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

Region: ARCTIC

USGS Quad: HARRISON BAY A-2

Anadromous Water Catalog Number of Waterway: 330-00-00700-0257

Name of Waterway: UNNAMED LAKE + OUTLET

☐ USGS Name ☐ Local Nam

☒ Addition ☐ Deletion ☐ Correction ☐ Backup Information

For Office Use

| | | | |
|---|---|---|---|
| Nomination # | 98 131 | | |
| Revision Year: | | Regional Supervisor | 10-13-97 Date |
| Revision to: Atlas ___ Catalog ___ | | | |
| Both X | | AWC Project Biologist | 1/27/98 Date |
| Revision Code: | A-2 | Drafted | 4/2/98 Date |

OBSERVATION INFORMATION

| Species | Date(s) Observed | Spawning | Rearing | Present | Anadromous |
|---|---|---|---|---|---|
| LEAST CISCO | 7-17-96 | | X | X | ☒ |
| LEAST CISCO | 7-27-96 | | X | X | ☒ |
| | | | | | ☐ |
| | | | | | ☐ |
| | | | | | ☐ |

**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 ATTACHED PAGES FROM MOULTON (1997), LAKES SAMPLED FOR FISH IN AND NEAR COLVILLE RIVER, ALASKA 1979-1996

ALASKA DEPT. OF FISH & GAME
OCT 23 1997
REGION II HABITAT AND RESTORATION DIVISION

Name of Observer (please print): LARRY MOULTON

Date: _____ Signature: MGM RESEARCH

Address: 5460 NE TOLO ROAD
BAINBRIDGE ISLAND, WA 98110

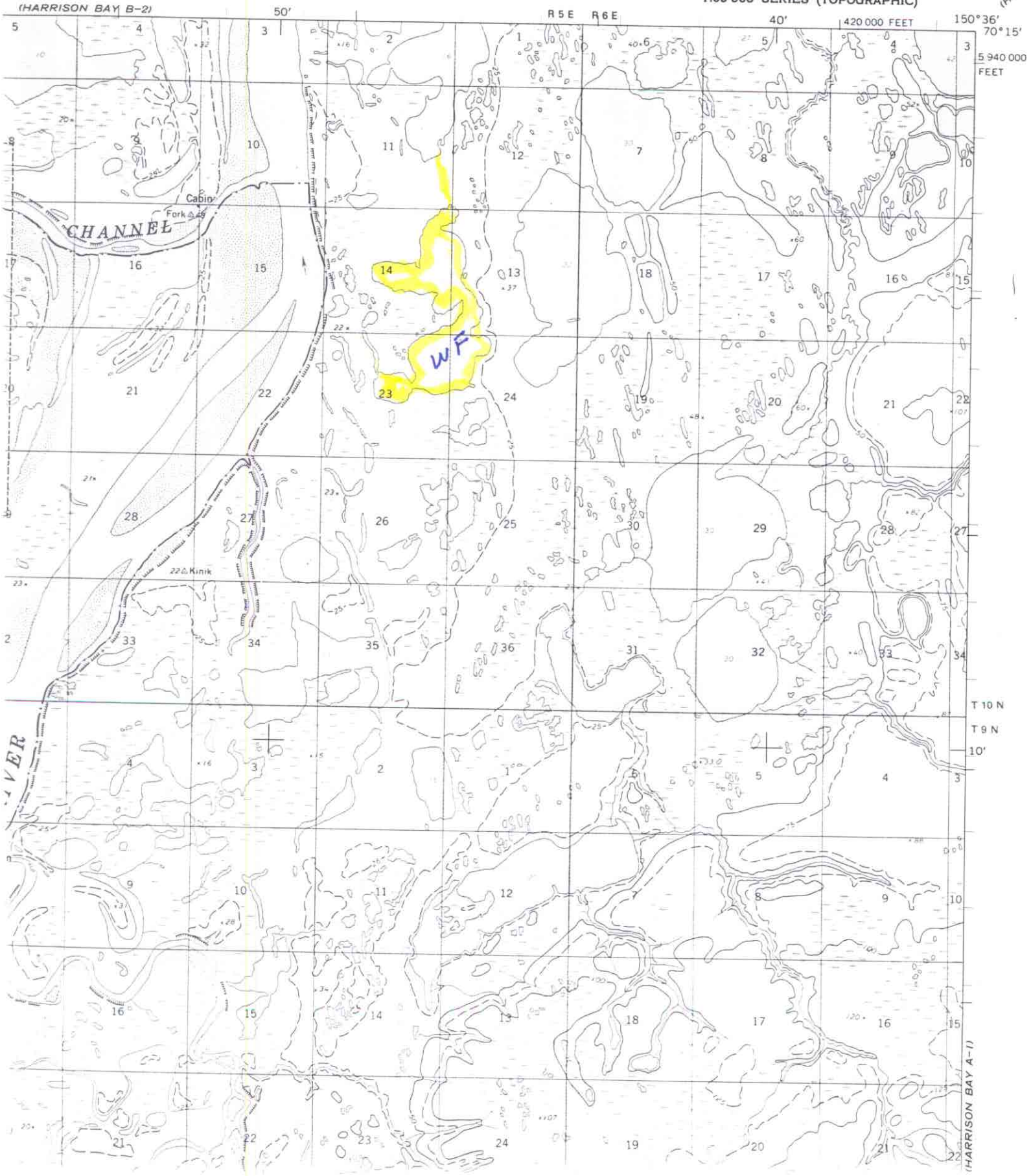
This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes per AS 16.05.870.

Signature of Area Biologist: _____

Revision 11/96

700 LAKE
330-00-00700-0257 w/ WF

HARRISON BAY (A-2) QUADRANGLE
ALASKA–NORTH SLOPE BOROUGH
1:63 360 SERIES (TOPOGRAPHIC)

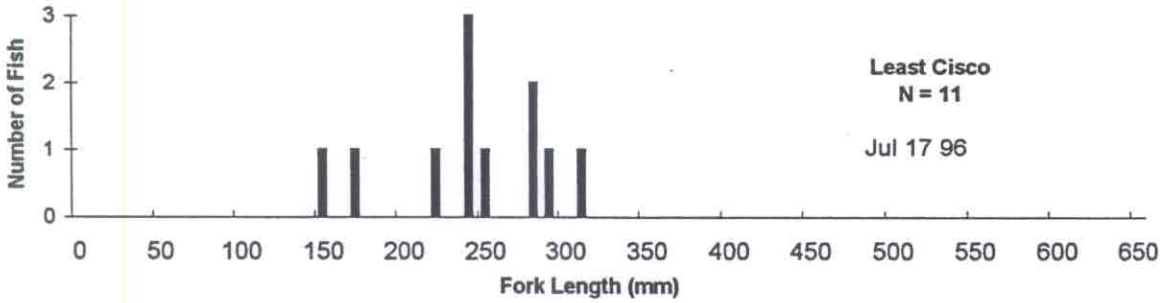


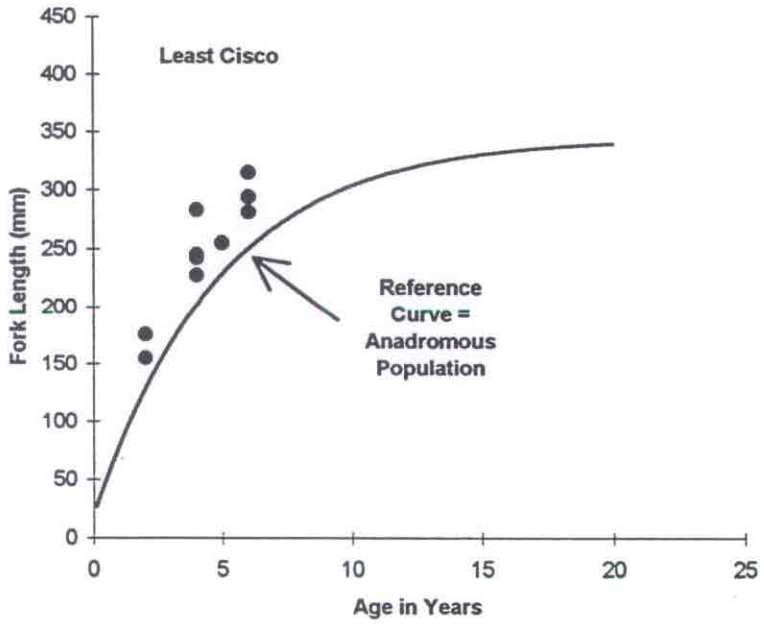
**Lake M9603**

**Other Names:** none
**Location:** 70°13.25'N 150°46.65'W; Harrison Bay A-2: T10N R5E, Sect 14, 23
**Habitat:** Drainage Lake

**Catch Record:**

| Gear | Date | Effort (hours) | Species | Number Caught | Fork Length (mm) |
|---|---|---|---|---|---|
| Gill Net | Jul 17 96 | 8.1 | Least cisco | 2 | |
| Gill Net | Jul 27 96 | 10.9 | Least cisco | 9 | |
| | | | Arctic grayling | 1 | 237 |

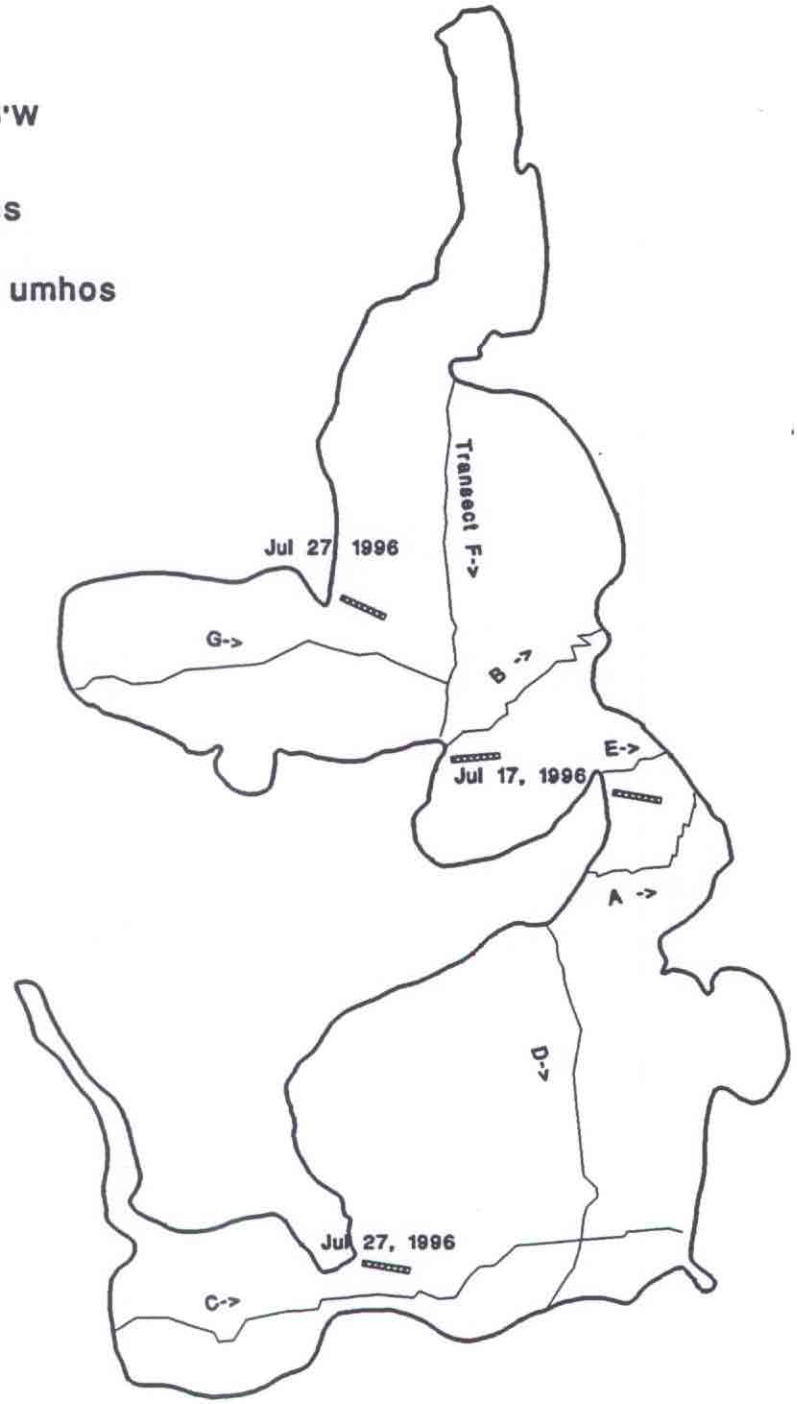


M9603

70°13.25'N 150°46.65'W

Area = 420 acres
Max. Depth=17.2'
Conductivity=128 umhos



Answers to your Questions about Unnamed Lakes with Least Cisco and Broad Whitefish - Colville River

(Question #1) if an outlet stream exists and where is it? Many of the lakes do not have outlet streams. For those lakes with defined outlets I have shown them on the USGS maps.

(Question #2) if there is no outlet stream, are these fish truly anadromous? Yes, the lakes without outlets or inlets that have least cisco and/or broad whitefish are flooded periodically by the Colville River. During these flood events which may occur annually or in some cases maybe only during a 5-year event, fish (anadromous species) move into and out of the lakes. Many of the lakes within the Colville River delta are classified as perched (either frequently or infrequently flooded) and the same thing happens. Whitefish move in and out based on flow events. Most movement into or out of lakes occurs during breakup when flood levels in the Colville River peak. Unlike other streams on the North Slope, major flood events in the Colville River (at least the lower portion - the delta) are spring breakup events.

(Question #3) if so can you provide some references or documentation supporting anadromy, migration patterns, spawning etc? The main reference is Moulton (1997) in which he summarizes fisheries data collection and lists the species. He also includes growth curves for least cisco that can be compared with a growth curve based on data from anadromous least cisco. Generally, growth for lake residents is higher than for anadromous. But, at any point in time, a lake resident fish with access to brackish waters, may go to the nearshore to feed.

Lakes within the delta should continue to be covered with the polygon. One could possibly make the argument that a polygon is also appropriate for many of the lakes located just east of the main channel of the Colville River. Most of these lakes, even though the sampling is still fairly limited, contain broad whitefish and least cisco. Moulton's prefers to use fyke-nets to collect fish to reduce mortality but in the deeper lakes the broad whitefish are generally not caught with fyke-nets. Thus the number of fish, particularly broad whitefish and least cisco, in the deeper lakes is much higher than shown by fyke-net data.