#25-011

State of Alaska
Department of Fish and Game
Division of Sport Fish

Nomination Form
Anadromous Waters Catalog & Atlas

Region: ARC

USGS Quad(s): De Long Mts A-2

Nomination proposes the following revisions: *(check all that apply)*

☑ *Addition* ☑ *Correction* ☐ *Deletion* ☐ *Supporting Information*

AWC Number of Water Body: *(if known)* 331-00-10060-2120- (-3306)

Name of Water Body: *(if known)* IKALUKROK Creek / East Fork Ikalukrok Creek

☑ *Official USGS Name* ☑ **Local or Unofficial Name*

For Official Use Only

Nomination # : 25-011

Revision Year : 2026

Revision(s) to: *Atlas* ☐ *Catalog* ☐ *Both* ☑

Revision Code(s) : C-9, A-2

Fisheries Scientist	*Date* 9/24/2025
Habitat & G Coordinator	*Date* 9/24/25
AWC Project Biologist	*Date* 17 Sept 2025
GIS Analyst	*Date* 9/30/2025

For fish observations, please provide the upper most point (Lat Long) where any two individuals of observed species & life stage were documented. Please use Decimal Degree's with a minimum of 5 decimal places. Please see Supplemental Information Form if you need more room for species observation data and comments.

Species	Date Observed	Latitude	Longitude	Anadromous	Adult Presence	Spawning	Rearing
Dolly Varden	3-Aug-2019	68.15331	-162.84739	☑	☐	☐	☑
Dolly Varden	5-Aug-2025	68.15331	-162.84739	☑	☐	☐	☑
				☐	☐	☐	☐
				☐	☐	☐	☐
				☐	☐	☐	☐

~UPDATE/ADJUST upper stream point of existing AWC Stream #331-00-10060-2120 "Ikalukrok Creek" to better approximate the location of the the confluence with it's tributary near here.

~ADD new AWC Stream #331-00-10060-2120-3306 "*East Fork Ikalukrok Creek" with Dolly Varden REARING.

Nominating an extension to the extent of rearing Dolly Varden in the Ikalukrok Creek drainage, specifically on the East Fork of the Ikalukrok Creek. Juvenile Dolly Varden have been observed here in 2019 (n=4) and again in 2025 (n=2). Due to the proximity to the ocean with no barriers and documentation of anadromous adult Dolly Varden in the area, the juvenile Dolly Varden are presumed to be of anadromous form.

We also nominate this stream to have the name East Fork Ikalukrok Creek, the locally recognized name.

The trip reports of the two occurrences of Dolly Varden capture in the East Fork Ikalukrok are attached.

Observers Signature Lauren Yancy 9/13/25 *Date*

Observer Name: *(Please Print)* Lauren Yancy

Agency or Organization: ADF&G - Habitat

Address: 1300 College Rd

Fairbanks, AK 99701

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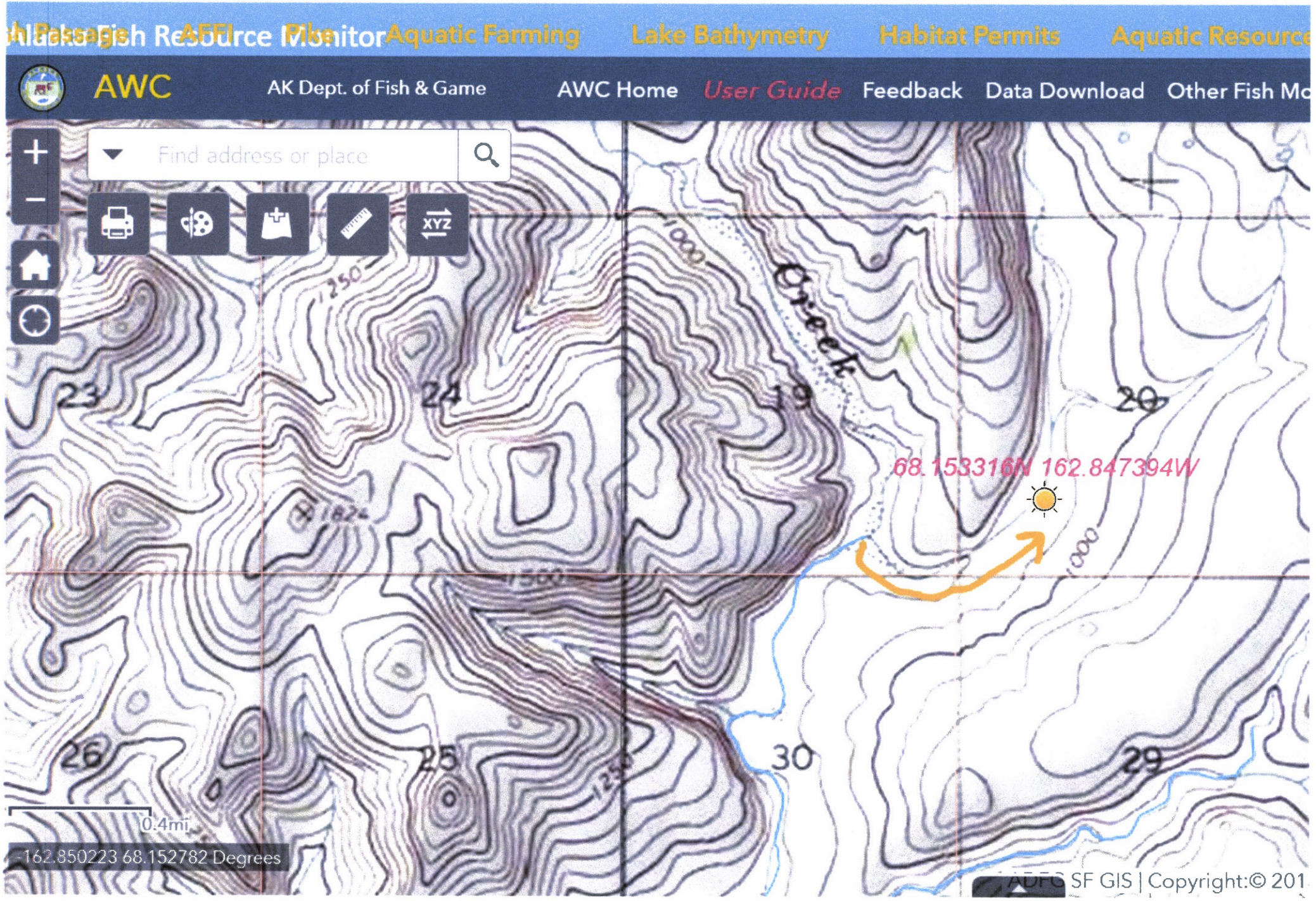
Signature of Area Biologist *Date*

Name of Area Biolgist (Please Print):


Aquatic Farming
Lake Bathymetry
Habitat Permits
Aquatic Resource
AWC
AK Dept. of Fish & Game
AWC Home
User Guide
Feedback
Data Download
Find address or place
68.153316N 162.847394W
0.4mi
-162.850223 68.152782 Degrees
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TRIP REPORT

State of Alaska
Department of Fish and Game

Field Dates:	July 29 – August 5, 2025
Locations:	Drainages in the vicinity of the Red Dog Mine and Aktigiruq Anarraaq Extension Project (AAEP) deposits
Objectives:	To sample juvenile fish in the area and collect juvenile Dolly Varden for whole body element analysis, and other aquatic biomonitoring tasks
Participants:	Audra Brase and Lauren Yancy (ADF&G Habitat)
Weather:	Mostly clear, with one day of low dense fog
Access:	Pickup truck and helicopter

On July 29, 2025, Audra Brase and Lauren Yancy of the Region III ADF&G Habitat Section flew to the Red Dog Mine site approximately fifty miles east of Kivalina. The main goal of this trip was to sample juvenile fish populations using minnow traps. We set minnow traps and collected in-situ water quality data at 23 total sites surrounding the mine and the AAEP deposits (Figure 1). We collected juvenile Dolly Varden from Buddy Creek, Anxiety Ridge Creek, and Red Dog Creek for whole body element analysis. We also collected comprehensive water chemistry samples from 5 sites, fish for histopathology analyses from 3 sites, and a sediment sample that was missed in July was collected from Ferric Creek.

The weather was pleasant with clear skies throughout the week, except for one day that brought very dense fog and low-lying clouds to the area. All flights were cancelled that day and no helicopters flew. Water levels at all sites were low to moderate and conducive for minnow trapping. These conditions were a sharp contrast to 2024 when water levels were exceedingly high, and no minnow trapping could be conducted in the drainages surrounding the mine site.

Ten minnow traps baited with cured salmon roe were set at each of the sample sites and retrieved the following day if possible. Catches were at or below average at most sites, apart from Grayling Junior and North Fork Red Dog creeks where we caught 15 and 32 Dolly Varden respectively (5-year averages are 3 fish from each of those sites, Table 1). Another site with unexpectedly high catches of fish was Ferric Creek, a tributary of the Wulik River with orange staining on the rocks and sediment (Figure 2). Ferric Creek was last sampled for fish in late July 2002, when 24 fish were caught, whereas this year we caught 61 Dolly Varden. The total catch of 24 fish at Anxiety Ridge Creek was the lowest observed in the past 5 years (Table 1), which may be due to a large beaver dam that has been built in the upper portion of the drainage and may have changed the available habitat (Figure 3).

Comprehensive water chemistry samples were collected from Grayling Junior (Sta 209), Upper Grayling Junior North and Upper Grayling Junior East (Figure 4). At the upper Grayling Junior East site samples were collected from above the seep, within the seep, and below the seep. These samples were shipped to Dr. Brett Poulin (University of California, Davis - Department of Environmental Toxicology) where they will be analyzed and added to a growing dataset from Alaska's rusting rivers.

Histopathology samples were collected from 27 Dolly Varden captured in the mainstem Ikalukrok Creek upstream of Red Dog Creek (Sta 9), North Fork Red Dog Creek (Sta 12), and Red Dog Creek (Sta 151). Fish were primarily selected for histopathology sampling based on unusual pigmentation, abnormalities of the gills and/or deformities of the operculum (Figures 5 and 6). The selected fish were measured, photographed, then placed in a lethal dose of MS-222. After death, the fish were weighed, and the gills and liver removed and fixed in formalin. The stomach of each fish was also removed and preserved in ethanol for possible future analysis. The histopathology analyses will be performed by Dr. Morag Clinton (University of Alaska Fairbanks) and results will be included in Lauren Yancy's Master's thesis.

During this site visit we had several notable wildlife encounters. We saw 5 different brown bears from the helicopter, 2 of which were near our sample sites, so we postponed those samples. We were also able to observe firsthand when a caribou had to be hazed out of the active mine pit (Figure 7). This was a smooth operation, and the helicopter was an effective tool to encourage the caribou to leave the unsafe area. Finally, the last significant wildlife encounter was a muskox in Grayling Junior Creek (Figure 7). He was located just upstream of where we were setting minnow traps and appeared to be more interested in cooling off in the creek, rather than us.

We observed repairs of the North Fork Red Dog Bridge authorized under FH18-III-0236-A1 (Figure 8). The contractors planned to complete the work on August 4, and they expected that heavy equipment would start using the bridge within a few days.

While at Evaingiknuk Creek, we noted that the 2 main culverts under the material site access road may be deforming and/or settling, but they do not appear to have changed much since 2010 (Figures 9 and 10). The culverts still allow for fish passage both up and downstream at moderate flows.

We left the mine site on August 5 and returned to Fairbanks that evening.

Note: Data presented in this trip report are preliminary. Final results will be presented in the ADF&G Technical Reports which will summarize all 2025 aquatic sampling events at the Red Dog Mine and AAEP.

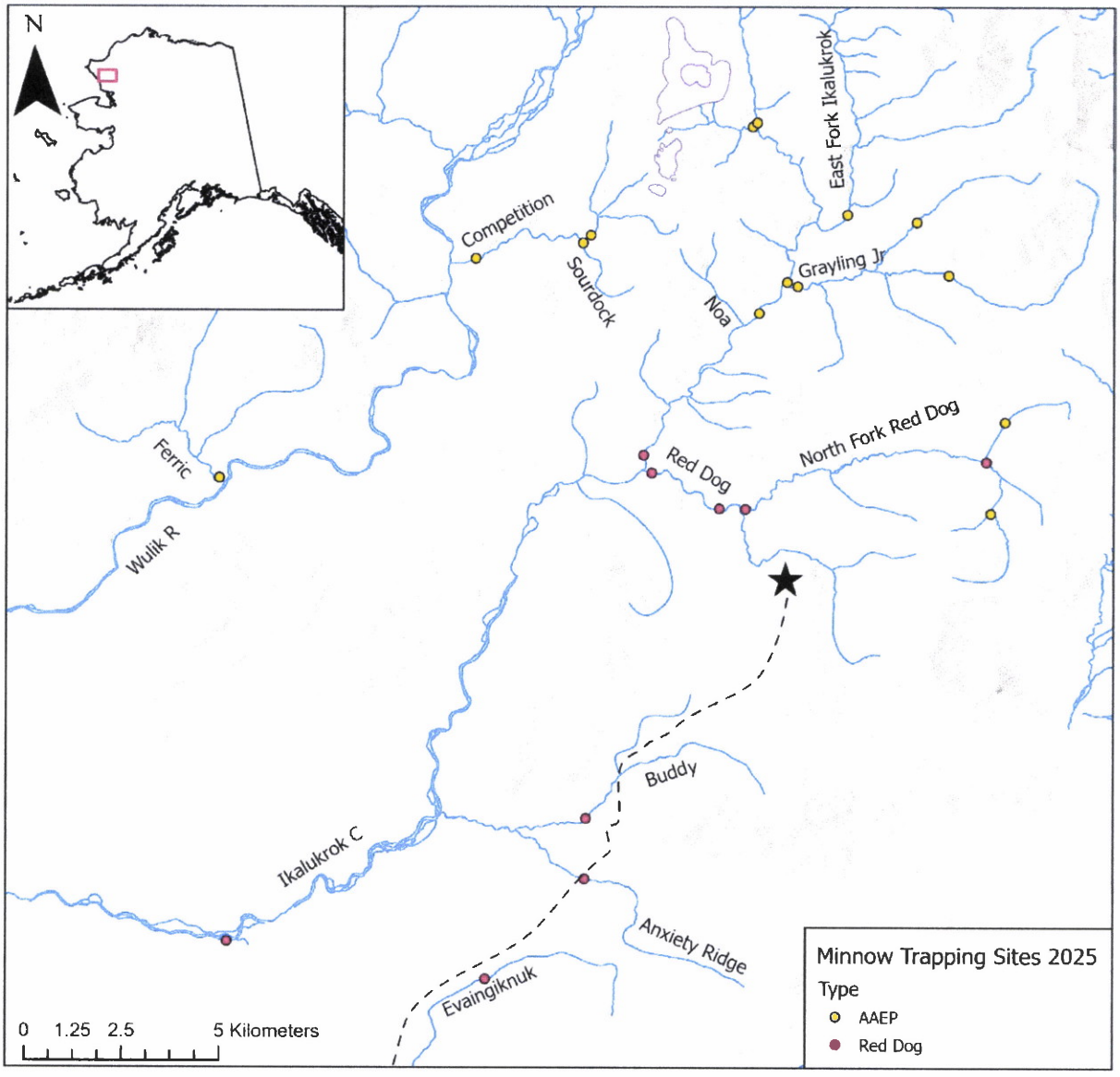
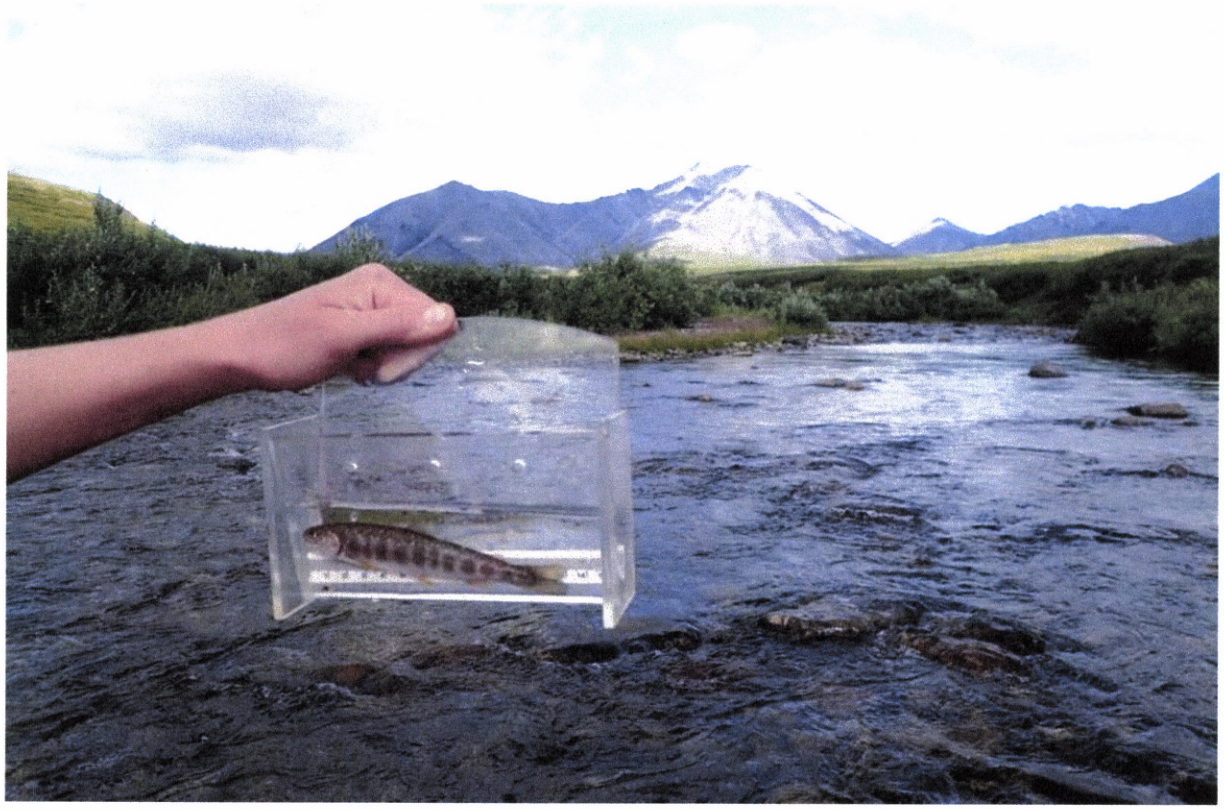


Figure 1. Minnow trap sample sites surrounding Red Dog Mine and AAEP, August 2025. Pink polygons are the location of the AAEP deposits and the star is the Red Dog mine site.

Table 1. List of minnow trap sample locations and catches of juvenile Dolly Varden from streams in the vicinity of Red Dog Mine and AAEP, 2019-2025.

	2019	2020	2021	2022	2023	2024[a]	Average (2019-23)	2025
Evaingiknuk (Noatak Tributary)	30	7	16	21	20	-	19	11
Anxiety Ridge Creek	28	50	90	114	68	-	70	24
Buddy Creek	57	15	25	202	88	-	78	27
Upper Red Dog Creek (Sta 151)	1	0	6	67	10	-	17	11
Lower Red Dog Creek (Sta 10)	3	0	1	27	41	-	14	5
Upper Ikalukrok Creek (Sta 9)	2	4	1	25	3	-	7	4
Ikalukrok Creek upstream of Grayling Junior	-	-	-	-	-	-	N/A	3
Ikalukrok Creek upstream of Noa (AAEP - 02)	-	-	-	-	-	-	N/A	10
Ikalukrok upstream of West Fork Ikalukrok (Sta 206)	0	0	0	0	0	-	0	0
West Fork Ikalukrok (Sta 205)	0	0	0	0	0	-	0	0
East Fork Ikalukrok (Sta 208)	4	0	0	0	0	-	1	2
Lower Ikalukrok Creek (Sta 7/160)	22	9	12	60	20	-	33	19
Upper Volcano	-	-	-	0	0	-	N/A	-
Lower Volcano	0	1	0	13	1	-	3	-
Sourdock (Sta 204)	0	-	0	0	0	-	N/A	0
Upper Competition (Sta 203)	0	-	0	0	0	-	N/A	0
Lower Competition (Sta 202)	21	-	0	0	0	-	N/A	0
Grayling Jr (Sta 209)	5	6	1	1	3	-	3	15
Upper Grayling Jr East Trib	-	-	1	0	1	-	N/A	2
Upper Grayling Jr North Trib	-	-	7	18	-	-	N/A	2
North Fork Red Dog Creek (Sta 12)	0	0	2	4	9	-	3	32
Upper North Fork Red Dog Creek	7	0	3	1	1	-	2	4
Upper North Fork Red Dog Creek - trib	-	-	1	0	-	-	N/A	-
Upper North Fork Red Dog - North	-	-	2	0	4	-	N/A	2
Upper North Fork Red Dog - South	-	-	0	0	-	-	N/A	10
Ferric Creek (Sta 213)	-	-	-	-	-	-	N/A	61

[a] Due to high water, no juvenile fish sampling occurred in 2024.



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Soordock

set traps 10:45 7/31

pulled traps 1445 8/1

Trap #1: Ø

Trap #2: Ø

Trap #3: Ø

Trap #4: Ø

Trap #5: Ø

Trap #6: Ø

Trap #7: Ø

Trap #8: Ø

Trap #9: Ø

Trap 10 Ø

65

EFork Ikalu krok

Set traps 11:30 7/31

pulled traps 15:20 8/1

Trap #1: Ø

Trap #2: Ø

Trap #3: Ø

Trap #4: DV126

Trap #5: Ø

Trap #6: Ø

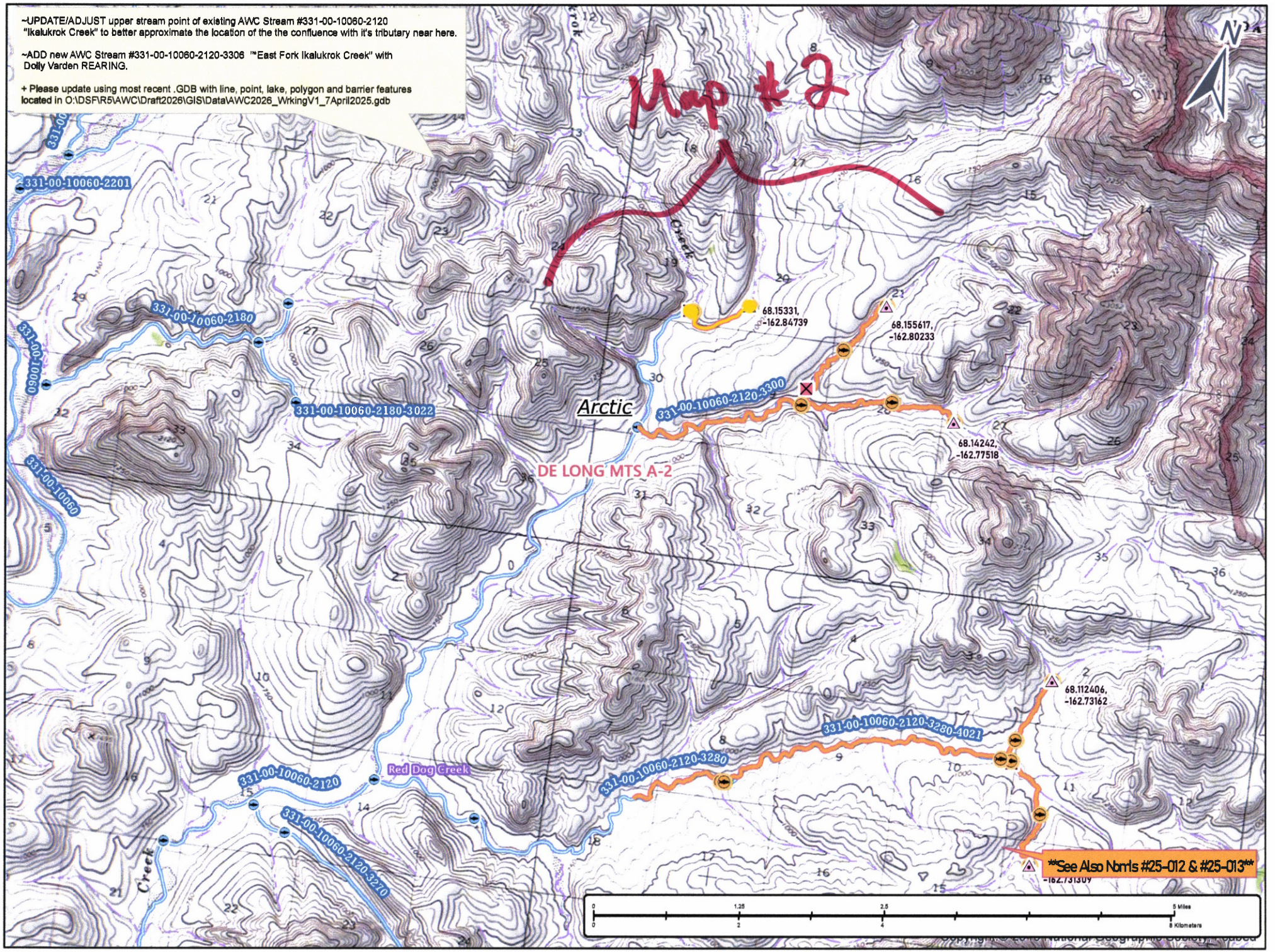
Trap #7: Ø

Trap #8: Ø

Trap #9: Ø

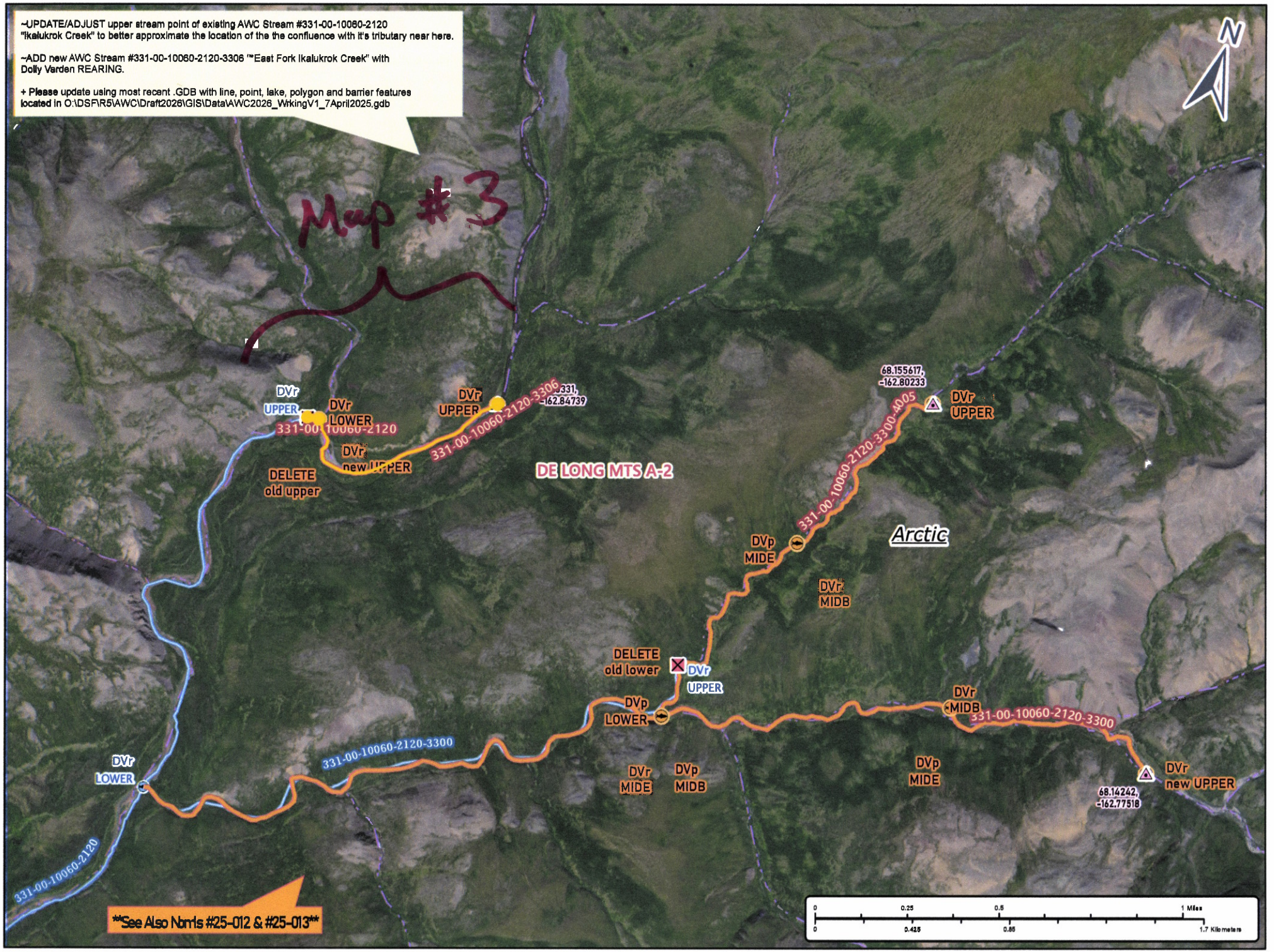
Trap 10 DV70

2 DV



Norm #25-011

Map #1



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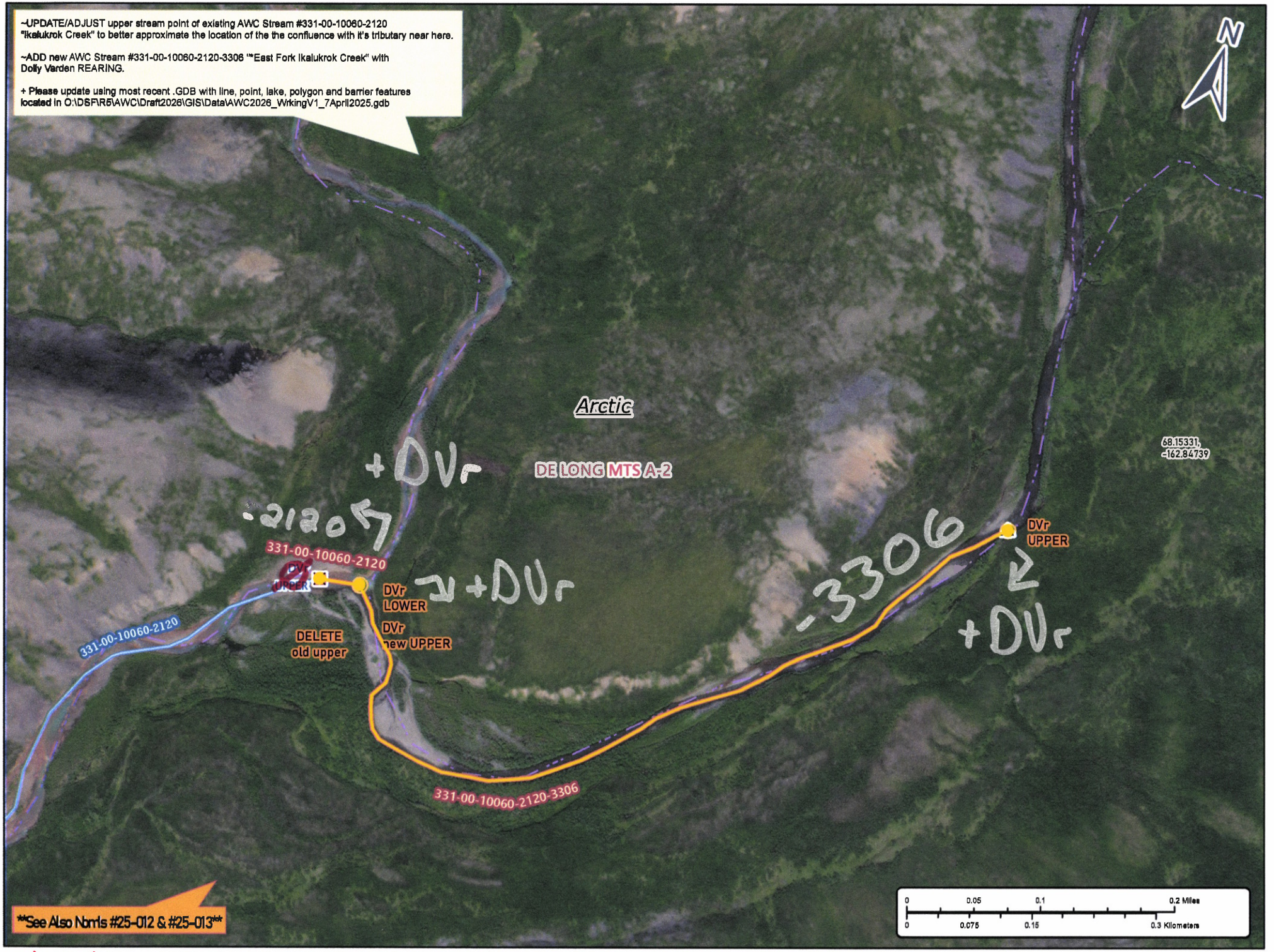
Map #2



Nom #25-011

Map #3