State of Alaska
Department of Fish and G
Nomination for Waters
Important to Anadromous Species

1986
Year of Revision

OK

Approved

Name of Waterway ANXIETY RIDGE #01

AWC# of Waterway 331-00-10060-2120-3200-4020

AWC Volume & Number 5

USGS Quad DELONG MTNS A-2, NOATAK D-2

Addition X
Deletion

Correction
Change

Change to X Atlas
Catalog
Both

[signature]	12-31-85
Regional Supervisor	Date
OK SJS	1/2/86
Tom Buccer	1-2-86
Drafted	

86-489

ALASKA DEPT. OF FISH & GAME
DEC 31 1985
REGION II
HABITAT DIVISION

Species	Date(s) Observed	Spawning	Rearing	Migration
Arctic Char	early Sept 1982	X		X
Chinook Salmon	8/23/84	X		X
Arctic Char	August		X	

Comments: Provide any clarifying information, including number of fish observed, location of fish survey data, etc.

SEE HIGHLIGHTED PORTIONS OF THE DAMES AND MOORE REPORT (ATTACHED) (D+M, 1984)

Attach a copy of a map showing location of mouth and upper points of each species, specific stream reaches identified for spawning or rearing, locations of barriers, such as falls. Attach a copy of the fish survey data, if available.

Name of Observer (please print)

Date:

Signature:

Address:

JOB REPORT

1984 FISH SURVEY ALONG THE PROPOSED COMINCO ALASKA INC. ACCESS ROUTE

October 12, 1984

Dames & Moore

5438-078-20

made on the main Omikviorok River and on Dud Creek (Dames & Moore, unpublished data).

This report compiles and includes information from those earlier surveys along with results from the 1984 surveys.

2.0 MATERIALS AND METHODS

The primary method used for sampling fish in 1984 was a Smith-Root Type VII electroshocker fished in the pulsed DC mode. In 1982 and 1983 work, a Type XI electroshocker was used. In all 3 years, aerial stream surveys for spawning fish were conducted from helicopters. All streams with reasonable potential for spawning by anadromous fish were flown for several miles both up and downstream during late August or early September of at least one of the study years.

At all crossings surveyed, the nature of the stream habitat was qualitatively described and the stream then electroshocked for up to 100 meters up and downstream. Lesser distances were sampled in streams with moderate to high densities of fish. Fork length was measured on all salmonids captured and total length was recorded for cottids.

3.0 RESULTS AND DISCUSSION

3.1 GENERAL

A total of 17 potential stream crossings was surveyed between August 21 and 24, 1984. Of these, 14 were found to contain fish in the immediate vicinity of the crossing. In addition, the Lake Fork of the Omikviorok and the upper North Fork of Evaingiknuk Creek had fish downstream of the crossing, although none was taken at the crossing. Arctic char (*Salvelinus alpinus*) was the predominant species taken, followed by the sculpin (*Cottus cognatus*). Surprisingly, no juvenile Arctic grayling (*Thymallus arcticus*)

Crossing No. 15 Upper North Fork - Evaingiknuk Creek #2

At the upper crossing (SW 1/4, Sec. 27, T30N, R19W), the North Fork is deeply incised (0.6-1.0 m) with a low sinuosity and a moderate to high gradient. A significant drop (about 0.6 m in one cascade) occurs near the surveyed centerline but could be avoided by moving the alignment upstream 5-10 m. The channel appears stable with grass and willow banks and minor undercutting.

The very coarse boulder and cobble bed would provide good habitat at lower flows. However, in late August 1984, velocity was uniformly high and no fish were taken in electrofishing.

3.6 DUD CREEK

Dud Creek is a relatively small tributary of Ikalukrok Creek, itself a major tributary of the Wulik River. Dud Creek drains much of the southern Red Dog Valley, including the area around the air strip (via Buddy and Bons creeks). Spawning by anadromous char has been documented in the lower mainstem of Dud Creek (Dames & Moore 1983a,b) and a single spawning pair of chinook salmon was seen on August 23, 1984.

Crossing No. 16 Valley Fork - Dud Creek (Anxiety Ridge #1)

At the crossing (SW 1/4, Sec. 24, T30N, R19W), the Valley Fork flows in a stable, moderate gradient, channel with a coarse gravel/cobble/boulder bed. Flow was measured at 22.5 cfs (1 mile downstream) on August 18, 1982. The channel at the original crossing undergoes two 90 degrees bends which were to be avoided by realignment (B. Drage, PN&D, personal communication). Banks are moss and boulders with overhanging willows and some narrow cobble and gravel bars. The southwest bank slopes gradually upward, while the northeast side has an unusual flat terrain with lumpy "frostheaves" of cobbles.

This stream is the most productive seen in the region in all 4 years of on-site fishery investigations. Instream algal growth was considerable, and char densities were the highest seen. Char fry were very small (37-48 mm) but a second less numerous size group (60-71 mm) may also have been young-of-the-year, perhaps from anadromous (cf. resident) parents. Larger char ranged from 88 to 158 mm, obviously including several year classes and at least some stream resident stock. In early September, 1982, there were about 10 anadromous char redds in the Valley Fork just upstream of its confluence with the Buddy/Bons fork.

Crossing No. 17 Mountain Fork - Dud Creek (Anxiety Ridge #2)

This stream is a very small (less than 1 cfs) high gradient tributary of the Valley Fork. At the crossing (NW 1/4, Sec. 14, T30N, R19W), it is shallowly incised in a cobble/gravel bed. Banks are grass and willows with some undercutting. Fish habitat is good in some pools and runs, but gradient and low flows probably limit fish access to the crossing vicinity.

4.0 REFERENCES

Dames & Moore 1983a. Aquatic biology by J. Houghton and P.Hilgert. In Enviromental baseline studies Red Dog Project, Cominco Alaska, Inc.

Dames & Moore 1983b. Freshwater studies along the access route alternative by J. Houghton. In Supplement to enviromental baseline studies Red Dog Project, Cominco Alaska, Inc.

DELONG MOUNTAINS
A-2

LOG

ANADROMOUS WATERS ARE LISTED PURSUANT TO AS 16.05.870 (a)

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SCALE

MAP TITLE

DE LONG MOUNTAINS A-2

STATE O
DEPARTMENT O
habitat prot