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

AWC Volume (SE) SC SW W AR IN USGS Quad SITKA D4 NE¼ Sec. 15, T. 46S. R63E

Anadromous Water Catalog Number of Waterway 112-50-10250 -2019

Name of Waterway Kennel Cr. drainage - unnamed USGS name ____ Local name ____

Addition X Deletion ____ Correction ____ Backup Information ____

For Office Use

Nomination # 95 183
Revision Year: -95
Revision to: Atlas ____ Catalog ____
Both X
Revision Code: A-2

Daniel O'Shea — Regional Supervisor — 11-1-94 Date
Ed Weiss — 12/11/94
J. Drove — Drafted — 12/13/94 Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Migration	Anadromous
Coho	5/16/94		x (3)		x
DV	5/16/94		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 any other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments: see attached.

Name of Observer (please print) Phil Mooney / Jim Fincher (USFS)
Date: 10/27/94 Signature: Phil Mooney
Address: DEPT. OF FISH & GAME 304 LAKE ST. RM. 103 SITKA, ALASKA 99835-7563

ALASKA DEPT. OF FISH & GAME
NOV 29 1994
REGION II
HABITAT AND RESTORATION DIVISION

This certifies that in my best professional judgement 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: Dan Hansen

Rev. 7/93

Stream Nominations - Fish Surveys - Sitka Area
1994

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	REF #	DATE	STREAM NUMBER			QUAD	SECTION	TWNSHIP	RANGE	STREAM NAME		SPECIES	
2	1	5/16/94	112-50-10250 **trib			SITKA D4	NE1/4-15	46S	63E	unnamed		CO/DV	
3	2	5/16/94	112-50-10250 **trib			SITKA D4	NW1/4-16	46S	63E	unnamed		CO/DV	
4	3	5/16/94	112-50-10250			SITKA D4	NW1/4-16	46S	63E	Kennel Cr.		CO/DV	
5	4	5/16/94	112-50-10250 **trib			SITKA D4	SE1/4-17	46S	63E	Kennel Cr.		CO/DV	
6	5	5/16/94	112-50-10250 **			SITKA D4	NE1/4-20	46S	63E	Kennel Cr.		CO/DV	
7	6	5/16/94	112-50-10250 **south fork			SITKA D4	SE1/4-14	46S	63E	Kennel Cr.		CO/DV/CT	
8													
9	7	5/16/94	112-50-0100-0010			SITKA D4	23, 24	46S	63E	Pavlof River		CO/DV	
10	8	5/16/94	112-50-0100-0010-			SITKA D4	SW1/4-23	46S	63E	Pavlof River		DV only	
11	9	5/16/94	112-50-0100-0010 **trib			SITKA D4	NW1/4-35	46S	63E	Pavlof River		CO	
12	10	5/16/94	112-50-0100-0010 **trib			SITKA D4	SW1/4-32	46S	64E	Pavlof River		CO/DV	
13	11	5/18/94	112-50-0100-0010-			SITKA D4	NW1/4-3	47S	64E	Pavlof River		CO/DV/CT	
14													
15	12	5/18/94	112-50-10050			SITKA D4	NE1/4-3	47S	64E	Wachusett Cr.		CO	
16	13	5/18/94	112-50-10050 **trib			SITKA D4	NE1/4-3	47S	64E	Wachusett Cr.		CO/DV	
17	14	8/25/94	112-50-10050 **fork			SITKA D4	SW1/4-35	46S	64E	Wachusett Cr.		P	
18	note	8/25/94	112-50-10050			SITKA D4	SW1/4-35	46S	64E	Wachusett Cr.		P	
19													
20	15	7/18/94	112-50-10300-3003-4016			SITKA D4	SE1/4-33	45S	63E	Freshwater Cr.		CO/DV/CT	
21	note	7/18/94	112-50-10300-3003-4010			SITKA D4	SW1/4-33	45S	63E	Freshwater Cr.		CO/DV	
22	note	7/18/94	112-50-10300-3003-4008			SITKA D4	SE1/4-32	45S	63E	Freshwater Cr.		CO/DV	
23	note	7/18/94	112-50-10300-2001			SITKA D4	SW1/4-29	45S	63E	Freshwater Cr.		CO/DV	
24	note	7/18/94	112-50-10300-2001-3004			SITKA D4	SW1/4-29	45S	63E	Freshwater Cr.		CO/DV	
25	note	7/18/94	112-50-10300			SITKA D4	NE1/4-24	45S	62E	N. Fk. Freshwater Cr		DV	
26													
27	16	7/18/94	112-50-			SITKA D4	SE1/4-34	45S	63E	Freshwater Bay		P/CH	
28	17	7/18/94	112-50-			SITKA D4	SW1/4-21	45S	63E	S of Bayhead Cr.		P	
29	18	7/18/94	112-50-10320			SITKA D4	SE1/4-18	45S	63E	Bayhead Cr. - east fk		DV/CT	
30	note	7/18/94	112-50-10320			SITKA D4	NW1/4-8	45S	63E	Bayhead Cr. - N.FK		DV	
31													
32	note	7/17/94	112-50-10380			SITKA D4	SW1/4-36	45S	63E	Seal Cr. - mouth		P/CH	
33													
34	19	8/12/94	112-50-			SITKA D4	SW1/4-26	45S	63E	unnamed		CO	
35													
36	20	9/1/94	112-50-			SITKA D4	SW1/4-36	45S	63E	unnamed		P/CO	
37	21	9/1/94	112-50-			SITKA D4	NE1/4-9	46S	64E	unnamed		CO	

✓ means I've signed nomination and sent to Ed.

11/25 Phil/Dave - Please enhance comments to answer questions and justify the nomination of "important" habitat where < 5 or so, elaborate on habitat or short soak time, etc DS

Stream Nominations - Fish Surveys - Sitka Area
1994

	A	N	O	P	Q	R	S	T	U	V	W	X	Y
1	REF #	# CAPT	HOW	STAGE		COMMENTS							
2	✓ 1	3	net	smolt		FS # 8519; lower side of log culvert; other fish seen; up. limits of hab. 7/10ths mile up ro							
3	2	1	net	smolt		FS #8519-1; 16"CMP; roadside ditch; DV also in ditch. Overwintering/spring-fed. Upper							
4	✓ 3	100+/20+	net/trap	fry/smolt		FS # 8519-1; 2nd bridge; minnow trap/side rearing channels. Cold mainstem.							
5	4	2, 2	net	fry		FS # 8519-2; 16" CMP; blocked; available habitat above.							
6	5	3,2	net	fry/smolt		FS#8519-3; bridge site							
7	✓ 6	2,15,1	trap	fry/smolt		FS # 8517; lots of fish in area @ bridge.							
8													
9	7	3	net	fry/smolt		FS # 8515; n. side of river. Many small tribs/polygon needed in valley bottom.							
10	✓ 8	6	trap	smolts 6"		FS #8510; bridge site S of 8518 jct. Minnow trap. Near upper limits/75' waterfall.							
11	9	2	net	smolt		FS # 8516; 36"CMP; close to upper limits.							
12	✓ 10	2	net	smolt		FS #8510/8514; LSB over stream. Many fish seen.							
13	11	2,2,1	net	fry/smolt		FS # 8513; 60"squash CMP; 1.6 miles west of Wachusett Cr. Lots for fish visible; CT wa							
14													
15	✓ 12	1	net	fry		FS # 8513; 60' Hamilton bridge over stream. Lots of fry visible. Adult salmon remains f							
16	13	2,2	net	fry		FS # 8513; 2/10ths mile west of creek. Outfall of perched 48"CMP; block to upstream fi							
17	✓ 14	25+	hand	adult/spawning		near cove; NW fork near bottom of estuary. Extensive beaver dams.							
18	note	50	hand	adult		Mainstem - 1000 adults from saltwater to 500' upstream. Beaver dams blocking easy p							
19													
20	✓ 15	3,39,9 ?	trap	fry/smolt		FS #8508; mp 2.3 from KC; 1st bridge.							
21	note	3,15	trap	fry		FS# 8508; mp 2.72 from KC; 2nd bridge.							
22	note	4,2	net	fry		FS # 8508; mp 3.8 from KC; 48" CMP.							
23	note	16, 10	trap	fry/smolt		FS #8508; mp 4.62 from KC; Hamilton bridge 110' long; both forks were trapped.							
24	note	2,1	net	fry		FS # 8508; mp 4.9 from KC; 25' bridge, tannic.							
25	note	50	trap	to 8"		FS #8509; mp .18 from jct ; 1st bridge.							
26													
27	✓ 16	10+/25+	foot/net	adults		Boat/foot survey from stream mouth upstream 200'.							
28	✓ 17	50+	foot/net	adults		Boat/foot survey from mouth upstream 200'.							
29	18	5, 9	trap	CT < 6"		FS # 8509; mp 1.67 from jct; 30' LSB, tannic.							
30	note	35	trap	to 7"		FS # 8509; mp 4.4 from jct; 6' dia x 40' CMP -perched.							
31													
32	note	500, 1200	foot surv	adult		Mouth of stream to 1500' upstream.							
33													
34	19	2	net	smolt		.75 miles west of Seal Cr. mouth. Stream entrance blocked at low tide.							
35													
36	✓ 20	20, 3	net/trap	adult/fry		1000' upstream w/ CO -trap.							
37	✓ 21	2	net	fry		150'.							

# of capt vs stage confusing what # capt must mean

2 but 3 stages

other coho seen? soak time? other co seen? " " " ? other fish seen? soak time? other fish seen?

est. # adult

describe why CT are believed land

other fish seen

other fish seen?

Post-it™ Fax Note 7671 | Date 11/25 | # of pages ▶ 1

To Dave / Phil	From Lana
Co./Dept.	Co.
Phone #	Phone #
Fax #	Fax #

Phil Mooney

11/3/94

	A	Z	AA	AB	AC	AD	AE	AF
1	REF #							
2	1	d.						
3	2	imits.						
4	3							
5	4							
6	5							
7	6							
8								
9	7							
10	8							
11	9							
12	10							
13	11	12" in length. Excellent water quality/spring-fed?.						
14								
15	12	om fall run still evident on banks.						
16	13	h passage. Adult salmon remains from last fall found around culvert.						
17	14							
18	note	ssage.						
19								
20	15							
21	note							
22	note							
23	note							
24	note							
25	note							
26								
27	16							
28	17							
29	18							
30	note							
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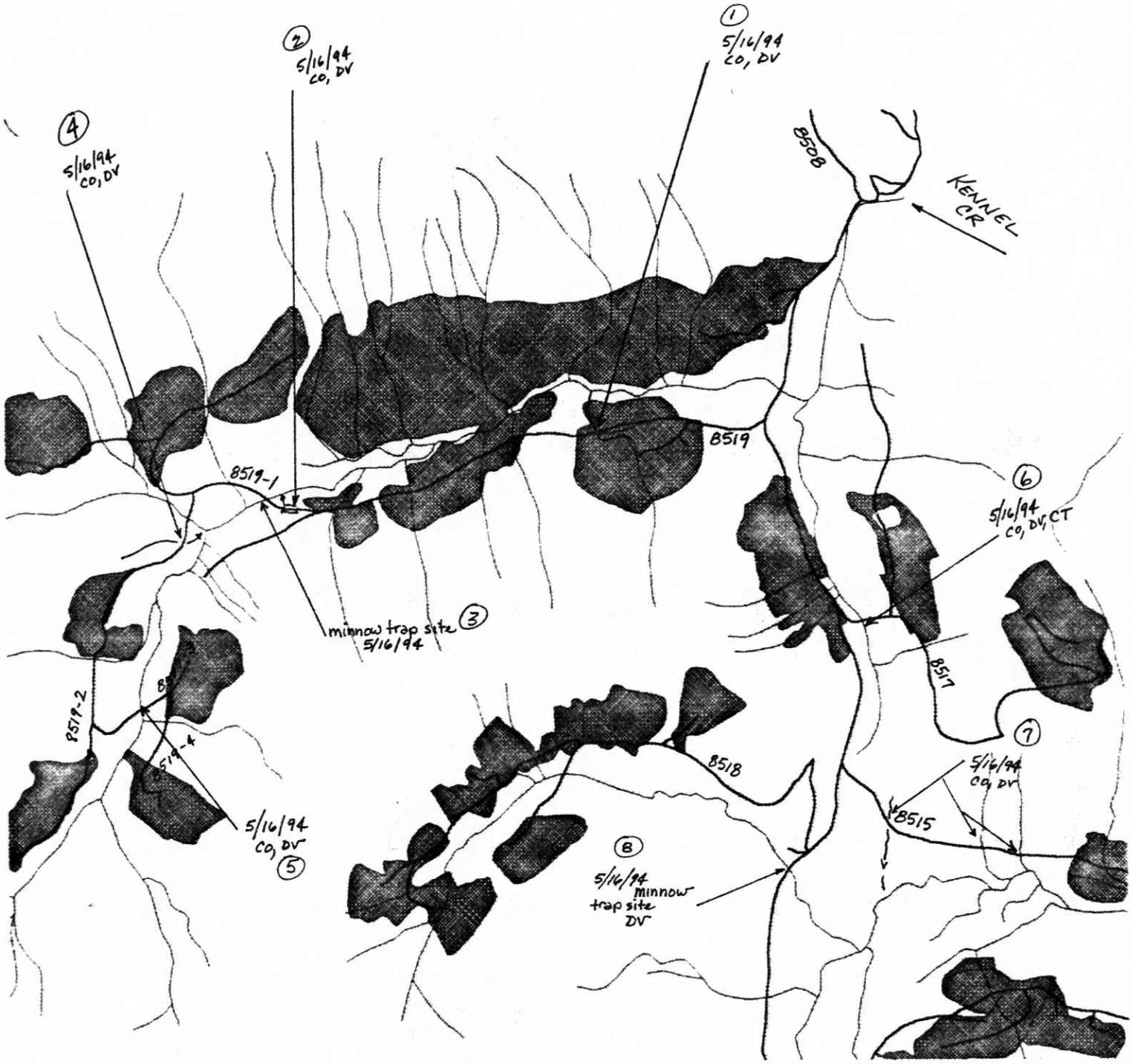
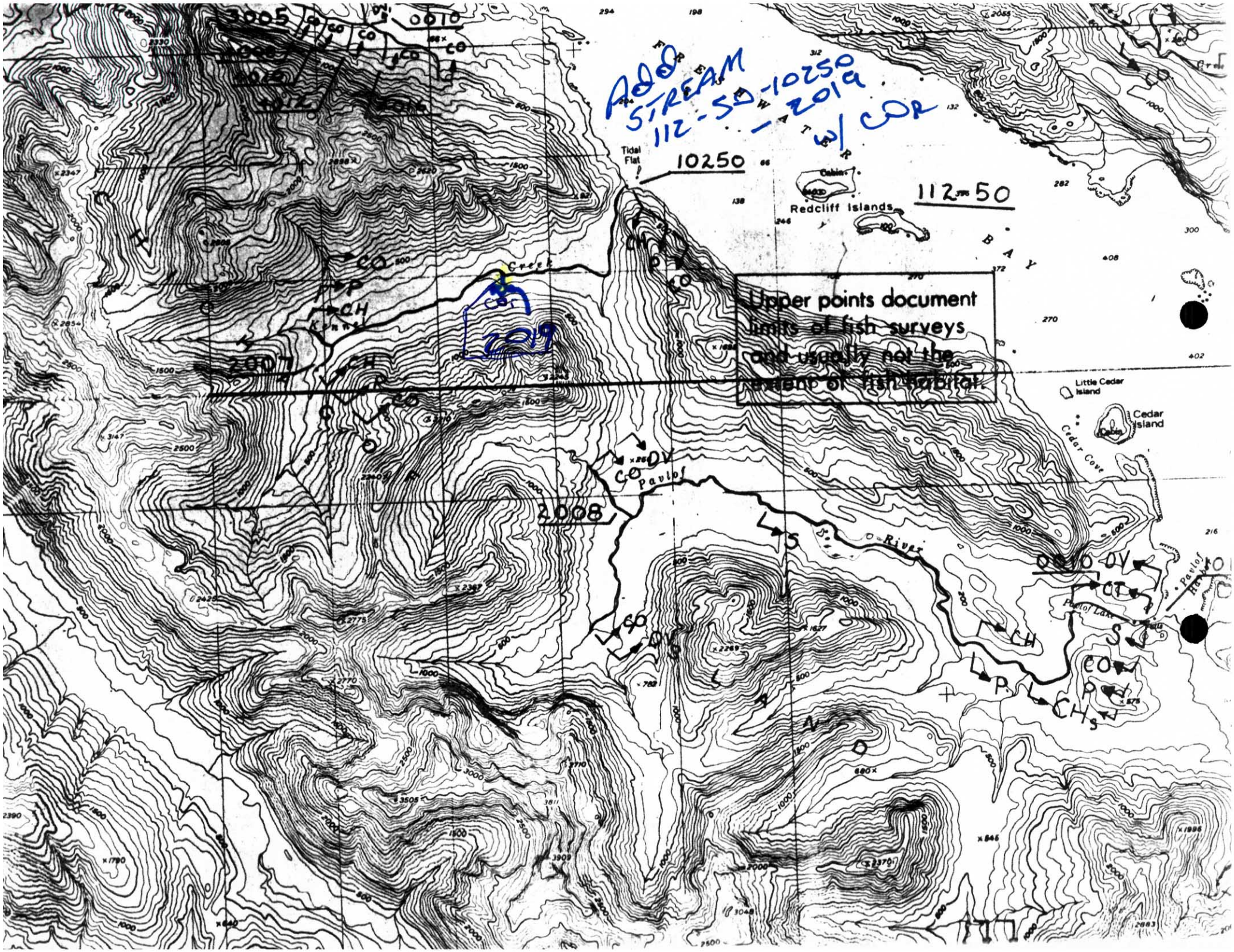
32	note							
33								
34	19							
35								
36	20							
37	21							



KENNEL CR. - UPPER PAULOF RIVER

SITKA D4


Add STREAM 112-50-10250-2019 w/ COR
Upper points document limits of fish surveys and usually not the extent of fish habitat.
10250
112-50
2019
2007
2008
3005
0010
Tidal Flat
Redcliff Islands
Little Cedar Island
Cedar Island
Cedar Cove
Pavlof
River
Pavlof Lake
Pavlof Harbor
Creek
Kennel
BAY
FRESHWATER
CO
CH
P
DV
CT
S
CHs

MEMORANDUM

STATE OF ALASKA
DEPARTMENT OF FISH AND GAME
HABITAT and RESTORATION DIVISION

TO: Ed Weiss
Habitat & Restoration Division
Anchorage

DATE: December 9, 1994

FILE NO:

TELEPHONE NO: 747-5828

THRU: Dave Hardy
Area Habitat Biologist
Sitka

SUBJECT: 1994 Stream Nominations - Supplemental

FROM: Phil Mooney
Habitat Biologist
Sitka

ALASKA DEPT. OF FISH & GAME
DEC 14 1994
REGION II
HABITAT AND RESTORATION DIVISION

A number of items on the original chart submitted needed clarification and/or additional information. Enclosed you will find an updated chart to be used with the supplemental information below and the original maps. Please remove the original chart from the nomination package and replace it with this version.

While we were surveying streams this year we also gathered information from the Sitka Area Sportfish biologist, Art Schmidt, to help us intrepret some of results. He provided these general comments (paraphrased below):

1. **Roadside ditches containing very small water volume were found to have coho and DV in them throughout the year, although in some cases they did dry up in mid-summer. How important are these ditches for fish habitat?** Roadside ditches that intercept small drainages across a hillside often concentrate small flows and distribute them in different patterns than originally existed. If fish (anadromous and resident) are found in these ditches, they are obviously finding some suitable habitat. If the ditch is intercepting a spring-fed source of water that provides a constant flow (even if the volume is slight), overwintering fish can move into these areas and avoid anchor ice. A spring-fed source may also provide a constant source of water during drought periods and a more temperature regulated environment than surface waters can. For these reasons, spring-fed systems may be keystone components for fish survival. Some ditches may only provide seasonal habitat. They may intercept and transport fall rains and snowmelt through the fall-winter-spring-and early summer periods. The landscape that provides fish habitat is a dynamic system. It constantly changes due to seasonal and climate flucuations. Physical changes to it are also constantly occurring. Fish populations undergo seasonal distributions, as well as do their food base. Trying to second-guess the importance of a ditch here, small stream there, etc. for fish habitat is a hazardous

over-simplification of the system at work and we need to be cautious of dismissing components of a larger system.

2. **Why did we fail to capture fish in a minnow trap placed in the mainstem when hundreds of fish were visible upstream in overflow areas?** Failure to capture fish in a minnow trap placed in the mainstem when upstream many fry and smolts are visible in shallow, overflow or slow-moving tributaries is likely due to seasonal conditions. Spring flows containing snowmelt are generally colder and have more volume than after snowmelt periods. Fish metabolism and food resources are reduced in late fall, winter, and early spring. In early spring under high water conditions, smolts, emerging fry, and resident fish will seek out warmer, slow moving water thereby reducing the amount of energy needed to swim and maintain themselves. High water conditions also typically carry higher loads of sediment. Because overflow areas are shallow and slow moving, these sections of water will be slightly warmer, food resources will likely be more abundant, and bank cover will provide some protection from predation.

3. **Why did we capture cutthroat trout in the upper reaches of a stream system and yet fail to have them represented in captures downstream when no physical barriers exist to their movement?** Cutthroat trout do not compete well with other rearing fish. Capturing cutthroat in the upper reaches of a stream system and not finding them distributed downstream is fairly common. When pressured, cutthroat will retreat into upper tributaries and less preferred habitat. It is believed that this is one of the reasons cutthroat are so susceptible to losses of habitat in the upper stream reaches and finger tributaries. Seasonal changes in rearing fish distributions are common with different habitats preferred under different seasonal and edaphic conditions.

Please use the information below to supplement the nomination sheets and chart. The reference # refers to the reference # column (A) found on the chart.

<u>Reference #</u>

1. Approximately 6 additional CO smolts were seen in a 50' distance downstream from the culvert. Dolly Varden char were also present in the stream. This stream appears to be providing overwintering habitat for salmon and is a short distance (less than 1/4 mile from the Kennel Creek mainstem).

2. Although only 1 coho smolt was netted, more than a half dozen were observed along portions of the ditch. More than 10 DV were also counted in the ditch. The ditch parallels the road for more than 300' and gradually angles towards the mainstem of Kennel Creek, until it is within 80' of the mainstem. Water remained running in this ditch throughout the summer, even through extended dry periods, providing fish habitat.

3. Soak time of the minnow trap was approximately 1 hour. The trap was located in the mainstem and captured no fish. The bulk of the fish were located 100' upstream of the trap site in a shallow overflow area where water temperatures were warmer than the mainstem. The coho fry and DV were active and numerous. Two coho fry were netted for identification purposes and released. DV were observed but not captured.

4. Other fish, both coho fry and DV, were observed during a short walk (50') downstream from the culvert. We briefly looked for fish above the culvert and found none although suitable habitat exists for more than 1/4 mile. The culvert was partially blocked by debris on the uphill side and the lower side is perched >8".

6. The trap soaked for 45 minutes. Two coho fry, 15 DV, and one cutthroat were captured. Many other cohos and DV were seen above and below the trap site. It appeared that this is a very productive stream.

9. No other fish were seen due to snowcover that was still extensive here. Judging from the limited distance of stream we could survey, stream gradient, visible habitat and the two fish caught in a short distance, this stream provides adequate suitable fish habitat for additional fry/smolts. Re-survey at a later date was not accomplished this summer.

11. This stream has excellent fish habitat and appeared to be very productive. Stream flows did not noticeably vary after storm events. It is likely this stream is spring-fed and may provide overwintering habitat for fish.

18. Although we did not capture salmon species in the minnow trap, this stream is a tributary to Bayhead Cr., with pink and coho salmon species in it. The number of cutthroat captured indicates a good fish habitat condition. Without additional work, I can not say for sure that the DV or cutthroat are anadromous. This stream should be documented for cutthroat at this time.

19. Stream was not surveyed extensively due to boat anchoring problems and stormy conditions. Suitable fish habitat and stream gradient is present. FS personnel (Hoonah RD fisheries staff) said they have also seen coho fry in this stream. They list the lower portion of the stream as a Class I system.

21. Due to limited time and poor weather conditions, no attempt was made to capture more fish. Lighting was poor at the time of the survey. Adequate fish habitat does exist and provides rearing habitat for cohos.

Stream Nominations - Fish Surveys - Sitka Area
1994

	A	B	C	D	E	F	G	H	I	J	K	L	M
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4	3	5/16/94	112-50-10250			SITKA D4	NW1/4-16	46S	63E	Kennel Cr.		CO/DV	
5	4	5/16/94	112-50-10250 **trib			SITKA D4	SE1/4-17	46S	63E	Kennel Cr.		CO/DV	
6	5	5/16/94	112-50-10250 **			SITKA D4	NE1/4-20	46S	63E	Kennel Cr.		CO/DV	
7	6	5/16/94	112-50-10250 **south fork			SITKA D4	SE1/4-14	46S	63E	Kennel Cr.		CO/DV/CT	
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11	9	5/16/94	112-50-0100-0010 **trib			SITKA D4	NW1/4-35	46S	63E	Pavlof River		CO	
12	10	5/16/94	112-50-0100-0010 **trib			SITKA D4	SW1/4-32	46S	64E	Pavlof River		CO/DV	
13	11	5/18/94	112-50-0100-0010-			SITKA D4	NW1/4-3	47S	64E	Pavlof River		CO/DV/CT	
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17	14	8/25/94	112-50-10050 **fork			SITKA D4	SW1/4-35	46S	64E	Wachusett Cr.		P	
18	note	8/25/94	112-50-10050			SITKA D4	SW1/4-35	46S	64E	Wachusett Cr.		P	
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29	18	7/18/94	112-50-10320			SITKA D4	SE1/4-18	45S	63E	Bayhead Cr. - east fk		DV/CT	
30	note	7/18/94	112-50-10320			SITKA D4	NW1/4-8	45S	63E	Bayhead Cr. - N.FK		DV	
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4	3	100+/20+	net/trap	fry/smolt		FS # 8519-1; 2nd bridge; minnow trap/side rearing channels. Cold mainstem.							
5	4	2, 2	net	fry		FS # 8519-2; 16" CMP; blocked; available habitat above.							
6	5	3,2	net	fry/smolt		FS#8519-3; bridge site. Other cohos seen but were scattered due to cold water temps.							
7	6	2,15,1	trap	fry/smolt		FS # 8517; lots of fish in area @ bridge.							
8													
9	7	3	net	fry/smolt		FS # 8515; n. side of river. Many small tribs/polygon needed in valley bottom. Dozens of							
10	8	6	trap	smolts 6"		FS #8510; bridge site S of 8518 jct. Minnow trap 45 min. Near upper limits/75' waterfall							
11	9	2	net	smolt		FS # 8516; 36"CMP; close to upper limits.							
12	10	2	net	smolt		FS #8510/8514; LSB over stream. 20+ cohos seen.							
13	11	2,2,1	net	fry/smolt		FS # 8513; 60"squash CMP; 1.6 miles west of Wachusett Cr.Dozens of cohos visible; C							
14													
15	12	1	net	fry		FS # 8513; 60' Hamilton bridge over stream. 20+ coho fry visible. Dozens of adult salm							
16	13	2,2 DV	net	fry		FS # 8513; 2/10ths mile west of creek. Outfall of perched 48"CMP; block to upstream fi							
17	14	25+	hand	adult/spawning		near cove; NW fork near bottom of estuary. Extensive beaver dams.							
18	note	50	hand	adult		Mainstem - 1000 adults from saltwater to 500' upstream. Beaver dams blocking easy p							
19													
20	15	3,39,9CT	trap	fry/smolt		FS #8508; mp 2.3 from KC; 1st bridge. 7 hr soak time.							
21	note	3,15	trap	fry		FS# 8508; mp 2.72 from KC; 2nd bridge.							
22	note	4,2	net	fry		FS # 8508; mp 3.8 from KC; 48" CMP.							
23	note	16, 10	trap	fry/smolt		FS #8508; mp 4.62 from KC; Hamilton bridge 110' long; both forks were trapped.							
24	note	2,1	net	fry		FS # 8508; mp 4.9 from KC; 25' bridge, tannic.							
25	note	50	trap	to 8"		FS #8509; mp .18 from jct ; 1st bridge.							
26													
27	16	10+/25+	foot/net	adults		Boat/foot survey from stream mouth upstream 200'.							
28	17	50+	foot/net	adults		Boat/foot survey from mouth upstream 200'.							
29	18	5DV 9CT	trap	CT < 6"		FS # 8509; mp 1.67 from jct; 30' LSB, tannic.							
30	note	35	trap	to 7"		FS # 8509; mp 4.4 from jct; 6' dia x 40' CMP -perched.							
31													
32	note	500, 1200	foot surv	adult		Mouth of stream to 1500' upstream.							
33													
34	19	2	net	smolt		.75 miles west of Seal Cr. mouth. Stream entrance blocked at low tide.							
35													
36	20	20P 3CO	net/trap	adult/fry		200 yards E of Seal Cr. LTF. Pinks in first 100'. Bridge 1000' upstream w/ CO -trap.							
37	21	2	net	fry		5 miles southeast from Seal Cr. LTF. Fry found in first 150'.							

	A	Z	AA	AB	AC	AD	AE	AF
1	REF #							
2	1	d.						
3	2	imits.						
4	3							
5	4							
6	5							
7	6							
8								
9	7	coho seen.						
10	8							
11	9							
12	10							
13	11	was 12" in length. Excellent water quality/spring-fed?.						
14								
15	12	n remains from fall run still evident on banks.						
16	13	h passage. 6+adult salmon remains from last fall found around culvert.						
17	14							
18	note	ssage.						
19								
20	15							
21	note							
22	note							
23	note							
24	note							
25	note							
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27	16							
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