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

Nomination Form
Anadromous Waters Catalog

M 6

Region: Southeast

USGS Quad(s): Craig A-2

Anadromous Waters Catalog Number of Waterway: 103-25-10470 - 2023

Name of Waterway: Hetta Creek (Inlet Creek)

[X] Addition [ ] Deletion [ ] Correction [ ] Backup Information

[X] USGS Name [X] Local Name

local name in parentheses

For Office Use

Nomination #	130020		
Revision Year:	2014	Fisheries Scientist	8/27/13 Date
Revision to: Atlas ____ Catalog ____ Both Y		Habitat Operations Manager	8/27/13 Date
Revision Code:	C-9, B-2, A-2	AWC Project Biologist	6/14/13 Date
		Cartographer	9/5/13 Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Coho Salmon	June 22-23, 2012		X		[X]
Sockeye Salmon	June 22-23, 2012	X	X		[X]
Dolly Varden	June 22, 2012		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 summary and copies of attached datasets

Revise hydrography and add sockeye & coho salmon rearing to 103-25-10470, add new stream 103-25-10470-2023 w/ coho salmon rearing

Name of Observer (please print): Tony Sanderson

Signature: Tony Sanderson

Agency: Hydaburg Cooperative Association

Address: P.O. Box 349
Hydaburg, Alaska 99922

Date: Jan. 7, 2013

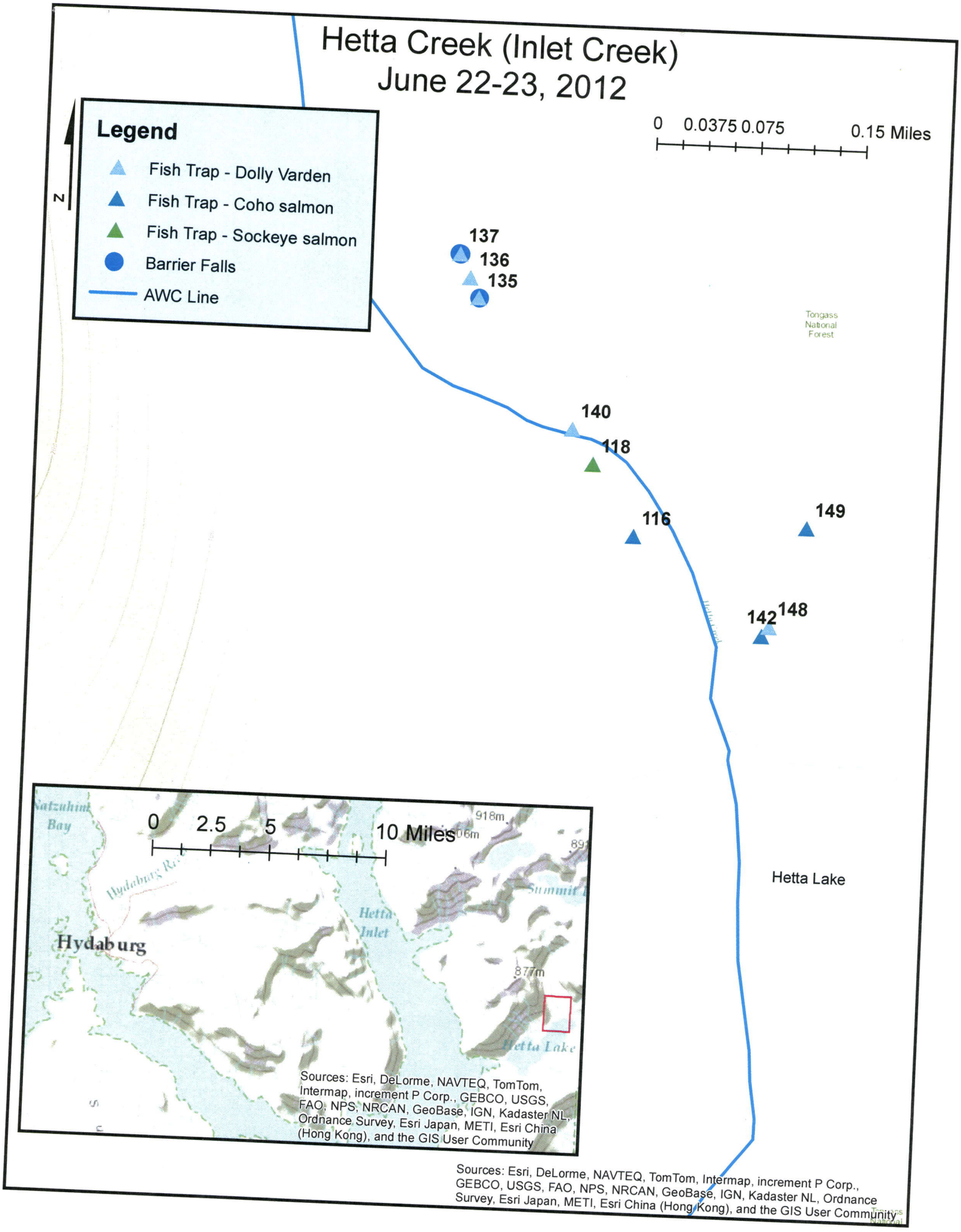
ALASKA DEPT. OF FISH & GAME
JAN 18 2013

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: _____

02/08 Revision

Hetta Creek (Inlet Creek)
June 22-23, 2012



KAI ENVIRONMENTAL CONSULTING SERVICES, LLC

January 14, 2013

ADF&G Sportfish Division Regional Office
ATTN: J. Johnson
333 Raspberry Road
Anchorage, AK 99518

Dear Mr. Johnson,

On behalf of the Hydaburg Cooperative Association (HCA) and The Nature Conservancy (TNC), I have completed and enclosed 7 nomination packages for the Anadromous Waters Catalog (AWC). In 2012, TNC received a Southeast Sustainable Salmon Fund grant from the State of Alaska, Department of Fish and Game, to conduct stream habitat surveys in two important subsistence watersheds near Hydaburg, Alaska. These watersheds include Hetta Lake (4 nominations) and Eek Lake (3 nominations). During stream habitat surveys, additional data for documenting fish and fish habitat use was also taken (in the form of minnow trapping and adult foot surveys). While 5 of the nominations are for adding the spawning and/or rearing designation to existing cataloged stream reaches and Hetta Lake, 2 of the nominations are for new stream designations. The new stream designations are in Eek Lake.

You will note that the nomination packages are signed by Tony Sanderson of Hydaburg Cooperative Association. Mr. Sanderson was the field lead for the project, and is therefore signing as the observer. My role under this collaborative project was to train the field crews, compile the data for various uses, and prepare the nomination packages. Because all of the data resides in my offices in Juneau, if you have questions, need clarification, or need additional information please do not hesitate to contact me at the phone number listed below or at cathy@kaienvironmental.com. Thanks!

Sincerely,

Cathy A. Needham

9000 GLACIER HIGHWAY, SUITE 302, JUNEAU, AK 99801
(907)723-4426 (P); (866)422-4462

Hetta Creek (Inlet Creek) Stream Habitat Mapping Data (2012)

Project Code: Het12 6/22/2012 Channel Type: MCS GPS: KAI01 Upstream

Waypoint	Coordinates		Error (ft)	Feature	Locale	Locator
117	55.187238	-132.53492	13	INL	MCH	SS
117	55.187238	-132.53492	13	CBW	MCH	SS
116	55.188868	-132.536433		CBW	MCH	SS
116	55.188868	-132.536433		FOP	MCH	SS
118	55.189601	-132.537197		FOP	MCH	SS
119	55.188265	-132.535935		CBW	MCH	SS
120	55.18729	-132.535158		MAP	MCH	SS
121	55.187366	-132.535169		MAP	MCH	SS
122	55.187574	-132.535237		MAP	MCH	SS
123	55.187796	-132.535171		MAP	MCH	SS
124	55.188086	-132.535446		MAP	MCH	SS
125	55.18817	-132.535675		LWA	MCH	SS
126	55.188398	-132.536242		LWA	MCH	SS
127	55.188746	-132.536666		SAP	MCH	RB
128	55.189264	-132.537301		MAP	MCH	SS
129	55.189185	-132.536691		MAP	MCH	SS
130	55.189665	-132.537358		MAP	MCH	SS
131	55.190052	-132.537661		MAP	MCH	SS
132	55.190296	-132.538309		MAP	MCH	SS
133	55.190707	-132.53852		MAP	MCH	SS
134	55.190948	-132.539011		MAP	MCH	SS
135	55.191286	-132.539325		GWF	MCH	SS
135	55.191286	-132.539325		BRK	MCH	SS
135	55.191286	-132.539325		FOP	MCH	SS
139	55.1907	-132.538556	26	FOP	MCH	RB
140	55.18996	-132.537579	21	FOP	MCH	RB
141	55.18941	-132.537011		CTV	MCH	SS

Bottom of Reach Waypoint	CTV Waypoint	Top of Reach Waypoint	Avg Stream Gradient (%)	Incision Depth (m)	Bankful Width (m)	Bank Composition	Channel Pattern
117	141	135	3.5	1.2	6	Mixed	Braided

Stream Gradient Measure			Riparian Vegetation Codes		
		dist (m)		Left Bank	Right Bank
Bottom of Reach (up)	0	32	0-5m	IC2	IB1a
CTV (down)	-4	7	5-10m	IA1d	IB1a
CTV (up)	1	10	10-20m	IA1d	IB1a
Top of Reach (up)	-3	17	23-30m	IA1d	IA1c
Avg. Channel Bedwidth (m)				12.7	

Substrate and Geology	
Dominant	SC
Sub-dominant	VCG
Next sub-dominant	CGR

Reach Counts	
Large Wood	333
Key Wood	88
Macro Pools	107

Hetta Creek (Inlet Creek) Stream Habitat Mapping Data (2012)

Project Code: Het12 6/22/2012 Channel Type: MMS GPS: KAI01 Upstream

Waypoint	Coordinates		Error (ft)	Feature	Locale	Locator
143	55.18764	-132.533491	11	INL	MCH	SS
143	55.18764	-132.533491	11	BSS	MCH	SS
144	55.187946	-132.534109	16	CBW	MCH	SS
144	55.187946	-132.534109	16	CTV	MCH	SS
145	55.187917	-132.534142		MAP	MCH	SS
146	55.187885	-132.534513	27	MAP	MCH	SS
147	55.187942	-132.534806	16	BRK	MCH	SS
148	55.187969	-132.533944		FOP	MCH	SS
142	55.187877	-132.534083	19	FOP	BPM	LB

Bottom of Reach Waypoint	CTV Waypoint	Top of Reach Waypoint	Avg Stream Gradient (%)	Incision Depth (m)	Bankful Width (m)	Bank Composition	Channel Pattern
143	144	147	3.5	0.49	4.4	Organic	Braided

Stream Gradient Measure		
		dist (m)
Bottom of Reach (up)	0	9.1
CTV (down)	0	10
CTV (up)	-4	8.2
Top of Reach (up)	-4	11.8

Riparian Vegetation Codes		
	Left Bank	Right Bank
0-5m	IC1	IA2a
5-10m	IIIA3g	IA2a
10-20m	IIIA3g	IA2a
23-30m	IIIA3g	IA2a

Substrate and Geology	
Dominant	CGR
Sub-dominant	VCG
Next sub-dominant	SS

Avg. Channel Bedwidth (m)	3.6

Reach Counts	
Large Wood	17
Key Wood	6
Macro Pools	13

Hetta Creek (Inlet Creek) Stream Habitat Mapping Data (2012)

Project Code: Het12 6/23/2012 Channel Type: MMS GPS: KAI01 Upstream

Waypoint	Coordinates		Error (ft)	Feature	Locale	Locator
153	55.191067	-132.534363	26	BSS	MCH	SS
153	55.191067	-132.534363	26	LWA	MCH	SS
153	55.191067	-132.534363	26	BRK	MCH	SS
151	55.190619	-132.534854		CBW	MCH	SS
152	55.190704	-132.534703		CBW	MCH	SS
149	55.188993	-132.533308	19	FOP	MCH	SS
150	55.190519	-132.534561	30	FOP	MCH	SS
154	55.190603	-132.53494		TRB	MCH	RB
155	55.190414	-132.534272	23	TRB	MCH	LB
156	55.19018	-132.534301		MAP	MCH	SS
157	55.190084	-132.534182		EBD	MCH	SS
158	55.189934	-132.533886		TRB	MCH	SS
158	55.189934	-132.533886		CTV	MCH	SS
159	55.189894	-132.533879	12	EBD	MCH	SS
160	55.189232	-132.533289		MAP	MCH	SS
161	55.18875	-132.533531		MAP	MCH	SS
162	55.188554	-132.53374	13	BRK	MCH	SS

Bottom of Reach Waypoint	CTV Waypoint	Top of Reach Waypoint	Avg Stream Gradient (%)	Incision Depth (m)	Bankful Width (m)	Bank Composition	Channel Pattern
162	158	153	3.5	0.3	4	Organic	Singular

Stream Gradient Measure			Riparian Vegetation Codes		
		dist (m)		Left Bank	Right Bank
Bottom of Reach (up)	0	10.9	0-5m	IIA3	IIA3
CTV (down)	-2	12.8	5-10m	IIA3	IIA3
CTV (up)	0	13.7	10-20m	IA2d	IA2d
Top of Reach (up)	-6	7.3	23-30m	IA2d	IA2d

Substrate and Geology		Avg. Channel Bedwidth (m)	1.73
Dominant	ORG		
Sub-dominant	CGR/VCG		
Next sub-dominant	MGR		

Reach Counts	
Large Wood	88
Key Wood	17
Macro Pools	30

Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community

Supplemental information for Hetta Creek (Inlet Creek)

Nine baited minnow traps were set and caught anadromous fish along the upper inlet creek (Hetta Creek; 103-25-10470) to Hetta Lake (see map for trap locations). Two waterfalls are represented, by GPS points 135 and 137. The baited traps were soaked from 4-6 hours. The trap set at GPS location 116 caught 1 sockeye salmon (<100mm) and 1 coho salmon (<100mm). The GPS trap at 118 caught 2 sockeye salmon (<100mm), 2 rainbow trout (<100mm), 1 rainbow trout (101-200mm) and 1 unidentified fish that escaped. The trap at GPS 135 was located at the side of a plunge pool below the barrier falls and caught 2 Dolly Varden (<100mm). The GPS 136 trap was located in a pool above the first falls (at GPS 135) and caught 5 Dolly Varden (<100mm). The GPS 137 trap, also above the first set of falls, caught 5 Dolly Varden (<100mm). No trapping above the second falls took place due to hazardous conditions from high water during stream surveys. The GPS 140 trap caught 1 Dolly Varden (101-2000mm) and 1 coho salmon (<100mm).

GPS traps 142, 148 and 149 were set in braided channels of the mouth of Hetta Creek (Inlet Creek). The trap at GPS 142 caught 6 coho salmon (<100mm) and Dolly Varden (101-200mm). The GPS 148 trap caught 2 Dolly Varden (101-200mm), 6 Dolly Varden (<100mm), 2 coho salmon (<100mm) and 1 unidentified fish that escaped. The GPS 149 trap caught 1 coho salmon (<100mm). Timing of data collection and the life stage of coho salmon and sockeye salmon show that juveniles are using Hetta Creek (Inlet Creek) as rearing habitat. In addition, Dolly Varden have not previously been shown in the Anadromous Waters Catalog as present, and juvenile Dolly Varden are also using this reach as rearing habitat. It is unknown if the Dolly Varden caught in the minnow trapping are anadromous, however it is likely.

Hetta Creek (Inlet Creek) at the upper end of Hetta Lake has also been subject to mark-recapture studies and adult foot counts in previous years for sockeye salmon as part of the Hetta Lake Sockeye Assessment Project (Cartwright, et al., 2005 and Host, et al., 2008). From 2001-present, During the 2012 field season for this current study, field crews estimated 500-1,000 sockeye salmon throughout the mouth of Hetta Creek (Inlet Creek), and noted carcasses along the banks of the creek up to the first falls at GPS location 135 (see map) during September adult foot count surveys. Hetta Creek (Inlet Creek) should be catalogued as being important spawning habitat for sockeye salmon up to the barrier falls located at GPS location 135.

REFERENCES:

Cartwright, M.A., J.C. Conitz, R.W. Bale, K.S. Reppert and B.A. Lewis. 2005. Hetta Lake sockeye salmon (*Onchorhynchus nerka*) stock assessment project: 2003 annual report and 2001-2003 final report. Alaska Department of Fish and Game, Fishery Data Series No. 05-33, Anchorage.

Host, S. A., J. M. Conitz, and M. A. Cartwright. 2008. Hetta Lake subsistence sockeye salmon project: 2005 annualreport. Alaska Department of Fish and Game, Fishery Data Series No. 08-09, Anchorage.

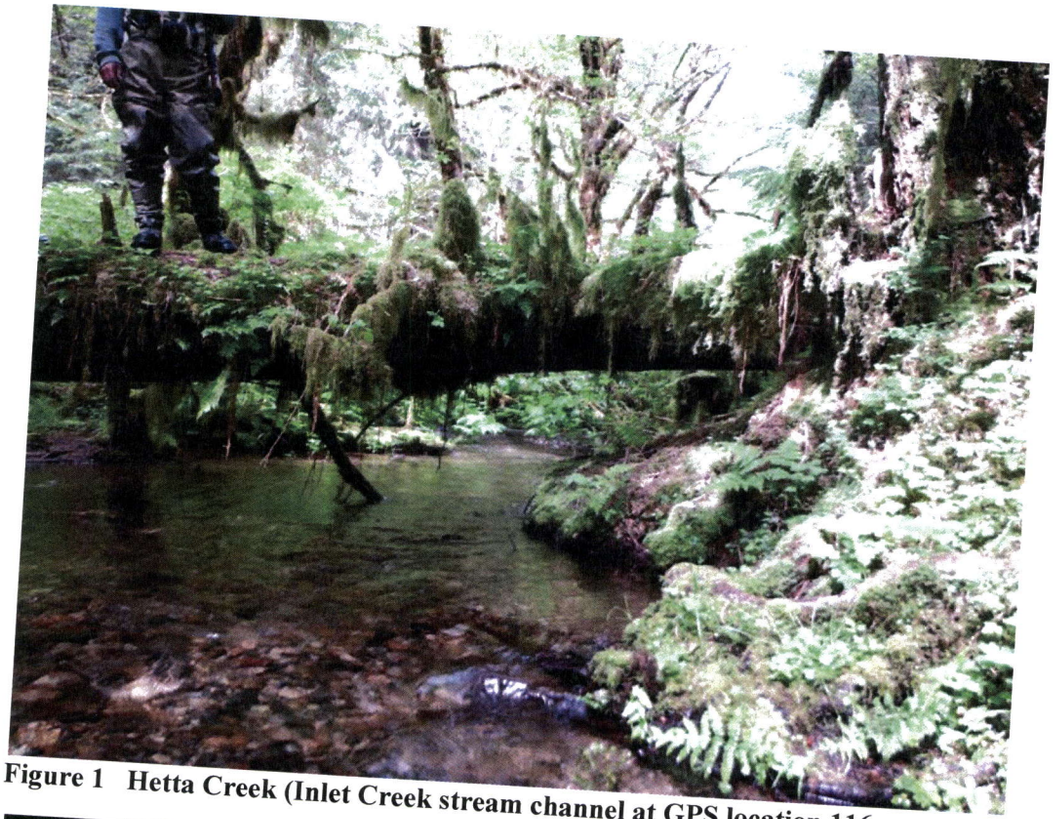


Figure 1 Hetta Creek (Inlet Creek stream channel at GPS location 116

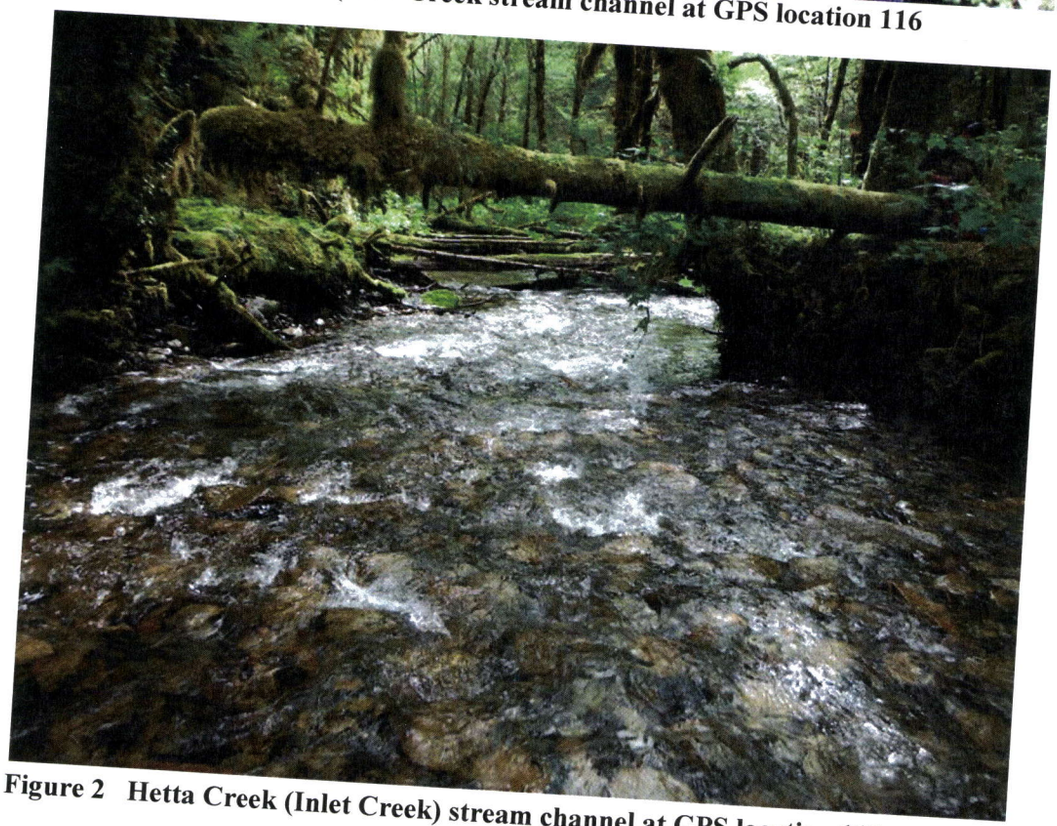


Figure 2 Hetta Creek (Inlet Creek) stream channel at GPS location 118

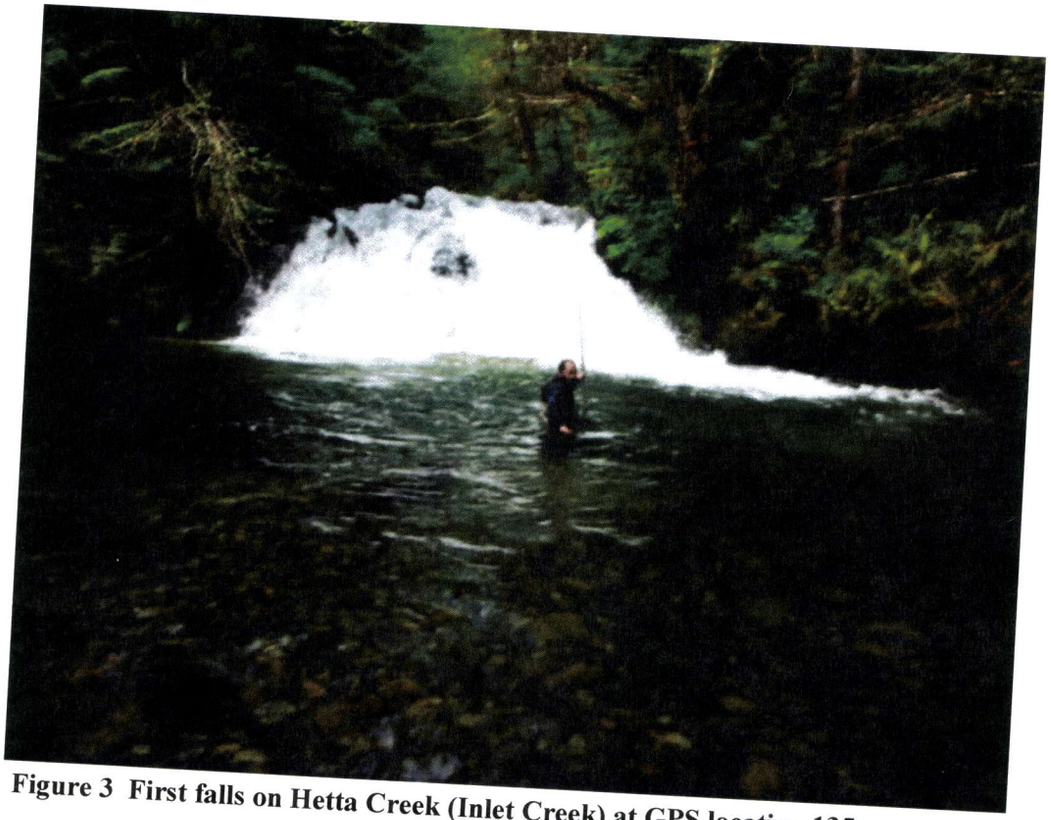


Figure 3 First falls on Hetta Creek (Inlet Creek) at GPS location 135

Figure 4: Juvenile Dolly Varden caught above first falls on Hetta Creek (Inlet Creek) at GPS location 135.

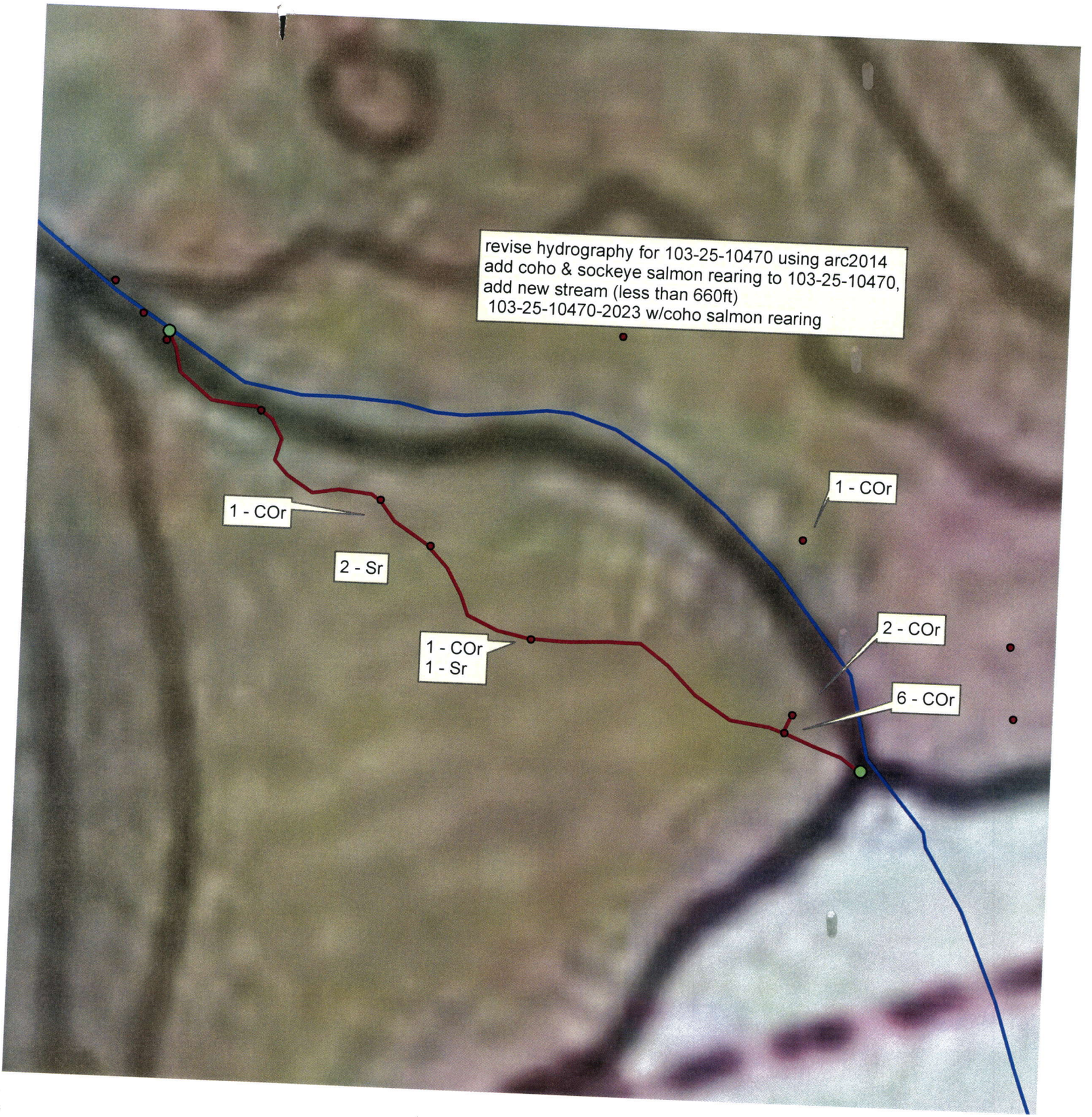
Hetta Creek (Inlet Creek) Minnow Trapping Data (2012)

ADF&G permit no. SF2012-193

Summary report of fish collection activity.

The area biologist was contacted on: TIME/DATE **6/14/12 at 8:37 P.M.**

Location_ID	GPS_Point	Latitude	Longitude	Datum	Coordinate_determination_method	Name_of_water_body	Date	Fish_collection_method	Species	Life stage	Length	Length_method	Disposition	Disposition	Comments
HET12	116	55.188868	-132.536433	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	116	55.188868	-132.536433	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	sockeye salm	juvenile			ID'ed and released		
HET12	118	55.189601	-132.537197	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	rainbow trout	juvenile			ID'ed and released		
HET12	118	55.189601	-132.537197	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	rainbow trout	juvenile			ID'ed and released		
HET12	118	55.189601	-132.537197	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	sockeye salm	juvenile			ID'ed and released		
HET12	118	55.189601	-132.537197	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	sockeye salm	juvenile			ID'ed and released		
HET12	118	55.189601	-132.537197	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	general fish o	juvenile			ID'ed and released		
HET12	118	55.189601	-132.537197	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	rainbow trout	juvenile					Escaped before ID'ed
HET12	135	55.191286	-132.539325	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	135	55.191286	-132.539325	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	136	55.191488	-132.539483	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	136	55.191488	-132.539483	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	136	55.191488	-132.539483	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	136	55.191488	-132.539483	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	136	55.191488	-132.539483	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	137	55.191730	-132.539679	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	137	55.191730	-132.539679	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	137	55.191730	-132.539679	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	137	55.191730	-132.539679	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	137	55.191730	-132.539679	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	140	55.189960	-132.537579	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	140	55.189960	-132.537579	WGS84	GPS	Hetta	6/23/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	142	55.187877	-132.534083	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	general fish o	not applicable			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile					Escaped before ID'ed
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	Dolly Varden	juvenile			ID'ed and released		
HET12	148	55.187969	-132.533944	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
HET12	149	55.188993	-132.533308	WGS84	GPS	Hetta	6/22/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		
							6/23/2012	Minnow Trap	coho salmon	juvenile			ID'ed and released		


revise hydrography for 103-25-10470 using arc2014
add coho & sockeye salmon rearing to 103-25-10470,
add new stream (less than 660ft)
103-25-10470-2023 w/coho salmon rearing
1 - COr
2 - Sr
1 - COr
1 - Sr
1 - COr
2 - COr
6 - COr