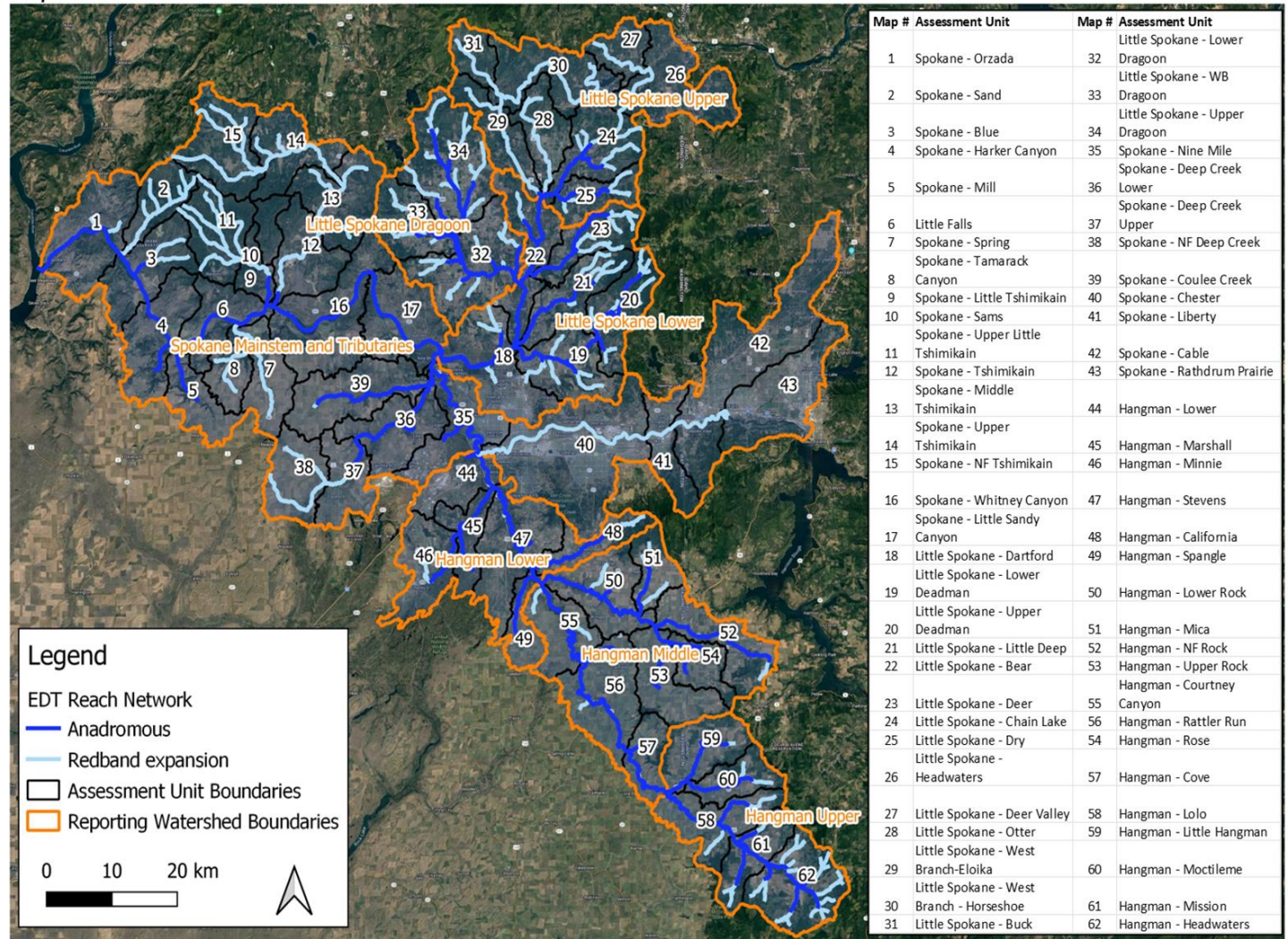# Assessment Unit Team Lead Entity Meeting

Recap

- Assessment Units
- STOI
  - AU 1-15
- Avista
  - AU 35, 40-43, 16, 17
- ECY/SCD
  - AU 20-34, 36-39, 44-57
- CDAT
  - AU 58-63

Spokane Watershed EDT Assessment Units

Map #	Assessment Unit	Map #	Assessment Unit
1	Spokane - Orzada	32	Little Spokane - Lower Dragoon
2	Spokane - Sand	33	Little Spokane - WB Dragoon
3	Spokane - Blue	34	Little Spokane - Upper Dragoon
4	Spokane - Harker Canyon	35	Spokane - Nine Mile
5	Spokane - Mill	36	Spokane - Deep Creek Lower
6	Little Falls	37	Spokane - Deep Creek Upper
7	Spokane - Spring	38	Spokane - NF Deep Creek
8	Spokane - Tamarack Canyon	39	Spokane - Coulee Creek
9	Spokane - Little Tshimikain	40	Spokane - Chester
10	Spokane - Sams	41	Spokane - Liberty
11	Spokane - Upper Little Tshimikain	42	Spokane - Cable
12	Spokane - Tshimikain	43	Spokane - Rathdrum Prairie
13	Spokane - Middle Tshimikain	44	Hangman - Lower
14	Spokane - Upper Tshimikain	45	Hangman - Marshall
15	Spokane - NF Tshimikain	46	Hangman - Minnie
16	Spokane - Whitney Canyon	47	Hangman - Stevens
17	Spokane - Little Sandy Canyon	48	Hangman - California
18	Little Spokane - Dartford	49	Hangman - Spangle
19	Little Spokane - Lower Deadman	50	Hangman - Lower Rock
20	Little Spokane - Upper Deadman	51	Hangman - Mica
21	Little Spokane - Little Deep	52	Hangman - NF Rock
22	Little Spokane - Bear	53	Hangman - Upper Rock
23	Little Spokane - Deer	55	Hangman - Courtney Canyon
24	Little Spokane - Chain Lake	56	Hangman - Rattler Run
25	Little Spokane - Dry	54	Hangman - Rose
26	Little Spokane - Headwaters	57	Hangman - Cove
27	Little Spokane - Deer Valley	58	Hangman - Lolo
28	Little Spokane - Otter	59	Hangman - Little Hangman
29	Little Spokane - West Branch-Eloika	60	Hangman - Moctileme
30	Little Spokane - West Branch - Horseshoe	61	Hangman - Mission
31	Little Spokane - Buck	62	Hangman - Headwaters

Legend
- EDT Reach Network
- Anadromous
- Redband expansion
- Assessment Unit Boundaries
- Reporting Watershed Boundaries

0   10   20 km

Protocol Draft

- Assigning Sample Sites
  - Identification of the longest contiguous portion or portion of the reach is necessary
  - Resort to subsampling reaches in subsequent field season if goal is not being met
- Methods recommended by Cramer in the data gaps report
  - Okanogan Basin Monitoring and Evaluation Program
  - May need to be slightly modified for the purposes of this project due to available resources (time, personnel, equipment, etc.)

Equipment

- Habitat Surveys

Required	Nice to have
Waders/boots	Laser range finder
Clipboard/field notebook/pencils	Gravelometer
Metric hip chain	Camera
Metric reel tape measure	GPS unit
Convex densiometer	Compass
Clinometer	Flagging tape
Metric ruler	iOS/Android Tablet
Metric stadia rod	Drone
	Trimble GPS unit

Equipment

- Fish Community Surveys (Electrofishing)

Required	Nice to have
Backpack electrofisher equipment	Phototank
Buckets	Polarized sunglasses
Dipnets	Table
Fish measuring board	
Gloves	
Waders/boots	
Notebook/pencils	
Cooler	

Data Storage and Input

- Trimble GPS w/ Terrasync– OBMEP
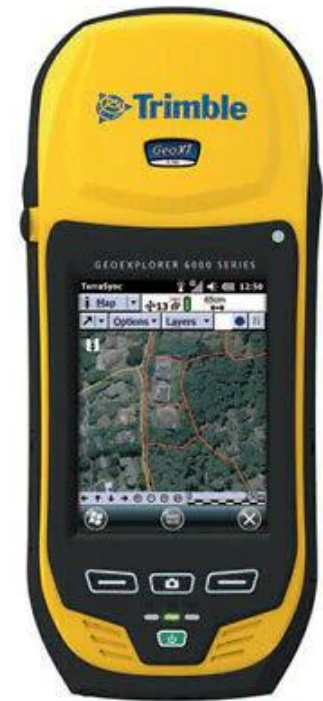
Polyline Data Format collected with Trimble Unit
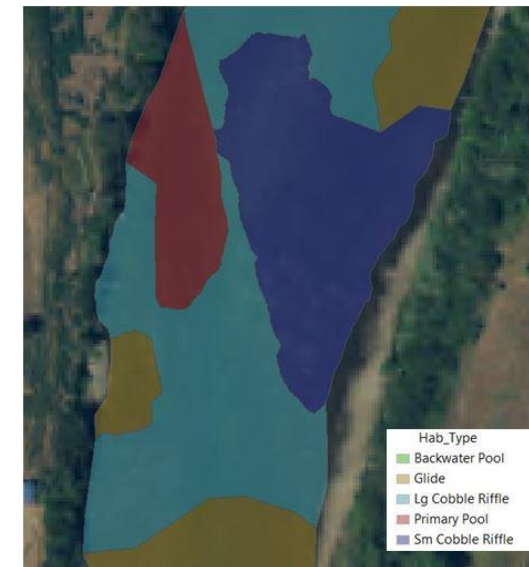
Polygon Data Format collected with Trimble Unit

Data Storage and Input

- iForm
  - Ability to integrate various data management software
    - Excel
    - SQL
    - Dropbox
    - ArcGIS
  - Multiple users share access to the same forms

Seamless ArcGIS Integration

On or Offline Data Collection

Powerful API for Data Integration

Robust Form Building Capabilities

Automated Metadata Collection

Extensive Hardware and Software Integrations

Microsoft® SQL Server®

ArcGIS

Capacity of each agency

- Teams of 2-3 individuals for habitat data collection
- Assess what equipment each agency has at their disposal
- Time frame of the field season (June-Sep?)

Internship Support

- Eastern Washington University
- Whitworth University
  - Verbrugge Environmental Center (AU 26)
- Gonzaga University
- Spokane Community College

Data Collection

Category	EDT Attribute	Attribute Sensitivity
Channel Morphology	Channel Length	5
	Channel Width	5
	Gradient	5
Confinement	Confinement: Artificial	2
	Confinement: Natural	1
Habitat Composition	Habitat type – Limnetic	5
	Littoral	5
	Backwater Pools	5
	Beaver Ponds	5
	Glides	5
	Large Cobble Riffles	5
	Pool Tails	5
	Scour Pools	5
	Small Cobble Riffles	5
	Side Channels	5
	Seasonally Inundated Floodplain	5
	Floodplain Ponds	5
	Groundwater Channels	5
Riparian & Channel Integrity	Bed Scour	4
	Riparian/Stream Interface	2
	Woody Debris	3
Substrate	Fine Sediment	5
	Embeddedness	5
Hydrology	Flow: Inter-Annual High Flow Variance	4
	Flow: Inter-Annual Low Flow Variance	4
	Flow: Intra-Annual Variation	4

Data Collection

Category	EDT Attribute	Attribute Sensitivity
Water Temperature	Temperature: Daily Maximum	5
	Temperature: Daily Minimum	5
	Temperature: Spatial Variation	4
	Temperature - Food Effect	4
Water Quality	Dissolved Oxygen	4
	Total Suspended Solids	3
	Alkalinity	4
Biological	Benthic Richness	1
	Fish Community Richness	3
	Fish Species Introduction	3
	Predation Risk	4
	Fish Pathogens	4
	Hatchery Fish Outplants	3
Withdrawals	Water Withdrawals	4

Table 2 : CFS 2023 EDT Data Gaps Analysis for the Spokane River Subbasin