

Region ANCRC USGS Quad DE LONG MTS. A-2

Anadromous Water Catalog Number of Waterway 331-00-10060-2207

Name of Waterway SUNDAY USGS Name Local Name
 Addition Deletion Correction Backup Information

For Office Use An# 5333

Nomination # <u>01 434</u>	<u>AKH Ouklet</u> <u>12/3/01</u> Regional Supervisor Date
Revision Year: <u>2001</u>	<u>Edwin</u> <u>12/13/01</u> AWC Project Biologist Date
Revision to: Atlas _____ Catalog _____ Both <u>X</u>	<u>2 Stone</u> <u>12/21/01</u> Drafted Date
Revision Code: <u>A-2</u>	

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
<u>DOLLY VANDER</u>	<u>7/7/01</u>		<u>X</u>		<u>X</u>
<u>DOLLY VANDER</u>	<u>8/3/01</u>		<u>X</u>		<u>X</u>
					<input type="checkbox"/>
					<input type="checkbox"/>
					<input type="checkbox"/>

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments: SEE TRIP REPORT, ATTACHED

Name of Observer (please print) ALVIN G. OTT
 Date: 12/3/01 Signature: [Signature]
 Address: 1300 COLLEGE ROAD
FAIRBANKS, AK 99701

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes per AS 16.05.870.

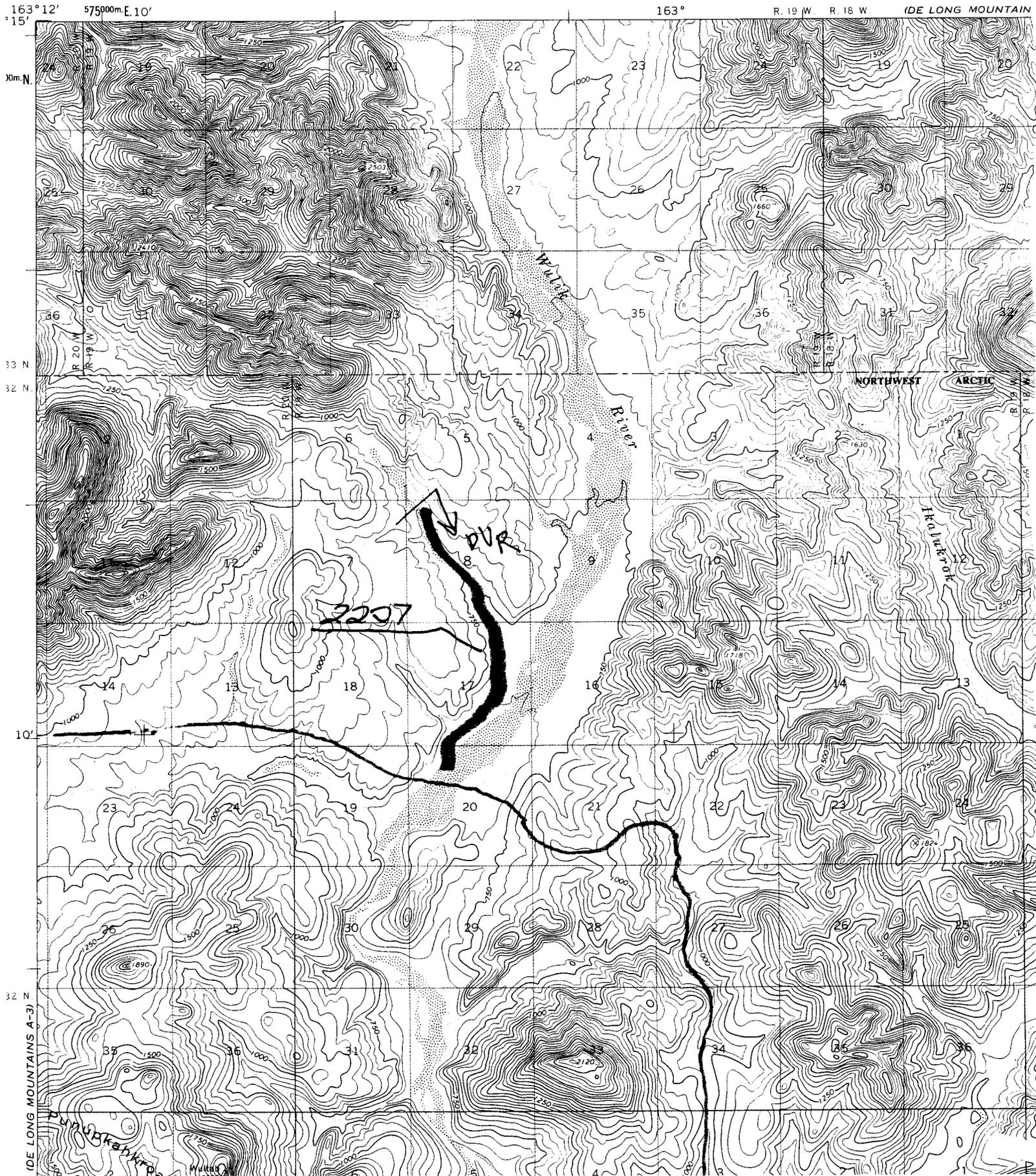
Signature of Area Biologist: [Signature]

ADD Stream

331-00-10060-2207

w/ DVR

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



Red Dog Trip Report (July 28 to August 9, 2001)
William Morris and Al Ott

The objectives of the late July/early August field trip to the Red Dog Mine were to capture and release juvenile Dolly Varden at the NPDES sample sites, to capture and release juvenile Dolly Varden at the Anarraaq and shallow gas baseline sites, to collect juvenile Dolly Varden for heavy metal analyses at selected streams, to conduct an aerial survey for chum salmon in Ikalukrok Creek, and to begin collection of juvenile Dolly Varden in selected streams along the Delong Mountains Transportation System (Haul Road). All fish monitoring sites as listed in the NPDES permit were sampled as required by the permit (Table 1) and a chum salmon survey along Ikalukrok Creek from its mouth to Dudd Creek was done on August 7, 2001.

Table 1. Fish monitoring sites as required under the NPDES permit.

North Fork Red Dog Creek (Station 12)
Mainstem Red Dog Creek (just below North Fork Red Dog Creek)
Mainstem Red Dog Creek (Station 10)
Ikalukrok Creek (old Station 7) (just below Dudd Creek)
Ikalukrok Creek (just upstream of Dudd)
Ikalukrok Creek (Station 8)
Ikalukrok Creek (Station 9)
Anxiety Ridge Creek
Evaingiknuk Creek
Buddy Creek

Catches of juvenile Dolly Varden in minnow traps generally were lower at all sample sites in late July/early August of 2001 than in previous years (Table 2). Highest catch occurred in Buddy Creek where 34 fish were captured. The total catch for the ten NPDES sites was 79 fish (Table 2).

Streams in the vicinity of the Anarraaq Prospect and exploration drilling for shallow gas were sampled for fish for the second time during summer 2001. Sixteen sites, as listed below, were sampled between July 29 and August 5, 2001:

Upper North Fork Red Dog Creek	Sled Creek (Station 212)
Moil Creek (Station 211)	Noa Creek (Station 210)
Grayling Junior Creek (Station 209)	East Fork Ikalukrok Creek (Station 208)
Ikalukrok Creek (below Alvinella) (Station 207)	West Fork Ikalukrok Creek (Station 205)
Ikalukrok Creek (upstream West Fork) (Station 206)	Sourdock Creek (Station 204)
Competition Creek (lower) (Station 202)	Ferric Creek (Station 213)
Competition Creek (upstream Sourdock) (Station 203)	Square Creek (Station 214)
Sunday Creek (Station 215)	Oak Creek (Station 216)

Streams in the vicinity of the Anarraaq Prospect and exploration drilling for shallow gas also resulted in low numbers of juvenile Dolly Varden captured in minnow traps (Table 3). Ten traps were fished at each sample location for about 24 to 48 hours. Highest catches occurred in Sourdock and Sunday creeks during the early July trip. During the late July/early August sample event, catches remained high in Sunday Creek, decreased in Sourdock Creek, and increased in Grayling Junior and Lower Competition creeks (Table 3). Two young-of-the-year Dolly Varden (50 and 53 mm) were captured in Sunday Creek – based on these fish and collection of young-of-the-year during early July we believe that there probably is a spawning area in Sunday Creek.

Methods and procedures for the collection of fish as described by ADF&G (1998) were followed. Juvenile Dolly Varden kept for metals analyses were frozen and transported to Fairbanks where the sample catalog will be prepared and the fish sent to a laboratory for whole body/dry weight analyses of cadmium, lead, selenium, and zinc. Juvenile Dolly Varden samples retained for laboratory analyses are shown in Table 4. Generally, catches of juvenile Dolly Varden at all sample sites were low compared to most previous years. Ten juvenile Dolly Varden were kept from Grayling Junior Creek (Ikalukrok Creek tributary), North Fork Omikviorvok River (upstream of the haul road), and Omikviorvok River (downstream of the haul road). Juveniles from Mainstem Red Dog (n = 8), North Fork Red Dog (n = 3), Ikalukrok (near Dudd Creek) (n = 6), North Fork Aufeis (n = 5) and Evaingiknuk creeks (n = 9) also were retained for metal analyzes. We planned to retain ten juvenile fish from each selected sample reach, but this goal was not achieved due to low catches.

In the Omikviorvok River we caught both Dolly Varden juveniles and slimy sculpin. In the sample area located about 1.6 km downstream of the road, we caught nine slimy sculpin (Table 5). In the upstream sample reach on the Omikviorvok River we caught five slimy sculpin. The slimy sculpin catches in the Omikviorvok River were greater than any catches previously recorded for streams in the Red Dog Mine area.

Table 5. Slimy sculpin captured with minnow traps in the Omikviorvok River on August 6, 2001.

Sample Site	Number of Sculpin	Minimum Length (mm)	Maximum Length (mm)	Average Length (mm)	Standard Deviation
Omikviorvok D/S of Road	9	73	100	87	8.2
North Fork Omikviorvok River U/S of Road	5	81	93	88	4.8

Alaska Department of Fish and Game. 1998. Methods for Aquatic Life Monitoring to Satisfy Requirements under 1998 NPDES Permit: NPDES AK-003865-2. Red Dog Mine Site. October 1998.

Table 3. (concluded)

Sample Site	Date/Time Set	Date/Time Pulled	Temperature (°C)	Number of Dolly Varden
Lower Comp (Sta 202)	7/5 at 1325	7/6 at 1325	6.0	1
	8/3 at 1600	8/4 at 2000	1.8	11
Ferric (Sta 213)	7/7 at 0930	7/9 at 1000	6.0	1
	8/3 at 2300	8/4 at 2300	2.5	1
Square (Sta 214)	7/8 at 0930	7/9 at 0900	11.0	1
	8/3 at 2200	8/4 at 2200	4.0	6
Sunday (Sta 215)	7/7 at 1210	7/8 at 1600	8.0	15
	8/3 at 2130	8/4 at 2130	4.2	16
Oak (Sta 216)	7/7 at 1500	7/9 at 0825	10.0	4
	8/3 at 2100	8/4 at 2100	2.6	2

Table 4. (concluded)

Catalog Number	Length (mm)	Weight (gm)						
080601OMNFDVJ01	123							
080601OMNFDVJ02	83							
080601OMNFDVJ03	131							
080601OMNFDVJ04	132							
080601OMNFDVJ05	134							
080601OMNFDVJ06	133							
080601OMNFDVJ07	95							
080601OMNFDVJ08	87							
080601OMNFDVJ09	111							
080601OMNFDVJ10	105							
080601OMDSDVJ01	138							
080601OMDSDVJ02	139							
080601OMDSDVJ03	104							
080601OMDSDVJ04	87							
080601OMDSDVJ05	87							
080601OMDSDVJ06	91							
080601OMDSDVJ07	133							
080601OMDSDVJ08	134							
080601OMDSDVJ09	100							
080601OMDSDVJ10	98							
080701AUNFDVJ01	140							
080701AUNFDVJ01	99							
080701AUNFDVJ01	92							
080701AUNFDVJ01	99							
080701AUNFDVJ01	84							

- 073101EV00DVJ01 – July 31, 2001, Evaingiknuk Creek (EV00), Dolly Varden (DV), juvenile (J), fish #01
- 073101MSRDDVJ01 – July 31, 2001, Mainstem Red Dog Creek (MSRD), Dolly Varden (DV), juvenile (J), fish #01
- 080101NFUSDVJ01 – August 1, 2001, North Fork Red Dog Creek Upstream (NFUS), Dolly Varden (DV), juvenile (J), fish #01
- 080101GJ01DVJ01 – August 1, 2001, Grayling Junior Creek, Station 209 (GJ01), Dolly Varden (DV), juvenile (J), fish #01
- 080501IK07DVJ01 – August 5, 2001, Ikalukrok Creek (old Station 7)(IK07), Dolly Varden (DV), juvenile (J), fish #01
- 080601OMNFDVJ01 – August 6, 2001, North Fork Omikviorok River Upstream of Road (OMNF), Dolly Varden (DV), juvenile (J), fish #01
- 080601OMDSDVJ01 – August 6, 2001, Omikviorok River Downstream of Road (OMDS), Dolly Varden (DV), juvenile (J), fish #01
- 080701AUNFDVJ01 – August 7, 2001, North Fork Aufeis Creek Upstream of Road (AUNF), Dolly Varden (DV), juvenile (J), fish #01

In summer 1999 and 2000, substantial numbers of small Arctic grayling were observed in Ikalukrok, Buddy, Mainstem, Anxiety, and North Fork Red Dog creeks. Numbers captured in the North Fork Red Dog Creek fyke-net in June and July 2000 also were high. In summer 2001, we caught very few (<30) small Arctic grayling in the fyke-net fished in North Fork Red Dog Creek and we did not observe these size fish in our sample areas. In late July/early August we did find several of the smaller Arctic grayling at the mouth of Grayling Junior Creek and on August 5 we saw about 30 to 50 at the mouth of Mainstem Red Dog Creek.