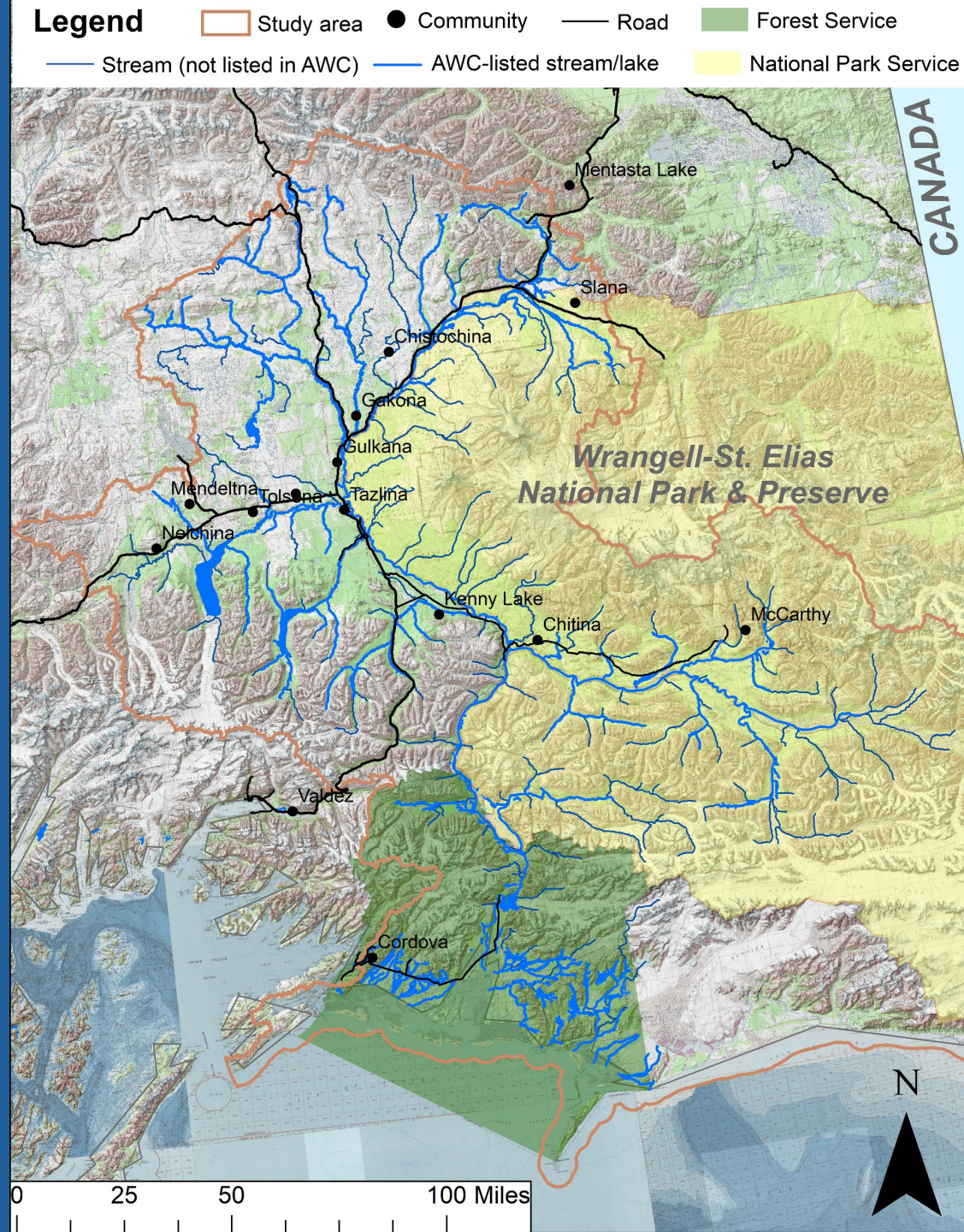


Future Work

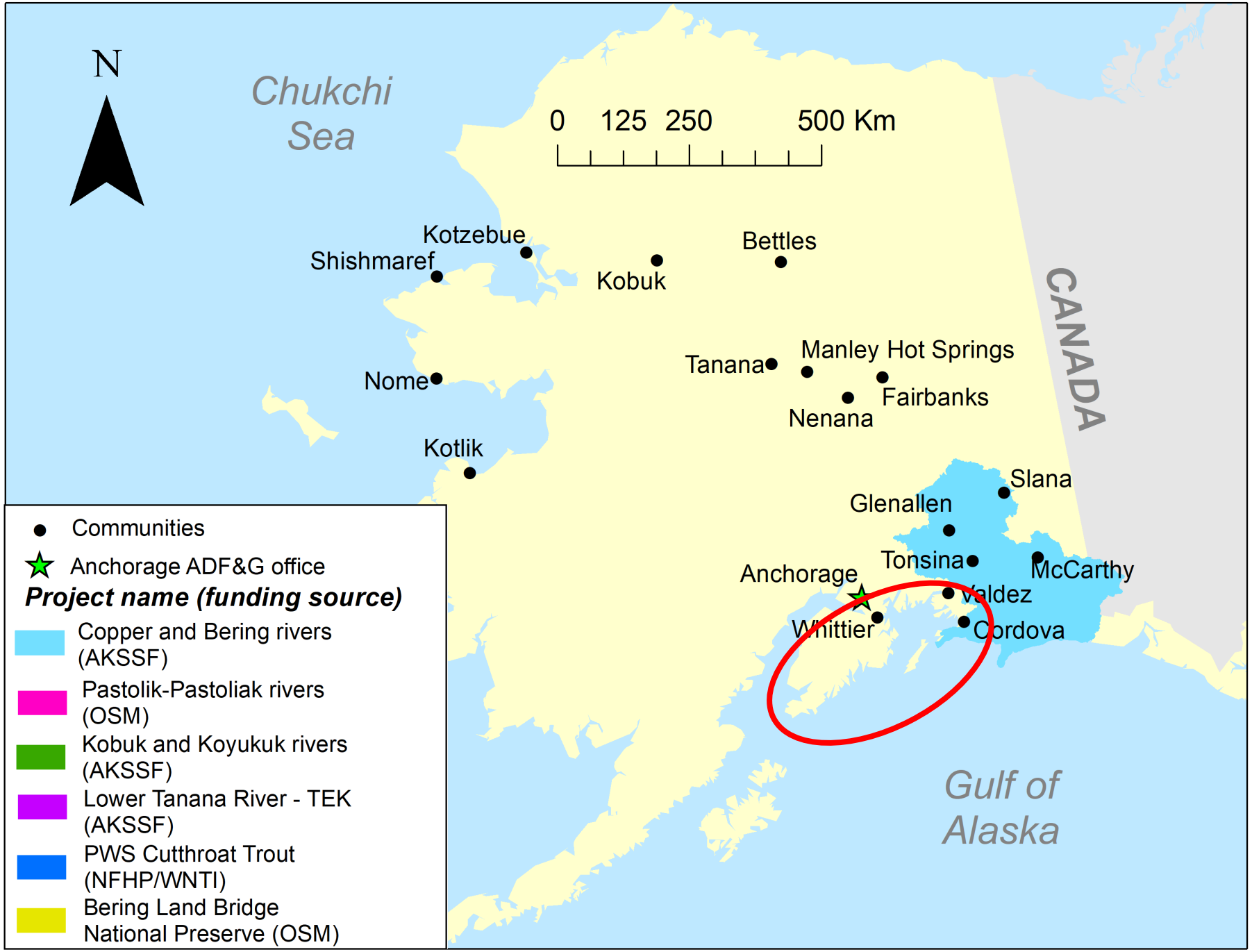
- Update the Hochhalter and Repetto model.
- Analyze CPUE and length data; genetic samples.
- Estimate detection probability (low, mid, high densities sites).
- Opportunistically continue sampling (angler reports, tribal partnerships).
- Collect more samples to investigate growth and anadromy.

Ongoing work 2024

- Fish surveys of the Copper and Bering rivers and eastern PWS
- Cordova-based helicopter surveys July 28-August 10



Ongoing work and future plans



Future plans 2025-2026

- Prince William Sound
- North Coast of Gulf of Alaska
- Essentially Cordova west to Seldovia
- North/west expansion of CCT?
- Collaboration with Chugach Regional Resources Commission
- eDNA
- Other collaborations?

Acknowledgements

ADF&G Sportfish staff – Robby Pype, Katelyn Z., Wilson Puryear
Anglers who provided local knowledge
AFFI Crew – Joe Giefer, Duncan Green, Quontch
Partners – WNTI, NOAA, PSMFC

NOAA

IDAHO • OREGON • ALASKA
PACIFIC STATES MARINE FISHERIES COMMISSION
WASHINGTON • CALIFORNIA

ALASKA
DEPARTMENT OF FISH AND GAME

WESTERN NATIVE TROUT INITIATIVE