



Documenting Salmon Habitat in the Copper River Watershed



COPPER RIVER
WATERSHED
PROJECT

Presented by
Kate Morse, CRWP



A satellite map of Alaska and the northern part of Canada. The state of Alaska is labeled in white text. A dashed line separates Alaska from Canada, with the word 'CANADA' written vertically along it. A red outline highlights a specific region in the south-central part of Alaska, which is the Copper River Watershed. A white arrow points from the text 'Copper River Watershed' to this red-outlined area. The map shows various geographical features including mountains, rivers, and coastal areas.

Alaska

CANADA

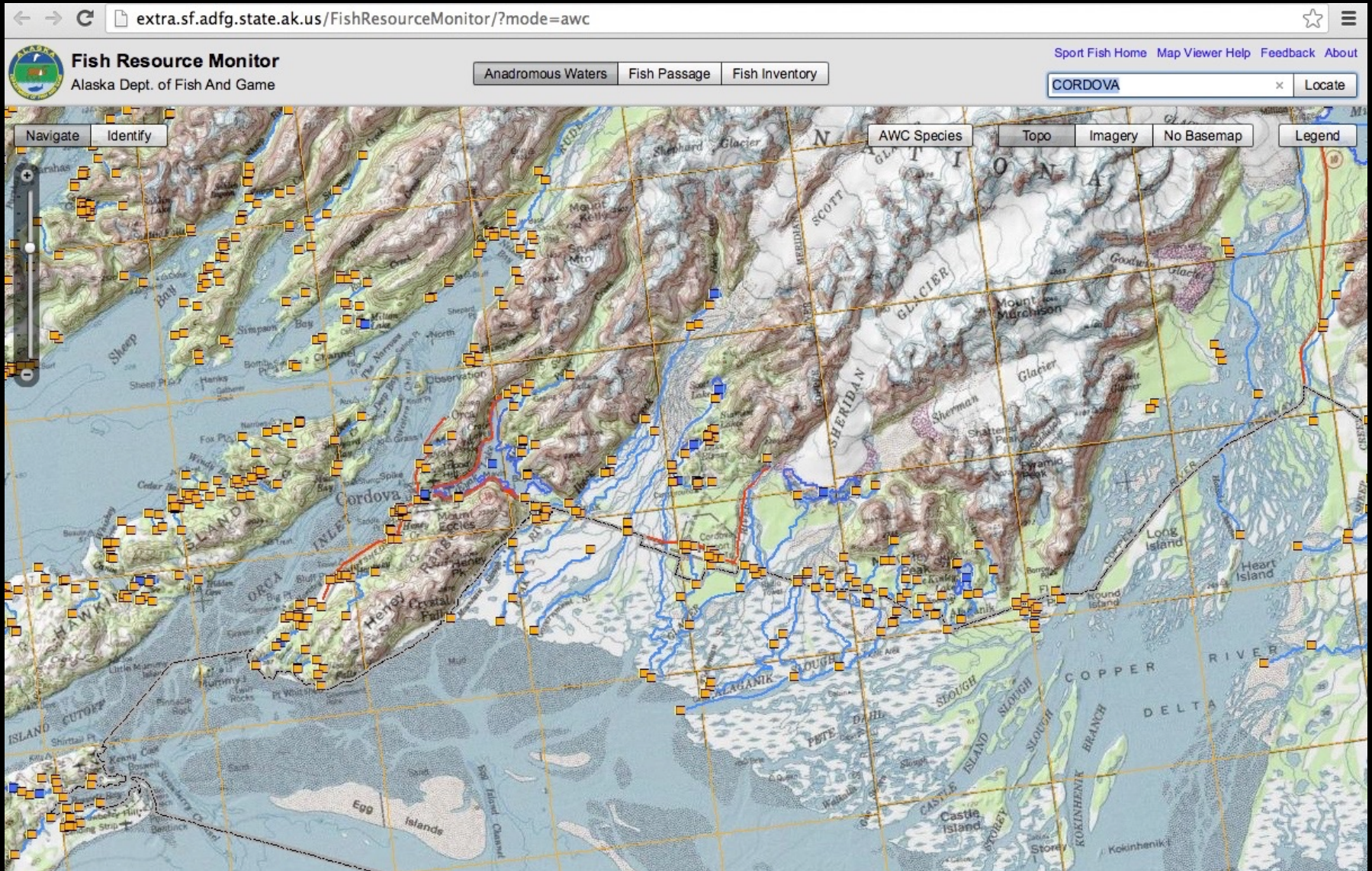
Copper River
Watershed



Our mission is to foster the health of the Copper River watershed's salmon-based cultures, communities and economies.

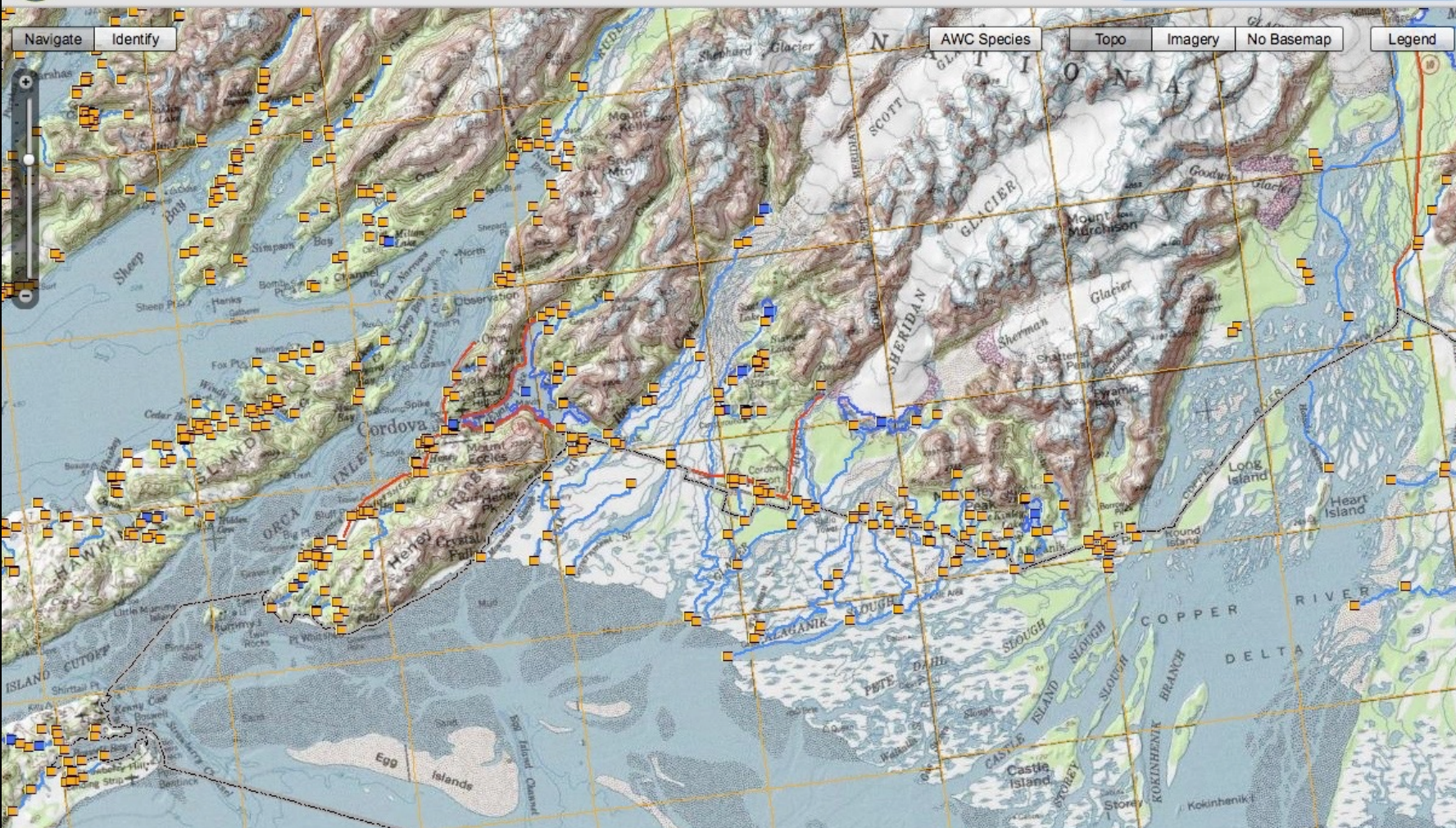
Think & act at the scale of a watershed





Anadromous Waters Catalog

There are 35,600 total stream miles in the Copper River watershed. How many stream miles do you think are documented as anadromous?



Anadromous Waters Catalog
2,168 stream miles, or 6%

Anadromous Waters Catalog (AWC)

“The Catalog of Waters Important for the Spawning, Rearing or Migration of Anadromous Fishes and its associated Atlas (the Catalog and Atlas, respectively) currently contain over 18,000 streams, rivers or lakes around the state which have been specified as being important for the spawning, rearing or migration of anadromous fish. Based upon thorough surveys of a few drainages it is believed that this number represents less than 50% of the streams, rivers and lakes actually used by anadromous species. It is estimated that at least an additional 20,000 or more anadromous water bodies have not been identified or specified under AS 16.05.871(a).” <https://www.adfg.alaska.gov/sf/SARR/AWC/>



Salmon Blitz Objectives

1. Identify salmon habitat
2. Educate participants
 - a. Stewardship
 - b. Career exploration
3. Translate local knowledge

Regional Planning Team

- ✓ Developed protocol, datasheet, volunteer training, equipment list
- ☐ Identify & prioritize sites
- ☐ Assist with trainings & surveys
- ☐ Science Coordinator – Quality Assurance





Survey Implementation

What is surveyed?

- Fish: Identify, count & measure
- Habitat Measurements

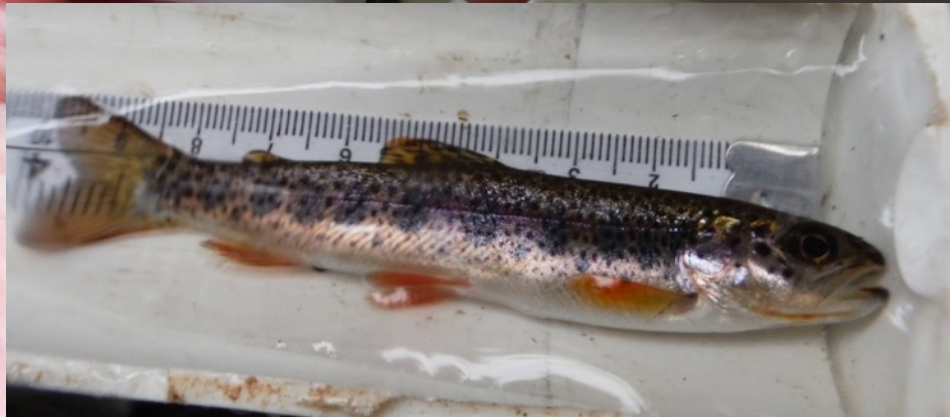
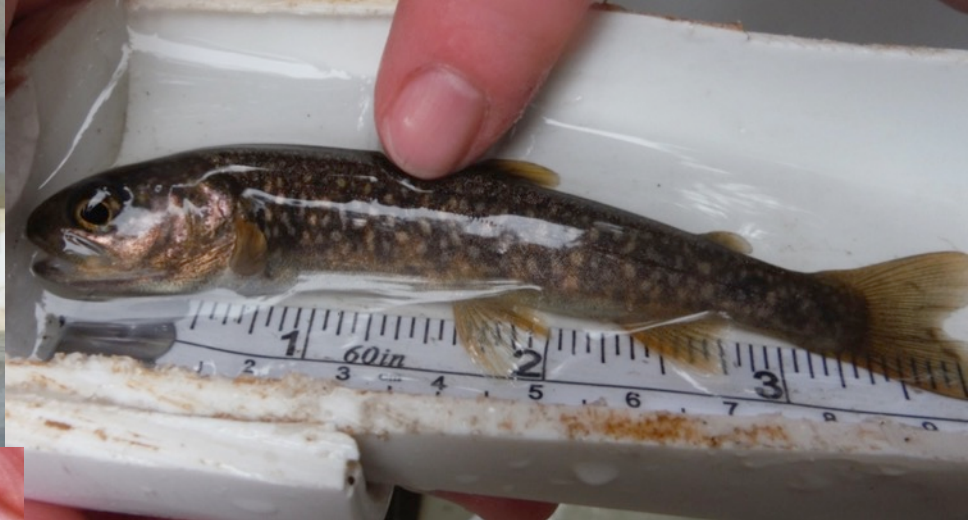
Community involvement

- Trained adults
- Youth field trips
- Partners during regular field work



Results from 2013 & 2014

	2013	2014	Total
Number of streams assessed	15	19	34
Number of students engaged	78	97	175
Number of adult volunteers	31	31	62
Total species caught	7	10	10
Added new stream to AWC	4.78 miles	7.5 miles	12.28 miles
Increased upstream extent for listed species	2.05 miles	0.19 miles	2.24 miles
Added new species	3.67 miles	4.29 miles	7.96 miles
Added Life stage designation	4.16 miles	8.14 miles	12.3 miles
Total length of habitat data nominated to AWC			34.78 miles





Do you want to Salmon Blitz?

- Identify regional planning team & resources
- Visit AWC to identify potential survey sites
- Pursue funding
 - Training
 - Equipment
 - Science coordinator (?)

Partners & Funders

- ✧ Alaska Department of Fish & Game
- ✧ Bureau of Land Management
- ✧ Chugach National Forest
- ✧ Copper River & Cordova School Districts
- ✧ National Fish & Wildlife Foundation
- ✧ Native Village of Eyak
- ✧ Native Village of Kluti-Kaah
- ✧ North Pacific Research Board
- ✧ Prince William Sound Science Center
- ✧ Wells Fargo
- ✧ Wrangell Institute for Science & Environment
- ✧ Wrangell St. Elias National Park & Preserve
- ✧ Community volunteers

Salmon Blitz: Field Protocols

For Documenting Salmon Habitat
in the Copper River watershed

Prepared by:



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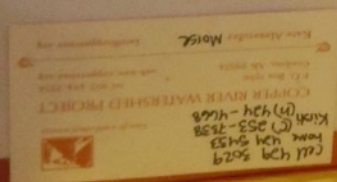
Project Partners:

Alaska Department of Fish & Game
Bureau of Land Management
Chugach National Forest
Native Village of Eyak
Prince William Sound Science Center
Wrangell Institute for Science and Environment
Wrangell St. Elias National Park & Preserve

Funded By:

National Fish & Wildlife Foundation
Wells Fargo

September, 2013



Day 1: Set Minnow Traps & Conduct Habitat Assessment

Equipment:

Salmon Blitz—minnow traps, bait bags, GPS, tape measure, protocols, temp/pH meter, camera, 1st aid kit, datasheet, clipboard, pencil, trash bag, bear spray

Personal—Rain gear, rubber boots, waders (can borrow!) or hip boots, warm layers (extra in case you get wet), full water bottle, snacks, time keeping device

“To do” list:

- ✓ Set minnow traps (make sure there are holes in bait bags and there is a tag with each trap).
- ✓ Record GPS location for each trap as well as habitat type & time set.
- ✓ Collect data on stream habitat:
 - Stream stage
 - Stream width
 - Stream depth
 - Substrate size
 - Consolidation
 - Water Temperature & pH
 - Water color
 - Habitat elements (LWD, boulders, undercut banks, overhanging vegetation, side channels/wetlands)
 - Riparian vegetation composition
- ✓ Take pictures of:
 - Substrate
 - Water color
 - Habitat elements
 - Riparian vegetation
 - Habitat observations (beaver dams, large debris, culverts, erosion events, etc.)
 - You and your team!
- ✓ Make sure you retrieve ALL of your gear and any garbage you found or brought in.

Day 2: Check Minnow Traps

Equipment:

Salmon Blitz—GPS, protocols, camera, 1st aid kit, datasheet, clipboard, pencil, trash bag, bear spray, aquarium net, bucket, measuring board, ziplock bags, white gloves, ID guides

Personal—Rain gear, rubber boots, waders (can borrow!) or hip boots, warm layers (extra in case you get wet), full water bottle, snacks, time keeping device

“To do” list:

- ✓ Retrieve minnow traps.
- ✓ Identify, record and tally all fish caught.
- ✓ Take pictures of each species caught, and any unidentifiable specimens.
- ✓ Measure and record length of 1 out of every 5 fish/species using measuring boards.
- ✓ Release fish and empty bait bags into stream.
- ✓ Make sure you retrieve ALL of your gear and any garbage you found or brought in.

Substrate Observations: visually characterize substrate composition in the thalweg of riffles and runs. Record % stream bottom each substrate size represents.

Substrate Categories:

Silt, clay and mud



Sand (<2.5 mm)



Gravel (2.5-50 mm)



Cobble (5-25 cm)



Boulder (>25 cm)



Bedrock



Determine whether substrate is consolidated or not. Consolidation refers to whether or not the substrate can be easily moved, which would influence spawning and macroinvertebrates. Kick at rocks to see if they move easily.

Riparian Vegetation: determine the composition of the dominant vegetation type(s) immediately adjacent to the stream channel. Select all that apply and take pictures.

Vegetation Categories:

Unvegetated: much bare soil is visible

Non-forested grassland or bog:
<10% stream cover



Shrubby/Herbaceous: small woody shrubs, tallest person in group can see over them (ex. sweet gale, high bush cranberry)

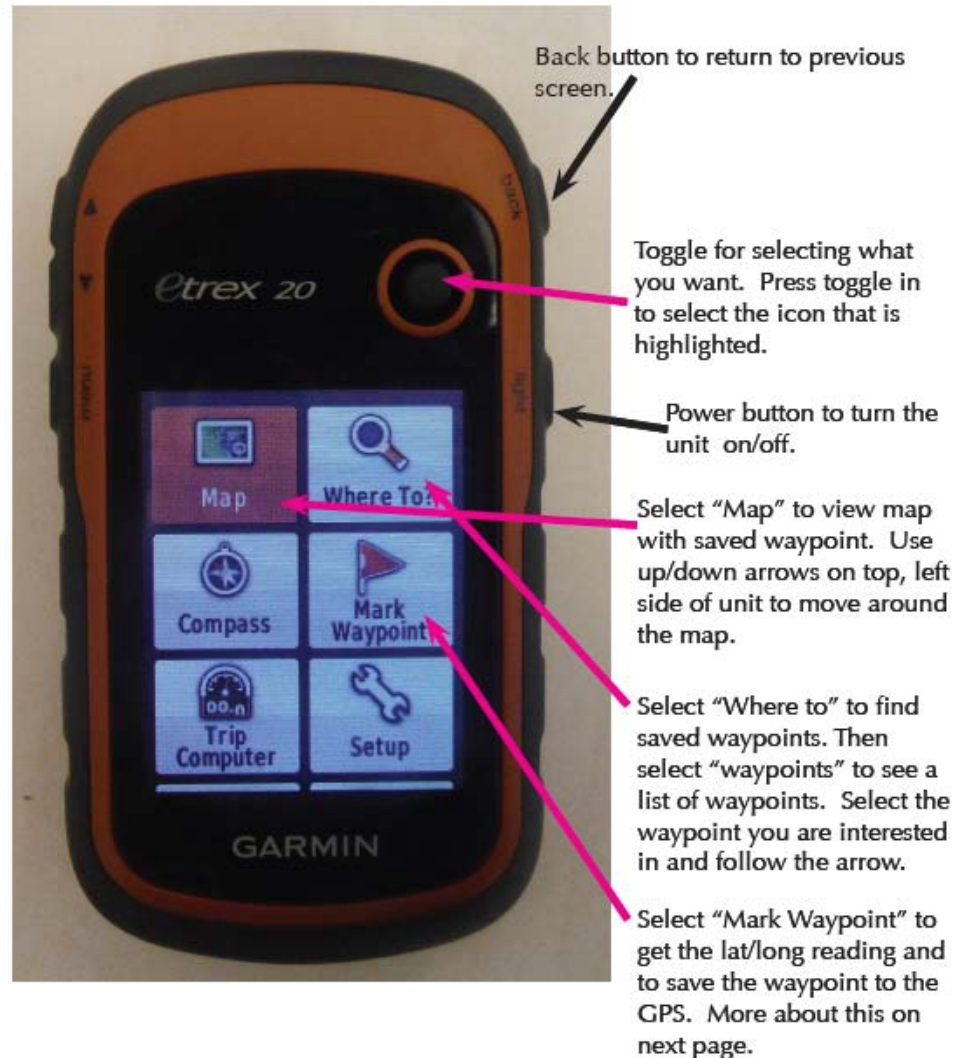


Conifer: Spruce or hemlock trees



Deciduous: Cottonwood, alder, etc. Lose leaves in fall.





Note: You must leave this screen when you move to a new location. The lat/long will not change as you move. In order to get a reading for the next site, go back to the home menu and select "mark waypoint" again.

Equipment: Camera (they are waterproof so it is okay to get them wet!)

Power button to turn the camera on/off.

Shutter button for taking pictures and for returning to picture mode after viewing image on camera.



Image number (after dash)

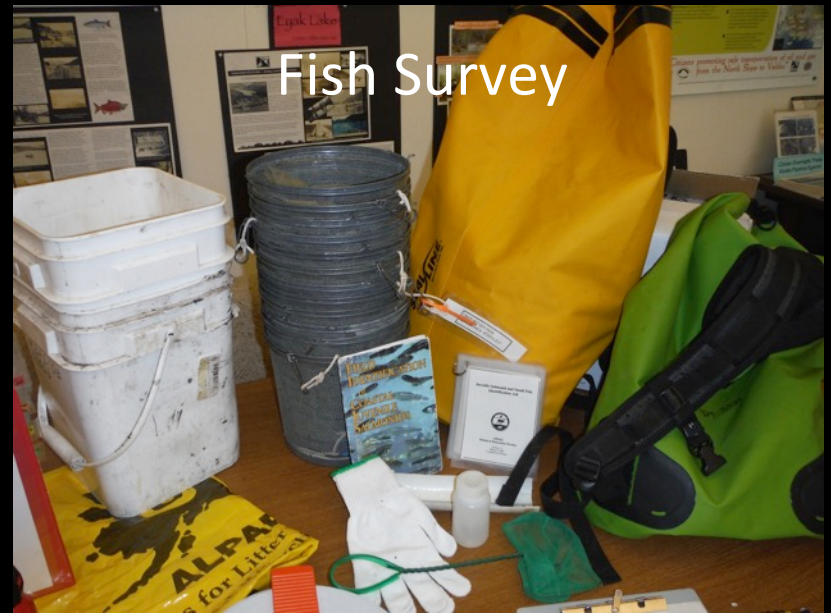
Play button for viewing images on camera.

If camera screen asks you to check to make sure the battery cover is locked, power down camera and open and close battery/card cover by pushing button and turning dial on the side.

Safety (snacks, too!)



Fish Survey



Stream Survey



Data Collection

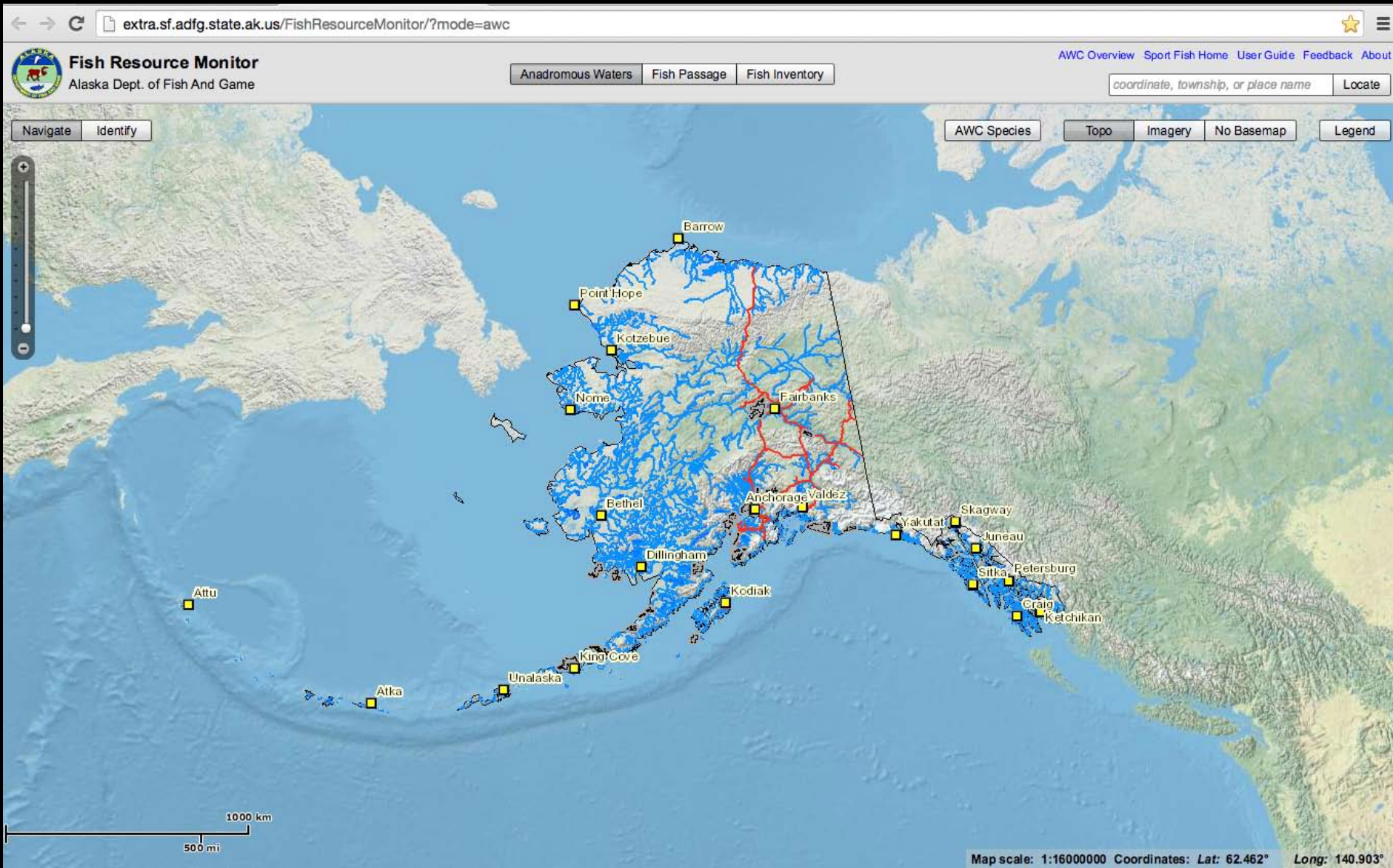




WADERS!!



Navigating the AWC





Questions,
comments...



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