USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

2026 Unuk River Eulachon Monitoring Season

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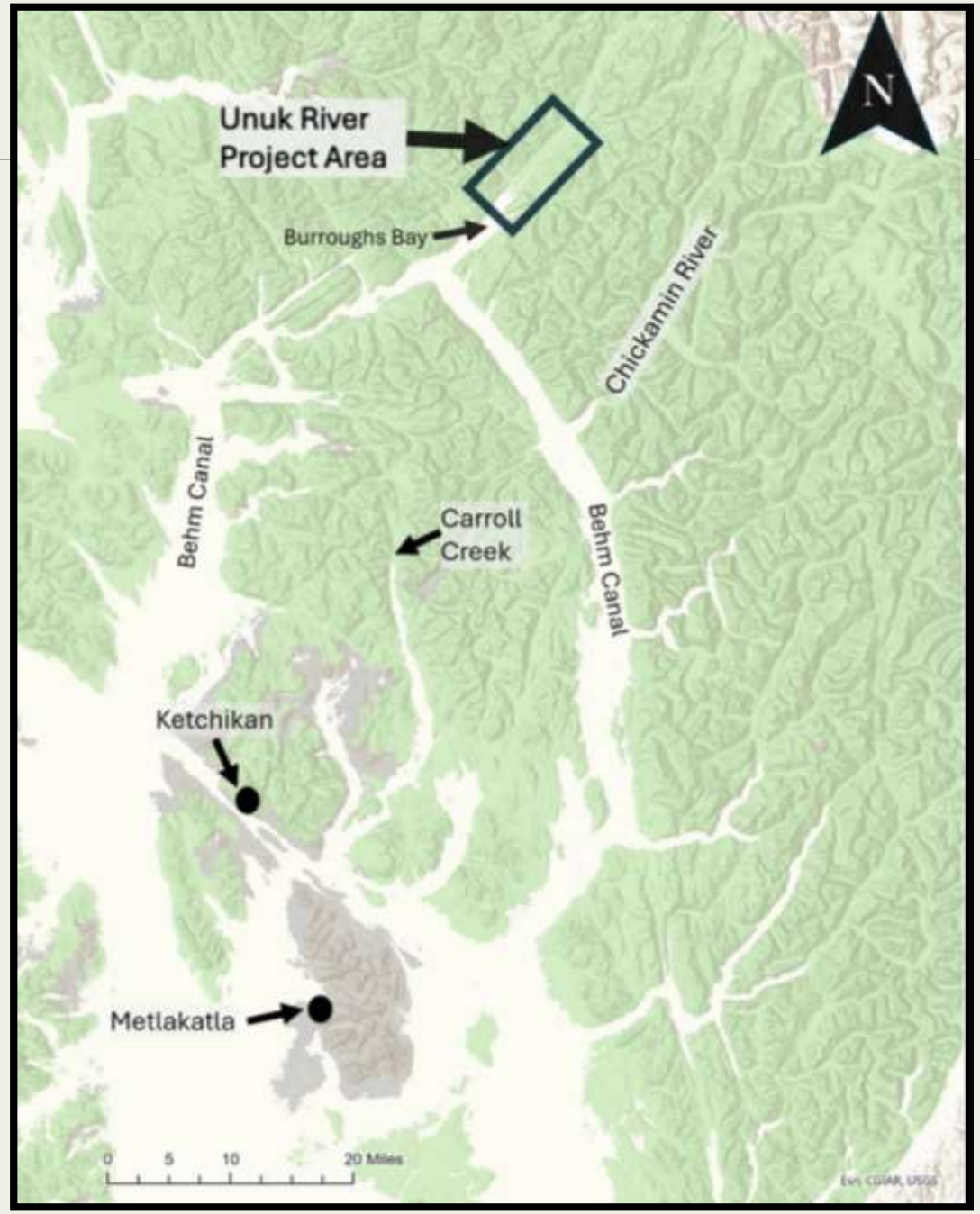
KETCHIKAN MISTY FJORDS
RANGER DISTRICT

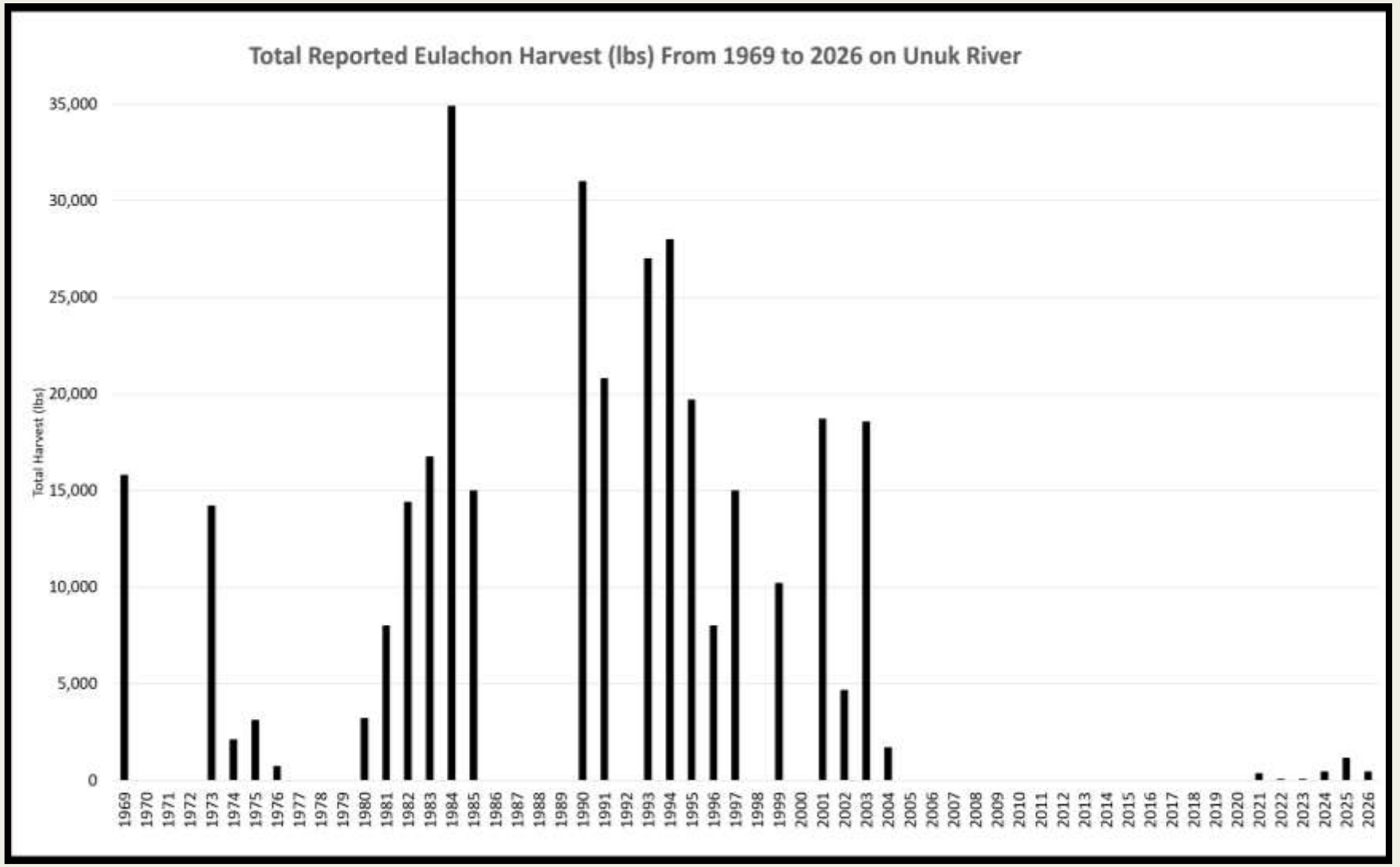
History

The Unuk River historically supported traditional use, subsistence use, and commercial fisheries for Eulachon, or Ooligan.



History: Harvest

- Annual harvest during 1980's &1990's averaged about 12,500 pounds per year, primarily through commercial harvest permits.
- Permitting for Federal subsistence harvest began in 2001.

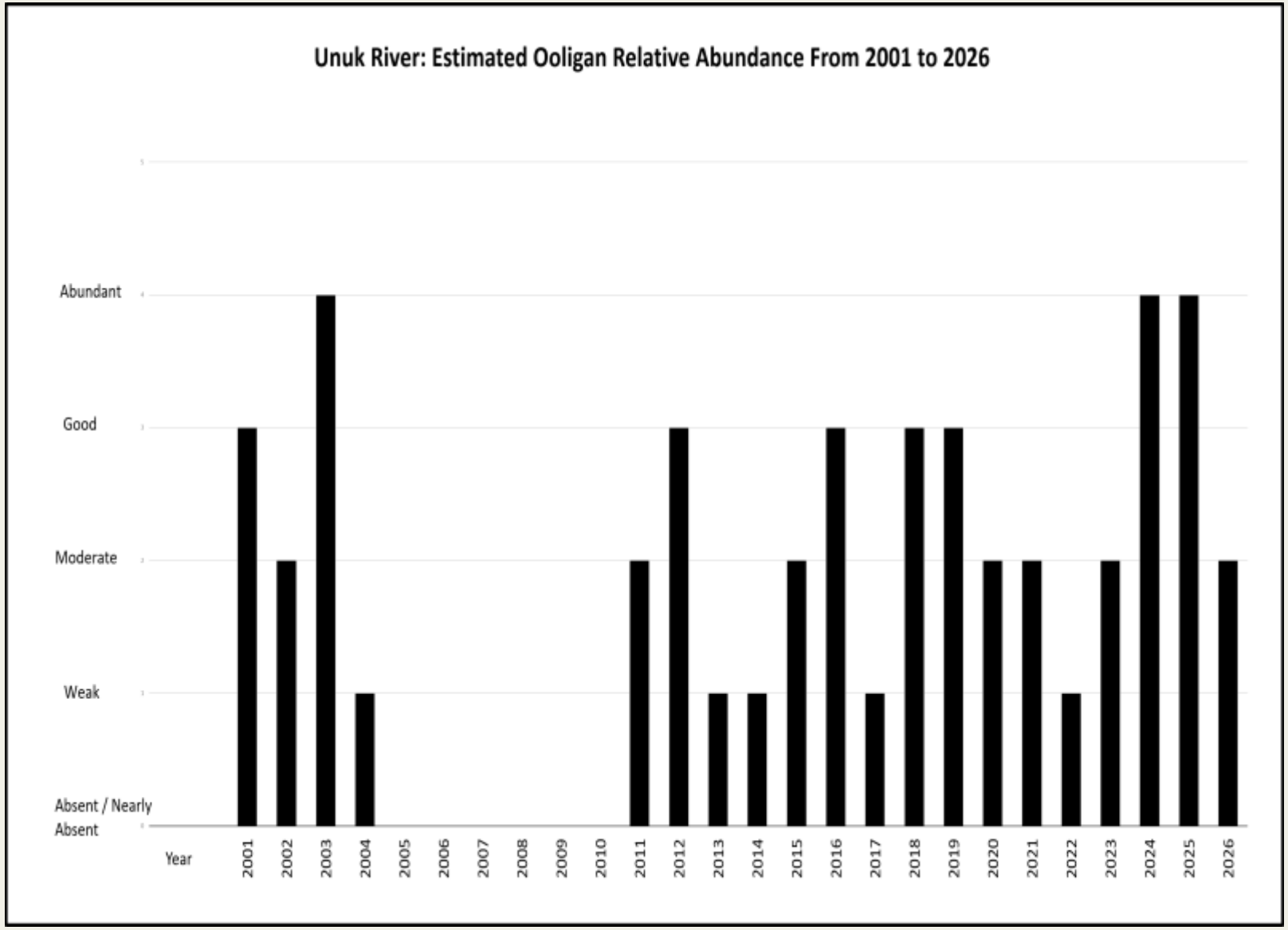


History: Monitoring

- Monitoring began in 2001 by US Forest Service and Alaska Department of Fish & Game.
- In 2005 surveyors observed only two fish in the river, resulting in closure to eulachon fisheries in District 1.
- Between 2005 and 2010 Ooligan were nearly absent from the Unuk River.
- Ooligan began returning to the Unuk River in 2011.
- In 2018 the US Forest Service partnered with the Ketchikan Indian Community to increase monitoring efforts.
- In 2021 harvest was reopened to Federally Qualified Subsistence Users for the first time since 2004.
- Limited to one 5-gallon bucket and dip net and cast net only methods.

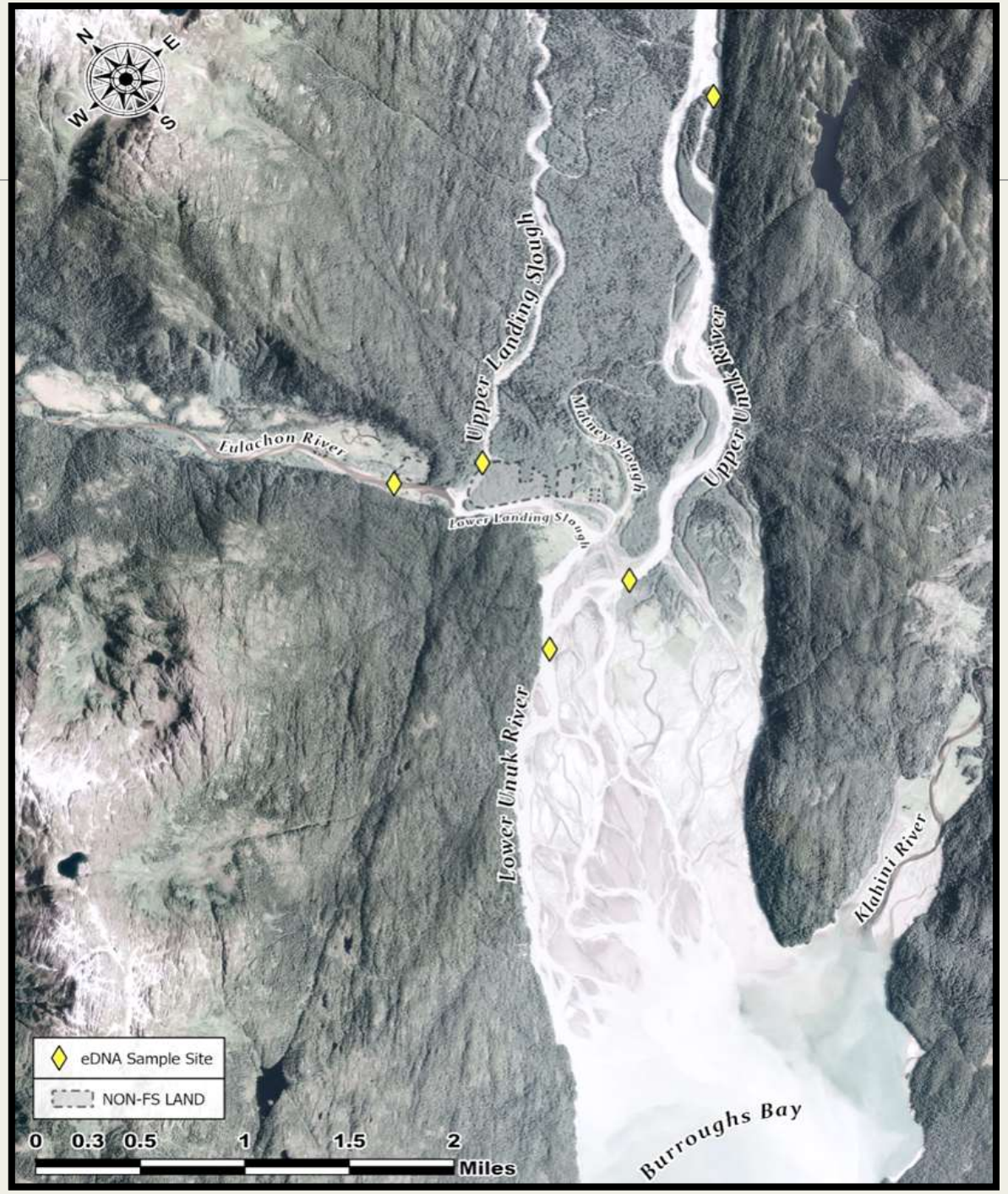
History: Returns

- Abundant = *large high-density schools (>10,000 fish) widespread along multiple major channels and present beyond one week;*
- Good = *moderately large high-density schools (1000 – 10,000) spread throughout one or more major channels and present for at least a week;*
- Moderate = *Some high-density schools, small to moderate in size (500-1000 fish), spread out over multiple channels and present for at least a week;*
- Weak = *small schools of fish (<500 fish), scattered, no large high-density schools, and present less than a week;*
- Absent/Nearly Absent = *Little to no fish observed, or small pockets of individuals seen throughout run.*



Survey Methods

- Boat Surveys
- Foot Surveys
- Traditional Ecological Knowledge
- eDNA Surveys



Survey Methods: Boat Surveys

Boat Surveys

- Fast
- Cover more ground
- Can see farther from the boat
- Limited by shallow water & obstacles

Survey Methods: Foot Surveys

Foot Surveys

- Access areas boats can’t go
- Assess eggs on shoreline
- Limited by tide and distance

Survey Methods: Traditional Ecological Knowledge

Traditional Ecological Knowledge

- Local knowledge helps us!
- Example: Conversations with local fisherman said that our big 2025 run was only about a 7/10 compared to historic runs.

Data Collected: Fish Counts

Estimated fish numbers

Data Collected: Egg Surveys

Eggs on the shoreline

Data Collected: EDNA Samples

Environmental DNA (eDNA) Collection

How does eDNA help?

Heavy ice in 2023 prevented observation of fish

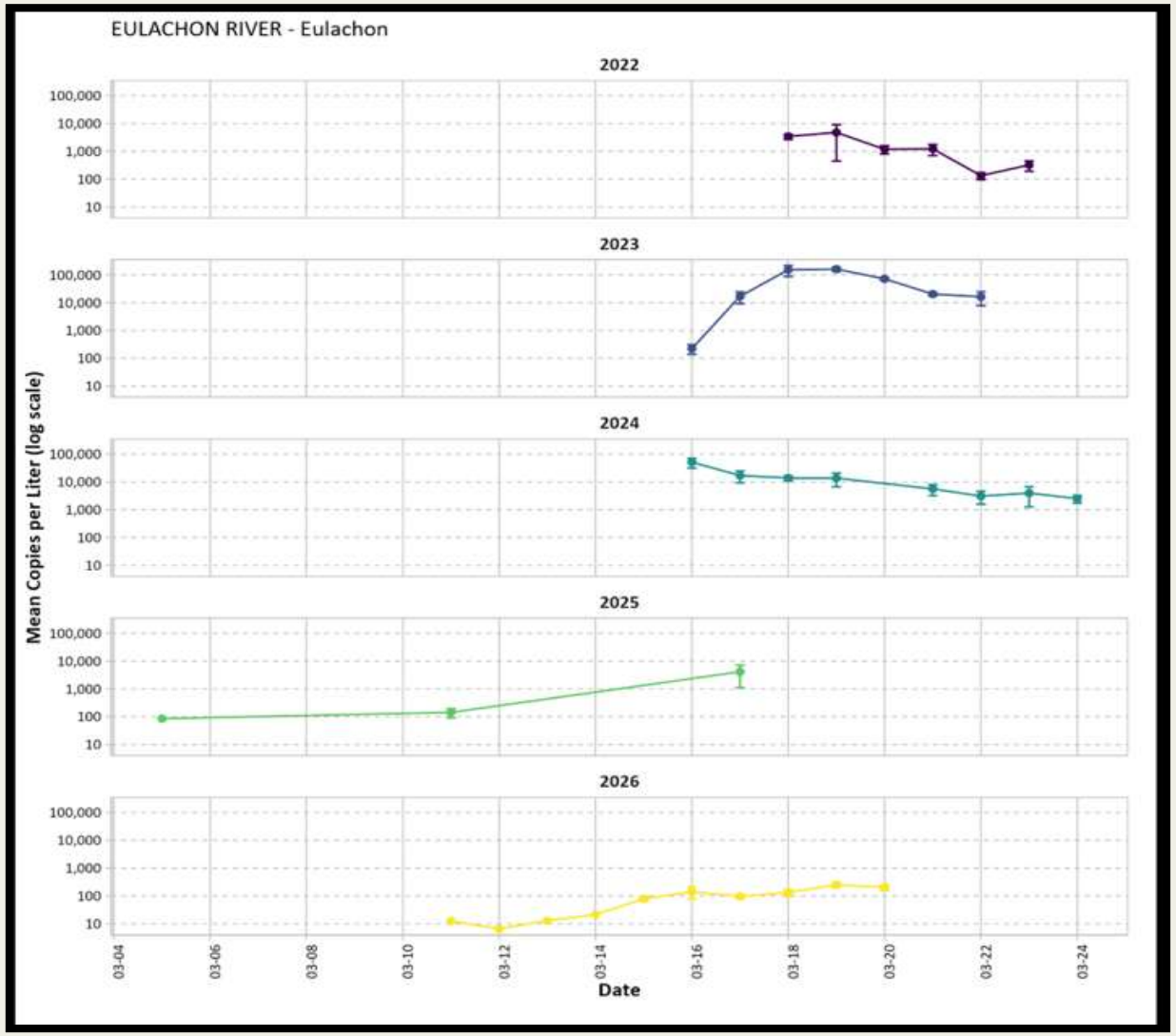
A conservative estimate of “Moderate” was used for the run size.

eDNA Expands our Understanding

Surveyors observed a significant amount of spawn (eggs) and suspected run was larger.

eDNA Can Provide a Clearer Picture!

eDNA lab results confirmed the 2023 run was a large run with high numbers of fish detected per liter of water.



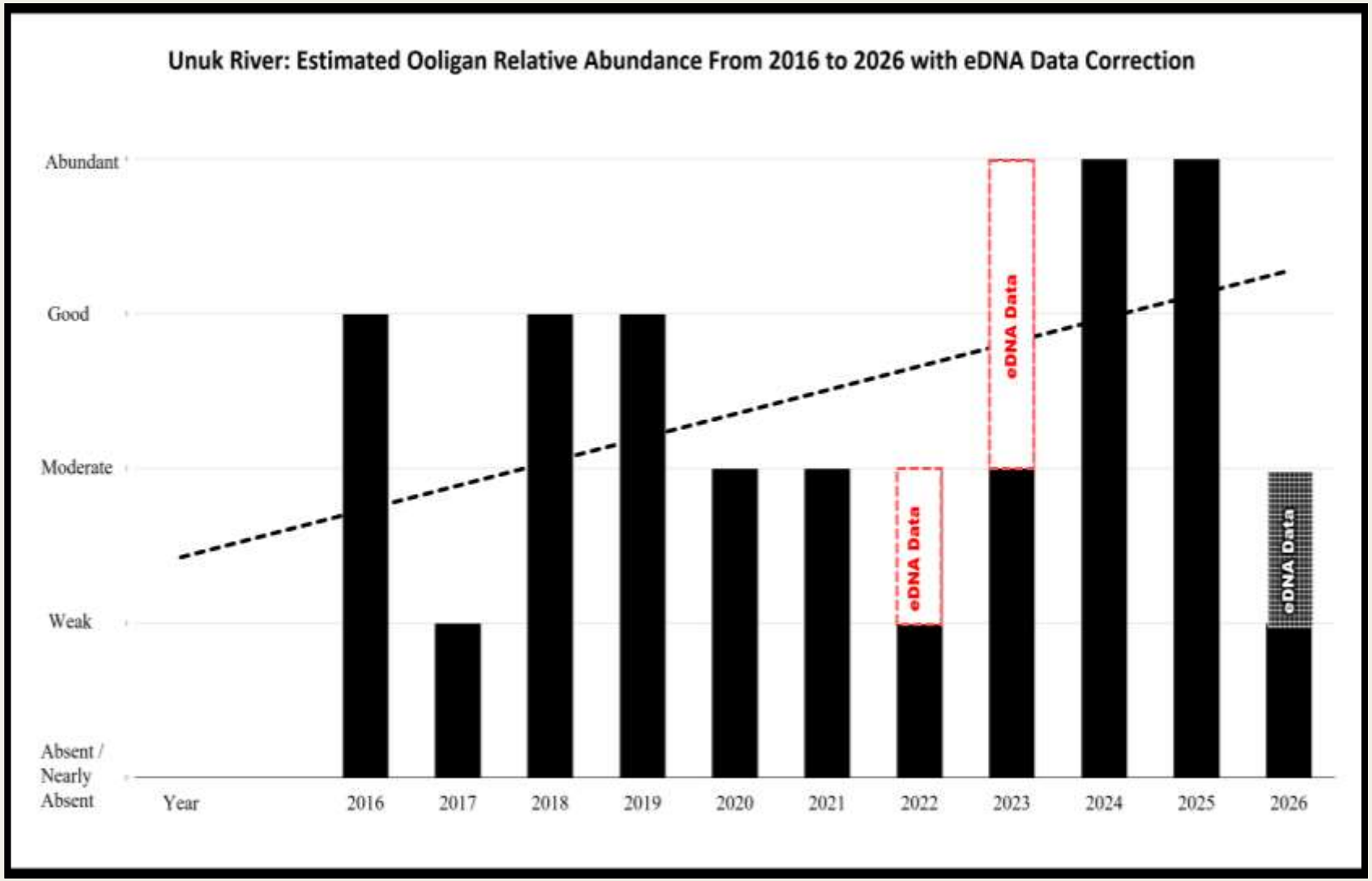
eDNA data provided by the Ketchikan Indian Community

eDNA Helps with Longterm Management!

eDNA helps when visual surveys are unsure.

Since our partners at KIC began eDNA collection in 2021 we have documented several differences from our visual observations.

- eDNA increased abundance estimates for 2022 and 2023.
- eDNA decreased abundance estimate for 2026.



2026 Season Results

- The 2026 Unuk River Ooligan run arrived on March 14 in small numbers, with the peak of the run observed between March 16 and 17.
- The run quickly diminished after March 17 with no fish seen after March 20.
- Based on the numbers of Ooligan observed by biologists, and reports from local subsistence users, the 2026 Unuk River Ooligan run appeared to be Moderate; however, eDNA data results suggest the 2026 run was closer to Weak in size.

Conclusions: Recommendations

- The 2026 Ooligan run appears to be sufficient to continue allowing limited harvest on the Unuk River with gear restrictions.
- We want to see a full life cycle of good returns, about 4-5 years, before considering relaxing restrictions.
- Continue to use partners, including Alaska Department of Fish & Game, Ketchikan Indian Community, and local fisherman.
- The eDNA collection appears to be a valuable tool, however, the delay in laboratory analysis prevents use for real time in-season management.

Conclusions: Issues

- Visual surveys can be affected by weather, tide, ice, river turbidity, observer turnover, and the variation of the observation methods.
- Larger numbers of fish are harder to quantify than smaller numbers.
- Tidal conditions prevent some locations from being surveyed easily or at times not at all.

THANK YOU!

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