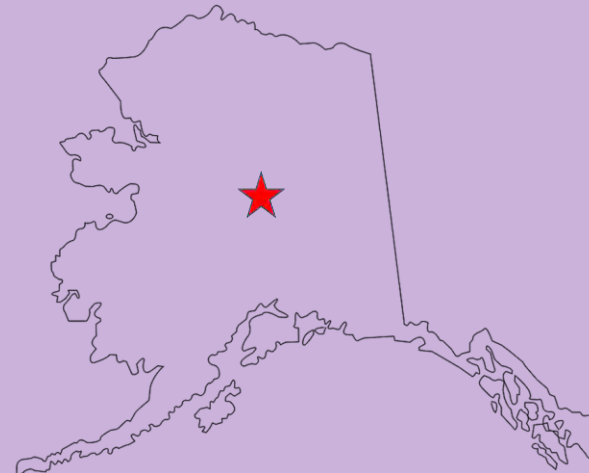
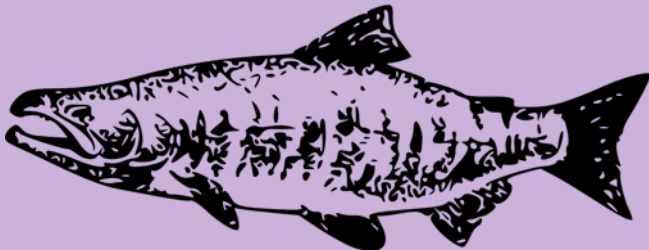


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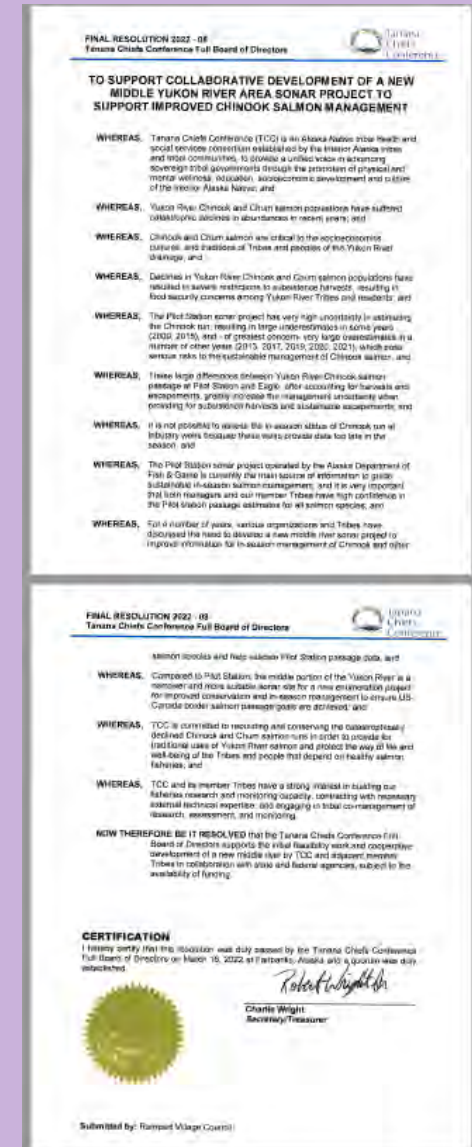
Middle Yukon River Sonar Feasibility Update

Project Leader: Brian Lepping
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Background

- In March of 2022 Tanana Chiefs Conference created Resolution 2022-08 in which TCC supported initial feasibility work on a new middle river sonar.
- We have been using the Resolution as a guiding document to fulfill expectations of the Tribes.
- Since then we have taken initial steps to secure funding and advanced in finding a location to start feasibility work.



2023 Milestones

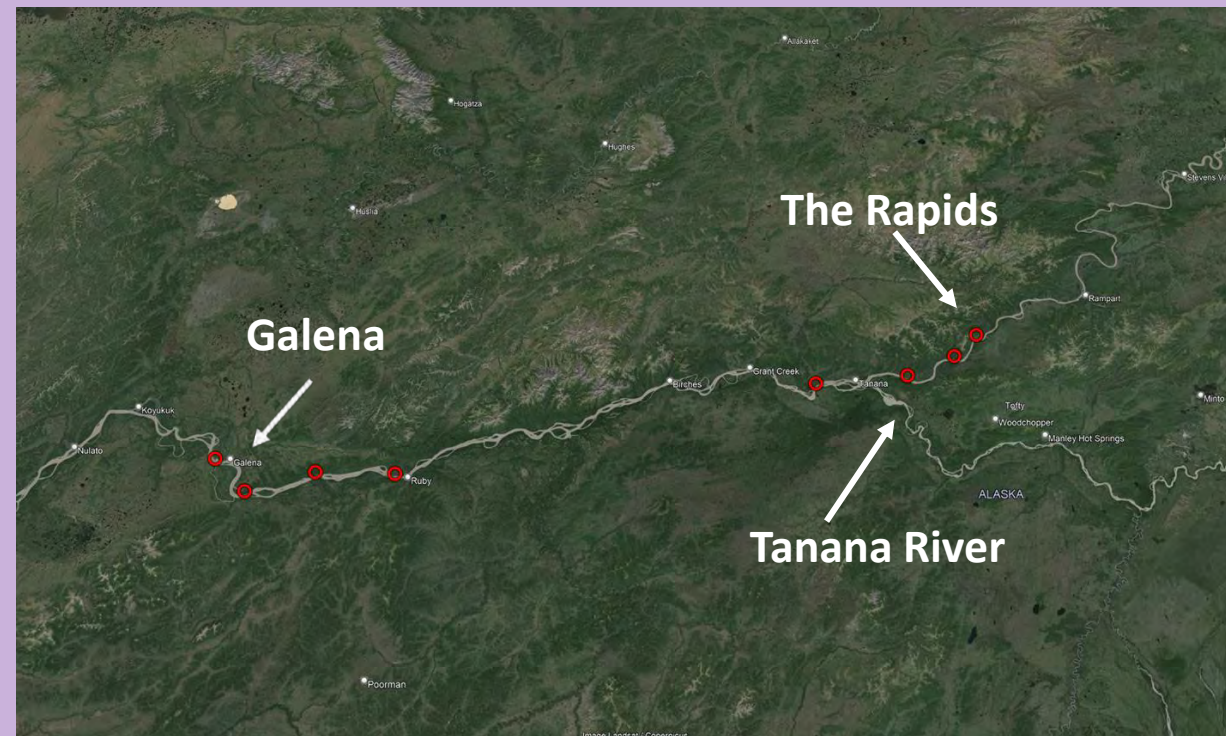
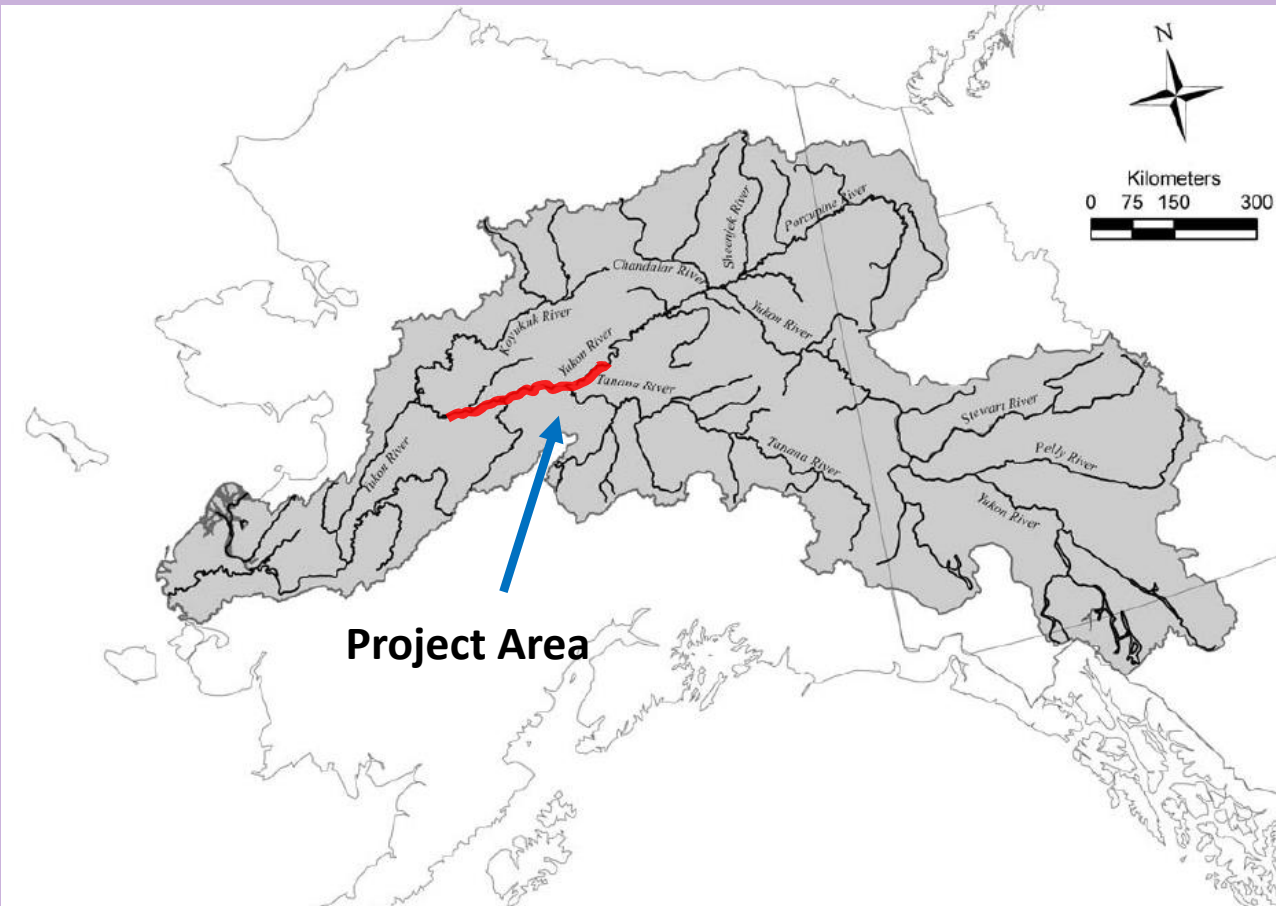
- **Secured multiple funding sources**
- **Pilot Station site visit and job shadowing**
- **Preliminary hydroacoustic site assessments**
- **Acquired sonar equipment on loan from the USFWS and ADF&G**

Pilot Station Visit

- ❖ Deploying and aiming sonars
- ❖ Learned essential troubleshooting skills
- ❖ Job shadowing of project biologists and technicians



Potential Sonar Sites



Site Assessments

- Using GIS and Traditional Knowledge eight surveys sites were identified as Areas Of Interest (AOI).

Criteria for AOI

- Unbraided single channel section of river.
- Relatively narrow (less than 800m across).
- Less than 30 miles from the nearest village.



Site Assessments

- ▶ Bathymetric, side scan, and observational data were collected at six of the eight sites.
- ▶ Notes were taken on flow, substrate type, and general descriptions of the river and bank characteristics.
- ▶ Data collected was used to make bathymetric maps and allowed for cross-sectional profiles to be created.
- ▶ Side scan images were stitched together to create composite images of the first 50 m from shore and were used to identify underwater debris and obstacles.



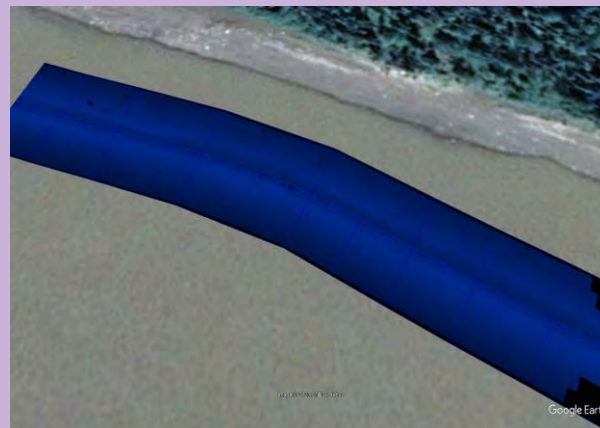
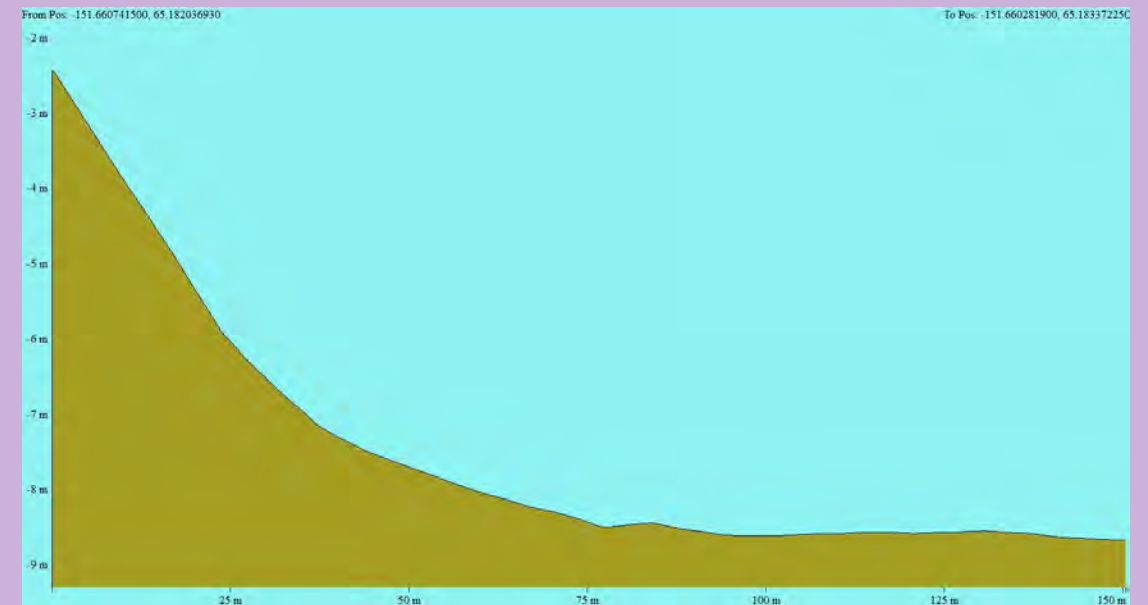
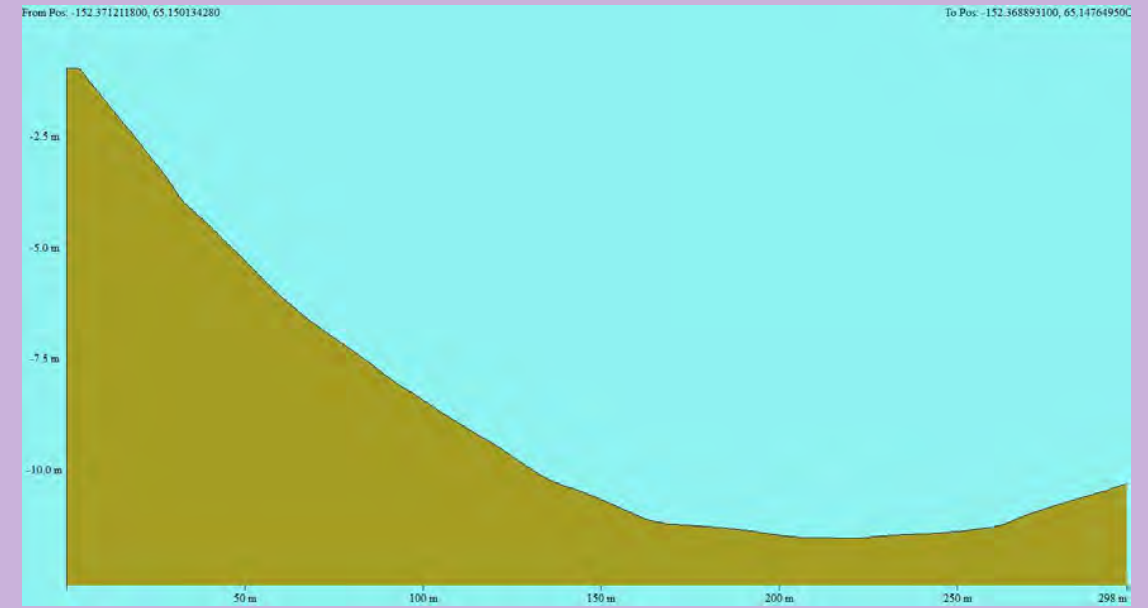
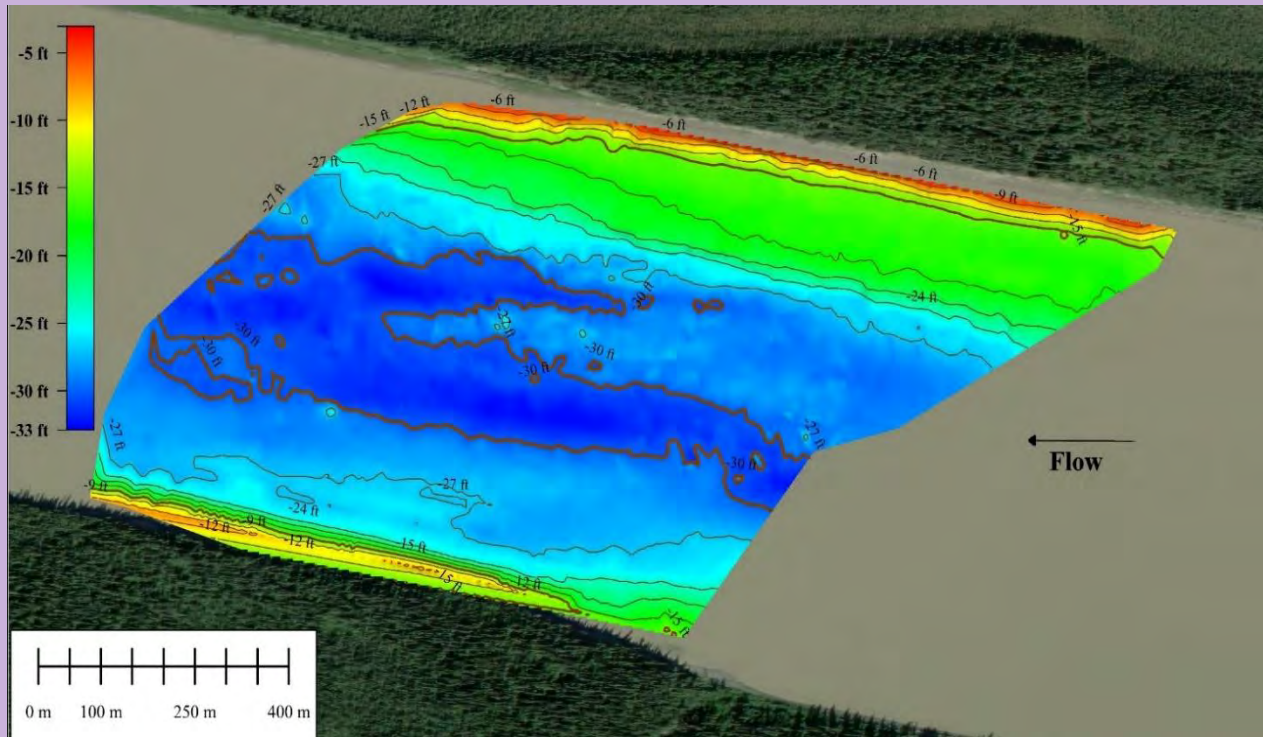
Sixteen Mile Island



Road Access

Tanana River

Sixteen Mile Island



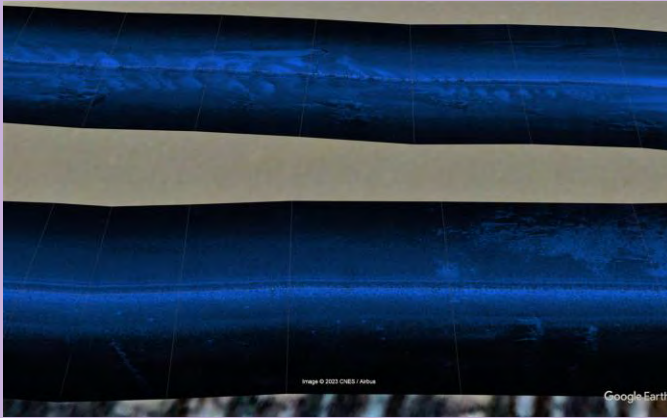
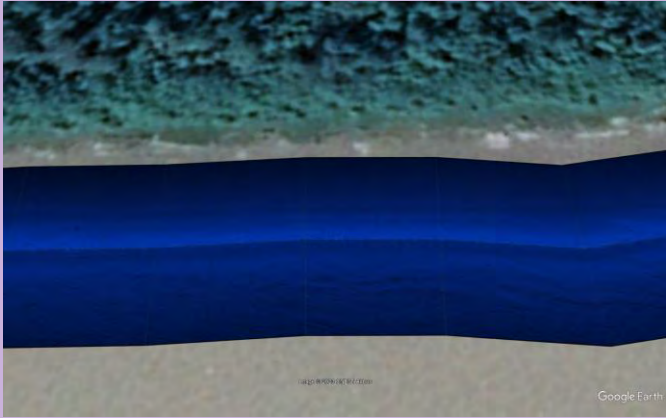
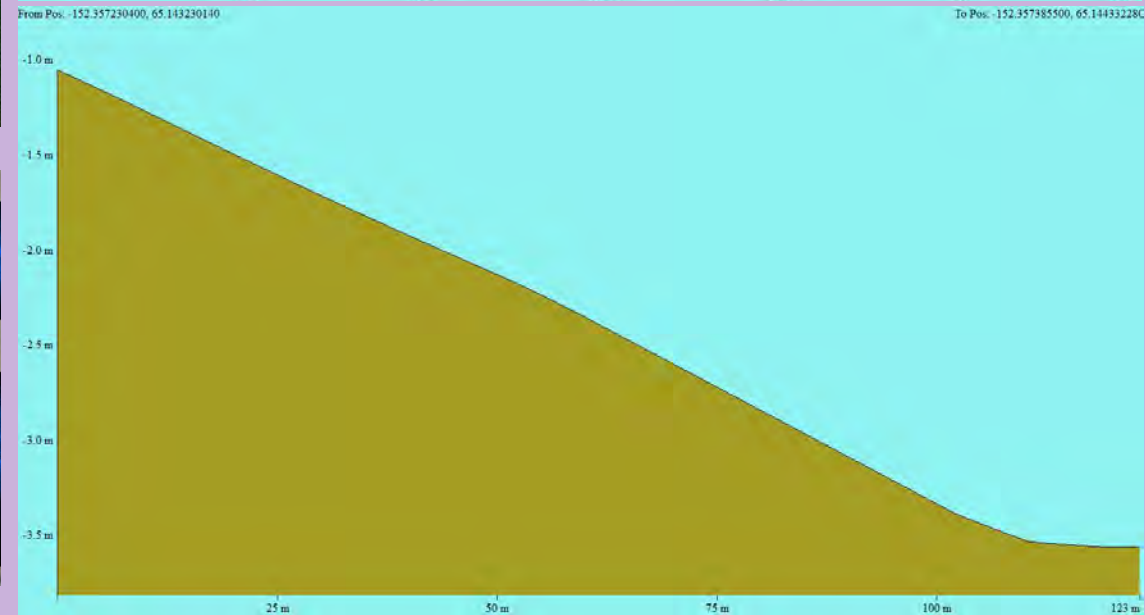
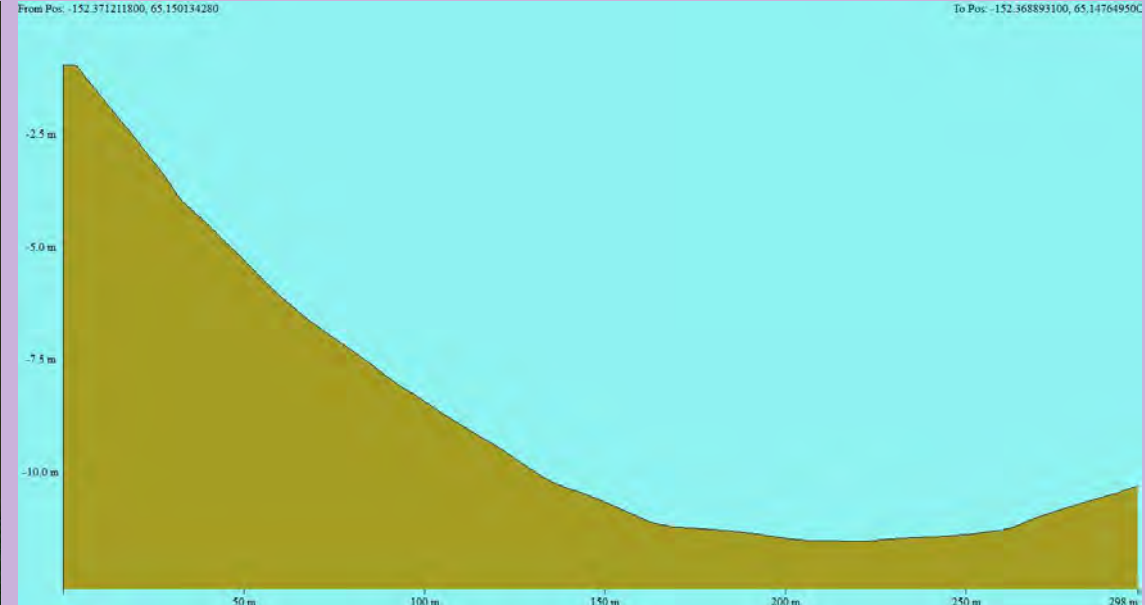
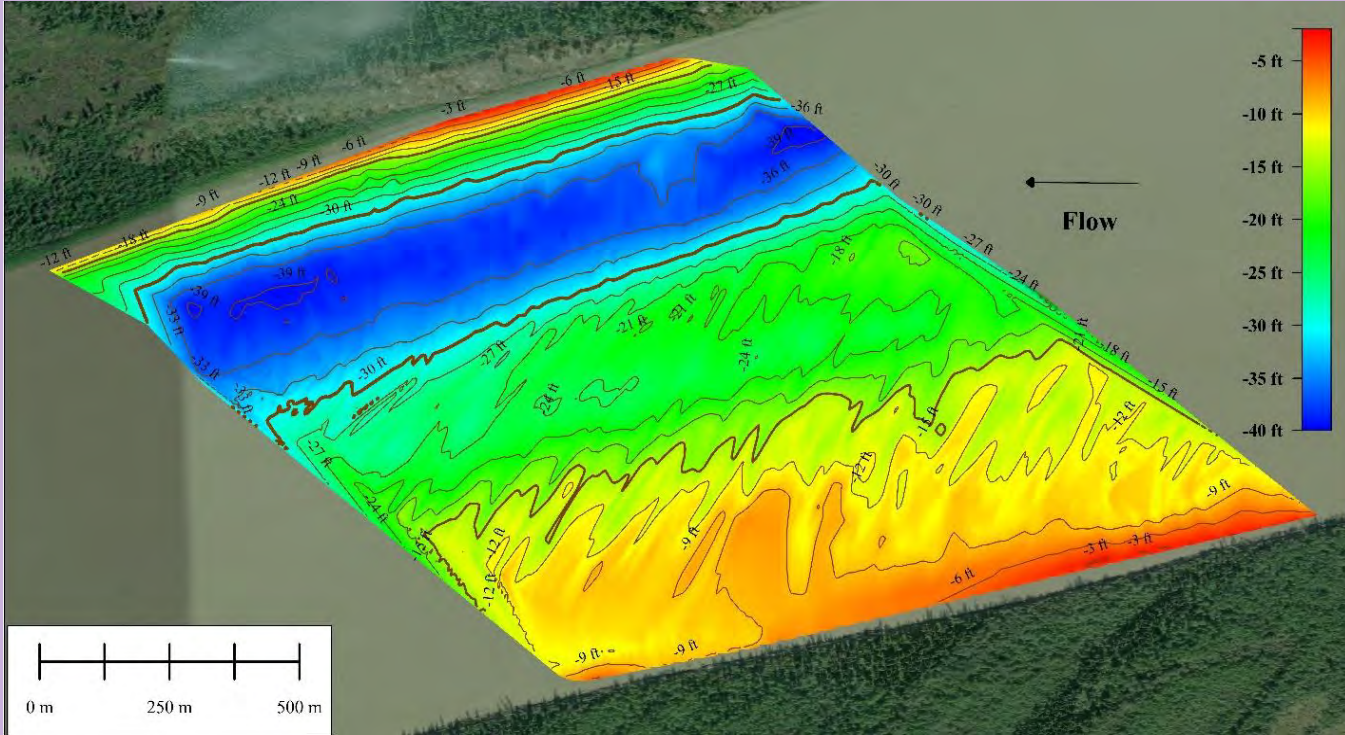
Tozitna River



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Tanana River

Tozitna River

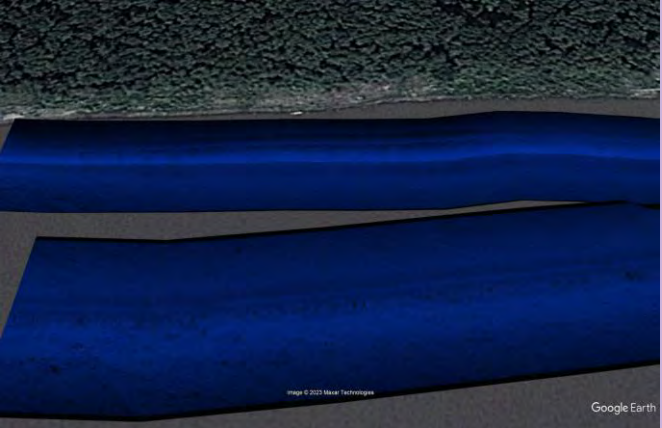
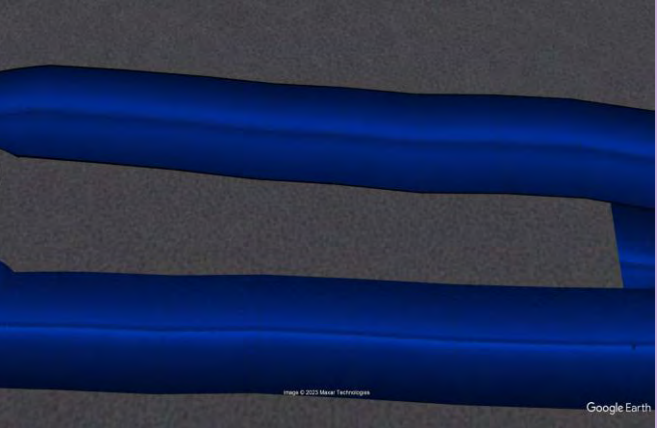
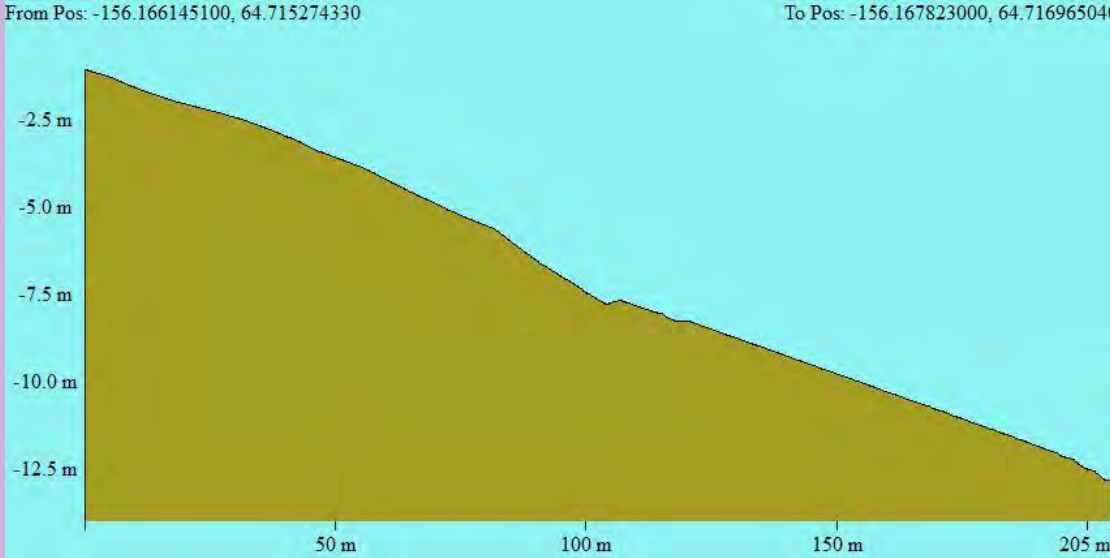
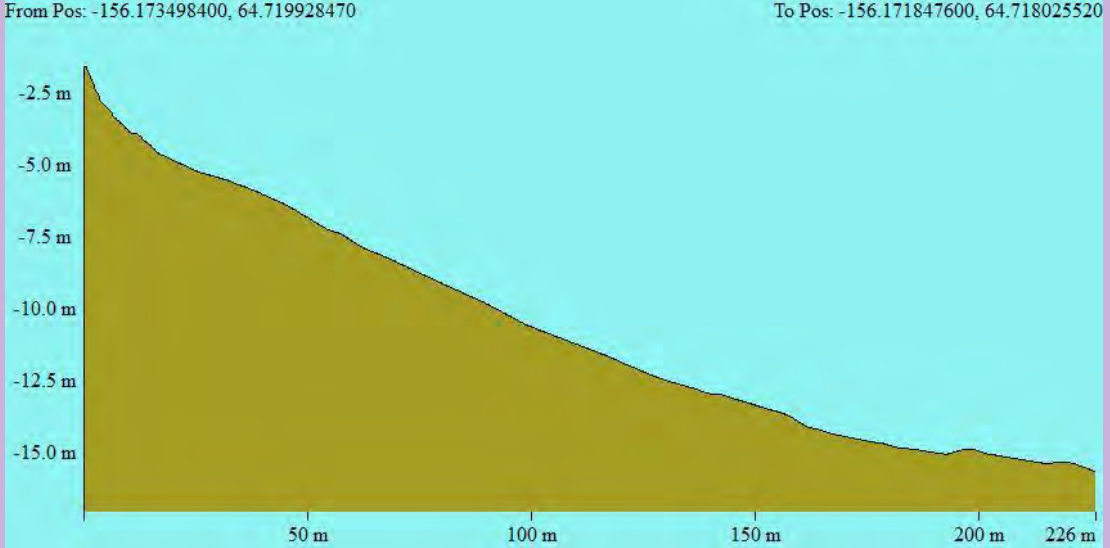
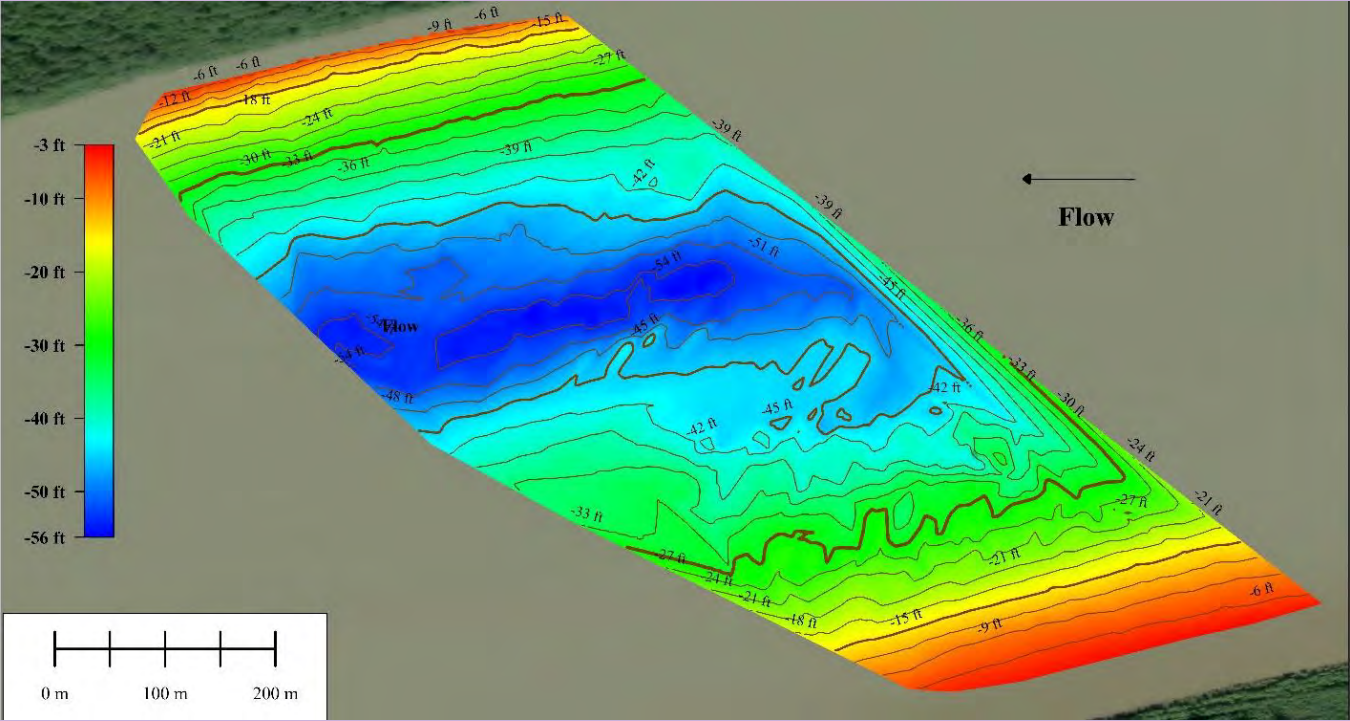


Yuki Island

Galena
28 Miles Downstream

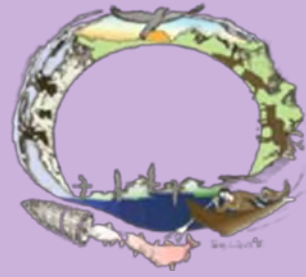


Yuki Island



Plans for 2024

- **Gather more detailed bottom profiles at preferred sites.**
- **We plan on deploying both split-beam and imaging sonar at different locations.**
 - **Determine the optimal sonar equipment and settings that adequately ensonifies the water column based on slope, depth, and fish distributions.**
 - **Find if there is adequate detection of fish targets**
 - **Assessment of fish distributions and migratory patterns**
 - **Determine the feasibility of running drift gill nets**



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Thank you!

Brian Lepping – Tanana Chiefs Conference

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