Science to Conservation Outcomes: Data Transfer

Sue Mauger, Cook Inletkeeper

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Amber Crawford, ADEC

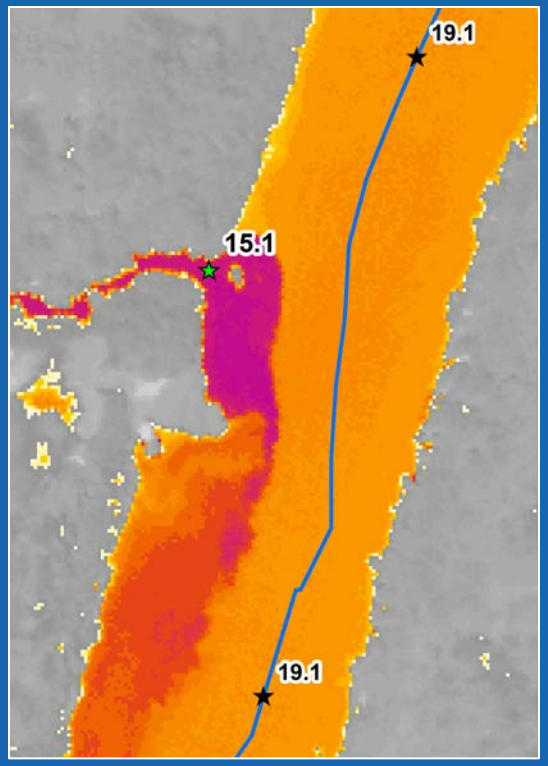
Colton Percy, ADF&G

Mike Daignault, USFWS

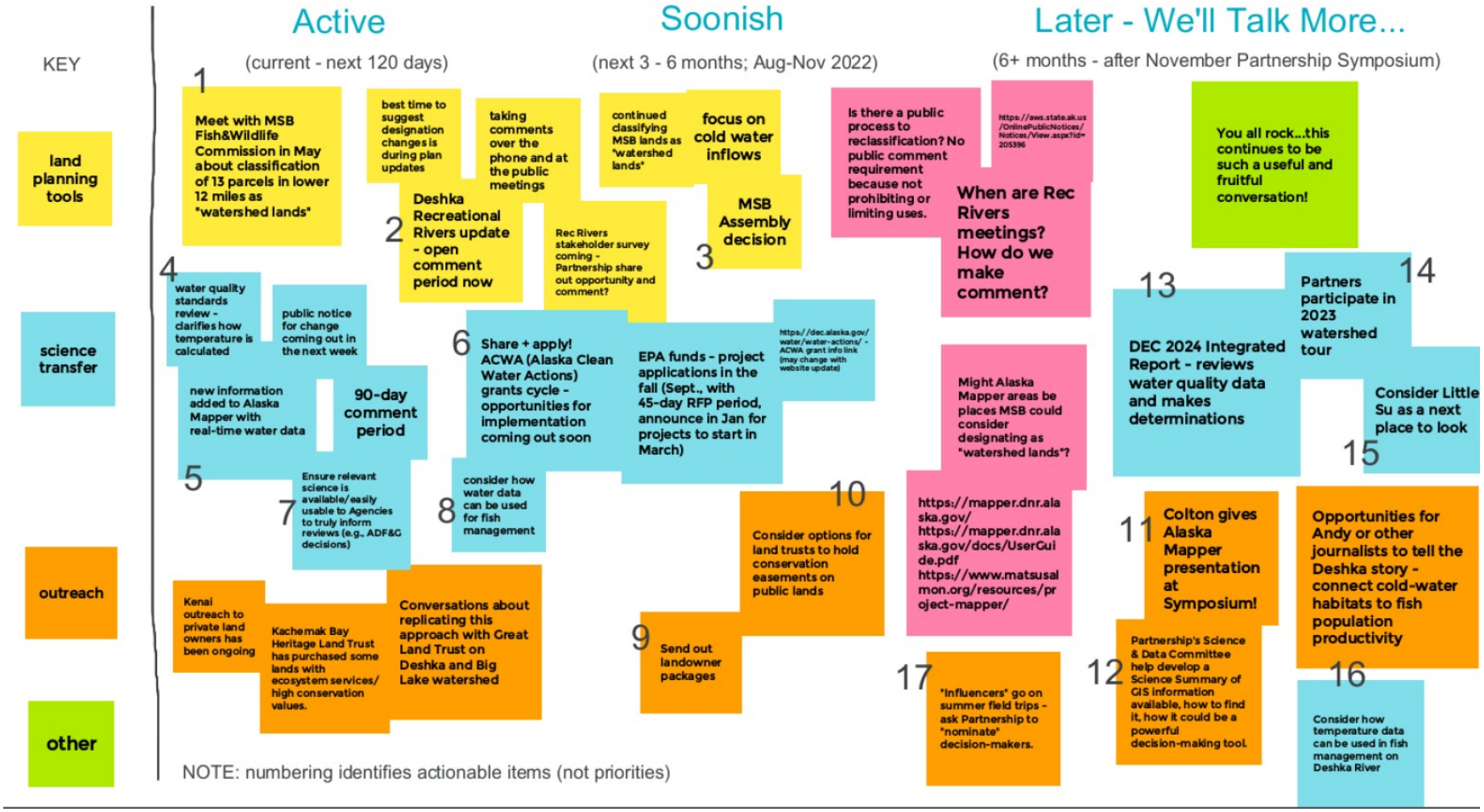
Jessica Speed, Mat-Su Basin Salmon Habitat Partnership

November 2021

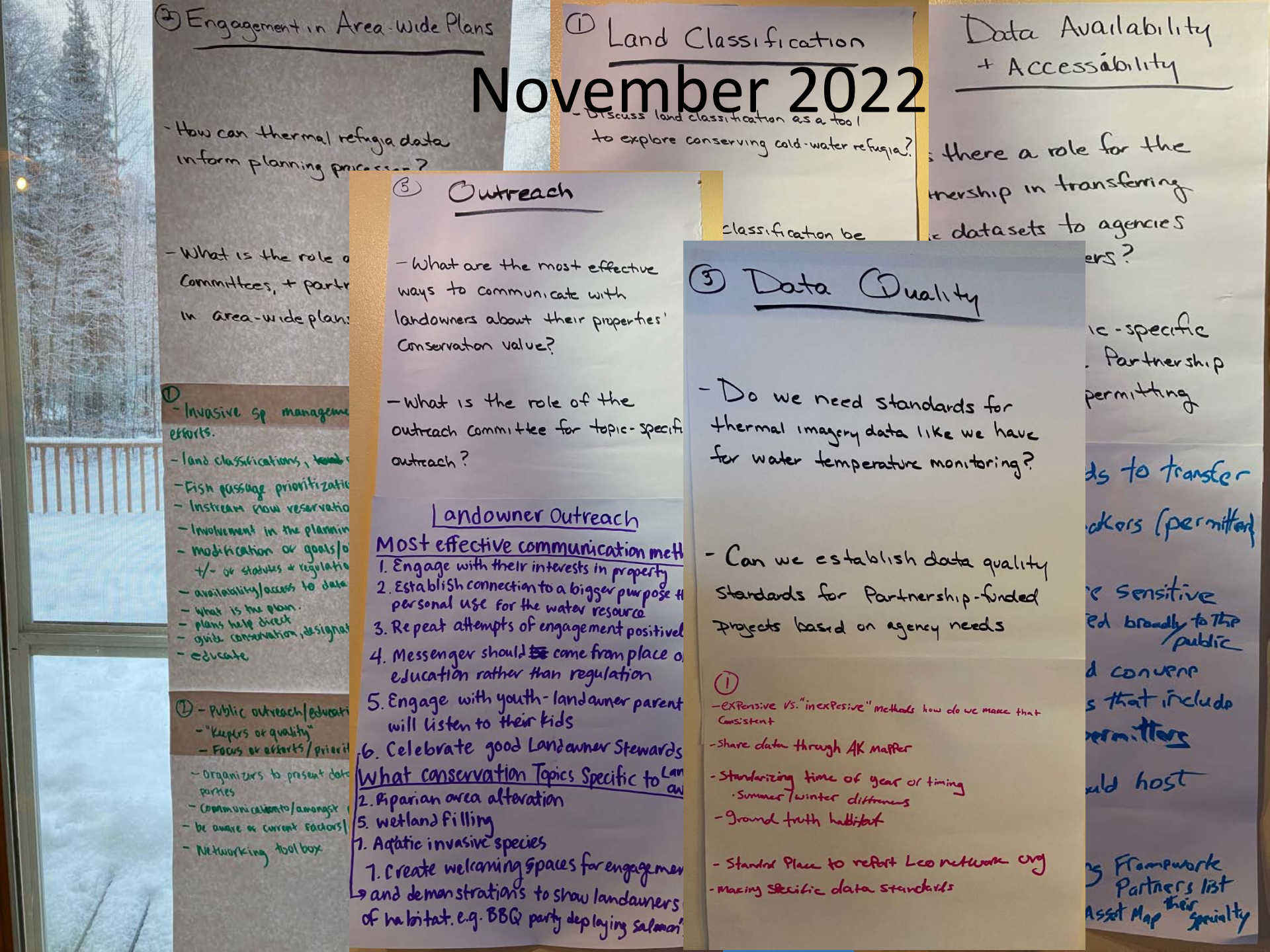
Do we have management pathways to protect habitat diversity, like thermal refugia, to build salmon resilience?



Small Group/Individual Meetings



Field Trips


November 2022
④ Engagement in Area-Wide Plans
- How can thermal refugia data inform planning
- What is the role
Committees, + partn
in area-wide plans
- Invasive sp manageme
efforts.
- land classifications,
- Fish passage prioritizatio
- Instream flow reservatio
- Involvement in the plannin
- modification or goals/o
+/- or statutes & regulatio
- availability/access to data
- what is the plan.
- plans help direct
- guide conservation, designat
- educate
- Public outreach/educati
- "Keepers of quality"
- Focus of efforts/priorit
- Organizers to present data
parties
- Communication to/amongst
- be aware of current factors
- Networking tool box
① Land Classification
- Discuss land classification as a tool
to explore conserving cold-water refugia?
classification be
⑤ Outreach
- What are the most effective ways to communicate with landowners about their properties' Conservation value?
- What is the role of the outreach committee for topic-specifi
outreach?
Landowner Outreach
Most effective communication meth
1. Engage with their interests in property
2. Establish connection to a bigger purpose t
personal use for the water resource
3. Repeat attempts of engagement positivel
4. Messenger should ~~be~~ come from place o
education rather than regulation
5. Engage with youth - landowner parent
will listen to their kids
6. Celebrate good Landowner Stewards
What conservation Topics Specific to Lan
2. Riparian area alteration
5. wetland filling
1. Aquatic invasive species
7. Create welcoming spaces for engagemen
→ and demonstrations to show landowners
of habitat. e.g. BBQ party deploying salmon
③ Data Quality
- Do we need standards for thermal imagery data like we have for water temperature monitoring?
- Can we establish data quality standards for Partnership-funded projects based on agency needs
①
- Expensive vs. "inexpensive" methods how do we make that consistent
- Share data through AK Mapper
- Standarizing time of year or timing
· Summer/winter differences
- Ground truth habitat
- Standard Place to report Leo network org
- Making specific data standards
Data Availability + Accessability
there a role for the
nership in transferring
datasets to agencies
ers?
ic-specific
Partnership
permitting
ds to transfer
ckors (permitting
e sensitive
ed broadly to the public
d convene
s that include
permitters
uld host
s Framework
Partners list
Asset Map their specialty

Tools for Conservation

Incorporate thermal refugia information into the current revision of the Susitna Basin Recreational Rivers Management Plan

Maintain and/or improve water quality standard revised language for water temperature

Communicate to private landowners about stewardship opportunities

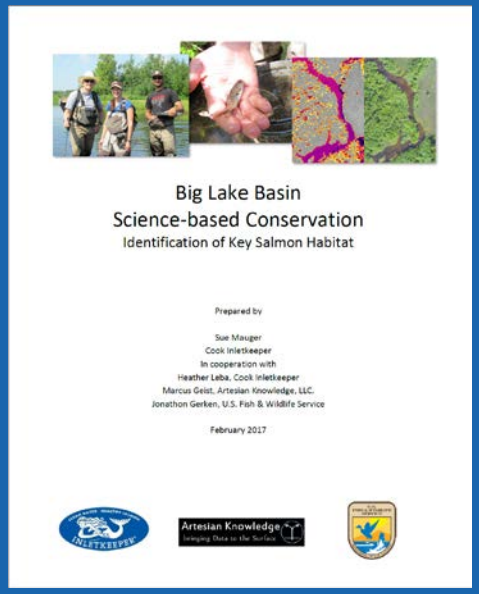
Classify MSB parcels with thermal refugia as "watershed lands": a land classification that recognizes the importance of the land for water quality

Ensure relevant science is available, discoverable, interpretable for agencies for permit reviews

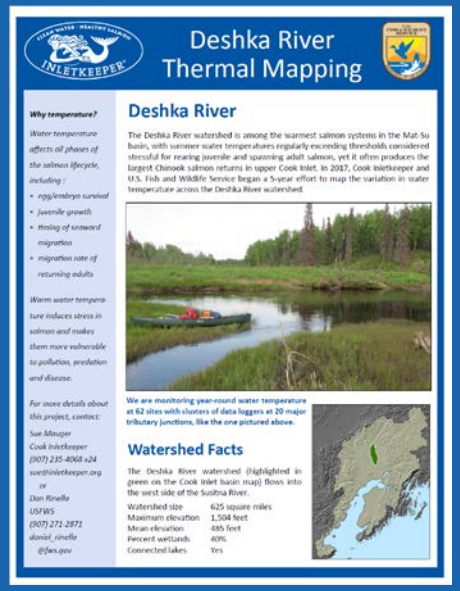
-

Thermal Imagery – Data Transfer

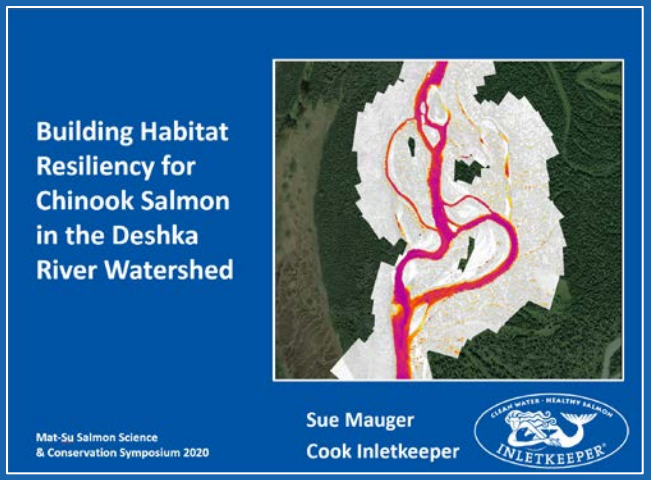
Reports



Fact Sheets



Presentations

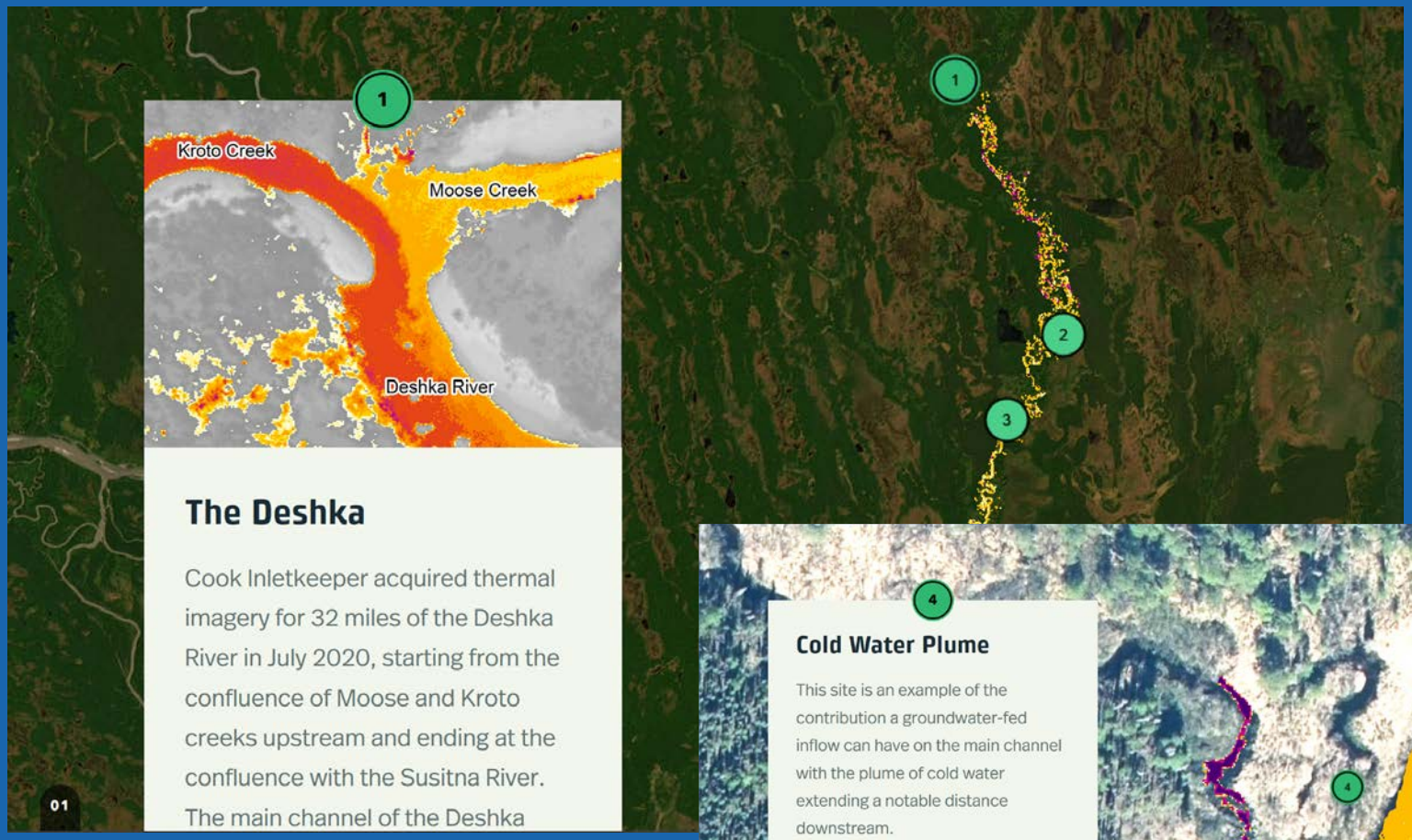


Archiving datasets

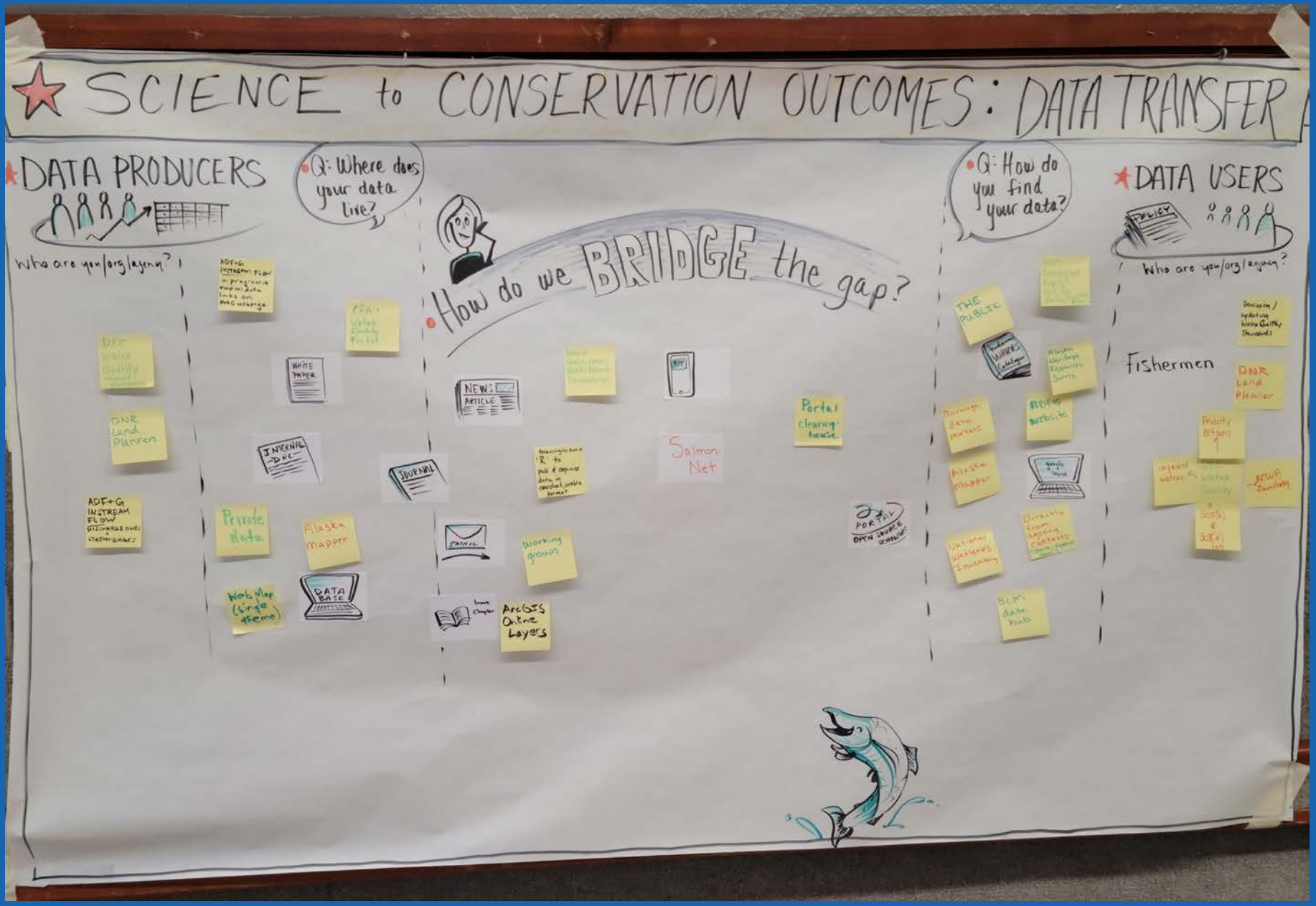
Mauger, Sue, & Diabat, Mousa. (2023). Building Habitat Resiliency for Chinook Deshka River Watershed - thermal imagery shape files [Data set]. Zenodo. https://doi.org/10.5281/zenodo.8412376

Story Map

https://inletkeeper.org/our-work/habitat/salmon-science/



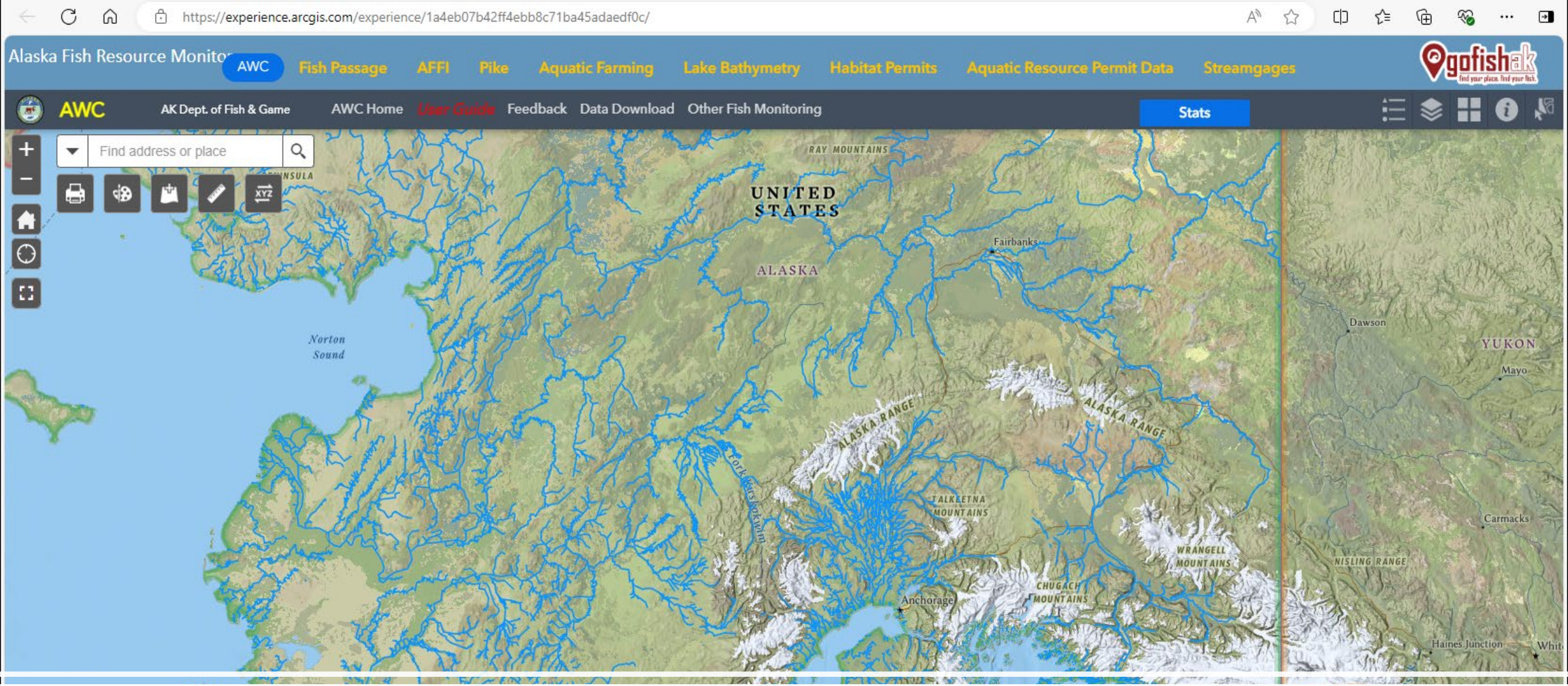
November 2023



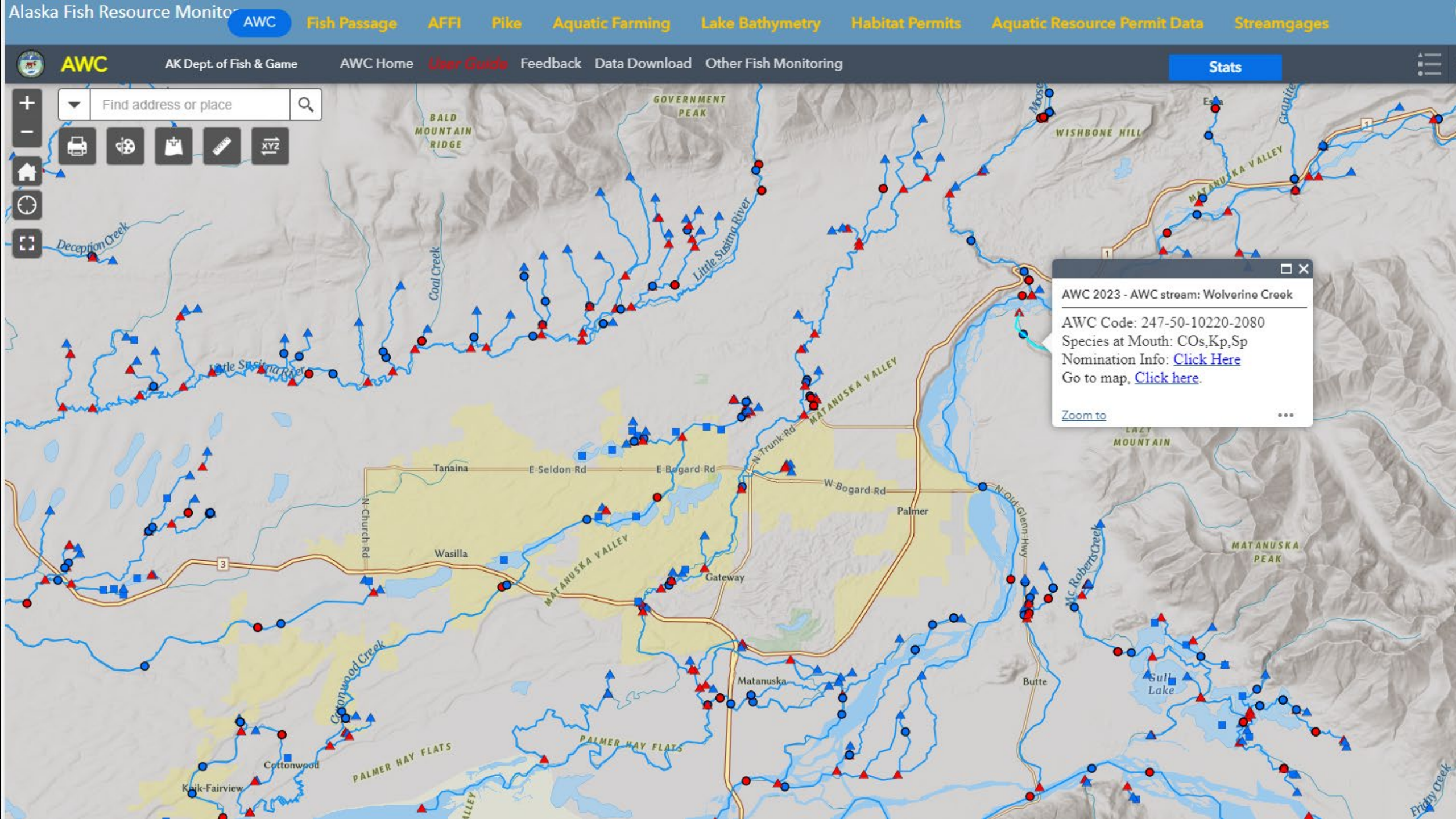
Please take out your phones

Go to menti.com

Use code: 2256 7789

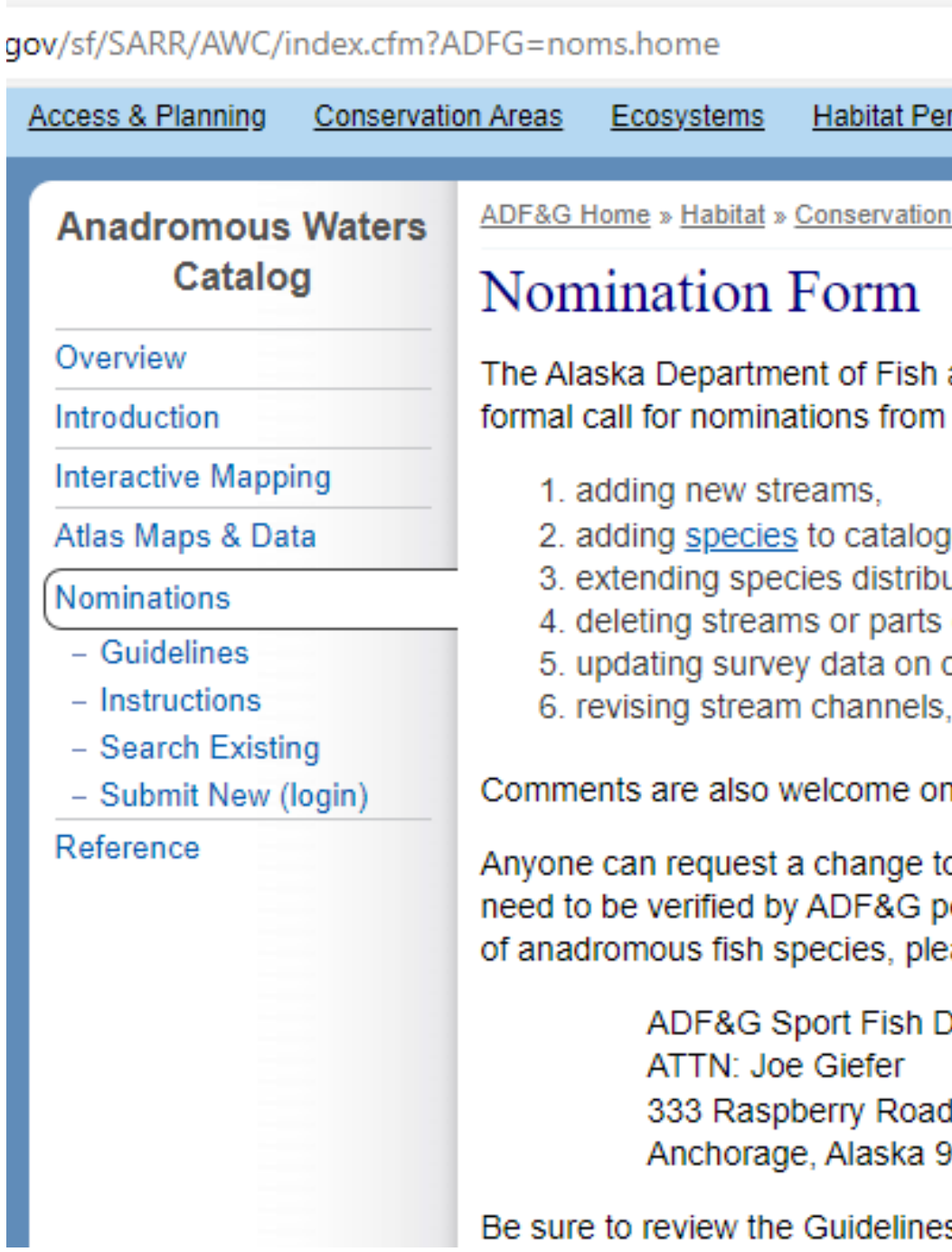


The Anadromous Waters Catalogue


Alaska Fish Resource Monitor
AWC
Fish Passage
AFFI
Pike
Aquatic Farming
Lake Bathymetry
Habitat Permits
Aquatic Resource Permit Data
Streamgages
AWC
AK Dept. of Fish & Game
AWC Home
User Guide
Feedback
Data Download
Other Fish Monitoring
Stats
Find address or place
AWC 2023 - AWC stream: Wolverine Creek
AWC Code: 247-50-10220-2080
Species at Mouth: COs,Kp,Sp
Nomination Info: Click Here
Go to map, Click here.
Zoom to
Deception Creek
Coal Creek
Little Susitna River
Government Peak
Bald Mountain Ridge
Wishbone Hill
Matanuska Valley
Tanaina
E Seldon Rd
E Bogard Rd
W Bogard Rd
N Trunk Rd
N Church Rd
Wasilla
Gateway
Palmer
N Old Glenn Hwy
Lazy Mountain
Matanuska Peak
Mc Roberts Creek
Cottonwood Creek
Palmer Hay Flats
Matanuska
Butte
Gull Lake
Cottonwood
Knik-Fairview
Friday Creek

How to add data to the AWC:

www.adfg.alaska.gov



How to get data out of the AWC:

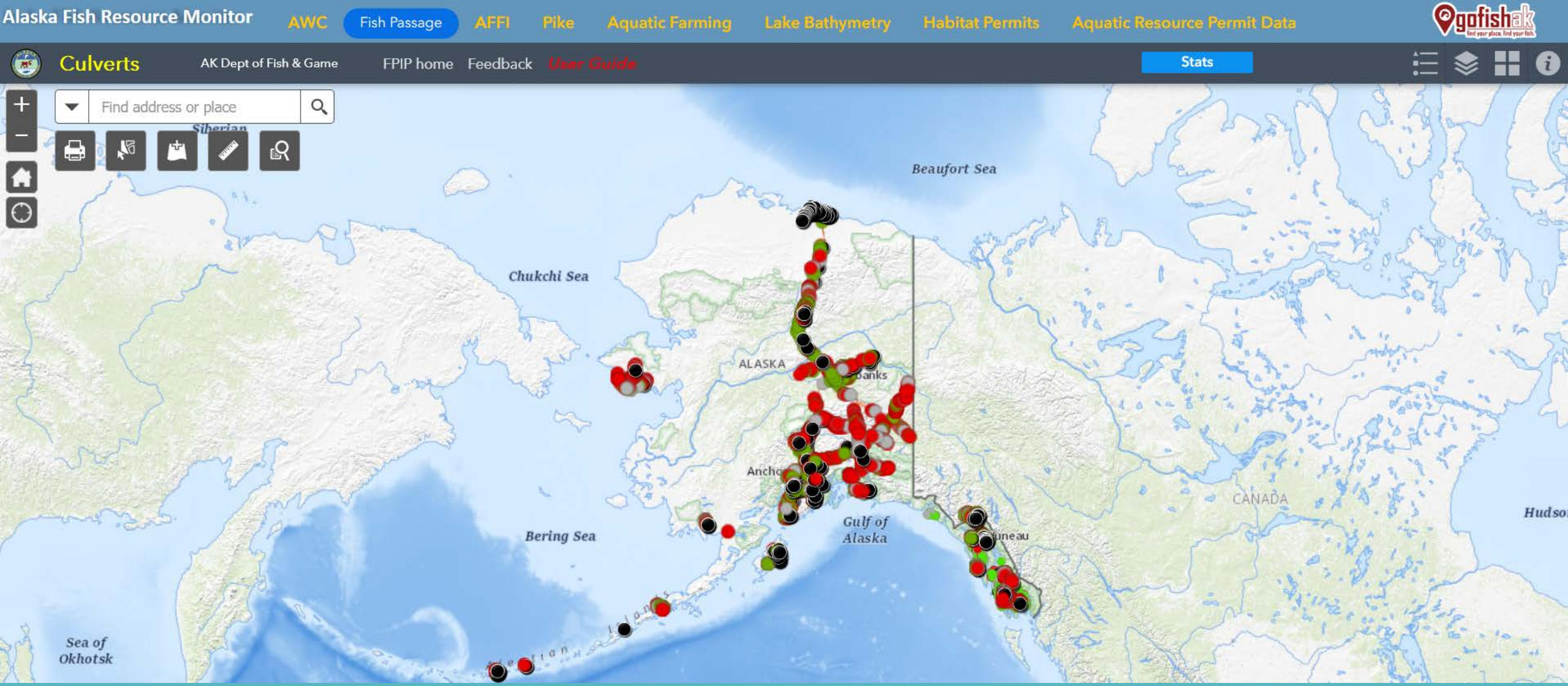
www.adfg.alaska.gov

Questions?

Kevin Keith
Kevin.Keith@alaska.gov

Joe Giefer
Joe.Giefer@alaska.gov

Alaska Department of Fish and Game



ADF&G FISH PASSAGE INVENTORY DATABASE

Fish Passage Database: What it is?

Types of crossings

- **Public and private** roads, driveways, trails, and RXR
- No Bridges or fords, except for culvert to bridge upgrades

Data collection

- ADFG Level 1 Assessment or USFS AOP Assessment (to rate)
- Inventory Data (minimum GPS coordinates and 1 photo)

Classify sites in relation to fish passage

- Green: conditions at the crossing are likely to be adequate for fish passage,
- Gray: conditions at the crossing may be inadequate for fish passage,
- Red: conditions at the crossing are assumed to be inadequate for fish passage, and
- Black: not enough information to rate culvert.

Google “Alaska Stream Crossing Workshop – March 2022, Alaska”

HOW TO SUBMIT DATA?

New Data or data requests can be submitted at:

dfg.dsf.fpid@alaska.gov

Questions:

Michael Mazzacavallo
michael.mazzacavallo@alaska.gov
907-267-2891

The Red, Gray, Green Classification is based on:

1. **A 55mm Coho**
2. **Culvert Type**
3. **Measured Critical Values**
   - Slope
   - Perch Height
   - Constriction Ratio
4. **Other**
   - Backwatering
   - Tidal influence
   - Fish ladders
   - Damage

AKEPIC 2.0

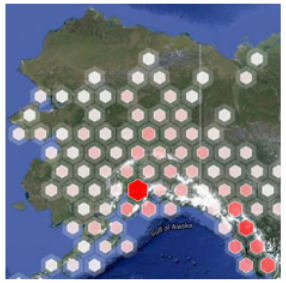
Alaska Center for Conservation Science
University of Alaska Anchorage

https://accs.uaa.alaska.edu/invasive-species/non-native-plants/

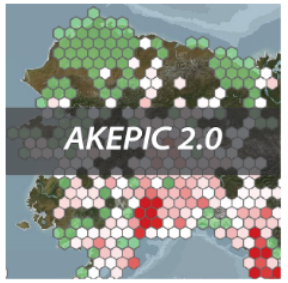
Alaska Exotic Plants Information Clearinghouse (AKEPIC)

The Alaska Exotic Plants Information Clearinghouse (AKEPIC) is a database and mapping application that provide geospatial information for non-native plant species in Alaska and neighboring Canadian Territories. These products are the result of an ongoing cooperation among the U.S. Forest Service, National Park Service, Bureau of Land Management, U.S. Fish and Wildlife Service, Department of Natural Resources Plant Material Center, and Alaska Center for Conservation Science (ACCS) in support of the Alaska Invasive Species Partnership (AKISP) and the Strategic Plan for Noxious and Invasive Plants Management in Alaska. ACCS administers the mapping application, database, and website associated with the project; project funding is granted by collaborators and contributed by users. These data are primarily intended to support the identification of problem species and infestations, thus promoting early detection and rapid response across Alaska. Additionally, the data are used in a variety of research and modeling activities.

ACCS tracks all non-native plants known to occur in Alaska. In addition, ACCS has compiled biographies for over half of the 400 non-native plant species that are known or likely to occur in Alaska. In collaboration with biologists, land managers, and weed scientists across the state, ACCS has developed an invasive plant ranking system that helps evaluate the potential invasiveness and impacts of non-native plants to natural areas in Alaska (Carlson *et al.* 2008). With funding support from the U.S. Forest Service, the Alaska Association of Conservation Districts, and the University of Alaska, we have ranked approximately 170 non-native plant species to date.



Non-native Plant Data



Non-native Plant Data 2.0

Non-native Plant List

Elodea Survey Web App

Most Recent AKEPIC Data Upload: 10 September 2024 with 3 record

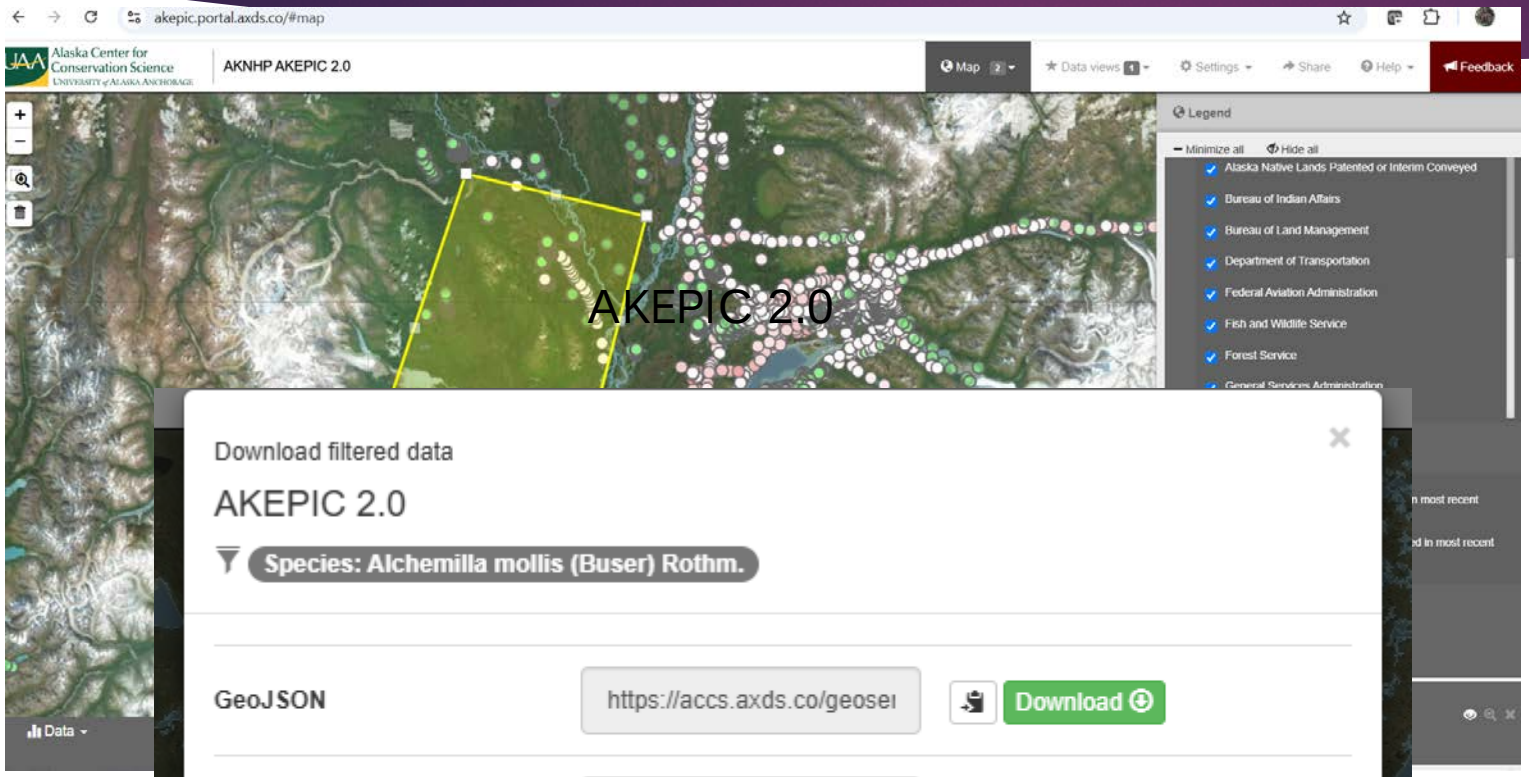
ArcGIS Web Service for AKEPIC

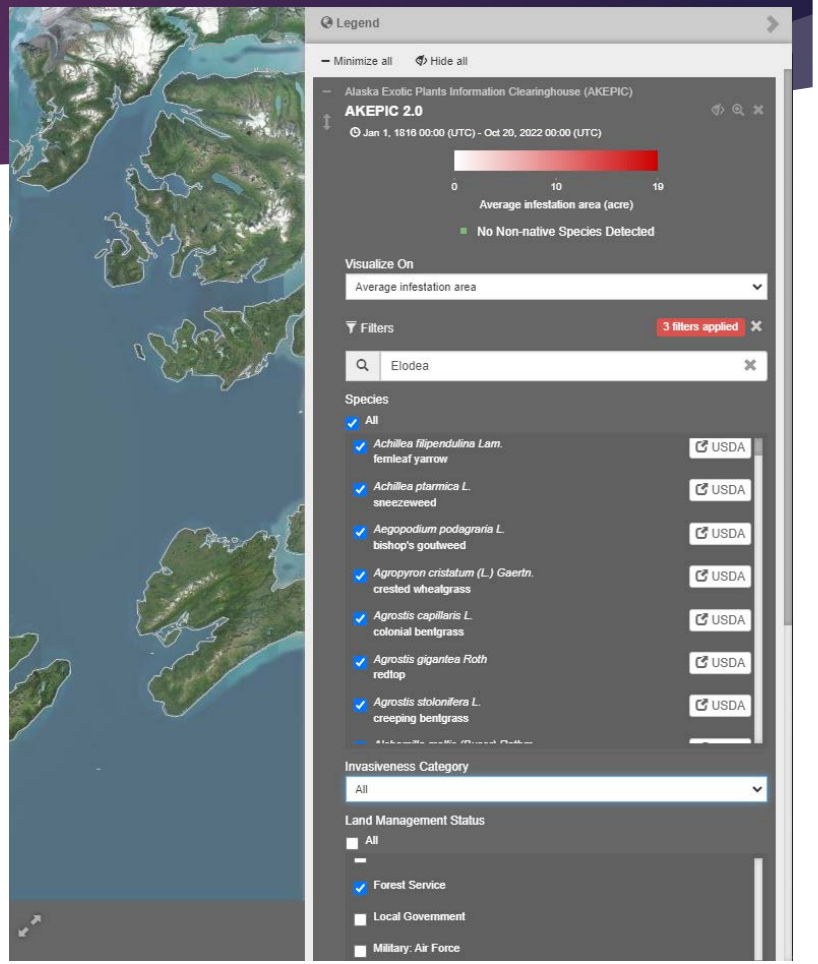
An ArcGIS REST API feature to access AKEPIC is available. Using the REST service allows users to pull data from the AKEPIC dataportal directly into their ArcGIS Pro application using a secure http service. This eliminates the need for data managers to download and refresh AKEPIC data for every use. Click the button below:

AKEPIC REST API

www.accs.uaa.alaska.edu

Using the AKEPIC Tool box





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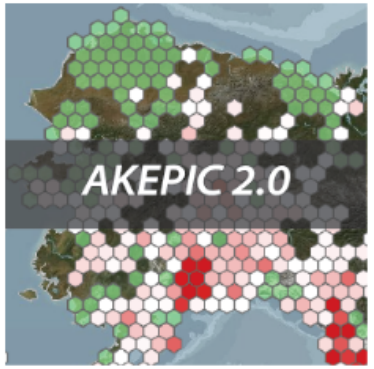
Non-native Plant Data



Non-native Plant Data 2.0

Non-native Plant List

Elodea Survey Web App

Most Recent AKEPIC Data Upload: 11 November 2024 with 162 record

www.accs.uaa.alaska.edu

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Invasiveness ranking

Non-Native Plant Species List

ACCS has been tracking all non-native plants known to occur in Alaska since 2002. To qualify for listing, the species must be found escaped outside of a designated planting/gardening area and not on private lands. The designation of nativity status for plants involves a careful review of the known distribution of the species and documentation of earliest establishment in our region. We consider the context of early botanical explorers documenting the flora of Alaska by using historic floras, herbaria records, and current scientific literature to inform our listing decisions and document the first presence in our region. Here we list the non-native plant species known to or likely to occur in our region. In collaboration with biologists, land managers, and weed scientists across the state, ACCS has developed an invasive plant ranking system that helps evaluate the potential invasiveness and impacts of non-native plants to natural areas in Alaska (Carlson et al. 2008). Most species have biographies and an invasiveness rank.

The AKEPIC list is maintained by ACCS Botanists, please report new species to Justin Fulkerson

Scientific Name	Symbol	Common Name	Rank	Family	Est.	Occurrence
Achillea filipendulina Lam.	ACFI	fernleaf yarrow		Asteraceae	2005	Alaska
Acer negundo L.	ACNE2	boxelder		Aceraceae		Adjacent Canada only
Achillea ptarmica L.	ACPT	sneezeweed	46	Asteraceae	1913	Alaska
Acroptilon repens (L.) DC.	ACRE3	hardheads	66	Asteraceae		Adjacent Canada only
Aegopodium podagraria L.	AEPO	bishop's goutweed	57	Apiaceae	2006	Alaska
Agrostis capillaris L.	AGCA5	colonial bentgrass		Poaceae	1941	Alaska
Agropyron cristatum (L.) Gaertn.	AGCR	crested wheatgrass		Poaceae	1939	Alaska
Agropyron fragile (Roth) P. Candargy	AGFR	Siberian wheatgrass		Poaceae		Adjacent Canada only
Agrostemma githago L.	AGGI	common corncockle		Caryophyllaceae	2006	Alaska
Agrostis gigantea Roth	AGGI2	redtop		Poaceae	1902	Alaska
Agrostis stolonifera L.	AGST2	creeping bentgrass		Poaceae	1918	Alaska
Aira caryophyllea L.	AICA	silver hairgrass		Poaceae		Adjacent Canada only
Alyssum alyssoides (L.) L.	ALAL3	alyssum		Brassicaceae	1954	Alaska
Alopecurus arundinaceus Poir.	ALAR	creeping meadow foxtail		Poaceae	2011	Alaska
Alopecurus geniculatus L.	ALGE2	water foxtail	49	Poaceae	1940	Alaska

www.accs.uaa.alaska.edu

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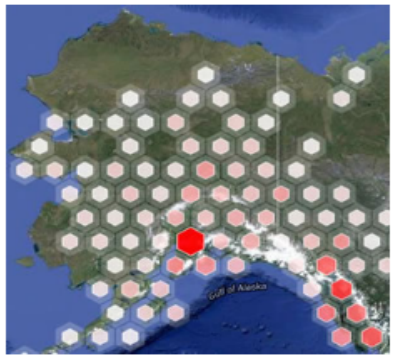

Non-native Plant Data

Non-native Plant Data 2.0

Non-native Plant List

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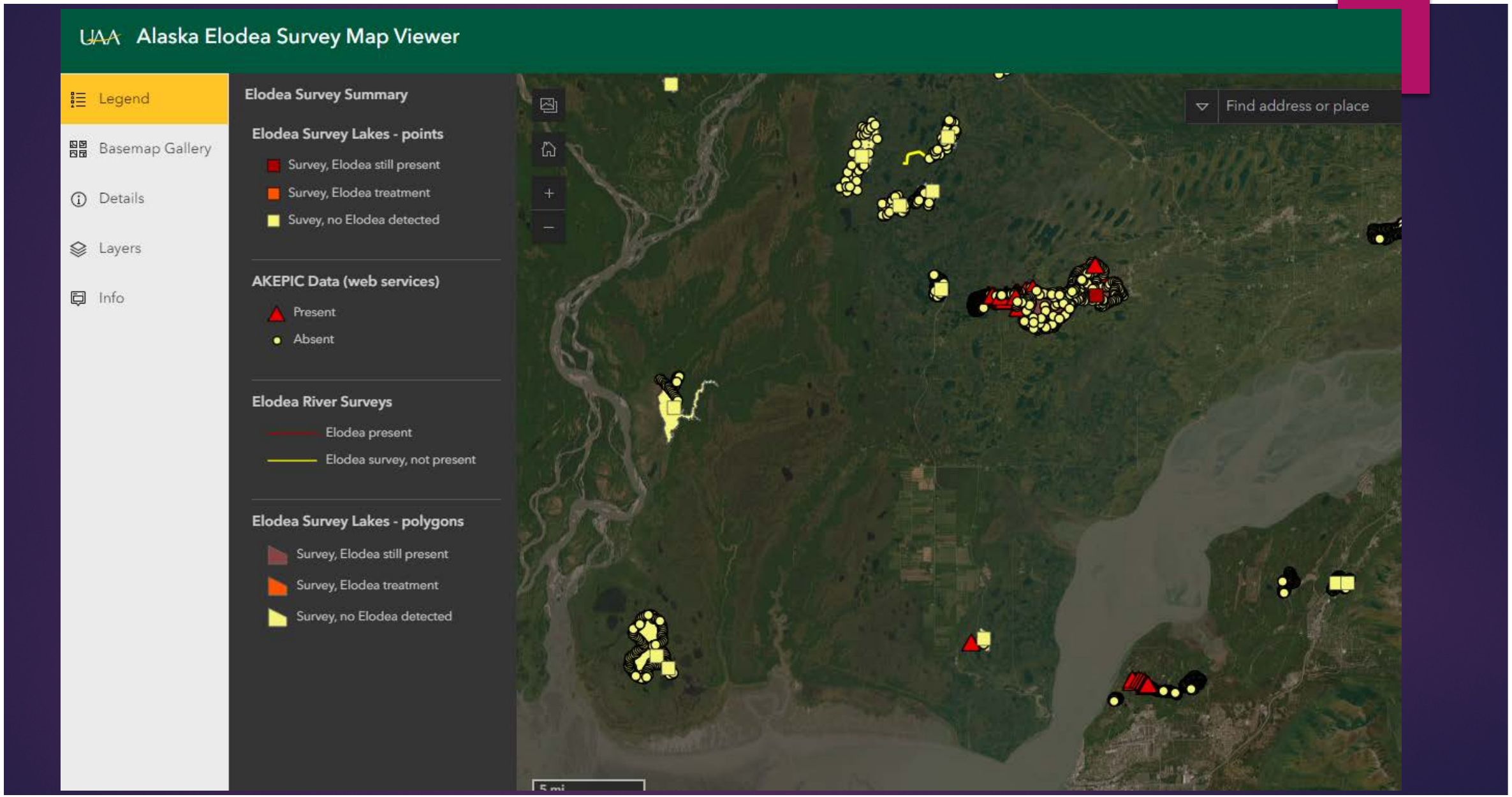

UAA Alaska Elodea Survey Map Viewer
Legend
Basemap Gallery
Details
Layers
Info
Elodea Survey Summary
Elodea Survey Lakes - points
Survey, Elodea still present
Survey, Elodea treatment
Suvey, no Elodea detected
AKEPIC Data (web services)
Present
Absent
Elodea River Surveys
Elodea present
Elodea survey, not present
Elodea Survey Lakes - polygons
Survey, Elodea still present
Survey, Elodea treatment
Survey, no Elodea detected
Find address or place

Alaska Center for Conservation Science
University of Alaska Anchorage

AKEPIC contact:
jrfulkerson@alaska.edu

AKTEMP: A Stream and Lake Temperature Database for Alaska

November 2024

Alaska Center for Conservation Science
University of Alaska Anchorage

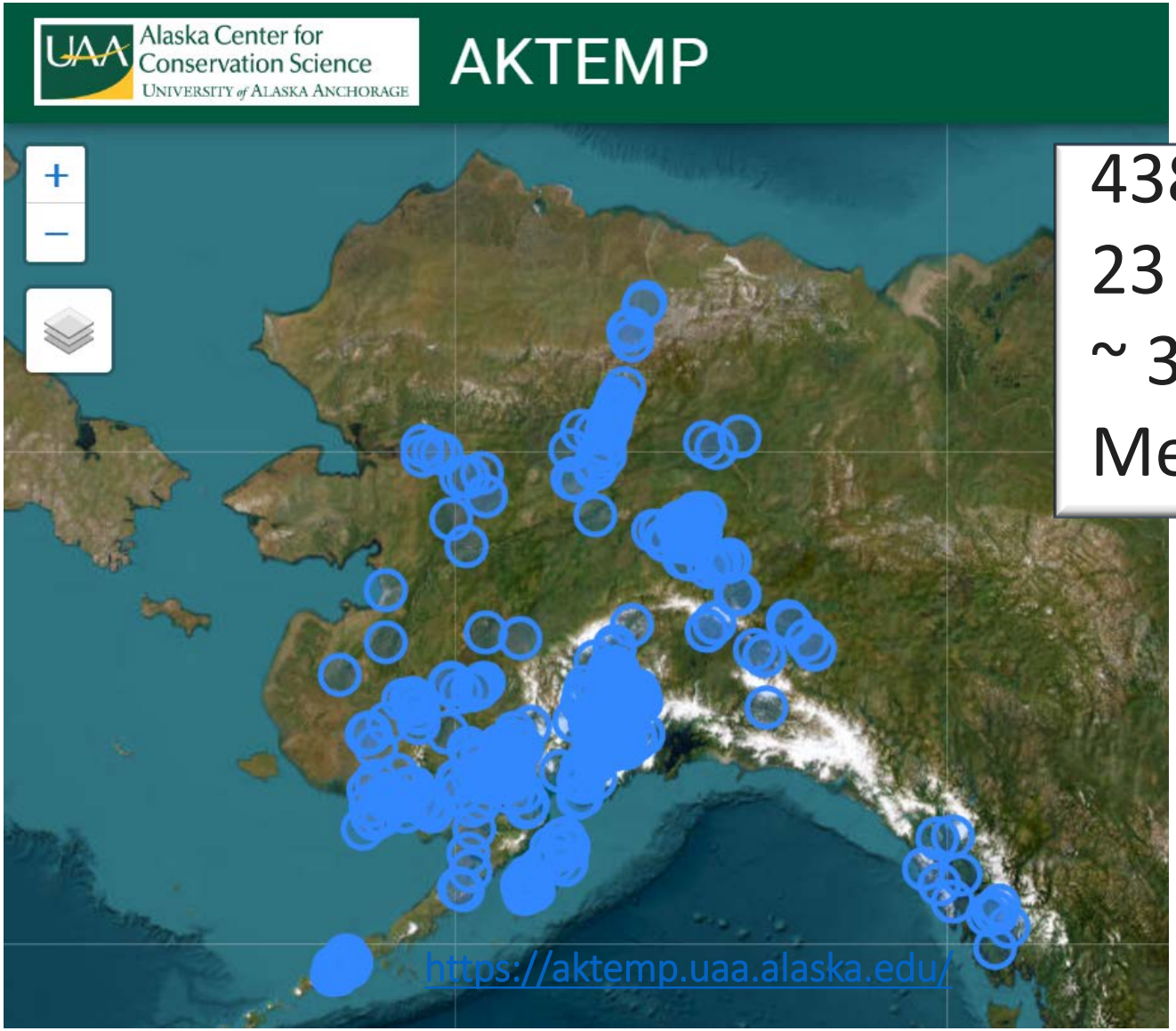
Marcus Geist, UAA

Dustin Merrigan, UAA

Jeff Walker, WER

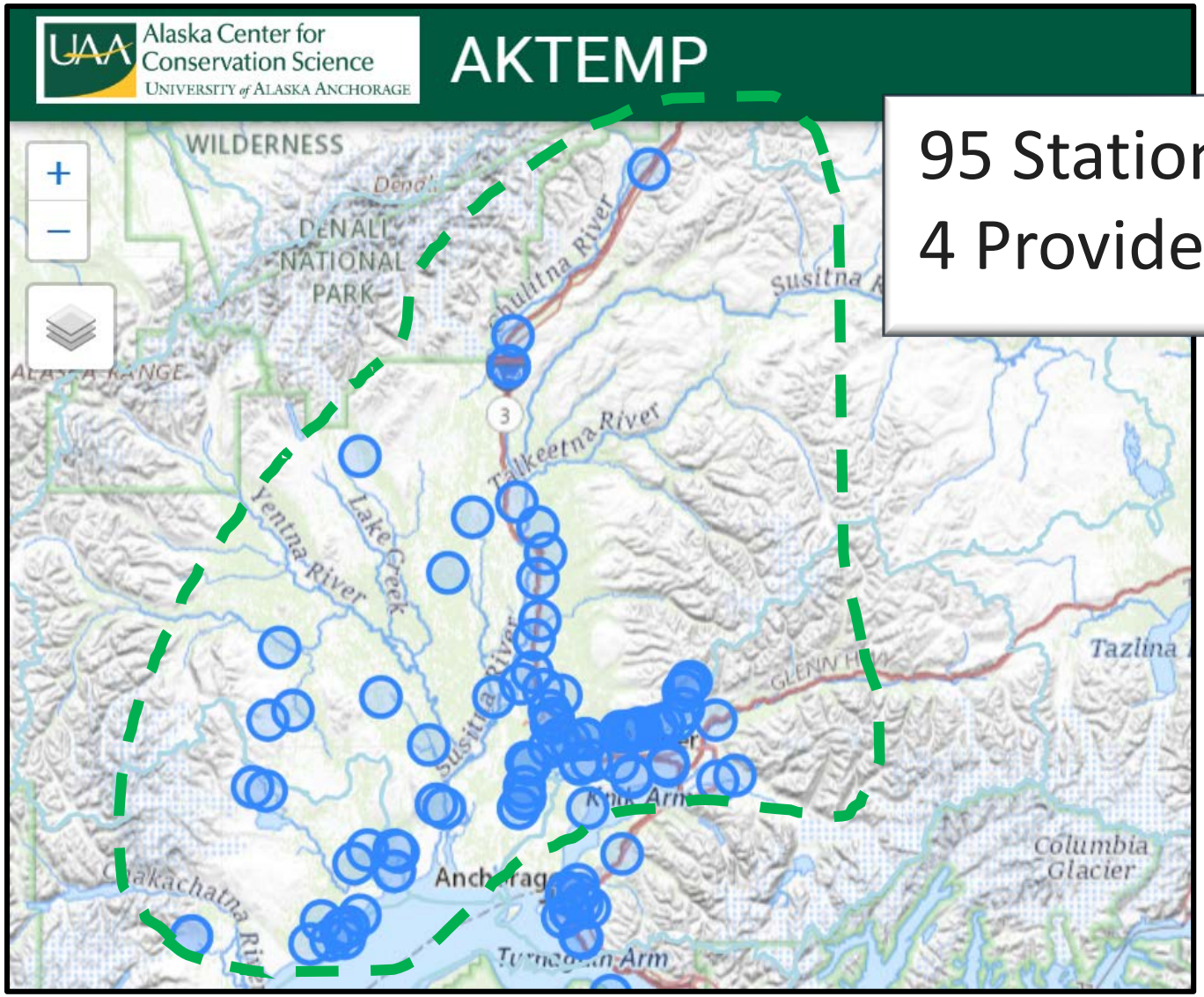
Walker Environmental Research

Today - AKTEMP Data

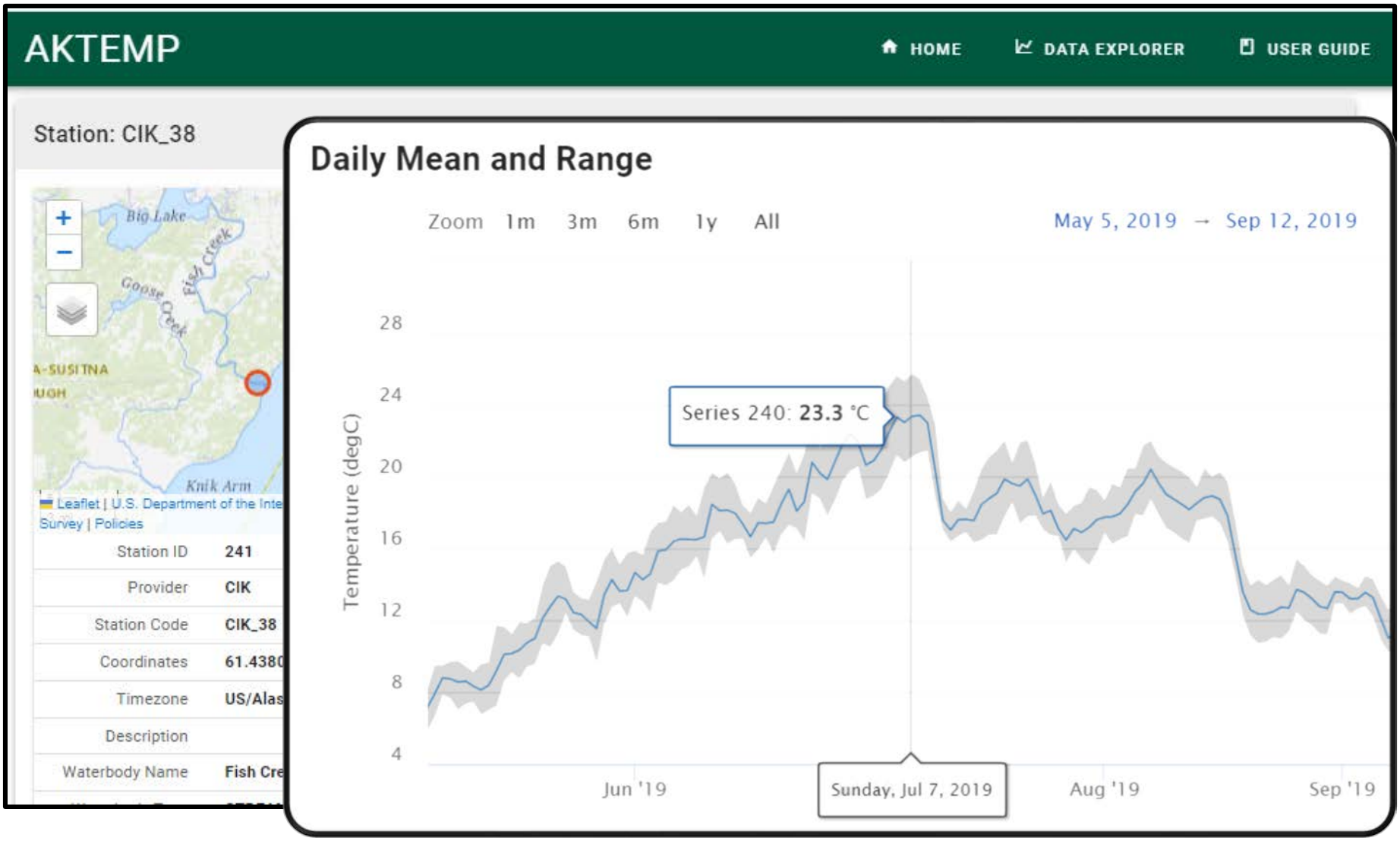


438 Stations
23 Providers
~ 32,000,000 Measurements

Today - AKTEMP – **Mat-Su**



Today - AKTEMP – **Data Viewer**



EPA Water Quality Database (WQX)

Raw data

- Collected under Quality Assurance Project Plan (QAPP)
- QA/QC results meet data quality objectives
- Approved methods used for field and lab measurements
- Complete metadata

Water Quality Exchange (WQX)

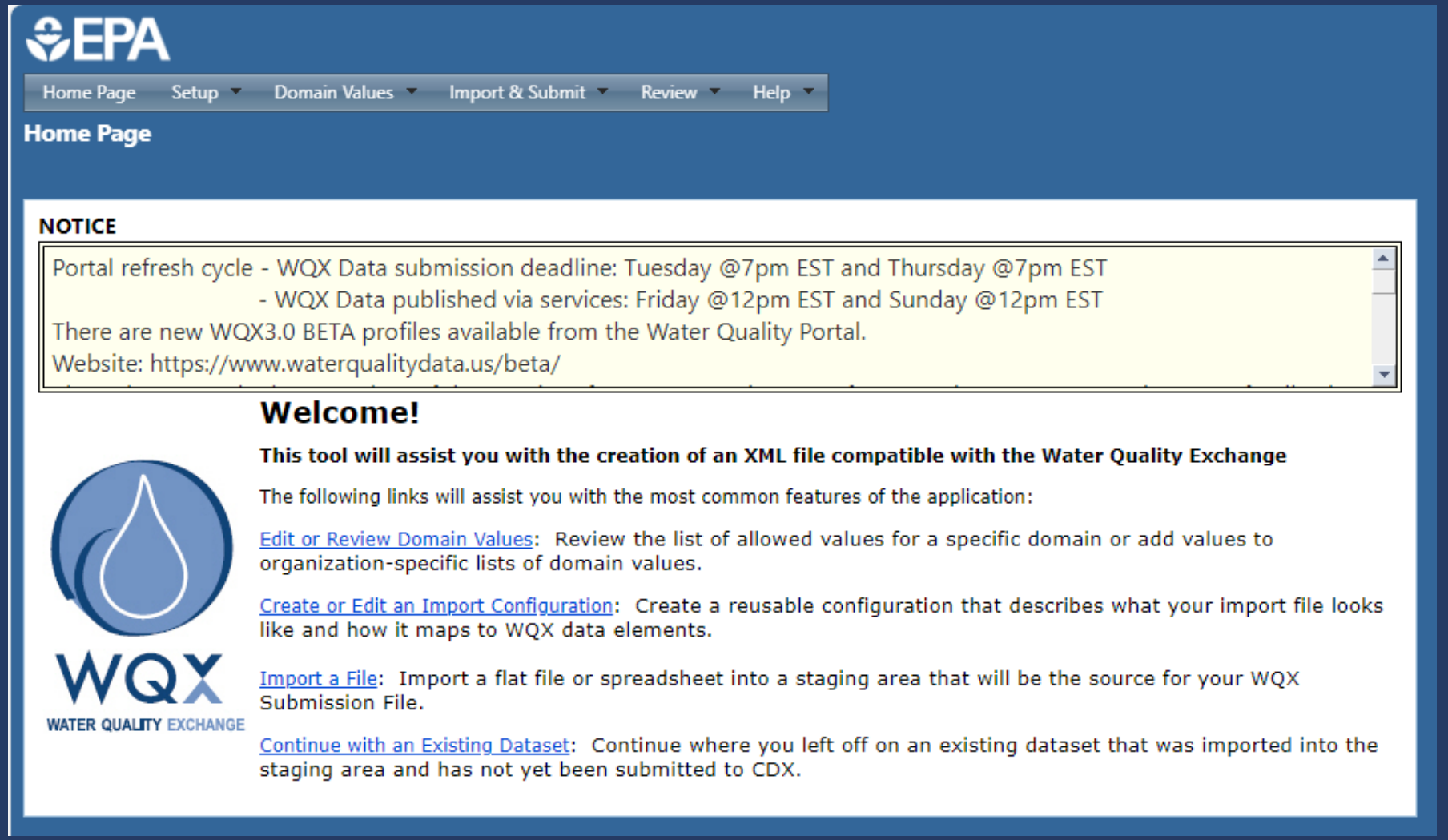
- Processes data file
- Review uploaded data
- Stores data for use by public

Water Quality Portal (WQP)

- Nationwide water quality database
- Download data

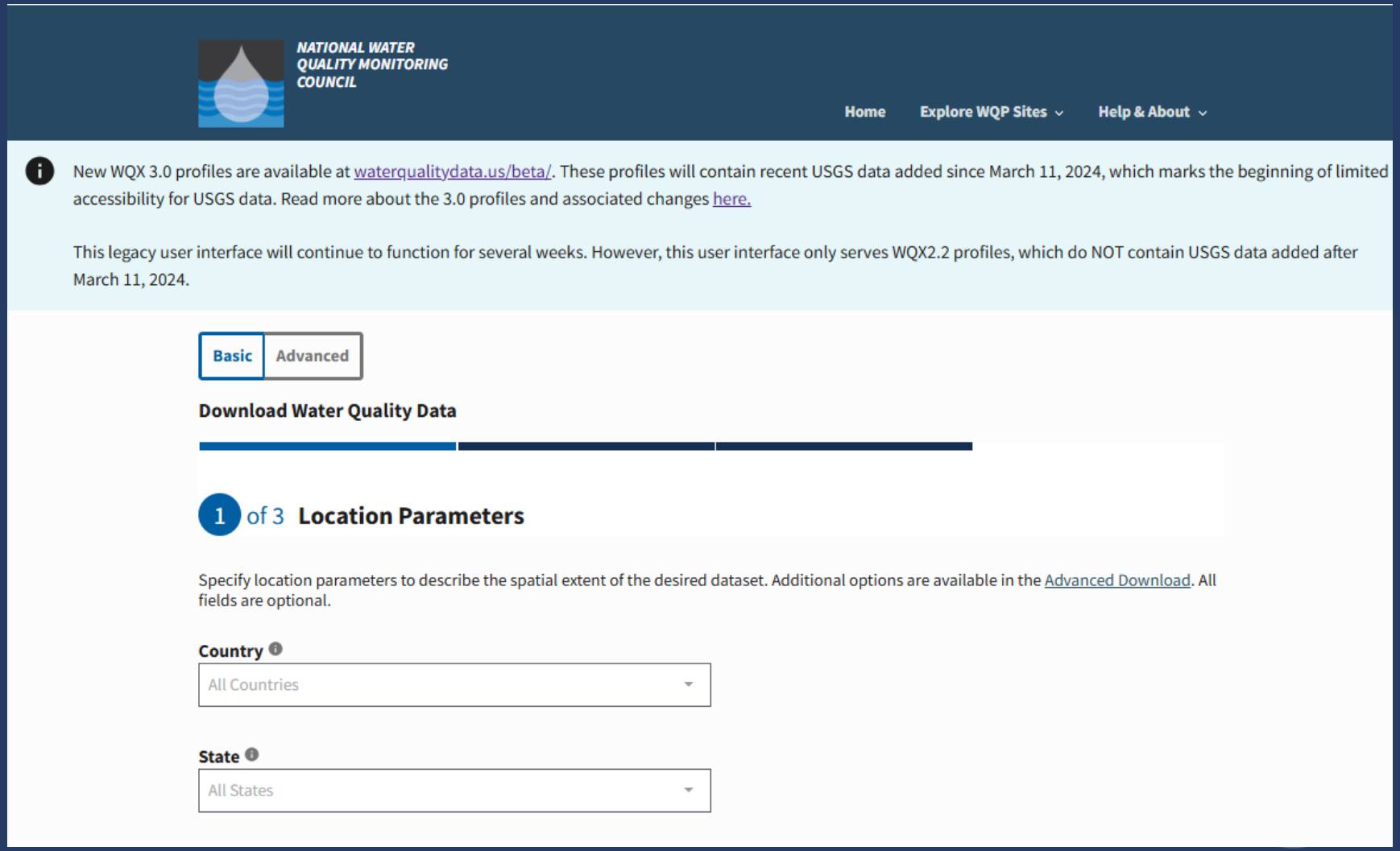
EPA Water Quality Exchange

- Register for WQX account
- Format data (can use WQX web templates)
- Upload and review data



Water Quality Portal

- Data from
  - EPA
  - USGS
  - USDA
  - States
  - Tribes
  - NGOs
- Premiere source of discrete water-quality data in the United States and beyond



Want to know more?

- DEC Water Quality Program (Integrated Report, Water Quality Standards, Listing Methodologies, Water Quality Map)
  - https://dec.alaska.gov/water/water-quality/
- Water Quality Exchange (Upload Data)
  - General Info: https://www.epa.gov/waterdata/water-quality-data-upload-wqx#wqxoverview
  - Templates: https://www.epa.gov/waterdata/water-quality-exchange-web-template-files
- Water Quality Portal (Download Data)
  - www.waterqualitydata.us

Amber Crawford
Water Quality Monitoring and Assessment Section Manager
Amber.Crawford@Alaska.gov

Jenny Petitt
Integrated Report Coordinator and Data Manager
Jenny.Petitt@Alaska.gov

DNR's Alaska Mapper

Created by Colton Percy, ADF&G

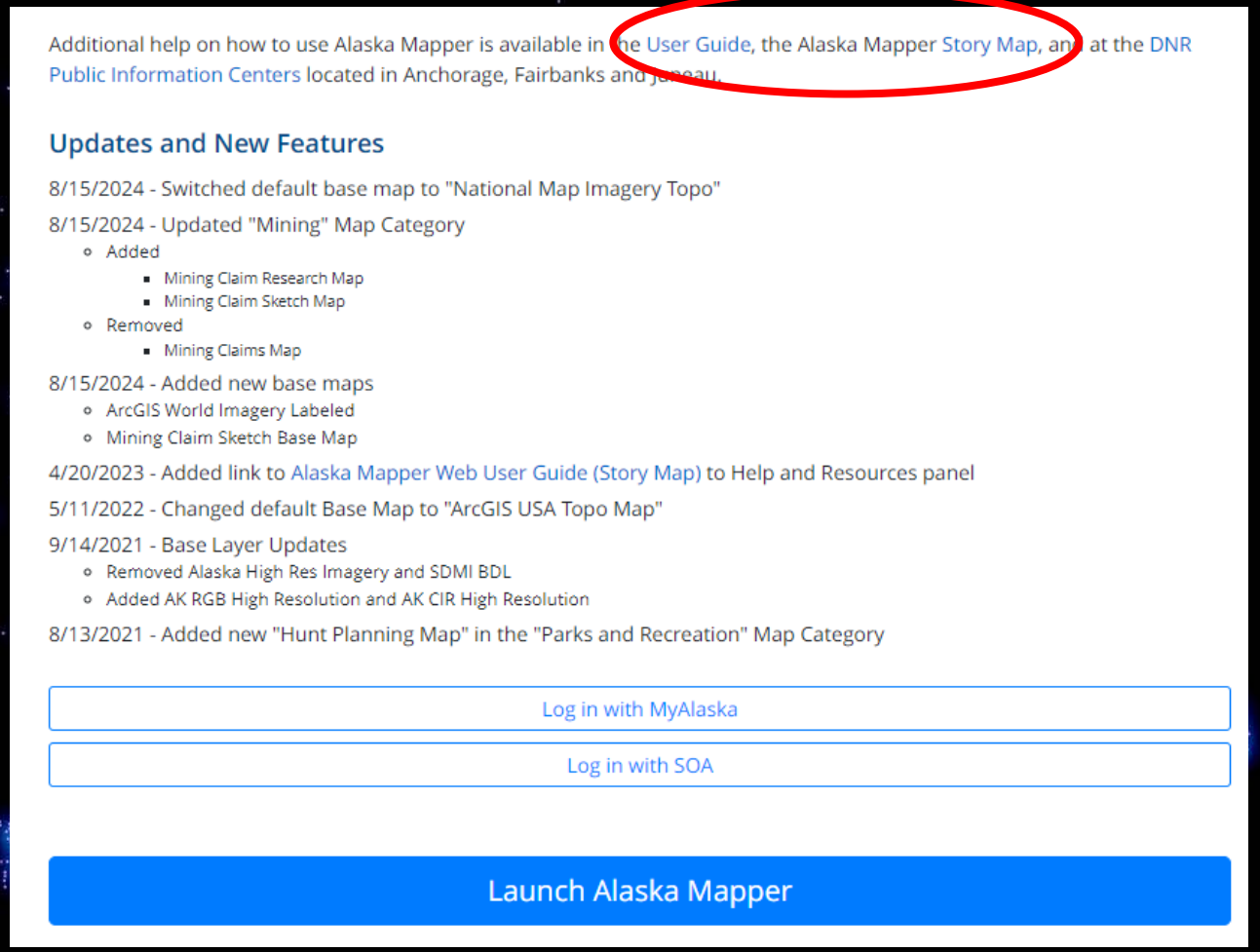
colton.percy@alaska.gov

Landing Page

Links to two user guides

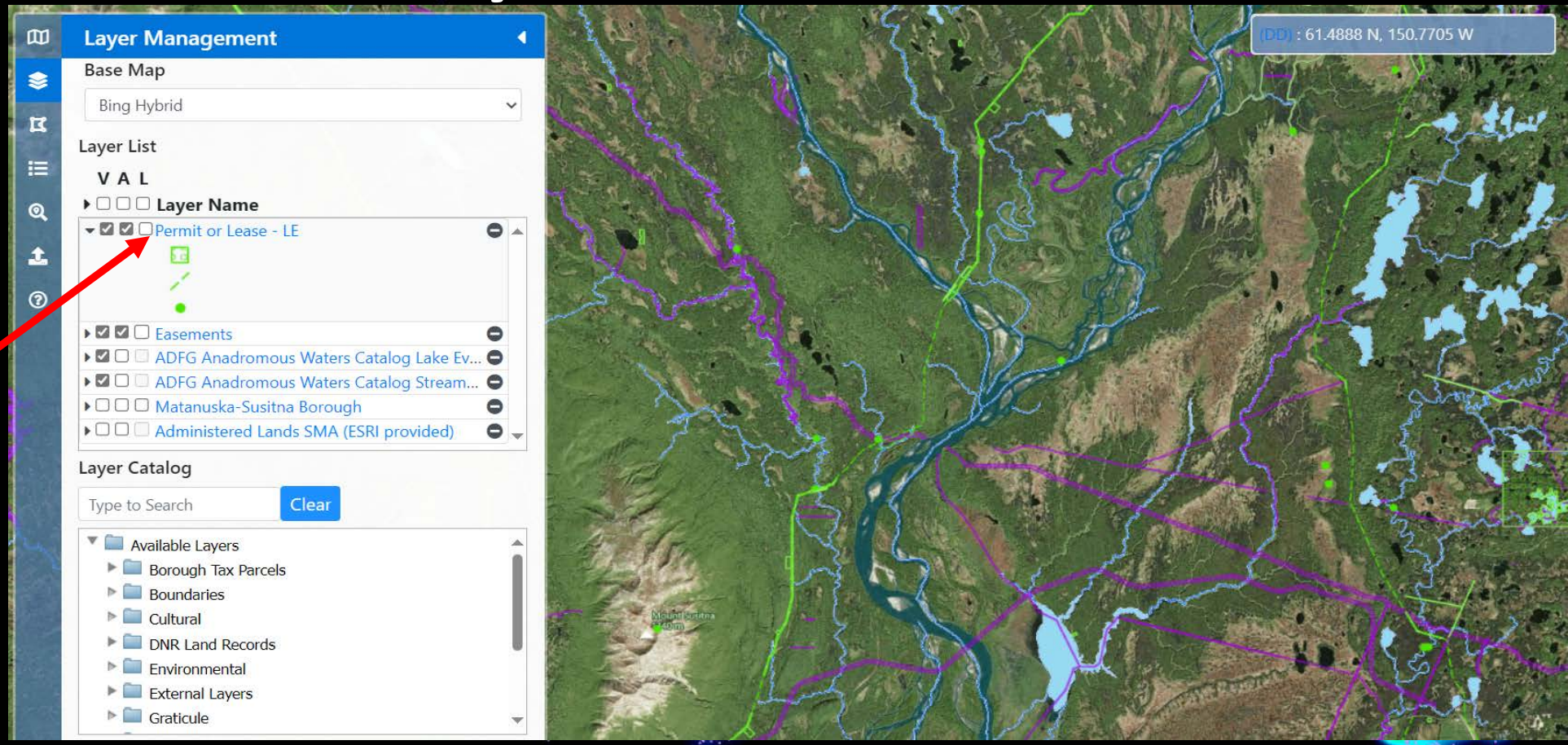
You do not need an account to use Mapper.

Click the blue button to get started.



Layers

Visible - V
Active (able to be queried) - A
Label - L



Layer names can be clicked on for more information

Useful Layers to include
-Anadromous Waters Catalog
-BLM Surface Management Agency (broad overview of land ownership)
-Borough parcels
-DNR Permits and Leases
-DNR Easements

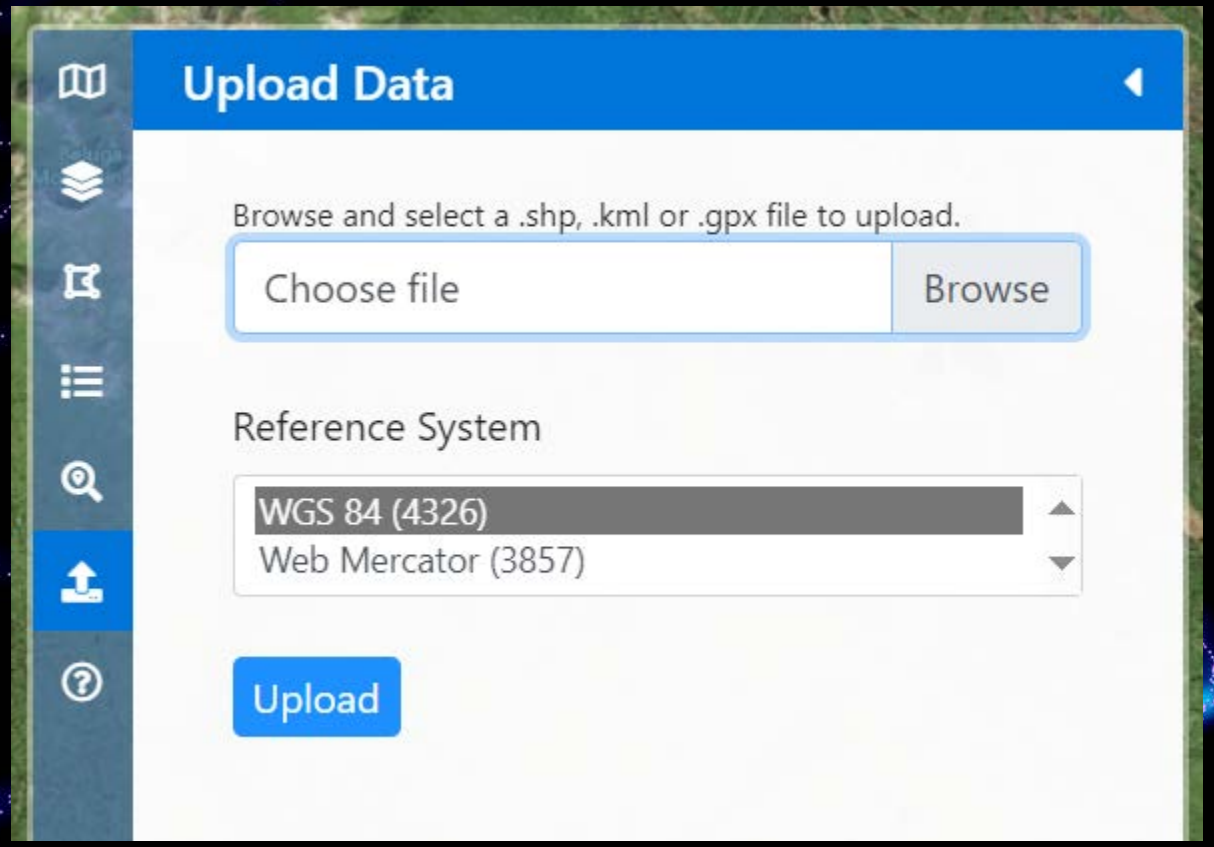
Data Upload

You can upload shapefiles (.shp), kml's used by Google Earth, or gpx files associated with gps devices.

The spatial data being uploaded must have one of two coordinate reference systems:

-WGS 1984 (EPSG 4326)

-Web Mercator (EPSG 3857)



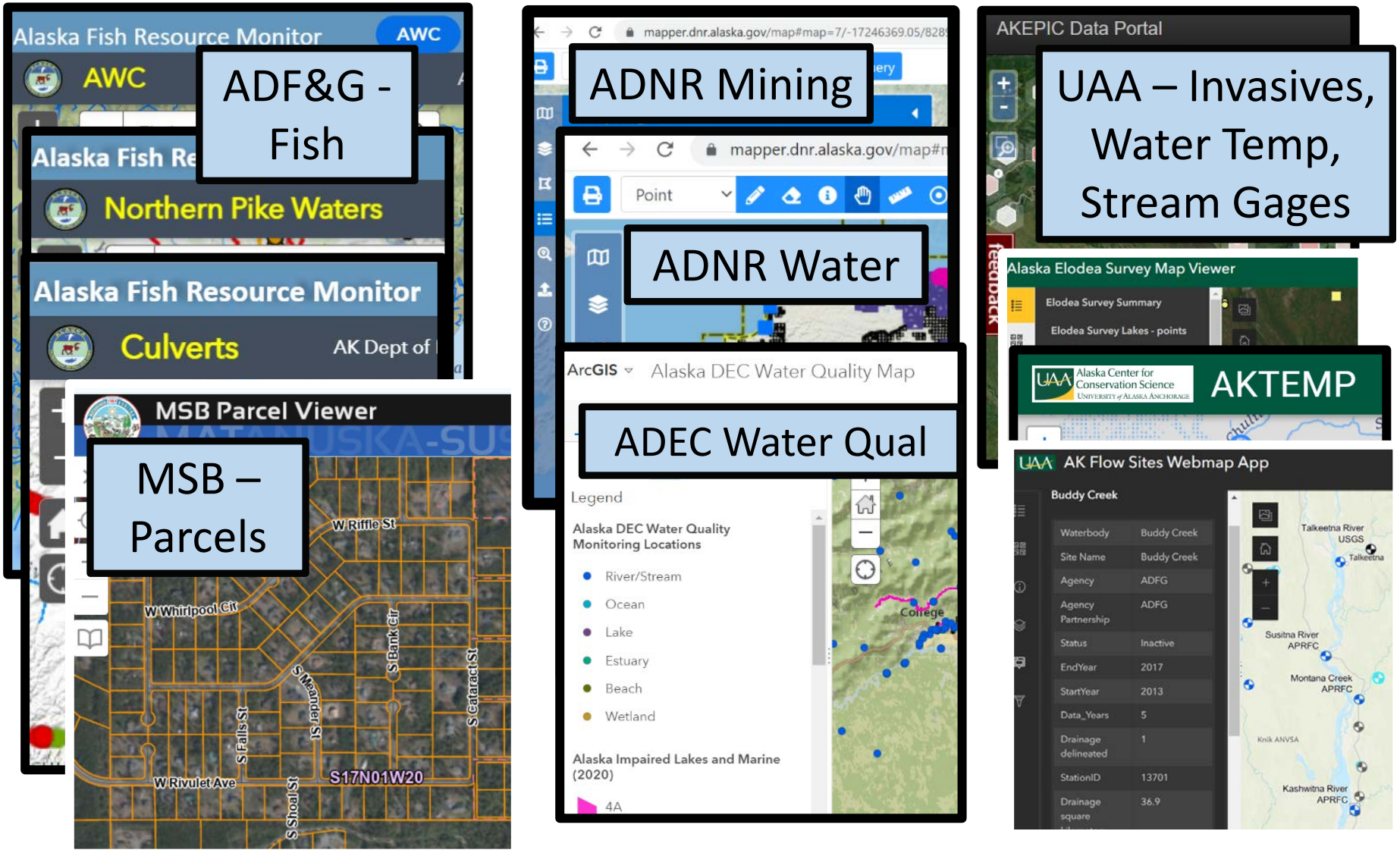
Mat-Su Mashup

November 2024

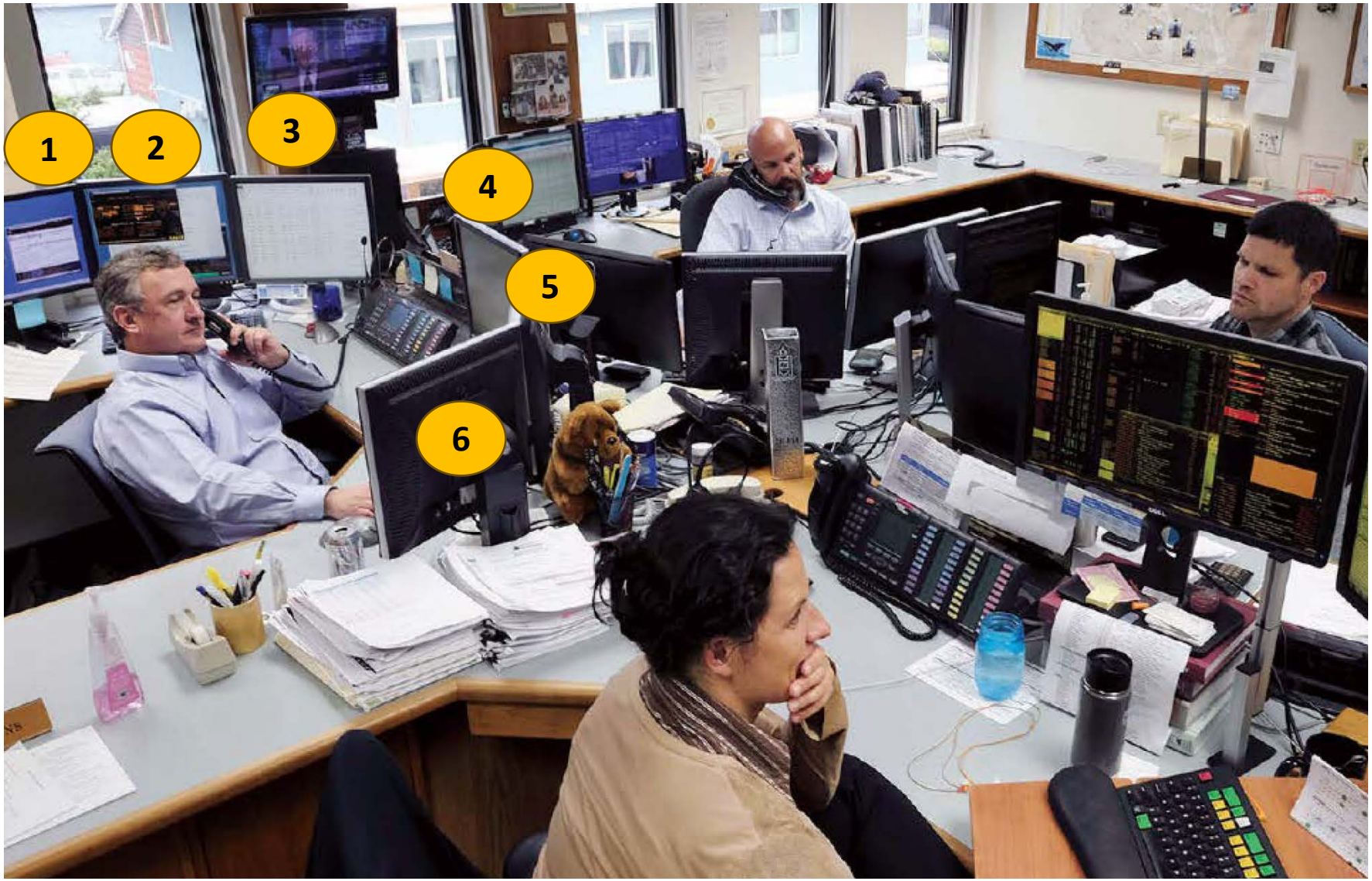
Marcus Geist, Geographer

Alaska Center for Conservation Science
University of Alaska Anchorage

Currently Many, Many Portals



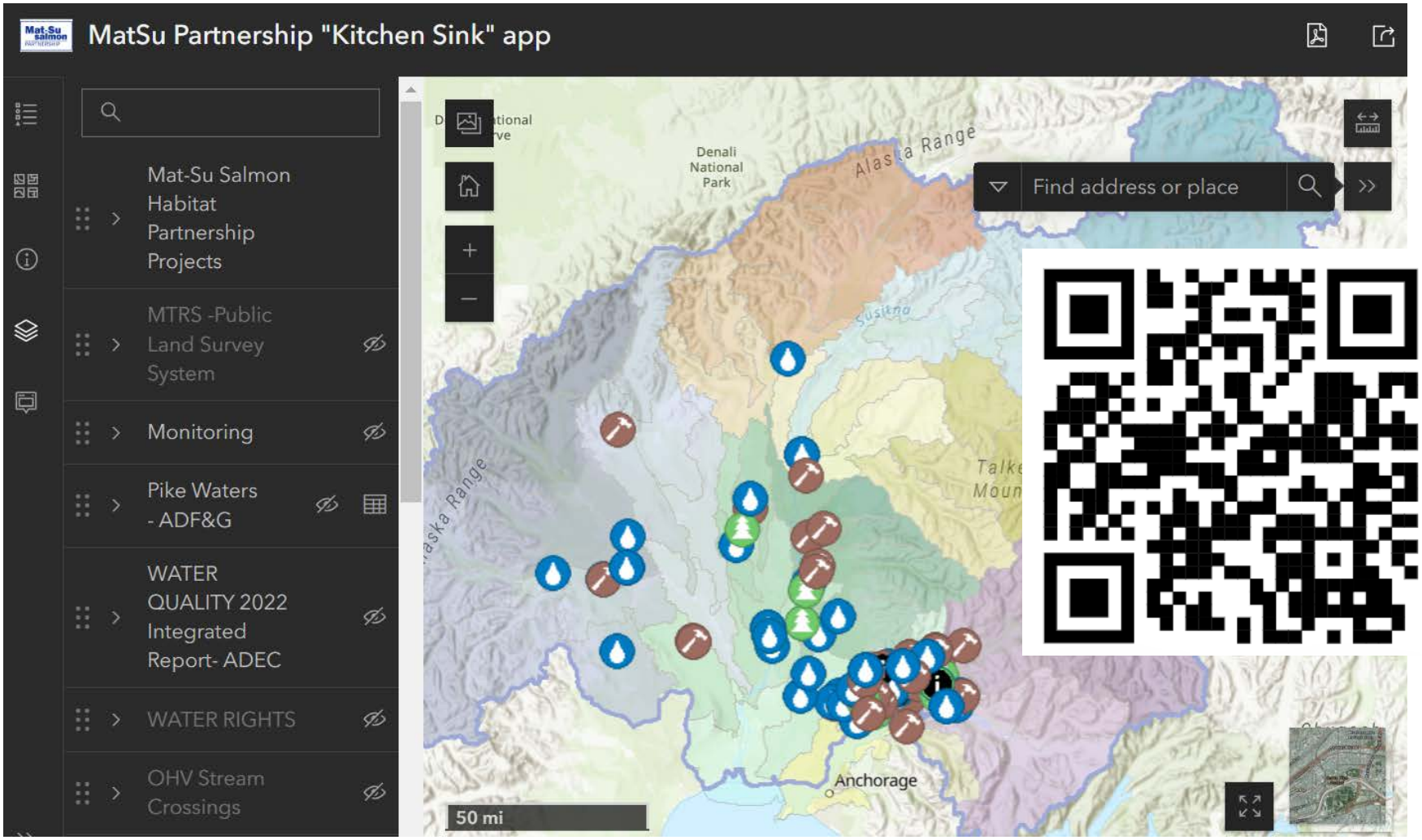
Solution?



Or?

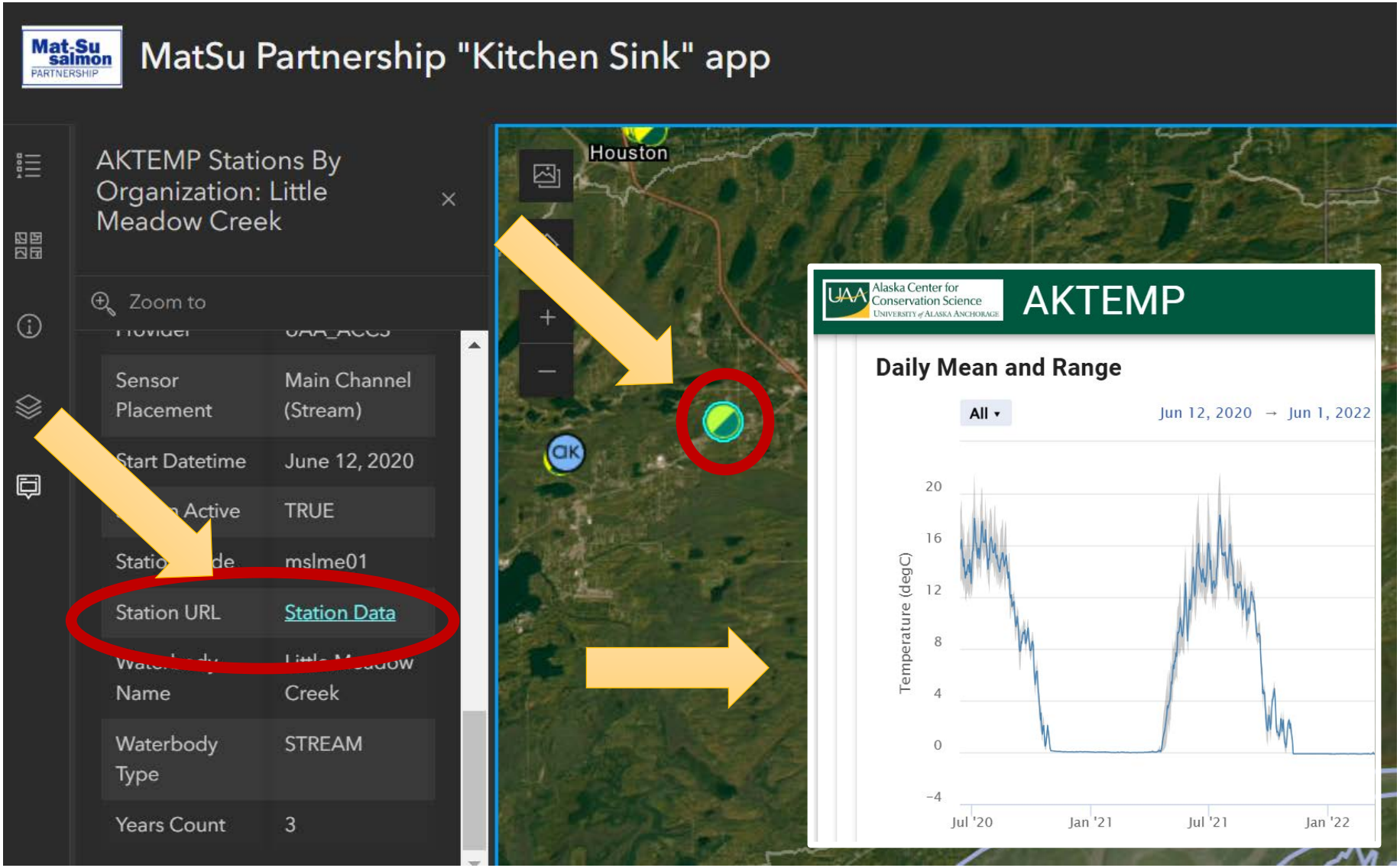
Data Discovery Tool

Partnership Web App – web browser

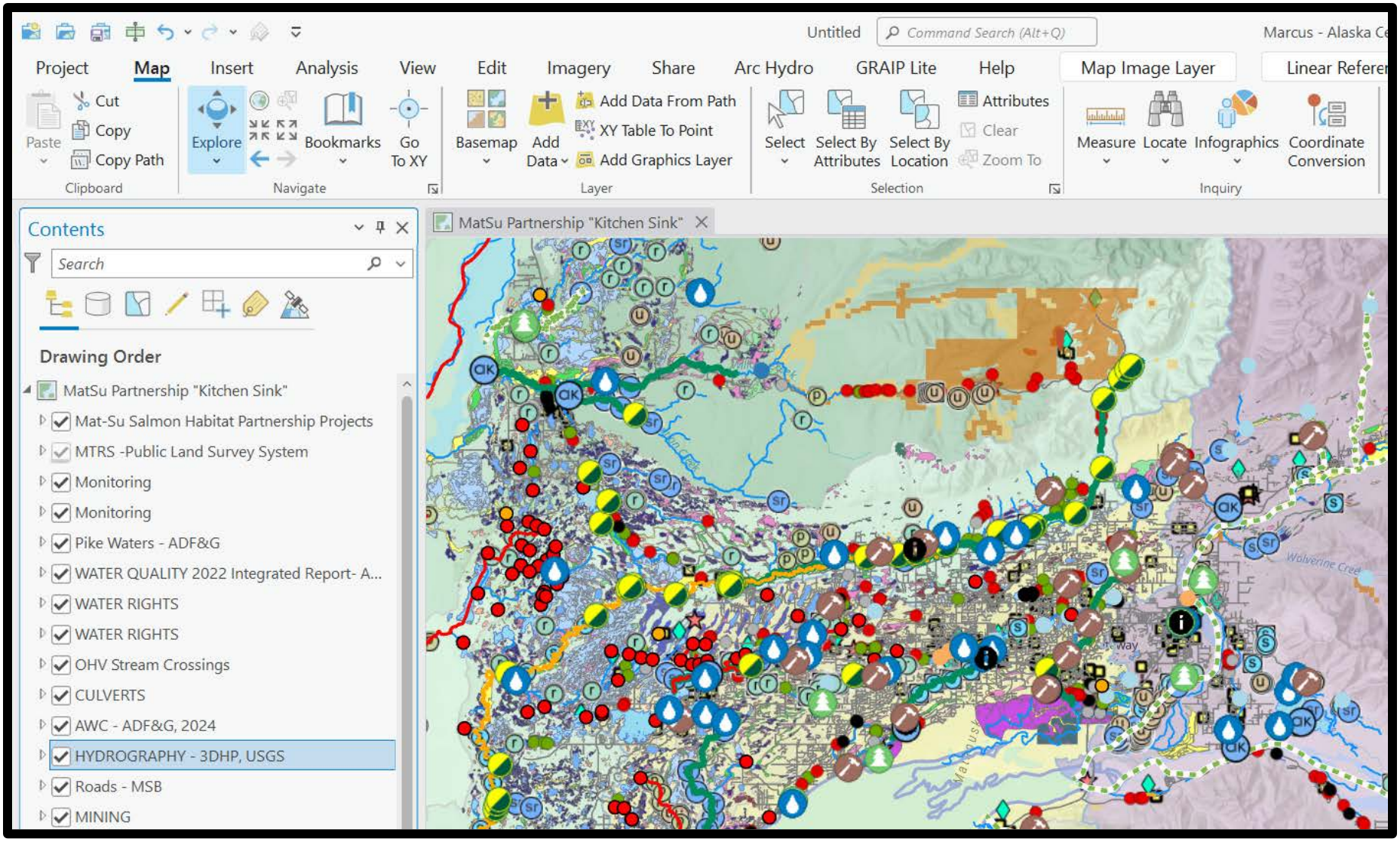


https://arcg.is/0OiGnr

Data sourced from/linked to Agencies



Partnership Data – Open in ArcGIS (desktop)



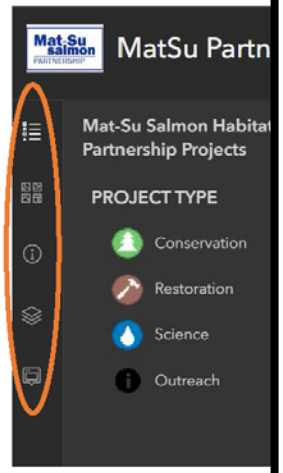
User Guide

Mat-Su Fish Habitat Web Map User Guide

OVERVIEW: This web mapping site is intended for data discovery to provide the user with an ability to view dozens of layers related to fish habitat in the Matanuska-Susitna Basin. It allows for initial site reconnaissance and comparisons usin might be incomplete or incorrect in some circumsta encouraged to use the tool and explore the data ye site as a starting point for further, more detailed in

START UP: You will see a map the Mat-Su with ove former and current Fish Habitat Partnership sponsc detailed datasets will be become visible on the web

Icons along the map's left edge.



Legend: Displays the symbology for the layers that layers that are turned off or if layers are scale dependent (e.g. they are only visible to when you are zoomed in to a minimum scale)

Basemaps: The default basemap is a topographic style, however, user can choose an basemaps such as: imagery, terrain with labels, or a national map from the US Geolog Survey which includes many labeled features, both natural (rivers, lakes, mountains) anthropogenic (airports, roads, communities).

Details: Provides a short description of the map and emphasizes that the map is meant as a data discovery tool rather than a definitive decision support tool.

Layers: The layers tool allows users to turn datasets on or off by selecting each layer's eye icon . Some layers are scale will be "grayed out" u zooms to a particular s been done to optimize speeds and legibility. contain "nested group share a common them accessed by the arrow

"nested of la

Other Map Functions: Users can: search by mine name, expand the map to full screen, toggle between the topographic basemap and imagery, measure distances or areas, export the map on the screen to a pdf, capture a screenshot as an image, or share the web map link.

Questions?

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