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

Nomination Form
Anadromous Waters Catalog

X

Region: Southeast (Region I)

USGS Quad(s): JUN B5

Anadromous Waters Catalog Number of Waterway: 2004-0010 114-80-10450- 114-80-045 → Division of Commercial Fisheries stream number

Name of Waterway: Neva Lake

☐ USGS Name ☒ Local Name

☐ Addition ☐ Deletion ☑ Correction ☐ Backup Information

For Office Use

Nomination #: 10-750

Revision Year: 2011

Revision to: Atlas ____ Catalog ____ Both X

Revision Code: B-2

	Date
Fisheries Scientist	10/26/10
Habitat Operations Manager	10/26/10
AWC Project Biologist	7 Sept 10
Cartographer	11/12/10

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Sockeye Salmon	2002-2008	✓		✓	✓

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: This nomination is for the update to the sockeye salmon life stage observation listed in the Anadromous Waters Catalog. The US Forest Service, Hoonah Indian Association, and the Alaska Department of Fish and Game are cooperating on a sockeye salmon escapement monitoring project at the outlet of Neva Lake, where sockeye salmon pass to spawn either in the lake or in the main inlet stream.

Change lake sockeye salmon present to spawning.

Name of Observer (please print): Benjamin W. Van Alen

Signature: Benjamin W. Van Alen

Date: 8/30/2010

Agency: US Forest Service

Address: 8510 Mendenhall Loop Road
Juneau, AK 99801

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 Anadromous Waters Catalog.

Signature of Area Biologist: _____ Date: _____ Revision

02/08

TO: J. Johnson, ADF & G Sport Fish Division Regional Office

FROM: Carol Mahara, USFS Subsistence Fisheries

DATE: August 30, 2010

SUBJECT: Anadromous Waters Catalog nominations

This nomination is for the inclusion of the main inlet stream of Neva Lake to the Anadromous Waters Catalog and for the update to the sockeye salmon life stage observation to include spawning for Neva Lake. The US Forest Service, Hoonah Indian Association, and the Alaska Department of Fish and Game have cooperated on a weir/mark-recapture project to estimate the annual escapement of sockeye salmon into Neva Lake. There are two main populations of sockeye salmon that enter the lake – an earlier running population that spawns in the main inlet stream and a latter running population of beach spawners.

Included are two topographic maps showing Neva Lake with the stream in question marked in pink. There is also a computer drawing showing the path recorded by Ben VanAlen's (USFS) GPS as he inspected the inlet stream.

Also included are the final reports from the cooperative stock assessment studies at Neva Lake. These reports provide detailed information about the project and explain the numbers of fish observed and the methods used to observe them. These reports also describe sockeye observations at the main inlet stream, and one report (Van Alen 2009) provides an image from a fish video clip of a sockeye salmon entering the stream (Figure 9, Page 10).

From June 4 to September 15, 2002, a total of 4,471 sockeye salmon (3,397 adults and 1,074 jacks) were physically counted at the weir on the outlet of Neva Lake. Of those fish counted, approximately 51% were marked with fin clips. On five occasions, sockeye salmon were examined for these marks in the main inlet stream and on four occasions in the beach spawning area. A total of 133 marked adults and 39 marked jacks were recovered during these sampling efforts, which allows for a combined escapement estimate of 4,951 sockeye salmon into Neva Lake (Van Alen 2004).

In 2003, the weir count totaled 11,099 sockeye salmon (9,248 adults and 1,851 jacks) from June 4 to October 9. Approximately 50% of the fish passed through the weir were marked with fin clips. Salmon were sampled for these clips in the main inlet stream on 14 occasions and in the beach index area on eight occasions. Of the fish sampled during these efforts, 669 fish in the main inlet stream and 739 fish from the beach spawning area (1,408 fish total) had fin clips from the weir. The optimum model for estimating escapement provides an estimate of 2,855 main inlet stream spawners and 8,538 beach spawners, for a total escapement of 11,393 sockeye salmon into the Neva Lake system (Van Alen 2005).

From June 16 to October 13, 2005, a total of 5,212 sockeye salmon (9,229 adults and 284 jacks) were counted at the weir. Of these fish, 22 percent of the adults and 28 percent of the jacks were marked

with fin clips throughout the season. Because of limited funds, there was only one spawning area recapture trip in 2005. During this trip, 19 percent of the adults (63 of 326) and 30 percent of the jacks (3 of 10) were found to have marks from the weir. This mark/recapture study allowed for an escapement estimate of 9,239 adult sockeye salmon, which is only 10 fish greater than the weir count. There was a greater difference between the weir counts and the estimated escapement for jack sockeye salmon (284 passed at the weir and 408 estimated using a Pooled Peterson estimate), but too few jacks were recaptured to be confident that they undercounted at the weir (Van Alen 2008).

The adult salmon weir was in place from June 13 to September 27, 2006. During this time, 3,454 sockeye salmon (3,221 adults and 233 jacks) were physically counted at the weir. Of these fish passed, 97% (3,352) were marked with fin clips. Adult and jack sockeye salmon were sampled for these marks on four occasions in the main inlet stream and on eight occasions on the beach spawning area. During these sampling efforts, 386 marked fish were recovered, which allowed for a total escapement estimate of 5,931 fish into Neva Lake (Van Alen 2009).

In 2007, the weir was in place from June 16 to October 8. During this time, 4,465 sockeye salmon (3754 adults and 711 jacks) were physically counted at the weir. Of these fish passed at the weir, 56% (2,521) were marked with fin clips. Salmon were sampled for these marks on four occasions in the main inlet stream and on three occasions in the beach spawning areas. A total of 220 marked fish were recovered during the recapture efforts. Using the pooled Peterson estimator, approximately 5,993 escaped into Neva Lake, which is 1,528 fish higher than the weir count (Van Alen 2009).

From June 16 to September 8, 2008, a total of 2,657 sockeye salmon (2,521 adults and 136 jacks) were physically counted at the weir. Project personnel adipose-clipped 29% (732) of the adult salmon and 36% (49) of the jacks passed at the weir. An underwater video camera was also installed to sample for marks on salmon entering the main inlet stream on August 26 and 27. Of the 732 fish marked at the weir, 201 were recovered during the sampling efforts. This mark/recapture effort provided an escapement estimate of 2,823 sockeye salmon into Neva Lake, which is 166 fish higher than the weir count (Van Alen 2009).

Attachments:

Nomination Forms for both the main inlet stream and Neva Lake

Topographic map from the Anadromous Waters Atlas on the ADF&G Sport Fish webpage

Topographic map showing Neva Lake

Computer drawing of a GPS route along the main inlet stream

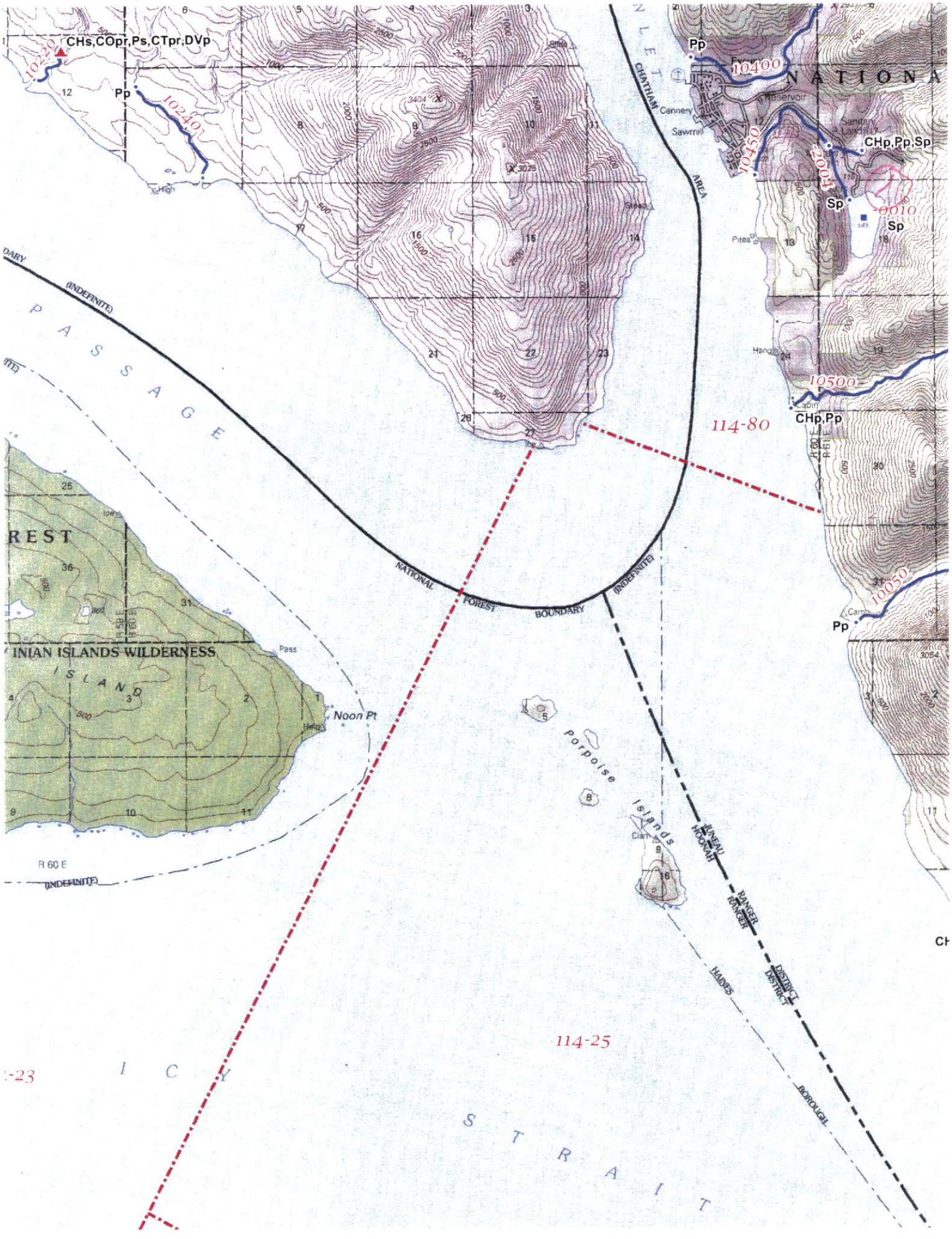
The following four literatures cited:

Van Alen, B.W. 2004. Neva, Pavlof, and Hoktaheen sockeye salmon stock assessment, 2002. Federal Subsistence Fishery Monitoring Program, Annual Project Report No. FIS 02-012-1. U.S. Fish and Wildlife Service, Office of Subsistence Management, Fishery Information Services Division, Anchorage, Alaska.

Van Alen, B.W. 2005. Neva, Pavlof, and Hoktaheen sockeye salmon stock assessment, 2003. Federal Subsistence Fishery Monitoring Program, Annual Project Report No. FIS 02-012-2. U.S. Fish and Wildlife Service, Office of Subsistence Management, Fishery Information Services Division, Anchorage, Alaska.

Van Alen, B.W. 2008. Neva, Pavlof, and Hoktaheen sockeye salmon stock assessment; 2002 to 2005. U.S. Fish and Wildlife Service, Office of Subsistence Management, Fishery Resource Monitoring Program, Final Report Study No. 02-012. Anchorage, Alaska.

Van Alen, B.W. 2009. Neva sockeye stock assessment; 2006 to 2008. U.S. Fish and Wildlife Service, Office of Subsistence Management, Fishery Resource Monitoring Program, Final Report Study No. 06-601. Anchorage Alaska.


CHs,COpr,Ps,CTpr,DVp
10220
Pp
10240
Pp
10400
CHATHAM
AREA
Cannery
Sawmill
Reservoir
Sanitary Landfill
10450
CHp,Pp,Sp
10041
Sp
10010
Sp
Pitea
Hanoi
10500
CHp,Pp
114-80
PASSAGE
(INDEFINITE)
NATIONAL FOREST BOUNDARY
(INDEFINITE)
REST
INIAN ISLANDS WILDERNESS
ISLAND
Pass
Noon Pt
Help
Porpoise Islands
Clam
10050
Pp
HUNEAU RANGER DISTRICT
HAINES BOROUGH
114-25
ICY STRAIT
R 60 E
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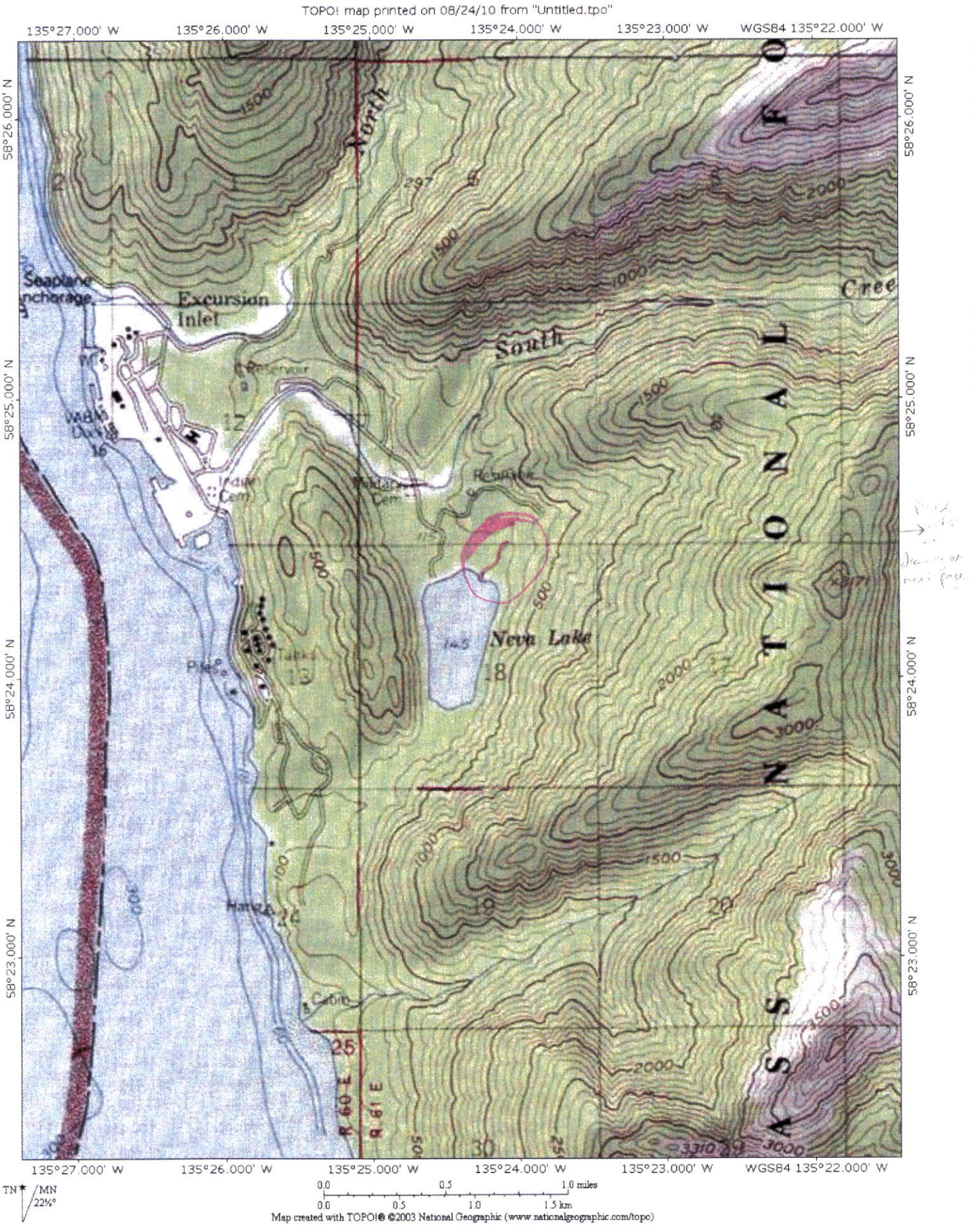
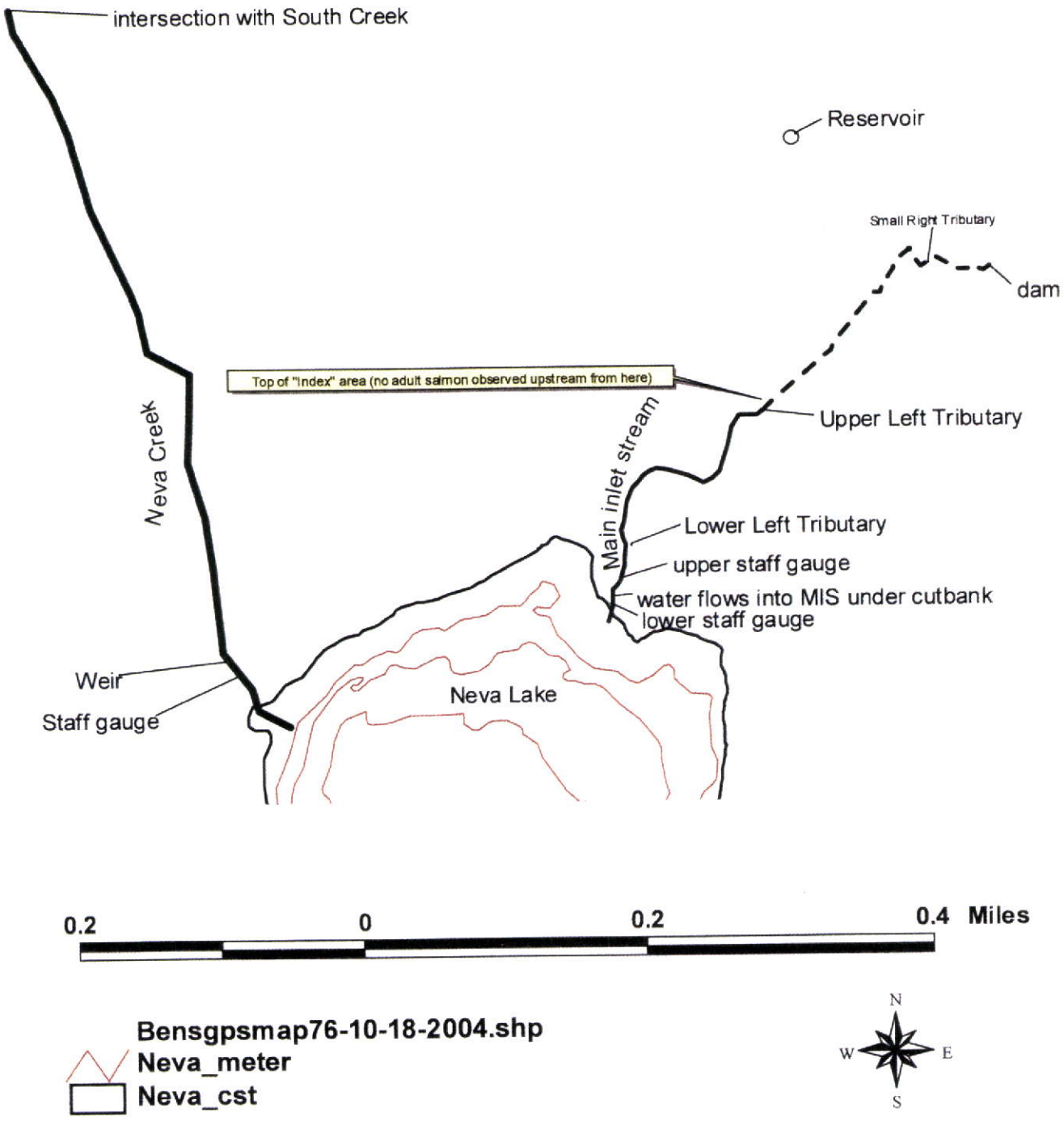

TOPO! map printed on 08/24/10 from "Untitled.tpo"
135°27.000' W
135°26.000' W
135°25.000' W
135°24.000' W
135°23.000' W
WGS84 135°22.000' W
58°26.000' N
58°25.000' N
58°24.000' N
58°23.000' N
Seaplane Anchorage
Excursion Inlet
North
South
Neva Lake
Cabin
R 60 E
R 61 E
TN
MN
22½°
0.0
0.5
1.0 miles
0.0
0.5
1.0
1.5 km
Map created with TOPO!® ©2003 National Geographic (www.nationalgeographic.com/topo)

Neva


intersection with South Creek
Reservoir
Small Right Tributary
dam
Top of "Index" area (no adult salmon observed upstream from here)
Upper Left Tributary
Neva Creek
Main inlet stream
Lower Left Tributary
upper staff gauge
water flows into MIS under cutbank
lower staff gauge
Weir
Staff gauge
Neva Lake
0.2
0
0.2
0.4 Miles
Bensgpsmap76-10-18-2004.shp
Neva_meter
Neva_cst
N
W
E
S