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

Nomination Form
Anadromous Waters Catalog

Region: Southeast

USGS Quad(s): Craig A-3

Anadromous Waters Catalog Number of Waterway: 103-40-10410

Name of Waterway: Hydaburg River

[x] Addition [ ] Deletion [ ] Correction [ ] Backup Information [x] USGS Name [x] Local Name

For Office Use

Nomination #	14-501	Fisheries Scientist	4/25/14 Date
Revision Year:	2015	Habitat Operations Manager	4/25/14 Date
Revision to: Atlas ____ Catalog ____ Both X		AWC Project Biologist	3/21/14 Date
Revision Code:	B-2	Cartographer	5/19/14 Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Coho Salmon	June 19-20, July 9, 2013		x		[x]
Cutthroat Trout	June 19-20, July 9, 2013			x	[ ]
Rainbow Trout	June 19-20, July 9, 2013			x	[ ]
Dolly Varden	June 19-20, July 9, 2013			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 supplemental information.

This application was prepared by Cathy Needham, who may be reached at 907-723-4436 or cathy@kaienvironmental.com

Add coho salmon rearing to stream

ALASKA DEPT. OF FISH & GAME
JAN 08 2014

Name of Observer (please print): Tony Sanderson

Signature: Tony Sanderson

Agency: Hydaburg Cooperative Association

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

Date: 1-8-13

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

Supplemental information for Hydaburg River (Mainstem)

Twenty-two baited minnow traps, soaked for 2-6 hours, were set in the mainstem of the Hydaburg River in June and July of 2013. The attached figures show the trap locations. The Hydaburg River mainstem is currently listed in the Andromous Waters Catalog, and the portion of the river in this nomination packet was listed for the presence of chum salmon, coho salmon, pink salmon and steelhead trout. This current nomination is to add the mainstem as coho rearing habitat, as shown by the number of juvenile coho salmon caught throughout the survey area. It is also noted that cutthroat trout, rainbow trout and Dolly Varden were present in traps along the mainstem. An ADFG fish trapping permit datasheet is attached to this nomination packet for further details on fish trapping efforts.

Stream mapping and survey data was collected by the Hydaburg Cooperative Association Stream Survey crew for the mainstem of the Hydaburg River on June 27-28, July 1 and July 9 of 2013. Data was taken on nine reaches (reach numbers in the tables correspond to a master dataset; see attached figures for locations), however the stream crew did not reach the upper extent of fish habitat or complete mapping the Hyaburg River mainstem. Stream survey data taken are included in the following table:

	Reach 1	Reach 2	Reach 3	Reach 4
Average stream gradient	5.2	1.7	0.85	3.0
Average bankfull width	13.5	19.5	15.9	14.7
Average channel bed width	14.17	13.83	17.0	15.6
Average incision depth	1.83	0.8	0.65	0.97
Bank composition	Bedrock	Mixed Alluvial/Bedrock	Organic	Mixed Alluvial/Bedrock
Dominant substrate	Bedrock	Large Cobble	Small Cobble	Bedrock
Sub-dominate substrate	Large and Small Boulder	Small cobble and very course gravel	Large cobble and very course gravel	Large and Small Boulder
Large wood count	0	34	16	9
Key wood count	0	6	5	4
Macro-pool count	5	18	2	8

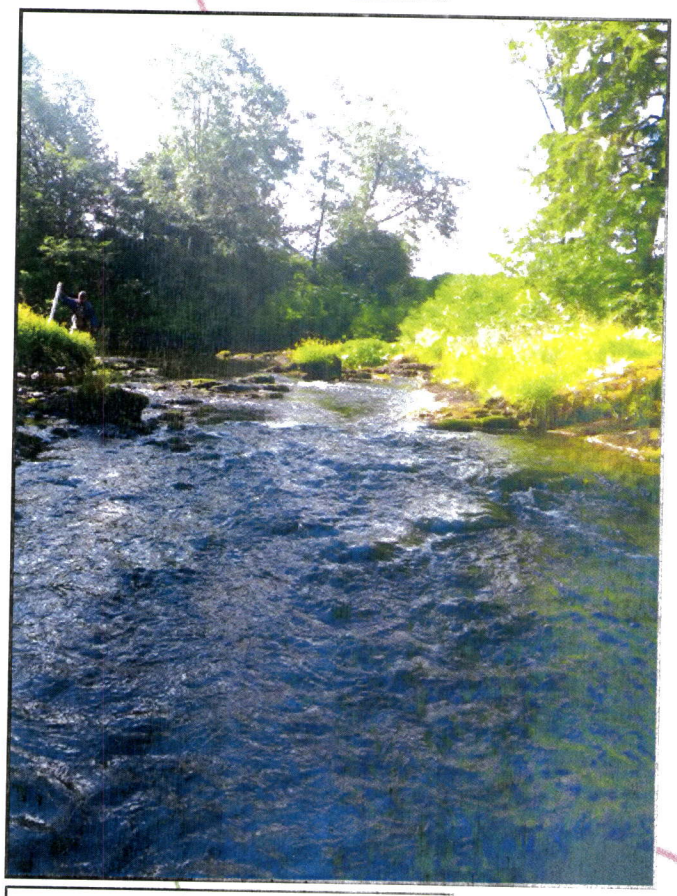
	Reach 5	Reach 6	Reach 7	Reach 15	Reach 16
Average stream gradient	0	.75	1.3	0.425	-
Average bankfull width	19.1	19	13.65	19.4	-
Average channel bed width	21.3	16.27	15.7	19.6	13.8
Average incision depth	0.94	0.85	1.1	0.76	-
Bank composition	Alluvial	Alluvial	Mixed Alluvial/Bedrock	Organic	Organic
Dominant substrate	Course gravel	Small Ccobble	Small cobble	Very course gravel	-
Sub-dominate substrate	Very course and Medium gravel	Very course gravel and large cobble	Large and Small cobble	Small cobble and Course gravel	-
Large wood count	780	87	56	242	-
Key wood count	163	23	6	30	-
Macro-pool count	119	7	11	28	-

Reach 1 was classified as a MCM (medium gradient contained channel) and there was a bridge structure within the reach that does not impact the stream bed or impede fish passage. Reaches 2 and 3 were classified as LCM (low gradient contained channel). Reach 4 was classified as MMM (Medium gradient with mixed containment) and there was a highway bridge structure within the reach that does not impact the stream bed or impede fish passage. Reach 5 was classified as FPM (moderate width low gradient floodplain channel). Within Reach 5 there was an old beaver dam structure (see figure titled Map 1a) that was one meter high with a pool depth of 0.81 meters and a 10.5% gradient. Given there were fish trapped above the beaver dam, the structure does not appear to be impeding fish passage. Reach 6 and 7 were classified as LCM (low gradient contained channel). At the end of Reach 7 the Hydaburg drinking water dam was document. The structure is 9.14 meters high with a pool depth of 3.66 meters and a gradient of 17.6%. The following is a picture of the dam structure.

The dam structure is likely an impediment to adult salmon. Fish trapped above the dam in reaches 15 and 16 were cutthroat trout and Dolly Varden, which could be resident fish. No adult fish were observed in adult foot counts performed by the field crew on September 3, 2013 (T. Sanderson, personal communication).

Behind the dam structure is a reservoir, shown on the figure labeled Map 1b. Reach 15 and 16 were above the reservoir. Reach 15 was classified as LCM (low gradient contained channel). Data collection was not completed on Reach 16 and the remainder of the mainstem was not mapped.

Hydaburg River Main Channel Map 1a June and July, 2013



Numbered reaches mapped by Hydaburg Cooperative Association

Reach 6
Reach 7
Side Channel 2
Side Channel 1
Reach 5
Reach 4
Reach 3
Reach 2
Reach 1

239
238
237
236
240
235
234
233
232
231
230
229
228
227
226
225
223
222
221

Hydaburg

Continued on Map 1b

Legend

- Beaver Dam
- Hydaburg River Dam
- AWC Points
- AWC Mapped Reaches

Fish Traps

- Coho Salmon
- Dolly Varden
- Rainbow Trout

N

0 0.15 0.3 0.6 Miles

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), and the GIS User Community

Hydaburg River Main Channel Map 1b June and July, 2013

Continued on Map 1a

Reach 16

582

578

566

Reach 15

RESERVOIR

Reach 6

238

239

Reach 7

Legend

- Hydaburg River Dam
- AWC Mapped Reaches

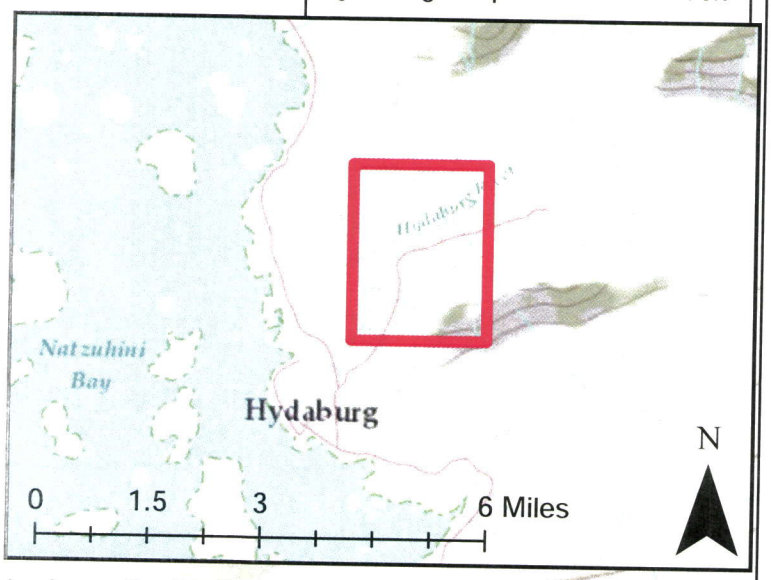
Fish Traps

- Coho Salmon
- Dolly Varden
- Steelhead Trout
- Cutthroat Trout
- Rainbow Trout

0 0.15 0.3 0.6 Miles

N

Numbered reaches mapped by Hydaburg Cooperative Association



Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN,

ADF&G permit no. SF2013-208

Summary report of fish collection activity.

The area biologist was contacted on: 3:07pm on 5/29/13

Location ID (optional)	Latitude	Longitude	Datum	Coordinate determination method	Name of water body	Date	Observer name (first name, middle initial, last name)	Fish collection method	Species	Life stage	Length (mm)	Length method	Disposition (1)
221	55.20643302	-132.824031	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	67	fork	measured and released
221	55.20643302	-132.824031	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	62	fork	measured and released
221	55.20643302	-132.824031	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	80	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	79	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	73	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile			ID'ed and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	70	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	80	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	84	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	64	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	66	fork	measured and released
222	55.20719896	-132.822371	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	58	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	82	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	94	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	94	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	52	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	54	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	50	fork	measured and released
223	55.20877702	-132.818423	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	55	fork	measured and released
224	55.20942603	-132.816845	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	other species n	juvenile	51	fork	measured and released
225	55.21003196	-132.815757	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	81	fork	measured and released
225	55.21003196	-132.815757	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	69	fork	measured and released
226	55.21085599	-132.815864	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	50	fork	measured and released
226	55.21085599	-132.815864	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile			ID'ed and released
226	55.21085599	-132.815864	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile			ID'ed and released
226	55.21085599	-132.815864	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	50	fork	measured and released
226	55.21085599	-132.815864	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	87	fork	measured and released
226	55.21085599	-132.815864	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	90	fork	ID'ed and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile			ID'ed and released

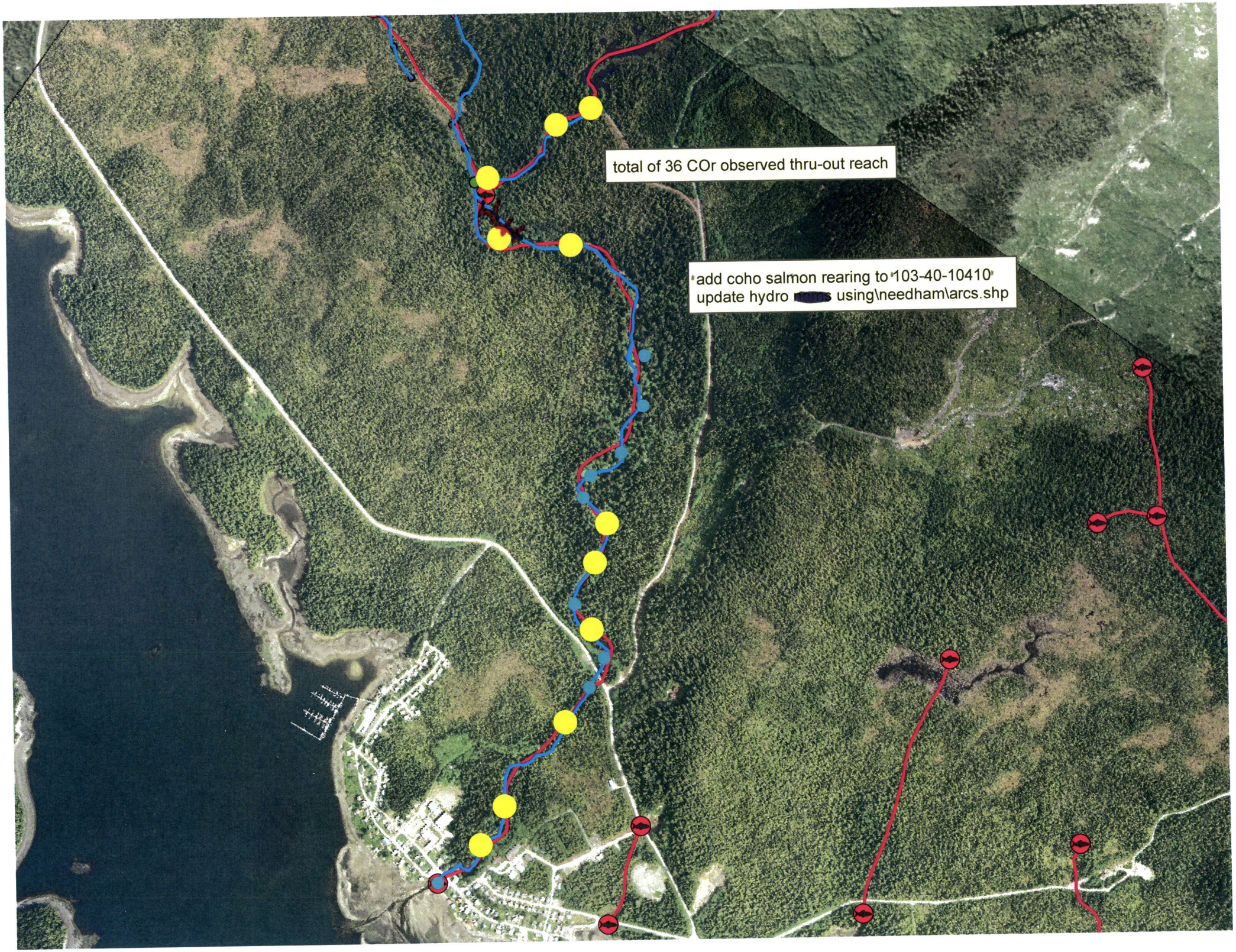
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	74	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	72	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	80	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	89	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	63	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	75	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	72	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	76	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	66	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	90	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	76	fork	measured and released
228	55.212498	-132.814698	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	69	fork	measured and released
229	55.21337399	-132.813577	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	76	fork	measured and released
229	55.21337399	-132.813577	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	52	fork	measured and released
229	55.21337399	-132.813577	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	51	fork	measured and released
230	55.21423004	-132.814215	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	77	fork	measured and released
230	55.21423004	-132.814215	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	65	fork	measured and released
230	55.21423004	-132.814215	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
230	55.21423004	-132.814215	WGS85	GPS	Hydaburg	6/19/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	87	fork	measured and released
232	55.21503696	-132.811861	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	70	fork	measured and released
232	55.21503696	-132.811861	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	65	fork	measured and released
233	55.21601303	-132.810194	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	77	fork	measured and released
233	55.21601303	-132.810194	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	83	fork	measured and released
233	55.21601303	-132.810194	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	74	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	85	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	67	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	74	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	65	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	77	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	71	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	87	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	97	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	80	fork	measured and released

234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	68	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	57	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	78	fork	measured and released
234	55.21726102	-132.809359	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	85	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	75	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	76	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	79	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	65	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	66	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	74	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	66	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	66	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile			ID'ed and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	77	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	66	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	72	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	77	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	64	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	57	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	75	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile			ID'ed and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	54	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	72	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	78	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	60	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	65	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	71	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	64	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	73	fork	measured and released
235	55.22067002	-132.810924	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	56	fork	measured and released

236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	85	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	83	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	80	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile			ID'ed and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	65	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	72	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	92	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	76	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	64	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	66	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	67	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	74	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	85	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	79	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	60	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	81	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	63	fork	measured and released
236	55.22146102	-132.813975	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	76	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	57	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	56	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	68	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	67	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	68	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile		fork	ID'ed and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	63	fork	measured and released
237	55.22307697	-132.813545	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	60	fork	measured and released
238	55.22380896	-132.809721	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	75	fork	measured and released
238	55.22380896	-132.809721	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	70	fork	measured and released
238	55.22380896	-132.809721	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	65	fork	measured and released
238	55.22380896	-132.809721	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	66	fork	measured and released
238	55.22380896	-132.809721	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	67	fork	measured and released
238	55.22380896	-132.809721	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile			ID'ed and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	74	fork	measured and released

239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	76	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	104	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	77	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	78	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	67	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	76	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	69	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	65	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile			ID'ed and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	78	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	70	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	66	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	75	fork	measured and released
239	55.22393201	-132.807954	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	75	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	70	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	67	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	76	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile	61	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	rainbow trout	juvenile			ID'ed and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	56	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	60	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	65	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	61	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	79	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	73	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	66	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	68	fork	measured and released
240	55.22061202	-132.811	WGS85	GPS	Hydaburg	6/20/2013	Tony Sanderson	Minnow Trap	coho salmon	juvenile	67	fork	measured and released
566	55.22630199	-132.799311	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	137	fork	measured and released
566	55.22630199	-132.799311	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	Dolly Varden	juvenile	92	fork	measured and released
566	55.22630199	-132.799311	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	70	fork	measured and released
566	55.22630199	-132.799311	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	95	fork	measured and released
578	55.22759196	-132.793709	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	145	fork	measured and released
578	55.22759196	-132.793709	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	102	fork	measured and released

578	55.22759196	-132.793709	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	125	fork	measured and released
578	55.22759196	-132.793709	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	95	fork	measured and released
582	55.22790704	-132.791519	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	110	fork	measured and released
582	55.22790704	-132.791519	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	100	fork	measured and released
582	55.22790704	-132.791519	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	70	fork	measured and released
582	55.22790704	-132.791519	WGS85	GPS	Hydaburg	7/9/2013	Tony Sanderson	Minnow Trap	cutthroat trout	juvenile	62	fork	measured and released


total of 36 COr observed thru-out reach
add coho salmon rearing to 103-40-10410
update hydro [redacted] using\needham\arcs.shp