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

Nomination Form
Anadromous Waters Catalog

ALASKA DEPT. OF FISH & GAME
NOV 19 2009

Region: Interior

USGS Quad(s): Charley R A-2, B-2, B-1

Anadromous Waters Catalog Number of Waterway: 334-45-11000-2401 (-3011)(-3025)

Name of Waterway: NATION RIVER

☒ USGS Name ☐ Local Name

☒ Addition ☐ Deletion ☐ Correction ☐ Backup Information

For Office Use

Nomination #	100373	Fisheries Scientist	7/14/10 Date
Revision Year:	2011	Habitat Operations Manager	7/14/10 Date
Revision to: Atlas ____ Catalog ____ Both ✓		AWC Project Biologist	23 MAR 10 Date
Revision Code:	A-1, B-2, A2	Cartographer	10/20/10 Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Chinook salmon	7/19-8/5 & 9/9-9/22/1988		96		☒
					☐
					☐
					☐
					☐

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: DATA from 1988 NOT previously INCLUDED IN AWC (see attachment); chinook salmon rearing from site 2 (65.45880 N, 141.28808° W) downstream to Nation R mouth. Also tributaries, site B, Waterfall Creek, 65.37290° N, 141.42915° W; and site C, Hardluck Creek, 65.29387° N, 141.61177° W (see map). ~~rearing~~ sampling occurred from tributary sites B & C downstream to tributary mouths. Habitat extends beyond upstream sampling locations Add Chinook salmon Rearing to stream

Name of Observer (please print): David W. DAUM

Signature: [signature]

Date: 11-13-09

Agency: U.S. Fish & Wildlife Service

Address: 101 12th Ave, Room 110
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 Anadromous Waters Catalog.

Signature of Area Biologist: [signature] Date: 16 NOV 2009

02/08 Revision

TOPO! map printed on 11/13/09 from "upperyukon2009AWCa.tpo"

TN MN 24½°

0 2 4 6 8 miles

0 2 4 6 8 10 12 14 km

Map created with TOPO!® ©2002 National Geographic (www.nationalgeographic.com/topo)

Fisheries Investigations on the Kandik, Charley, Nation, and Tatonduk Rivers, Yukon-Charley Rivers National Preserve, 1987 and 1988

David W. Daum

U.S. Fish and Wildlife Service
Fairbanks Fishery Resource Office
101 12th Ave, Box 17
Fairbanks, Alaska 99701

September 1994

Funded by the National Park Service
Interagency Agreement 9700-7-8012

Charley River

Adult chinook salmon had the widest distribution of the 12 species found in the Charley River (Table 4; Figure 3). Site 10 (river kilometer 3) showed the greatest diversity with nine species present. Arctic grayling were found in the upper and middle reaches, while longnose suckers occurred in the middle and lower river. Spawning and rearing habitats for chinook salmon and grayling were abundant throughout the study area.

During the August 9-20, 1987 sampling period, Arctic grayling, longnose sucker, chinook salmon, and slimy sculpin were captured on the Charley River (Table 4; Figure 3). One adult chinook salmon was observed at site 1 on August 10. No chum or coho salmon were found. Tributary site C contained slimy sculpin.

Past studies (Alt 1965, 1969, 1971; O'Brien and Huggins 1975; Welp *in preparation*; Barton 1984; Barton, Alaska Department of Fish and Game, Fairbanks, personal communication) have documented 12 fish species in the Charley River (Table 4; Figure 3). Welp (*in preparation*) captured 323 young-of-the-year burbot at site 10. Adult chinook salmon were observed moving up the Charley River on August 8-19, 1985 and 1986 (Welp *in preparation*; Barton, Alaska Department of Fish and Game, Fairbanks, personal communication). Six chinook salmon carcasses were found by Welp (*in preparation*) at site 10 and one young-of-the-year site 7. On September 20, 1974, four chum salmon carcasses were observed at the mouth (Barton 1984).

Nation River

Of the 11 fish species documented on the Nation River, Arctic grayling had the widest distribution, being found at all 13 sample sites (Table 5; Figure 4). Adult slimy sculpin and young-of-the-year chinook salmon were captured at 12 sites. The mouth (site 11) showed the greatest diversity with nine species present. Chinook salmon, grayling, round whitefish, slimy sculpin, and burbot spawn and rear throughout the drainage.

During the two 1988 Nation River sampling periods, 11 fish species were captured (Table 5; Figure 4). The first recorded captures of resident adult Dolly Varden char were found at sites 2. One male chinook salmon was captured at site 7 on July 31 and one male and one spent female chinook salmon carcass were located at sites 7 and 8, respectively, on September 15. Two ripe chum salmon were captured at the mouth on August 3. No chum salmon were caught during the September 9-22 sampling period at site 8 and none were observed during the September 20 aerial survey (Figure 4). Tributary sites B and C contained slimy sculpin and young-of-the-year chinook salmon and Arctic grayling. One immature round whitefish was captured at site B.

Previous studies (Alt 1965, 1969, 1979; Welp *in preparation*; Barton 1984; Barton, Alaska Department of Fish and Game, Fairbanks, personal communication) have documented eight species in the Nation River (Table 5; Figure 4). Welp (*in preparation*) captured 166 young-of-the-year Arctic grayling and 44 young-of-the-year round whitefish at the mouth (site 11). Five chinook salmon carcasses were observed downstream of site 4, during an aerial survey conducted on August 19, 1985 (Barton, Alaska Department of Fish and Game, Fairbanks, personal communication). No coho or chum salmon were observed, although reports from local residents suggest that the Nation River supports a small population of chum salmon (Barton 1984).

Table 5.—Distribution of young-of-the-year (Y,y) and post-yearling (A,a) fish species in the Nation River. Uppercase letters denote information gathered from this study in 1988, whereas lowercase letters represent data from other sources[a].

Species	Mainstem sites											Tributary sites	
	1	2	3	4	5	6	7	8	9	10	11	B	C
Chinook salmon		Y	Y	ya	Yy	y	YA	YAa	y	y	y	Y	Y
Chum salmon											A		
Arctic grayling	YA	YA	YA	y	yA	y	YyA	YyA	y	y	YyA	YA	YA
Round whitefish		A		y	yA		YyA	YA	y	y	Yy	Y	
Inconnu											yAa		
Longnose sucker	A	A					A	A			Aa		
Slimy sculpin	A	YA	A		YA	ya	YA	YA	a	a	YAa	YA	YA
Northern pike											A		
Burbot				y				YA					
Lake chub										a	A		
Dolly Varden char		A											

[a]Alt 1965, 1969, 1979; Welp *in preparation*; Barton 1984; Barton, ADF&G, Fairbanks, personal communication (Appendix 1).

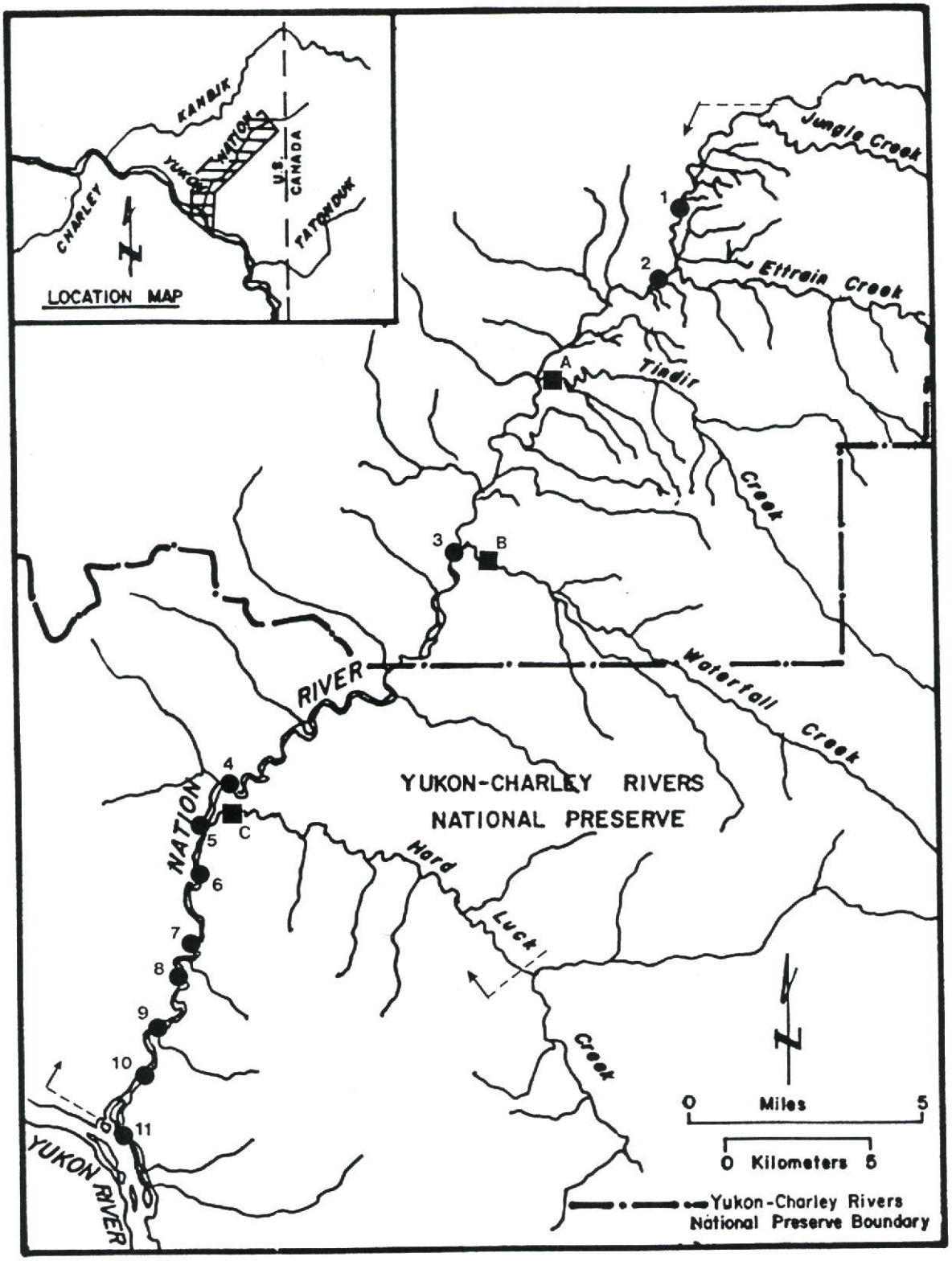


Figure 4. Mainstem (●) and tributary (■) sampling site locations and aerial survey boundaries (- - -) on the Nation River, Yukon-Charley Rivers National Preserve. Site locations are from this study along with previous fisheries investigations.

The difference in combined gill net catch rates between the two sampling periods on the Kandik River should be viewed with caution since different sites were used during each period.

Baited minnow traps were used at six sites during the July-August period with a combined CPUE of 0.03 fish/hour. The traps were set for a total of 375.5 hours, yielding slimy sculpin, young-of-the-year chinook salmon, and one young-of-the-year burbot. During September, minnow traps were set for a total 247.9 hours with no fish captured.

Electrofishing effort totaled 54.6 minutes on the Kandik River during July and August, capturing slimy sculpin and three Arctic grayling (one adult, two young-of-the-year). The September sampling period yielded slimy sculpin and three Arctic grayling (one adult and two young-of-the-year) from 18.8 minutes of effort. Eleven seine hauls yielded no fish.

Charley River

Twenty-one (64%) of the 33 fish captured on the Charley River were Arctic grayling (Table 9). A total of 121.6 gill net hours yielded Arctic grayling and longnose suckers with a combined CPUE of 0.21 fish/net hour. Grayling had the highest total CPUE (0.17 fish/net hour) and were most abundant at station 4.

One slimy sculpin was captured at site 3 using baited minnow traps set for a total of 198.3 hours during the August sampling period. Six slimy sculpin were caught during 9.9 minutes of electrofishing.

Nation River

During the two sampling periods, 422 fish were captured (Tables 10 and 11), including 152 Arctic grayling (36%), 96 young-of-the-year chinook salmon (23%), and 95 slimy sculpin (23%). A total of 430.0 experimental gill net hours were spent during the July-August sample period with a combined CPUE of 0.14 fish/net hour and seven species captured. Grayling had the highest total catch rate (0.07 fish/net hour) and were most abundant at site 2. In September, 452.0 experimental gill net hours at site 8 resulted in a combined CPUE of 0.06 fish/net hour. Of the three species captured, grayling were most abundant (0.04 fish/net hour).

Two multifilament gill nets (10.4 cm bar mesh) were employed during the July-August sampling period to catch adult chinook salmon. One male chinook salmon was captured at site 7 during 208.0 hours of gill netting. Two multifilament gill nets (7.4 cm bar mesh) were used in September to capture chum salmon. No fish were captured after 480.5 hours effort.

Baited minnow traps were used at seven sites during the July-August period with a combined CPUE of 0.06 fish/hour. The traps were set 1,061.5 hours with a catch of young-of-the-year chinook salmon, lake chubs, and slimy sculpin. During September, minnow traps were set 1,574.5 hours with a combined CPUE of 0.03 fish/hour. Three species were captured with chinook salmon being the most abundant.

Beach seining was used at six stations during the July-August period with a combined catch of 3.2 fish/haul. Fifty-three hauls resulted in a catch of slimy sculpin and young-of-the-year grayling, chinook salmon, and round whitefish. The September sampling at site 8 (combined catch of 2.7 fish/haul) yielded slimy sculpin and young-of-the-year Arctic grayling, round whitefish, and chinook salmon.

Table 10.—Effort, number of fish collected (N), and catch-per-unit-effort (CPUE) of all fish species captured from July 19 to August 5, 1988, on the Nation River.

Site	Effort	Species[a]	N	CPUE
		Experimental gill net		
2	69.0 h	AG	16	0.23 /h
		RWF	1	0.01 /h
		DV	3	0.04 /h
		LS	2	0.03 /h
3	31.5 h	--	0	0 /h
B	56.0 h	AG	2	0.04 /h
5	29.5 h	--	0	0 /h
C	58.0 h	AG	1	0.02 /h
7	77.0 h	AG	9	0.12 /h
		RWF	3	0.04 /h
		LS	13	0.17 /h
11	109.0 h	CS	2	0.02 /h
		AG	2	0.02 /h
		LS	4	0.04 /h
		IN	1	0.01 /h
		NP	1	0.01 /h
Total	430.0 h	CS	2	< 0.01 /h
		AG	30	0.07 /h
		RWF	4	0.01 /h
		DV	3	0.01 /h
		LS	19	0.04 /h
		IN	1	< 0.01 /h
		NP	1	< 0.01 /h
		Multifilament gill net (10.4 cm bar mesh)		
3	29.0 h	--	0	0 /h
5	49.0 h	--	0	0 /h
7	65.5 h	KS	1	0.02 /h
11	64.5 h	--	0	0 /h
Total	208.0 h	KS	1	< 0.01 /h

[a]KS=chinook salmon, CS=chum salmon, AG=Arctic grayling, DV=Dolly Varden char, RWF=round whitefish, SS=slimy sculpin, LS=longnose sucker, IN=inconnu, NP=northern pike, LCH=lake chub.

Table 10.—Continued.

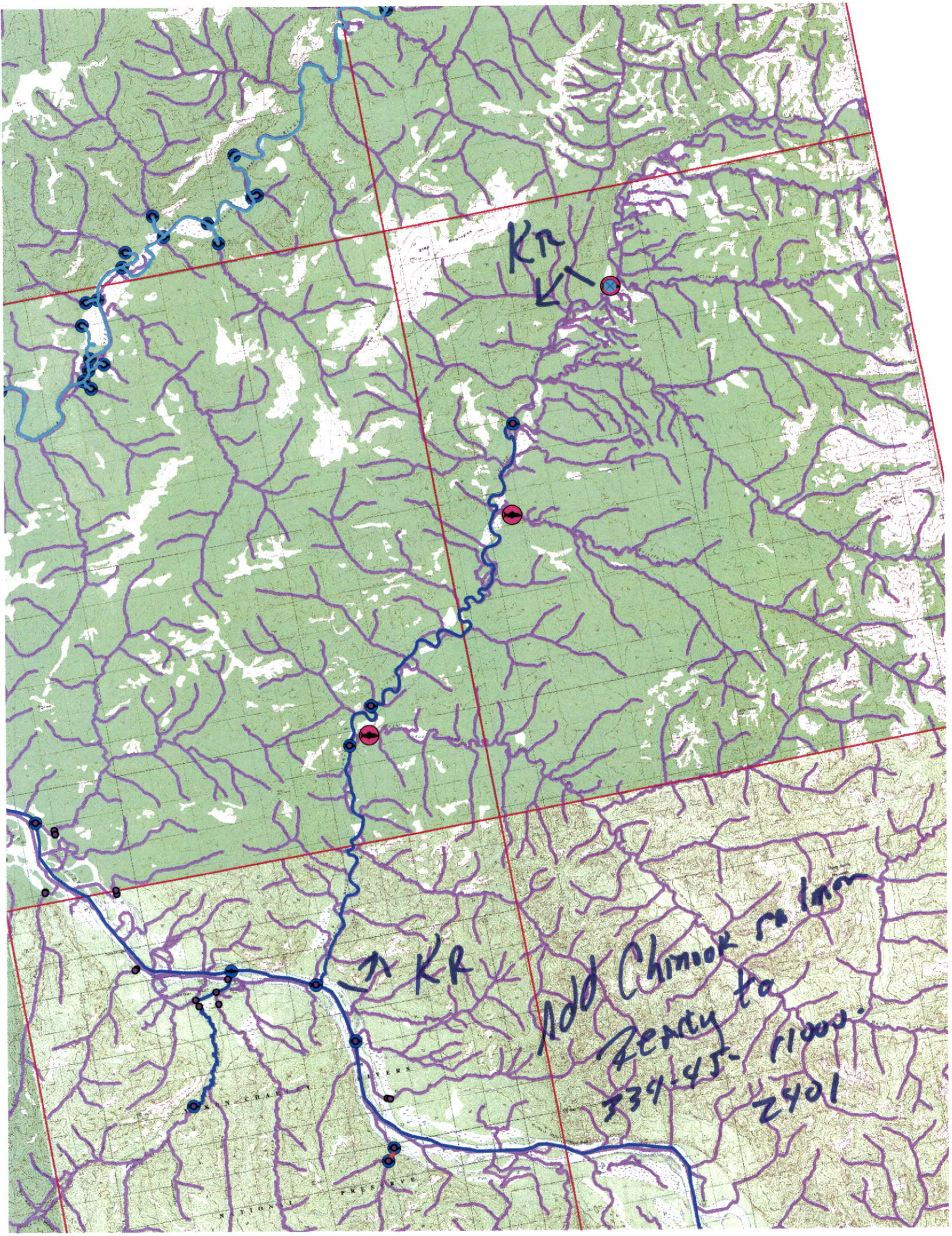
Site	Effort	Species[a]	N	CPUE
		Minnow trap		
2	172.0 h	KS	1	0.01 /h
		SS	3	0.02 /h
3	111.0 h	KS	1	0.01 /h
		SS	1	0.01 /h
B	86.0 h	KS	1	0.01 /h
		SS	1	0.01 /h
5	96.0 h	KS	2	0.02 /h
C	88.0 h	KS	6	0.07 /h
		SS	4	0.05 /h
7	229.5 h	KS	25	0.11 /h
11	279.0 h	LCH	19	0.07 /h
Total	1,061.5 h	KS	36	0.03 /h
		SS	9	0.01 /h
		LCH	19	0.02 /h
		Beach seine		
2	4 hauls	AG	15	3.75 /haul
B	11 hauls	KS	2	0.18 /haul
		AG	33	3.00 /haul
		RWF	1	0.09 /haul
		SS	8	0.73 /haul
5	5 hauls	SS	3	0.60 /haul
C	11 hauls	KS	1	0.09 /haul
		AG	3	0.27 /haul
		SS	34	3.09 /haul
7	11 hauls	KS	7	0.64 /haul
		AG	37	3.36 /haul
		RWF	1	0.09 /haul
		SS	11	1.00 /haul
11	11 hauls	AG	3	0.27 /haul
		RWF	2	0.18 /haul
		SS	8	0.73 /haul
Total	53 hauls	KS	10	0.19 /haul
		AG	91	1.72 /haul
		RWF	4	0.08 /haul
		SS	64	1.21 /haul

[a]KS=chinook salmon, CS=chum salmon, AG=Arctic grayling, DV=Dolly Varden char, RWF=round whitefish, SS=slimy sculpin, LS=longnose sucker, IN=inconnu, NP=northern pike, LCH=lake chub.

Table 11.—Effort, number of fish collected (N), and catch-per-unit-effort (CPUE) of all fish species captured from September 9-22, 1988, on the Nation River.

Site	Effort	Species[a]	N	CPUE
		Experimental gill net		
8	452.0 h	AG	16	0.04 /h
		RWF	9	0.02 /h
		LS	1	< 0.01 /h
		Multifilament gill net (7.4 cm bar mesh)		
8	480.5 h	--	0	0 /h
		Minnow trap		
8	1,574.5 h	KS	47	0.03 /h
		SS	2	< 0.01 /h
		BB	2	< 0.01 /h
		Beach seine		
8	19 hauls	KS	3	0.16 /haul
		AG	15	0.79 /haul
		RWF	13	0.68 /haul
		SS	20	1.05 /haul

[a]KS=chinook salmon, AG=Arctic grayling, RWF=round whitefish, SS=slimy, sculpin, LS=longnose sucker, BB=burbot.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Add Chinook ra lmm
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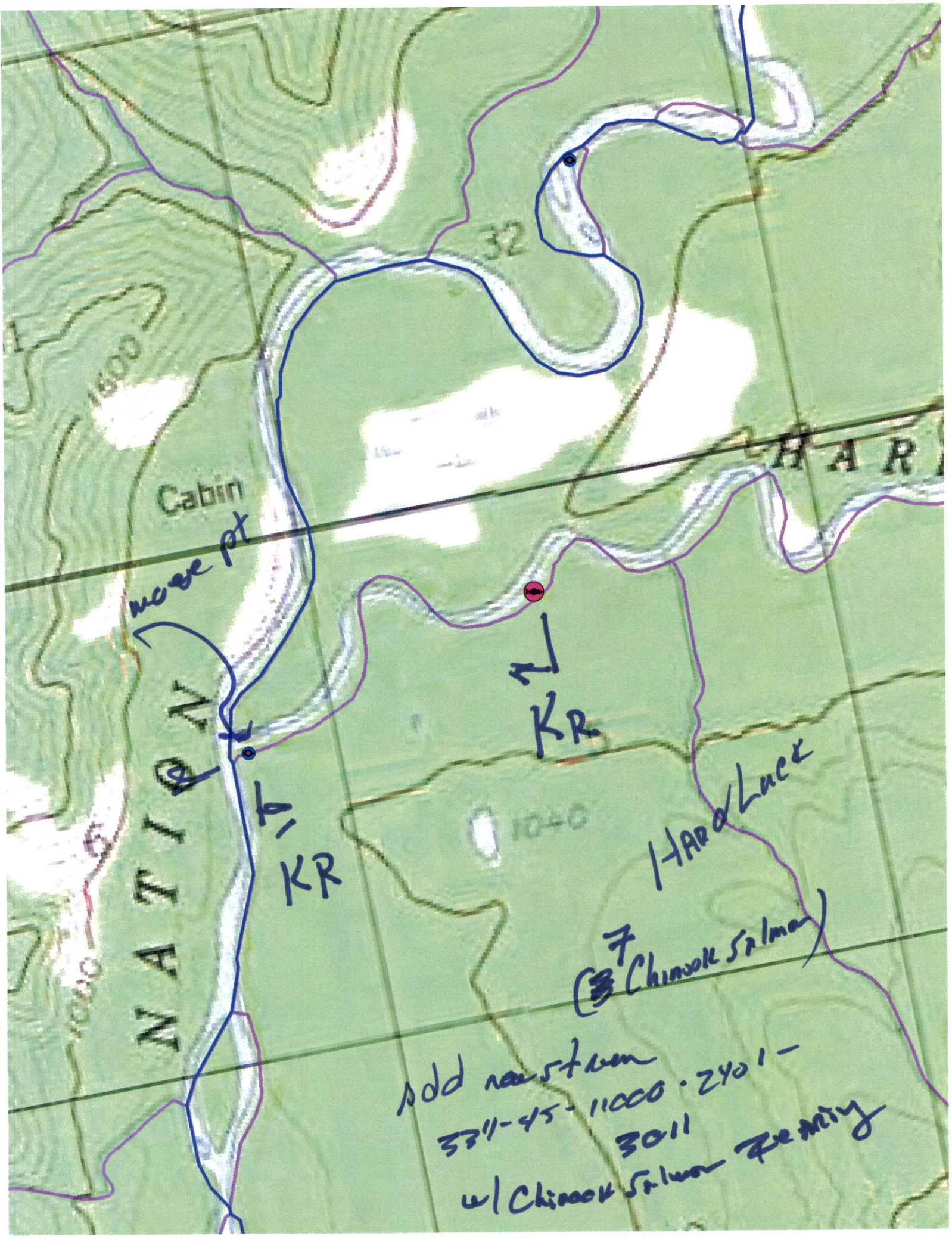
32
1600
Cabin
HAR
NATION
moose pt
KR
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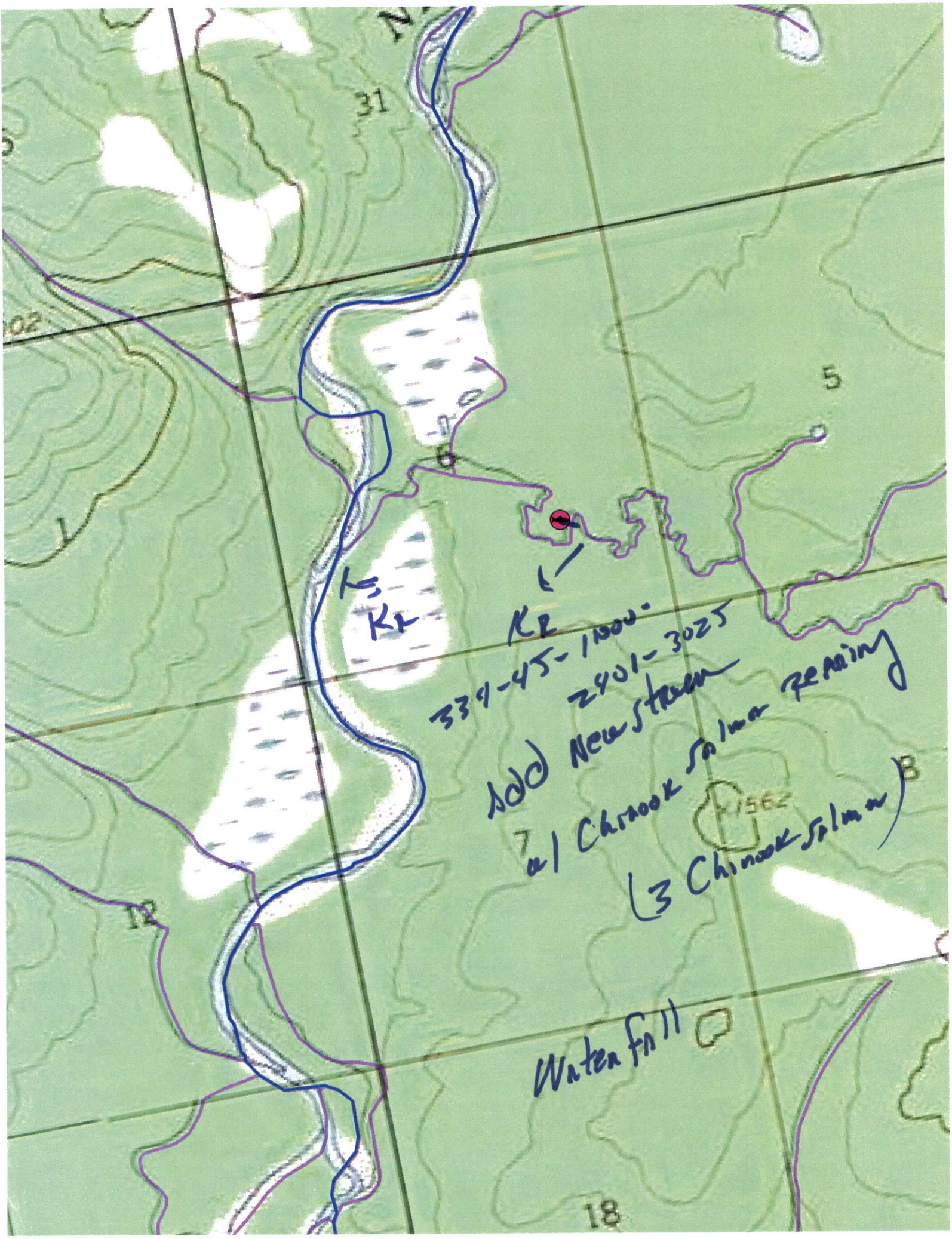
1040
Hard Luck
7 (Chinook Salmon)
add new stream
3311-45-11000-2401-
3011
w/ Chinook Salmon Rearing


31
5
6
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18
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334-45-1000-
2401-3025
Add New Stream
w/ Chinook Salmon Rearing
(3 Chinook Salmon)
Waterfall