



State of Alaska
Department of Fish and Game
Sportfish Division

Nomination Form
Anadromous Waters Catalog

Region Southeastern

USGS Quad(s) Skagway B-2

Anadromous Waters Catalog Number of Waterway 115-32-10250-2044

Name of Waterway 14-Mile Creek

USGS Name Local Name

Addition Deletion Correction Backup Information

For Office Use

Nomination #	<u>12-554</u>		<u>11/2/12</u>
Revision Year:	<u>2013</u>		<u>11/2/12</u>
Revision to:	Atlas _____ Both <u>X</u>		<u>10/24/12</u>
Revision Code:	<u>C-9</u>		<u>12/9/12</u>

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
coho salmon	07/19/2012		✓	✓	✓

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:

Coordinates (Lat,Long): Upper(59.328987,-135.742884) Lower(59.326752,-135.74121)

*Revise hydrography, reposition upper/lower pts
return species/life stage*

Name of Observer (please print): Nicole Legere
 Signature: 146.63.61.200 (Web Nomination)
 Agency: _____
 Address: PO Box 110024 PO Box 110024
Juneau, AK 99811-0024

Date: 09/24/2012

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: _____
 Name of Area Biologist (please print): _____ Revision 02/08

14-Mile Creek Route Correction*Stream:* 14-Mile Creek (115-32-10250-2044)*Watershed:* Chilkat-Inlet Frontal Lynn Canal*USGS Quadrangle:* Skagway B-2*MTRS:* CO29S057E*Date Surveyed:* July 19, 2012*Findings:* We surveyed this stream and found the stream route differs from the AWC.*Recommendations:* Update this streams route in the AWC.*Nomination form submitted:* Yes*Nomination status:**Notes:***Table 1: 14-Mile Creek Survey Data**

Waypoints	Latitude	Longitude	Notes	Sample Effort	Sample Results
189	59.326752	-135.74121	Start of 14-Mile Creek emptying into Chilkat River. Will be tracking up.		
190	59.327156	-135.741243	This is where 14 Mile Creek crosses the Haines Hwy through two culverts that are completely under water. Handnet five Coho about 20 mm.	Handnet	5 Coho ~ 20 mm
191	59.328983	-135.742516	Branch in flow, the breach goes river left and appears to be getting most of the flow. Continue tracking.		
192	59.329149	-135.742184	Branch mentioned in WPT#191 connects with another branch. Tracking downstream.		
193	59.32879	-135.742023	Where branch reconnects with other branch that went river right in WPT#191.		
194	59.329782	-135.742927	Tributary entering river left. Tracking up.		
195	59.329847	-135.742846	Handnetted three Coho about 25mm.	Handnet	3 Coho ~25 mm
196	59.330516	-135.743171	Calling this the top of this tributary. We have electrofished up to this point. We did not get any fish.	Electrofishing	Nothing
197	59.329762	-135.743419	Top of this branch. The water is just seeping out of the ground here. Electrofished and got four Coho about 30mm. Matt did a walk around and could not find any more water.	Electrofishing	4 Coho ~30 mm

198	59.329864	-135.744561	This where water is flowing through forest area. This area shows high evidence of creek changing channel direction and width a lot. Tracking up.		
199	59.331026	-135.744726	Calling this the top of 14 Mile Creek. The water is very channelized and raging with minimal spots for fish to rest. Electrofished in pockets but we did not get anything.		

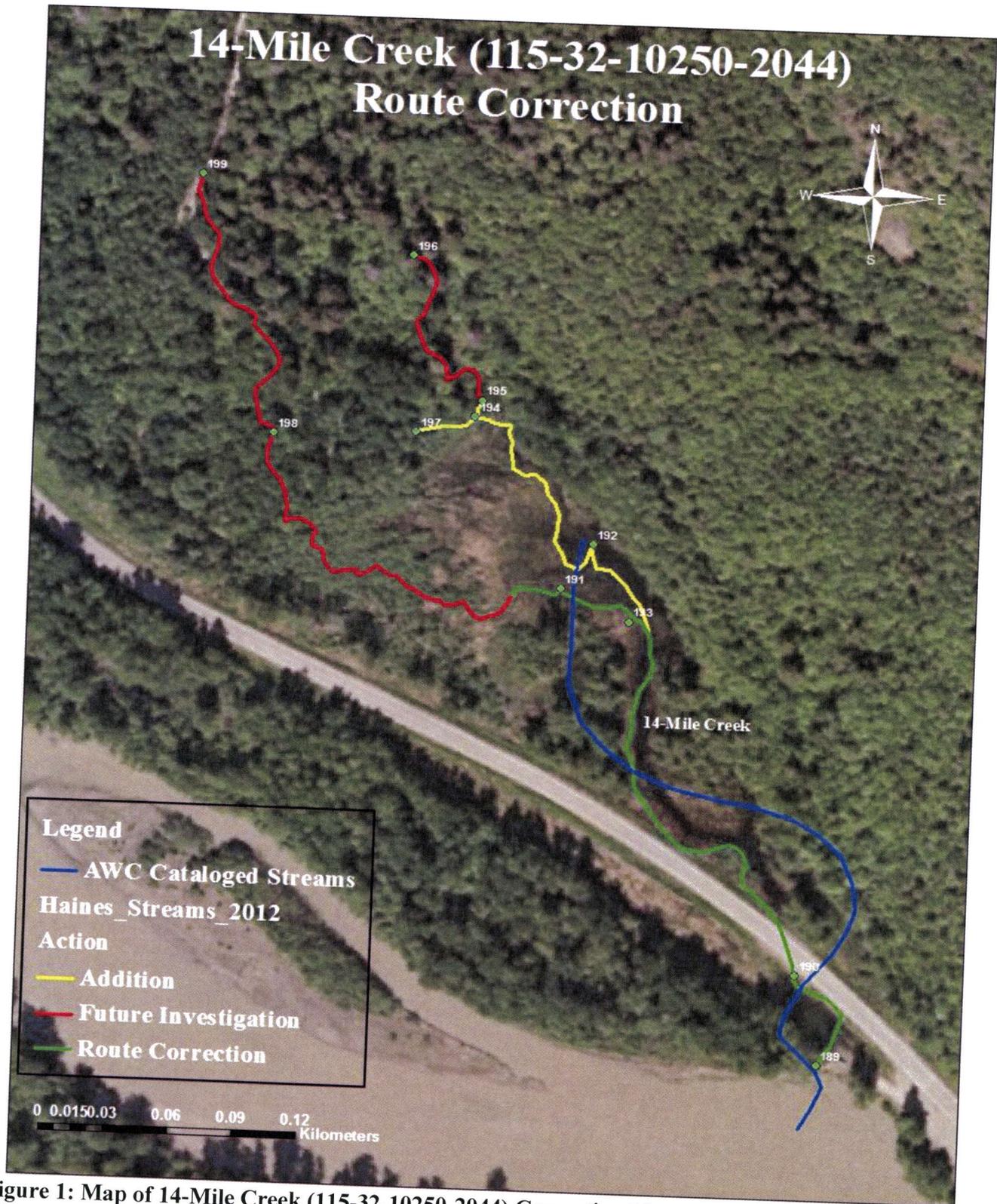


Figure 1: Map of 14-Mile Creek (115-32-10250-2044) Correction Map

Waypoints	lat	lon	ns1:time2	Notes	Sample Effort	Sample Results
189	59.326752	-135.74121	2012-07-19T17:34:43Z	Start of 14 Mile Creek emptying into Chilkat River. Will be tracking up.		
190	59.327156	-135.741243	2012-07-19T17:39:57Z	This is where 14 Mile Creek crosses the Haines Hwy through two culverts that are completely under water. Was able to handnet five Coho about 20mm.	Handnet	5 Coho about 20mm
191	59.328983	-135.742516	2012-07-19T18:01:46Z	Branch in flow, the breach goes river left and appears to be getting most of the flow. Tracking this. Photos (2).		
192	59.329149	-135.742184	2012-07-19T18:05:54Z	Branch mentioned in WPT#191 connects with another branch. Tracking downstream.		
193	59.32879	-135.742023	2012-07-19T18:09:00Z	Where branch reconnects with other branch that went river right in WPT#191.		
194	59.329782	-135.742927	2012-07-19T18:19:53Z	Tributary entering river left. Tracking up.		
195	59.329847	-135.742846	2012-07-19T18:21:06Z	Handnetted three Coho about 25mm.	Handnet	3 Coho about 25mm
196	59.330516	-135.743171	2012-07-19T18:32:57Z	Calling this the top of this tributary. We have electrofished up to this point, but have not gotten anything not even a Dolly Varden. Photos (3).	Electrofisher	Nothing
197	59.329762	-135.743419	2012-07-19T18:54:03Z	Top of this branch. The water is just seeping out of the ground here. Matt did a walk around and did not find anymore stream. Going to fish. Electrofished and got four Coho about 30mm.	Electrofisher	4 Coho about 30mm
198	59.329864	-135.744561	2012-07-19T19:19:29Z	This where water is flowing through forest area. This area shows high evidence of creek changing channel direction and width a lot. Photos (4). Tracking up.		
199	59.331026	-135.744726	2012-07-19T19:35:47Z	Calling this the top of 14 Mile Creek. The water is very channelized and raging with minimal spots for fish to rest. Electrofished in pockets we could find but got nothing. GPS photos (3) and Matts camera photos (2).		
200	59.225829	-135.432653	2012-07-19T21:00:55Z	The culvert that creek enters to cross is broken and enters the culvert from under the culvert. The culvert is also heavily blocked by debris. Photos (4) camera.		
201	59.226093	-135.432311	2012-07-19T21:05:50Z	This is where creek hits the beach. The creek comes out of forest belt between road and beach. The water just goes into beach substrate of sand and rock and does not reach ocean above ground. But there is seaweed in surface flow of stream before it goes under ground.		
202	59.226696	-135.434119	2012-07-19T21:27:53Z	This is another stream where the mouth hits the beach and goes under ground.		
203	59.226575	-135.434198	2012-07-19T21:31:59Z	Mouth of culvert on beach side. Fish could not pass this. Photos (2).		
204	59.226443	-135.434319	2012-07-19T21:36:01Z	Where creek comes off hill and enters culvert.		
205	59.190631	-135.412924	2012-07-19T21:59:18Z	This point is at mouth of creek entering into the Chilkat River and ocean mix. Made contact with family member of land owner and got ok to walk stream. Tracking and shocking up. Electrofished and got one Sockeye about 40mm. We are even with average high tide line.	Electrofisher	1 Sockeye about 40mm
206	59.190723	-135.41278	2012-07-19T22:07:39Z	Electrofished and got one Pink about 20mm and two Coho about 45mm. We are just above the average high tide line.	Electrofisher	1 Pink about 20mm and 2 Coho about 45mm
207	59.190742	-135.412728	2012-07-19T22:11:03Z	Electrofished and got one Dolly Varden about 65mm and two Coho between 35-55mm.	Electrofisher	1 Dolly Varden about 65mm and 2 Coho about 35-55mm
208	59.19075	-135.412773	2012-07-19T22:13:52Z	Electrofished the water boiled with fish at least ten fish. Able to net two Coho between 35-60mm. Photo (1). This is even with the highest high tide line.	Electrofisher	2 Coho between 35-60mm
209	59.190822	-135.412704	2012-07-19T22:17:57Z	Electrofished and got two Coho about 60mm.	Electrofisher	2 Coho about 60mm
210	59.190887	-135.412603	2012-07-19T22:20:25Z	Electrofished and got one Cutthroat about 80mm.	Electrofisher	1 Cutthroat about 80mm
211	59.191077	-135.412566	2012-07-19T22:29:42Z	Handnetted without the electrofisher one Cutthroat about 65mm.	Handnet	1 Cutthroat about 65mm
212	59.191105	-135.412409	2012-07-19T22:39:59Z	Electrofished and got three Cutthroat between 40-90mm.	Electrofisher	3 Cutthroat between 40-90mm
213	59.191083	-135.412266	2012-07-19T22:43:06Z	Electrofished and got two Coho about 50mm.	Electrofisher	2 Coho about 50mm
214	59.191178	-135.41222	2012-07-19T22:47:54Z	Electrofished and got one big Dolly Varden about 70mm and one Cutthroat about 60mm and a Sculpin.	Electrofisher	1 Dolly Varden about 70mm and 1 Cutthroat about 60mm and a Sculpin
215	59.191185	-135.411861	2012-07-19T22:51:59Z	Where culvert that crosses Mud Bay Road empties out and flows to ocean. From here to WPT#214 there are big boulders and steep gradient. Problem for both up and downstream migration. Specially for downstream migration if Lily lake is pumping out fish.		
216	59.191676	-135.410733	2012-07-19T23:05:22Z	Calling the top. The beach side is a barrier and then once across road there is a place where flow is running across bedrock and no pools for resting as jumping. Making a velocity barrier. Electrofished above road also and got nothing.	Electrofisher	Nothing

Other Notes

Beath said that this stream use to get a run of Pinks, but that it has not happened in a couple of years.



State of Alaska
Department of Fish and Game
Sportfish Division

Nomination Form
Fish Distribution Database

JB

Region Southeast USGS Quad(s) SKAGWAY B-2
 Fish Distribution Database Number of Waterway 115-32-10250-~~2045~~-2044
 Name of Waterway Fourteen Mile Creek USGS Name Local Name
 Addition Deletion Correction Backup Information

For Office Use	
Nomination # <u>06-533</u>	<u>[Signature]</u> <u>10/19/06</u> ADF&G Fisheries Scientist Date
Revision Year: <u>2007</u>	<u>[Signature]</u> <u>10/19/06</u> ADNR OHMP Operations Mgr. Date
Revision to: Atlas <u> </u> Catalog <u> </u> Both <u>X</u>	<u>[Signature]</u> <u>10/13/06</u> FDD Project Biologist Date
Revision Code: <u>C-9</u>	<u>[Signature]</u> <u>10/25/06</u> Cartographer Date

OBSERVATION INFORMATION					
Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
chinook salmon	05/14/2006				
coho salmon	05/14/2006		✓		✓
Dolly Varden	05/14/2006		✓		✓
			✓		

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:
~~Current catalog location is incorrect (see the attached sketch for the actual location). Upper extent location is approximate - we could not access the area due to the flooded adjacent wetlands. The lower reach below the highway is a ponded boat launch area that connects to the Chilkat River. Please refer to "Station 733+50" in the Haines Hwy trip report for more information.~~
 Also, one minnow trap set about 50' upstream of the Haines Highway culvert inlet captured 1 chinook, 4 coho and 9 Dolly Varden. Please add rearing chinook to the catalog information.
 Coordinates (Lat/Long): Upper(59.32954, 74069) Lower(59.32701, 73954)
Retain - 2044

Name of Observer (please print): Kate Kanouse
 Signature: [Signature] 205.166.26.233 (Web Nomination) Date: 10/09/2006
 Agency: _____
 Address: DNR/OHMP DNR/OHMP
Juneau, AK 99811

*Culivan Chinook Salmon donated
 Revisited creek & upper launch pt 3
 115-32-10250
 Retain
 Fish
 Species*

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 Fish Distribution Database.
 Signature of Area Biologist: _____ Date: _____ Revision 02/05
 Name of Area Biologist (please print): _____

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

83-872

Addition

Deletion

Name of Waterbody (if known): FOURTEEN MILE CREEK

Location: SOUTHEAST REGION 1
115-32-10250-2020

Anadromous Waters Catalog Volume and Number _____

USGS 1:63,360 Quadrangle SKAGWAY B2

or 1:250,000 (if 1:63,360 not available) _____

Species	Date(s) Observed	Stage(s) (Spawning, Rearing, Migration)
<u>Co, DV.</u>	<u>4/82</u>	<u>R, S</u>

Comments: Please provide any clarifying information in addition to identification on Anadromous Waters Catalog Public Review Maps.

Name of Observer (please print) _____

Date: 3/1/83

Signature: Ron Stead

ADFG CF
HAINES

PHW
3/83

9 3/83



MEMORANDUM

STATE OF ALASKA
Department of Natural Resources
Office of Habitat Management and Permitting

TO: Jackie Timothy
Juneau Area Manager

DATE: August 15, 2006

FILE NO:

THRU:

SUBJECT: Haines Hwy MP 3.5-25.3
Trip Report

FROM: Carl Schrader
Habitat Biologist

TELEPHONE NO: 465-4287

Kate Kanouse
Habitat Biologist

465-4290

Background

The Department of Transportation and Public Facilities (DOTPF) is proposing to widen and realign the Haines Highway between MP 3.5 and 25.3 to bring the highway up to National Highway System standards. The project would impact the Chilkat River and numerous smaller anadromous and resident fish streams. Fish Habitat permits would be required for stream crossings, relocation, and bank stabilization. A *Stream and Habitat Inventory* (SHI) was conducted in 2005 by Inter-Fluve, Inc. that identified fish streams impacted by the project. While many of the streams are documented in the *Catalog of Waters Important to the Spawning, Rearing or Migration of Anadromous Fishes* (Catalog), the survey found anadromous fish in many streams that are not in the Catalog. We conducted a field survey May 9-16, 2006 to supplement the Inter-Fluve survey, and to nominate additional anadromous fish streams to the Catalog.

Methods

We trapped all un-cataloged streams identified in the SHI that crossed the road realignment to determine the presence of juvenile fish. Some cataloged anadromous streams also were trapped to update the upstream extent of fish use and species present. Stream locations were identified based on stationing in the November 2005 Draft *Stream and Habitat Inventory*.

Minnow traps with 1/4" mesh baited with salmon eggs were set in all un-cataloged streams that looked like they could support fish, and had sufficient depth to set a trap (about 4"). Several traps were set in each stream, with a trap set as far upstream as practical. Traps were generally placed in the afternoon and retrieved the following morning.

At each trap location:

- Fish were identified, counted and measured (total length)
- GPS location (NAD83) was recorded
- Photos were taken to document typical stream conditions

Trapping data summarized in Table A. Recommendations for nominations to the Catalog are summarized in Table B.

Stations 269+00 (not cataloged) and 271+25 (cataloged, Waterfall Creek)

Waterfall Creek (#115-32-10250-2008) originates below a waterfall next to the road near Station 301+00 and flows eastward parallel to the road at the upslope edge of a wetland. The stream was connected to the wetland, which was flooded to the shoulder of the road between about Station 280+00 and 300+00 (see Photo 1). The stream crosses the highway at two locations: near Station 269+00 through a 36" culvert; and near Station 271+25 through a 24" culvert. The crossing at Station 271+25 connects to un-named tributary (#115-32-10250-2008-3005) on the river side of the highway.

Traps were set about 60' downstream of the waterfall in the wetlands at the shoulder of the highway, about 500' from the waterfall, and at the inlet to the culvert at Station 269+00. We observed a 5" fish that appeared to be a cutthroat trout near the trap at the waterfall. The trap, however, caught only Dolly Varden. Coho and king salmon were captured in the wetland next to the highway. Coho and king salmon, and Dolly Varden were caught at the culvert at Station 269+00. The presence of coho and king salmon in the wetland adjacent to the highway demonstrates that the wetland is part of Waterfall Creek and should be considered as anadromous waters.



Photo 1. Station 271+25

What we believe to be the tributary on the river side of the highway (#115-32-10250-2008-3005) was dry upstream of the culvert at Station 271+25, and may not support fish at this time.

We observed recent fills in the wetland within the DOTPF right-of-way in preparation for installing utility poles. This is documented in a separate Trip Report dated June 23, 2006. We forwarded the documentation to DOTPF and the Corp of Engineers to investigate as potentially un-authorized wetland fills.

Recommendations:

- Include the wetland as part of Waterfall Creek (map as polygon) in the Catalog
- Extend the upstream extent to just below the waterfall, in the Catalog
- Add king salmon rearing habitat to the Catalog
- Update stream location in the Catalog
- Revisit dry stream segment #115-32-10250-2008-3005 to determine if it should be removed from the Catalog
- Design all stream crossings for fish passage

Station 315+50 (not cataloged)

This stream was identified in the SHI as habitat for rearing coho and Dolly Varden, and potential spawning (redds were observed). Upstream fish habitat is limited to about 50' upstream of the culvert.

A trap set about 40' upstream of the double 24" culverts caught coho salmon, cutthroat trout and Dolly Varden. A trap set about 30' downstream from the outlets caught king and coho salmon, and Dolly Varden (see Photo 2).

Recommendations:

- Add to the Catalog as supporting rearing coho and king salmon, cutthroat trout and Dolly Varden
- Design the stream crossing for fish passage

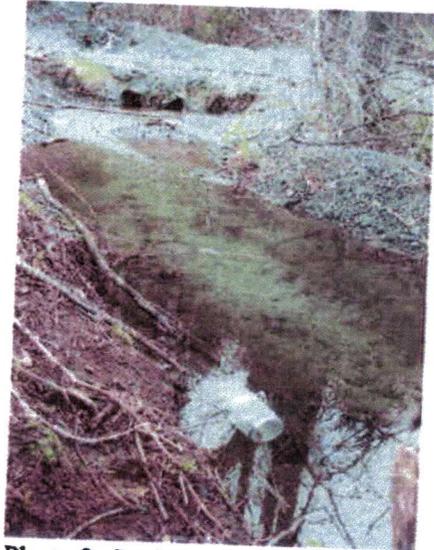


Photo 2. Station 315+50

Station 339+00 (not cataloged)

This stream is below the site of an old cabin located uphill of the highway. It was not identified in the SHI. The clear water channel below the culvert outlet is about 8' wide and up to about 1' deep (see Photo 3). The culvert inlet was about 80% buried. Stream habitat is limited to the channel between the culvert and the Chilkat River (about 30 feet).

Recommendations:

- Add to the Catalog as supporting rearing coho and Dolly Varden below the culvert
- Fish passage not required at stream crossing



Photo 3. Station 339+00

Station 342+00 (not cataloged)

The SHI identified this stream as supporting rearing coho and Dolly Varden. Coho and king salmon were trapped 300' upstream of the 36" culvert crossing. The culvert is perched and unraveling. The stream meanders along the road upstream of the culvert for about 300', before turning inland (see Photo 4). Potential fish habitat terminates in a high-gradient reach just below a waterfall.

Recommendations:

- Add to the Catalog as supporting rearing coho and king salmon



Photo 4. Station 342+00

- Design the stream crossing for fish passage

Station 389+25 (not cataloged)

The SHI identified this stream as supporting rearing coho and Dolly Varden. The stream crosses the highway through a 24" culvert. Coho salmon were trapped at the culvert outlet (see Photo 5), coho and cutthroat were trapped at the inlet. Upstream fish habitat is limited to about 40 feet because of a steep cascade.



Photo 5. Station 389+25

Recommendations:

- Add to the Catalog as supporting rearing coho salmon and cutthroat trout
- Design the stream crossing for fish passage

Station 391+75 (not cataloged)

The SHI identified this stream as providing rearing habitat for coho and Dolly Varden. The stream terminates in a waterfall just upstream of the 24" culvert (see Photo 6). A 10-foot diameter pool identified in the SHI at the bottom of the waterfall was filled with gravel and the stream flowed to the culvert through a shallow gravelly channel. There was no usable habitat above the culvert inlet. The channel above and below the culvert was too shallow to trap. Although not documented, the short stream reach below the culvert probably provides rearing habitat for coho salmon and Dolly Varden char, and good spawning gravels.



Photo 6. Station 391+75

Recommendation:

- Stream crossing does not need to be designed for fish passage

Station 442+75 (not cataloged)

The SHI identified this stream as supporting rearing coho and Dolly Varden, and possible spawning habitat. The stream crosses the highway through twin 24" culverts that were perched about 6". Fish habitat ends about 75' upstream at a steep cascade (see Photo 7). There was evidence of water flowing across the road as a result of plugged culverts. Coho salmon, steelhead, and cutthroat trout were trapped about 60 feet upstream of the culvert inlet. Coho salmon were trapped just below the outlet.

Recommendations:

- Add to the Catalog as supporting rearing coho, cutthroat and steelhead
- Design the stream crossing for fish passage

Station 632+00 (not cataloged)

This stream was not identified in the SHI. A trap placed about 100' upstream from the 24" culvert caught cutthroat and Dolly Varden (see Photo 8). Shortly beyond this point the gradient increases significantly. The culvert is perched about 1' and discharges directly to the Chilkat River (see Photo 9). There is enough good upstream habitat to make it worthwhile replacing the culvert with one that improves fish passage.



Photo 7. Station 442+75

Recommendations:

- Add to the catalog as supporting rearing cutthroat and Dolly Varden
- Design the stream crossing for fish passage

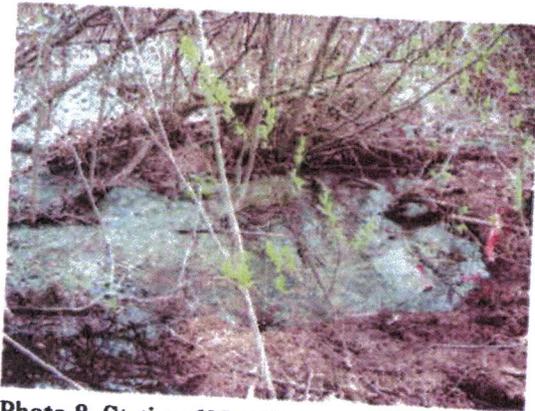


Photo 8. Station 632+00



Photo 9. Station 632+00

Station 670+00 (13 Mile Creek, cataloged)

A recent debris flow has blocked the main channel so that a majority of the flow now goes through a new channel near Station 677+00 (see Photo 10), and flows along the road to twin 36-inch culverts near Station 670+00. We observed three cutthroat trout (about 18", 12" and 4") in the new stream channel about 30' upstream from the road. No fish were caught in traps set farther up in this channel. King salmon and cutthroat trout were trapped in the original main channel about 400' upstream from the culverts. There is an opportunity to improve fish passage in this area. The stream flow is now divided into many channels that are filled with gravels to the extent that flow remains subsurface for much of the way. Habitat could be improved by focusing the flow either back into the old main channel (see Photo 11), or improving the new channel.

Recommendations:

- Update Catalog to document the new channel locations and upstream extent of cutthroat spawning, and king and coho salmon rearing.
- Design the stream crossing(s) for fish passage



Photo 10. Station 670+00



Photo 11. Station 670+00

Station 733+50 (14-Mile Creek, cataloged)

This stream is cataloged as providing rearing and spawning habitat for coho salmon and Dolly Varden. A slough of the Chilkat River just below the two 36" culverts is used as an informal boat launch area (see Photo 12), resulting in degradation of the stream banks and bed. A trap 45' upstream of the culvert caught coho and king salmon, and Dolly Varden.



Photo 12. Station 733+50

Recommendations:

- Update the Catalog to add king salmon rearing
- Design the stream crossing for fish passage

Station 760+00 (not cataloged)

The SHI identified this stream as supporting rearing coho and Dolly Varden. This un-cataloged stream crosses the highway through a perched 24" culvert (see Photo 13). Three traps set within 175' upstream of the culvert inlet caught king and coho salmon and Dolly Varden (see Photo 14). The stream would be filled by the proposed road alignment.

Recommendations:

- Add to the Catalog as supporting king and coho salmon and Dolly Varden
- Construct new channel on riverside of highway
- Fish passage is not required for this stream crossing



Photo 13. Station 760+00



Photo 14. Station 760+00

Station 790+00 (not cataloged)

The SHI identified this stream as providing habitat for coho and Dolly Varden. This un-cataloged stream flows through a 36" culvert that empties directly to Chilkat River. Rearing king salmon and Dolly Varden were trapped about 40' upstream of the highway culvert. Potential fish habitat extends about 30' beyond this point at a cascade.

Recommendations:

- Add stream to Catalog as supporting rearing king salmon and Dolly Varden char
- Design the stream crossing for fish passage

Station 879+75 (cataloged)

The SHI identified this stream as supporting rearing coho and Dolly Varden below the culvert. Fish habitat ends at the culvert (see Photo 15). King salmon and Dolly Varden were trapped at the culvert outlet. The stream below the culvert is a slough of the Chilkat River, and is thereby cataloged.

Recommendations:

- Fish passage is not required for this stream crossing.



Photo 15. Station 879+75

Station 887+90 (17-Mile Creek, cataloged)

The Catalog lists this stream as providing rearing habitat for coho salmon and Dolly Varden char, and spawning habitat for coho and chum salmon. The cataloged stream originates from springs on the hillside, and flows through NSRAA's (Northern Southeast Regional Aquaculture Association) incubation boxes. An un-cataloged western tributary collects water from the hillside and joins the cataloged tributary near the culvert inlet (see Photo 16). A trap set in a pond at the uppermost fish habitat extent of the western channel (about 700' upstream of the culvert) didn't catch fish, but king

salmon were caught about 60' downstream of the pond. Dolly Varden char were also trapped in the western tributary.

Recommendations:

- Add the western tributary of 115-32-10250-2060-3002 to the Catalog as supporting rearing king salmon and Dolly Varden char

Station 985+00 (not cataloged)

This stream is part of the 19 Mile slide area subject to large influx of gravels from the hillside and upslope streams. The SHI identified this location as rearing habitat for coho salmon and Dolly Varden. The channel was dry upstream and downstream of the culvert to the confluence with Chilkat River (see Photo 17). This is an ephemeral stream that has seasonally heavy flows carrying large amounts of sediment, and may provide fish habitat in the lower vegetated reach.

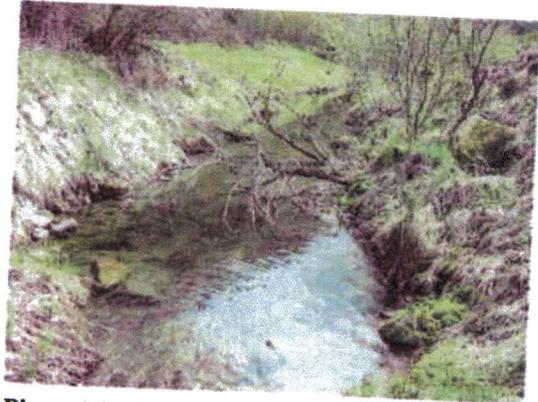


Photo 16. Station 887+90

Recommendations:

- Fish passage is not required for this crossing location.

Station 1000+20 (not cataloged)

The SHI identified this stream in the slide area as "fish use unknown". The stream had only a trickle of water from the culvert to the confluence with the Chilkat River. Because the stream is dry much of the year and has very mobile sediments, significant use by fish is unlikely, and it is highly unlikely that fish pass through the culvert.

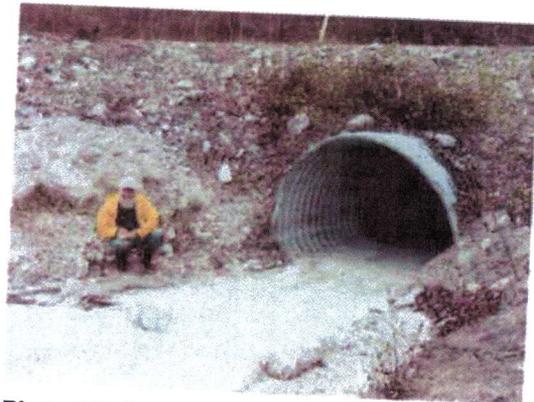


Photo 17. Station 985+00 (dry)

Recommendations:

- Fish passage is not required for this crossing

Station 1098+50 (not cataloged)

This stream may be incorrectly located in the SHI, and is closer to Station 1101+00. The SHI determined that this wasn't a fish stream because a steep drop-off to the Chilkat River. We hiked to the outlet and verified the natural blockage to upstream fish passage. Traps near the culvert outlet (see Photo 18) and 45' upstream of the inlet did not catch fish.

Recommendations:

- Fish passage is not required for this crossing location

Station 1129+00 (cataloged, 21-1/2 Mile Creek)

This stream (115-32-10250-2070) is correctly located in the SHI, which is significantly different than depicted in the Catalog. The Catalog shows the stream crossing the highway north of the Klukwan Road intersection and also crossing the Klukwan Road. We found that the stream crosses the highway south of the intersection.



Photo 18. Station 1098+50

Recommendations:

- Update the stream location in the Catalog
- Design the stream crossing for fish passage

Station 1206+70 (not cataloged)

The SHI identified this stream as having unknown fish use. This ephemeral stream seasonally carries large flows and sediment, and crosses the highway through a 13' culvert. The stream was dry during our site visit. Fish do not use the area near the crossing, but habitat may exist further downstream.

Recommendations:

- Fish passage is not required for this crossing location.

Station 1260+00 (Cataloged, 25 Mile Creek)

25 Mile Creek (Stream #115-32-10250-2079) was not included in the SHI, but would potentially cross the new alignment north of the Wells Bridge. We couldn't locate the stream based on the information in the Catalog.

Mitigation Sites

On May 15 we met with Mark Sogge of Inter-Fluve and visited several sites that would require stream relocations and opportunities to improve fish habitat or fish passage.

Station 670+00 (13 Mile Creek)

We confirmed that Inter-Fluve's description of the area was correct. Debris flows have reduced habitat in the main channel and created new channels. These changes have likely reduced the habitat quality because of the more dispersed flows and sediment accumulation. Stream channel improvements here would be appropriate mitigation for the project. This area will require a more detailed look to determine the best approach to habitat improvements, once road alignment plans have been finalized for this area. The current proposed realignment would move the highway upstream of most of the fish habitat.

Recommendations:

- Consider channel improvements as mitigation
- Take a detailed look at the hydrology and channel morphology to determine where best to route the flows and which channels to improve

Station 733+50 (14 Mile Creek)

This is the location of the informal boat launching area.

Recommendations:

- Realign stream to cross more perpendicular to the highway
- Rehabilitate degraded habitat below culvert
- Improve the boat launch area by hardening to reduce habitat degradation, or
- Develop new launching area at a better location and close out this one

Un-cataloged Stream (Station 760+00)

This short stream that we propose to nominate to the Catalog would be mostly filled by the new road alignment.

Recommendations:

- Re-route water from cascades through a new crossing location and create new stream and potentially wetlands on the river side (culvert would not need to be designed to pass fish).

Station 887+90 (17 Mile Creek, cataloged)

The road alignment would potentially be moved upslope and would obliterate the existing stream. A new stream would need to be constructed, probably downslope of the existing highway. Additional water that now flows off the hillside and through the highway beyond the existing stream habitat could potentially be intercepted for use in the new stream channel.

Recommendations:

- Consider intercepting additional water for replacement stream

Station 921+00 (Horse Farm Creek, cataloged)

This stream provides rearing habitat for coho salmon and Dolly Varden, and spawning habitat for pink and coho salmon. The road would be moved about 400' closer to the Chilkat River and a new stream crossing built. Inter-Fluve has suggested realigning the stream at the new crossing in order to cross perpendicular to the highway. We walked the stream from the existing culvert to the confluence with 18-Mile Slough and looked at the new crossing location. We agree that realigning the stream here would be a good idea and would shorten the length of culvert needed. An additional reach of stream channel could potentially be constructed through the wetlands, and there may be an opportunity to easily create additional wetlands. We noted that the new road alignment could impact wetlands by altering the hydrology.

Recommendations:

- Realign the stream at the new crossing location to minimize culvert length
- Additional information on the hydrology would be helpful to design the new channel and potentially create additional wetlands.

Email cc w/ attachments:

Al Ott, DNR/OHMP, Fairbanks
Sheila Cameron, DNR/OHMP, Juneau
Kristen Dunlap, DNR/OHMP, Juneau
Randy Ericksen, DF&G/SF, Haines
Ben Kirkpatrick, DF&G/SF, Haines
Mark Fink, DF&G, Anchorage
Kris Benson, DOT&PF, Juneau

TABLE A. HAINES HWY FISH TRAPPING DATA 5/10/06 - 5/15/06
 PROJECT: ADOT/PF HAINES HIGHWAY REALIGNMENT MP 3 - 25
 FIELD BIOLOGISTS: G. CARL SCHRADER, KATE M. KANOUSE

10/19/05 ADOT&PF STATION	6/30/06 ADOT&PF STATION	AWC NO.	TRIB OF TRIB AWC NO.	LOCATION	LATITUDE	LONGITUDE	SPECIES COUNT	TOTAL LENGTH (mm)	NOTES
269 + 00	268 + 00	N/C	115-32-10250-2008	6' UPSTREAM OF HWY CULVERT INLET	59.25841	135.55562	CO 2	50	N3 WATER TEMP = 11.4°C AT TRAP PULL
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	CO 8	60	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	CO 1	90	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	CO 5	80	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	CO 4	65	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	CO 1	70	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	CO 3	50	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	DV 1	70	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	K 3	70	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	K 1	80	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	K 1	80	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	K 1	110	
269 + 00	268 + 00	N/C	115-32-10250-2008		59.25841	135.55562	K 1	90	
271 + 25	271 + 40	115-32-10250-2008		60' DOWNSTREAM OF UPPERMOST REACH	59.26158	135.57155	DV 1	75	AT TIME OF N1 TRAP SETTING
271 + 25	271 + 40	115-32-10250-2008		500' DOWNSTREAM OF UPPERMOST REACH	59.26023	135.56342	CO 2	65	N2 WATER TEMP = 14.7°C AT TRAP PULL
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 1	100	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 2	90	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 2	50	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 6	60	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 1	80	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 1	40	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	CO 4	70	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	K 1	110	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	K 2	100	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	K 1	90	
271 + 25	271 + 40	115-32-10250-2008			59.26023	135.56342	K 1	65	
315 + 50	316 + 00	N/C		40' UPSTREAM OF HWY CULVERT INLET, ROAD	59.26289	135.57997	CO 1	100	STREAM WATER TEMP = 3.7°C AT TRAP SET
315 + 50	316 + 00	N/C		CULVERT OUTLET	59.26289	135.57997	CO 1	80	
315 + 50	316 + 00	N/C			59.26289	135.57997	CO 1	75	
315 + 50	316 + 00	N/C			59.26289	135.57997	CT 1	110	
315 + 50	316 + 00	N/C			59.26289	135.57997	DV 1	110	
315 + 50	316 + 00	N/C			59.26289	135.57997	DV 1	70	
315 + 50	316 + 00	N/C			59.26289	135.57997	DV 1	60	

*Photos and waypoints taken at time of trap set.

ADOT&PF STATION	ADOT&PF STATION	AWC NO.	TRIB OF TRIB AWC NO.	LOCATION	LATITUDE	LONGITUDE	SPECIES	COUNT	TOTAL LENGTH (mm)	NOTES
10/19/05	6/30/06									
315 + 50	316 + 00	N/C			59.26289	135.57987	DV	2	80	
315 + 50	316 + 00	N/C			59.26289	135.57987	DV	2	70	
315 + 50	316 + 00	N/C			59.26289	135.57987	DV	1	100	
315 + 50	316 + 00	N/C		HWY CULVERT	59.26250	135.57956	CO	2	60	
315 + 50	316 + 00	N/C		OUTLET	59.26250	135.57956	CO	1	80	
315 + 50	316 + 00	N/C			59.26250	135.57956	CO	1	90	
315 + 50	316 + 00	N/C			59.26250	135.57956	CO	1	110	
315 + 50	316 + 00	N/C			59.26250	135.57956	DV	1	90	
339 + 00	337 + 70	N/C		HWY CULVERT	59.26250	135.57956	K	1	130	
339 + 00	337 + 70	N/C			59.26494	135.59044	CO	1	60	
339 + 00	337 + 70	N/C			59.26494	135.59044	CO	2	50	
342 + 00	342 + 00	N/C		HWY CULVERT OUTLET	59.26494	135.59044	DV	1	50	
342 + 00	342 + 00	N/C			59.26558	135.59233	CO	5	50	
342 + 00	342 + 00	N/C			59.26558	135.59233	CO	4	60	
342 + 00	342 + 00	N/C			59.26558	135.59233	TSB	4	40	
342 + 00	342 + 00	N/C		50' DOWNSTREAM OF UPPERMOST REACH	59.26672	135.59331	-	-	-	NO FISH IN TRAP
342 + 00	342 + 00	N/C		300' UPSTREAM OF HWY CULVERT INLET	59.26613	135.59413	CO	1	70	
342 + 00	342 + 00	N/C			59.26613	135.59413	CO	2	80	
342 + 00	342 + 00	N/C			59.26613	135.59413	K	1	105	
342 + 00	342 + 00	N/C		75' UPSTREAM OF HWY CULVERT INLET	59.26580	135.59292	CO	2	90	
342 + 00	342 + 00	N/C			59.26580	135.59292	CO	4	40	
342 + 00	342 + 00	N/C			59.26580	135.59292	CO	9	50	
342 + 00	342 + 00	N/C			59.26580	135.59292	CO	3	60	
342 + 00	342 + 00	N/C			59.26580	135.59292	CO	2	70	
389 + 25	389 + 25	N/C		HWY CULVERT INLET	59.26680	135.61772	CO	1	100	
389 + 25	389 + 25	N/C			59.26680	135.61772	CO	1	50	
389 + 25	389 + 25	N/C			59.26680	135.61772	CO	1	60	
389 + 25	389 + 25	N/C			59.26680	135.61772	CO	1	40	
389 + 25	389 + 25	N/C		HWY CULVERT OUTLET	59.26680	135.61772	CT	1	130	
389 + 25	389 + 25	N/C			59.26680	135.61772	CO	4	50	
389 + 25	389 + 25	N/C			59.26680	135.61772	CO	3	60	
389 + 25	389 + 25	N/C			59.26680	135.61772	CO	1	80	
442 + 75	443 + 00	N/C		60' UPSTREAM OF HWY CULVERT INLET	59.26961	135.64386	CO	1	90	
442 + 75	443 + 00	N/C			59.26961	135.64386	CO	1	80	
442 + 75	443 + 00	N/C			59.26961	135.64386	CT	1	70	
442 + 75	443 + 00	N/C			59.26961	135.64386	CT	1	70	
442 + 75	443 + 00	N/C			59.26961	135.64386	ST	1	120	
442 + 75	443 + 00	N/C			59.26961	135.64386	ST	1	135	
442 + 75	443 + 00	N/C			59.26961	135.64386	ST	1	90	
442 + 75	443 + 00	N/C		HWY CULVERT OUTLET	59.26961	135.64386	ST	1	70	
442 + 75	443 + 00	N/C			59.26961	135.64386	CO	1	80	
632 + 00	630 + 00	N/C		90' UPSTREAM OF HWY CULVERT INLET	59.30548	135.71207	CT	3	60	
632 + 00	630 + 00	N/C			59.30548	135.71207	CT	1	105	
632 + 00	630 + 00	N/C			59.30548	135.71207	DV	1	50	

*Photos and waypoints taken at time of trap set.

ADOT&PF STATION	ADOT&PF STATION	AWC NO.	TRIB OF TRIB AWC NO.	LOCATION	LATITUDE	LONGITUDE	SPECIES	COUNT	TOTAL LENGTH (mm)	NOTES
10/19/05	6/30/06									
632 + 00	630 + 00	N/C		600' UPSTREAM OF HWY CULVERT INLET	59.30548	135.71207	CT	1	55	
670 + 00	670 + 00	N/C		550' UPSTREAM OF HWY CULVERT INLET	59.31447	135.72953	-	-	-	NO FISH IN TRAP
670 + 00	670 + 00	N/C		300' UPSTREAM MAIN CHANNEL	59.31492	135.73033	-	-	-	NO FISH IN TRAP
670 + 00	670 + 00	N/C		330' UPSTREAM MAIN CHANNEL	59.31433	135.72716	-	-	-	NO FISH IN TRAP
670 + 00	670 + 00	N/C		375' UPSTREAM MAIN CHANNEL	59.31450	135.72719	-	-	-	NO FISH IN TRAP
670 + 00	670 + 00	N/C		400' UPSTREAM OF HWY CULVERT INLET	59.31378	135.72667	K	1	130	CT (18", 12") AND ONE 4" CT 10m UPSTREAM
670 + 00	670 + 00	N/C		200' UPSTREAM OF HWY CULVERT INLET	59.31383	135.72620	-	-	-	NO FISH IN TRAP
670 + 00	670 + 00	N/C		150' UPSTREAM OF HWY CULVERT INLET	59.31375	135.72542	CT	1	120	
670 + 00	670 + 00	N/C		45' UPSTREAM OF HWY CULVERT INLET	59.31375	135.72542	CT	1	100	
733 + 50	731 + 00	115-32-10250-2044		45' UPSTREAM OF HWY CULVERT INLET	59.32750	135.74123	CO	2	70	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	CO	1	60	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	CO	1	80	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	DV	1	120	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	DV	1	100	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	DV	4	80	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	DV	1	60	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	DV	1	55	
733 + 50	731 + 00	115-32-10250-2044			59.32750	135.74123	K	1	70	
760 + 00	757 + 50	N/C		45' UPSTREAM OF HWY CULVERT INLET	59.33339	135.74778	CO	1	95	
760 + 00	757 + 50	N/C			59.33339	135.74778	CO	2	80	
760 + 00	757 + 50	N/C			59.33339	135.74778	CO	1	85	
760 + 00	757 + 50	N/C			59.33339	135.74778	CO	1	55	
760 + 00	757 + 50	N/C			59.33339	135.74778	CO	2	90	
760 + 00	757 + 50	N/C			59.33339	135.74778	DV	1	130	
760 + 00	757 + 50	N/C			59.33339	135.74778	DV	2	50	
760 + 00	757 + 50	N/C			59.33339	135.74778	DV	1	60	
760 + 00	757 + 50	N/C			59.33339	135.74778	DV	1	90	
760 + 00	757 + 50	N/C			59.33339	135.74778	K	1	80	
760 + 00	757 + 50	N/C			59.33339	135.74778	K	1	95	
760 + 00	757 + 50	N/C			59.33339	135.74778	K	1	120	
760 + 00	757 + 50	N/C			59.33339	135.74778	K	1	90	

*Photos and waypoints taken at time of trap set.

10/19/05 ADOT&PF STATION	6/30/06 ADOT&PF STATION	AWC NO.	TRIB OF TRIB AWC NO.	LOCATION	LATITUDE	LONGITUDE	SPECIES	COUNT	TOTAL LENGTH (mm)	NOTES
760 + 00	757 + 50	N/C		150' UPSTREAM OF HWY CULVERT INLET	59.33367	135.74819	CO	1	95	
760 + 00	757 + 50	N/C			59.33367	135.74819	CO	3	110	
760 + 00	757 + 50	N/C			59.33367	135.74819	CO	8	90	
760 + 00	757 + 50	N/C			59.33367	135.74819	CO	1	80	
760 + 00	757 + 50	N/C			59.33367	135.74819	CO	3	85	
760 + 00	757 + 50	N/C			59.33367	135.74819	CO	1	60	
760 + 00	757 + 50	N/C			59.33367	135.74819	DV	2	80	
760 + 00	757 + 50	N/C			59.33367	135.74819	DV	1	50	
760 + 00	757 + 50	N/C			59.33367	135.74819	DV	1	55	
760 + 00	757 + 50	N/C			59.33367	135.74819	K	1	100	
760 + 00	757 + 50	N/C			59.33367	135.74819	K	2	75	
760 + 00	757 + 50	N/C			59.33367	135.74819	K	1	90	
760 + 00	757 + 50	N/C		175' UPSTREAM OF HWY CULVERT INLET	59.33367	135.74853	CO	1	70	
760 + 00	757 + 50	N/C			59.33367	135.74853	CO	2	80	
760 + 00	757 + 50	N/C			59.33367	135.74853	CO	2	85	
760 + 00	757 + 50	N/C			59.33367	135.74853	CO	1	85	
760 + 00	757 + 50	N/C			59.33367	135.74853	CO	1	90	
760 + 00	757 + 50	N/C			59.33367	135.74853	DV	4	50	
760 + 00	757 + 50	N/C			59.33367	135.74853	DV	1	45	
760 + 00	757 + 50	N/C			59.33367	135.74853	DV	1	55	
760 + 00	757 + 50	N/C			59.33367	135.74853	DV	3	60	
760 + 00	757 + 50	N/C			59.33367	135.74853	DV	4	70	
760 + 00	757 + 50	N/C			59.33367	135.74853	K	1	80	
760 + 00	757 + 50	N/C			59.33367	135.74853	K	1	70	
760 + 00	757 + 50	N/C			59.33367	135.74853	K	1	100	
790 + 00	788 + 00	N/C		10' UPSTREAM OF HWY CULVERT INLET	59.33995	135.75761	DV	4	50	
790 + 00	788 + 00	N/C			59.33995	135.75761	DV	3	60	
790 + 00	788 + 00	N/C			59.33995	135.75761	K	1	50	
790 + 00	788 + 00	N/C		40' UPSTREAM OF HWY CULVERT INLET	59.33961	135.75742	DV	2	70	
790 + 00	788 + 00	N/C			59.33961	135.75742	DV	2	80	
790 + 00	788 + 00	N/C			59.33961	135.75742	DV	3	70	
790 + 00	788 + 00	N/C			59.33961	135.75742	K	1	80	
790 + 00	788 + 00	N/C		40' UPSTREAM OF HWY CULVERT INLET, IN TRIB	59.33986	135.75736	DV	1	80	
879 + 75	877 + 90	N/C	115-32-10250-2060	HWY CULVERT OUTLET	59.35819	135.78714	DV	1	70	
879 + 75	877 + 90	N/C	115-32-10250-2060		59.35819	135.78714	DV	2	60	
879 + 75	877 + 90	N/C	115-32-10250-2060		59.35819	135.78714	K	2	30	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	700' UPSTREAM OF HWY CULVERT INLET, IN POND	59.36130	135.79205	-	-	-	NO FISH IN TRAP
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	640' UPSTREAM OF HWY CULVERT INLET	59.36117	135.79120	K	2	80	

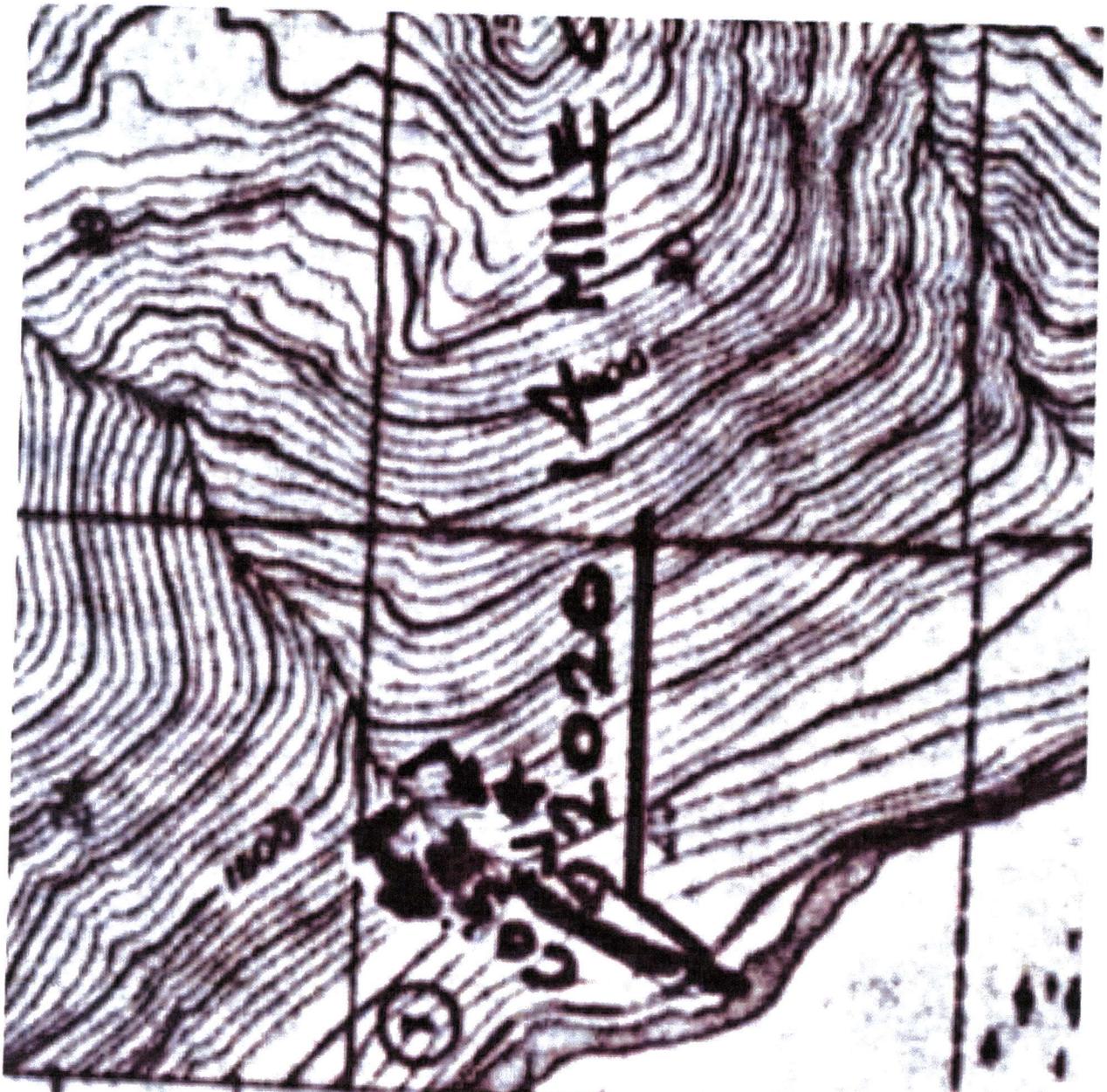
*Photos and waypoints taken at time of trap set.

ADOT&PF STATION	ADOT&PF STATION	AWC NO.	TRIB OF TRIB AWC NO.	LOCATION	LATITUDE	LONGITUDE	SPECIES COUNT	TOTAL LENGTH (mm)	NOTES
10/19/05	6/30/06								
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	550' UPSTREAM OF HWY CULVERT INLET	59.36097	135.79069	K 1	140	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	90' UPSTREAM OF HWY CULVERT INLET	59.36047	135.78950	DV 3	85	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	CULVERT INLET	59.36047	135.78950	DV 4	90	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002		59.36047	135.78950	DV 5	80	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002		59.36047	135.78950	DV 1	100	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	30' UPSTREAM OF TRIB BRANCH, 75' TO HWY	59.36042	135.78908	DV 2	110	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	CULVERT INLET	59.36042	135.78908	DV 1	65	
887 + 90	886 + 00	N/C	115-32-10250-2060-3002	CULVERT INLET	59.36042	135.78908	DV 1	85	
1098 + 50		N/C		45' UPSTREAM OF HWY CULVERT INLET	59.39403	135.86725	-	-	NO FISH IN TRAP
1098 + 50		N/C		HWY CULVERT OUTLET	59.39358	135.86695	-	-	NO FISH IN TRAP

*Photos and waypoints taken at time of trap set

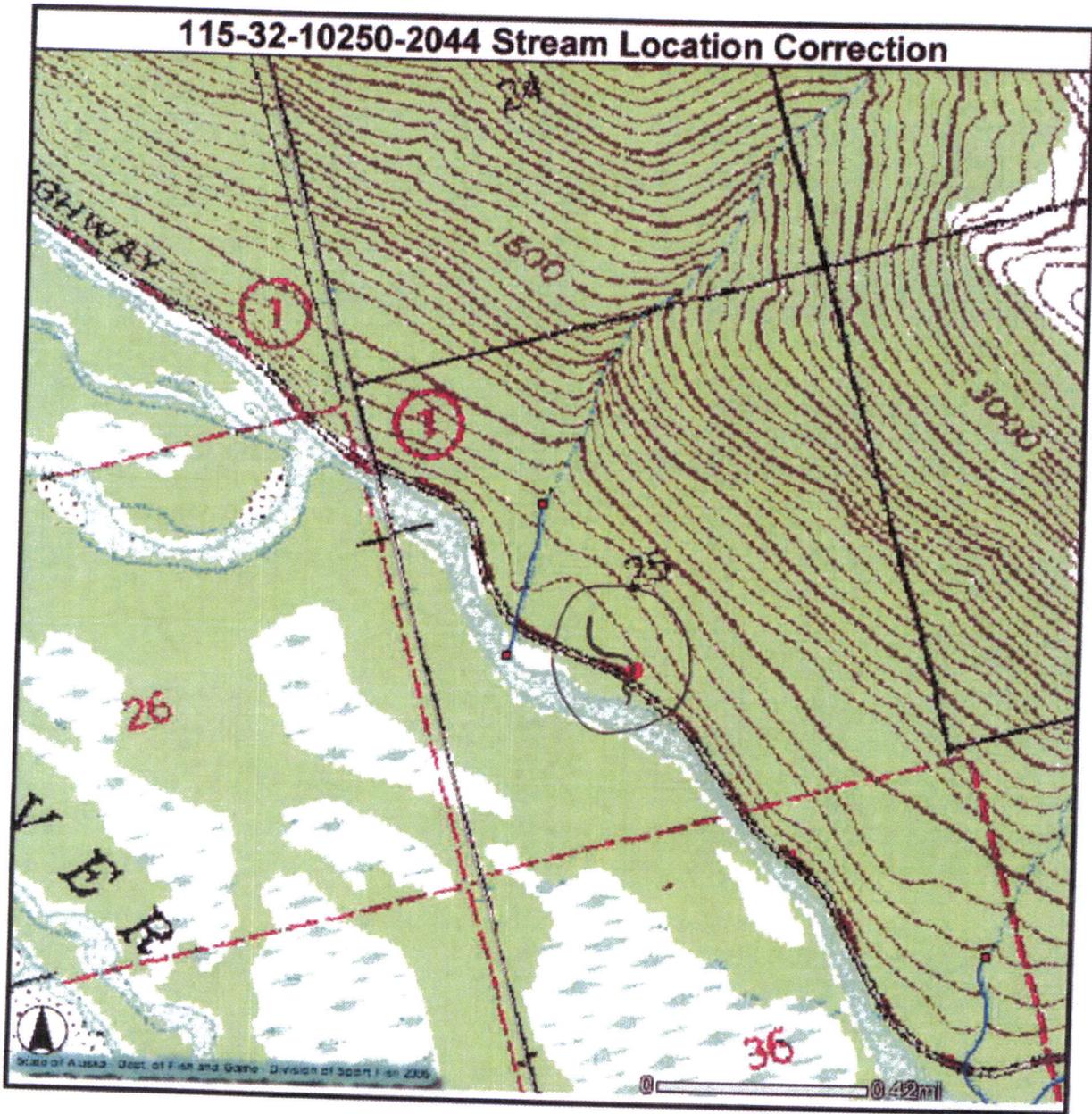
TABLE B. HAINES HWY CATALOG NOMINATION RECOMMENDATIONS
 PROJECT: ADOT/PF HAINES HIGHWAY REALIGNMENT MP 3 - 25
 FIELD BIOLOGISTS: G. CARL SCHRADER KATE M. KANOUSE

NUMBER	ACTION	10/19/06 ADOT&PF		AWC NO.	TRIB OF TRIB AWC NO.	TRIB OF TRIB		POTENTIAL HABITAT AVAILABLE (feet)	SPECIES USE	NOTES
		STATION	STATION			NO.	NO.			
1A	ADD	289 + 00		N/C	115-32-10250-2008			250		TRIB CONNECTS TO CATALOGED TRIB/POND THAT
1B	UPDATE	271 + 25	115-32-10250-2008			271 + 25		300	CO, DV, K	DRAINS AT 271 + 25
2	ADD	315 + 50		N/C				100	CO, DV, K	UPDATE UPPER EXTENT OF FISH HABITAT
3	ADD	339 + 00		N/C				30	K, CO, CT, DV	
4	ADD	342 + 00		N/C				300	CO, DV	
5	ADD	389 + 25		N/C				75	CO, K	
6	ADD	442 + 75		N/C				250	CO, CT	
7	ADD	632 + 00		N/C				50	CO, CT, STR	
8	ADD	674 + 00		N/C	115-32-10250-2040	670 + 00		400	CT, DV	
9	UPDATE	733 + 50	115-32-10250-2044					200	CT, DV	OBSERVED 1-18" AND 1-12" CTs, AND 1-3.5" CT
10	ADD	760 + 00		N/C					K, DV, CO	UPDATE STREAM LOCATION IN CATALOG AND
									CO, DV, K	ADD K TO SPECIES PRESENT
11A	ADD	790 + 00		N/C				50	DV	TRIB FORKS APPROX. 3m UP FROM CULVERT
11B	ADD	790 + 00		N/C				50	DV, K	INLET. BOTH TRIBS END AT TWO DIFFERENT
12	ADD	894 + 00		N/C	115-32-10250-2060-3002	897 + 90		550	DV, K	CASCADES 30' UP FROM THE FORK
13	UPDATE	1129 + 00	115-32-10250-2070						DV, K	ADD THIS WESTERN FORK TRIB TO TRIB-3002
										UPDATE STREAM LOCATION IN CATALOG

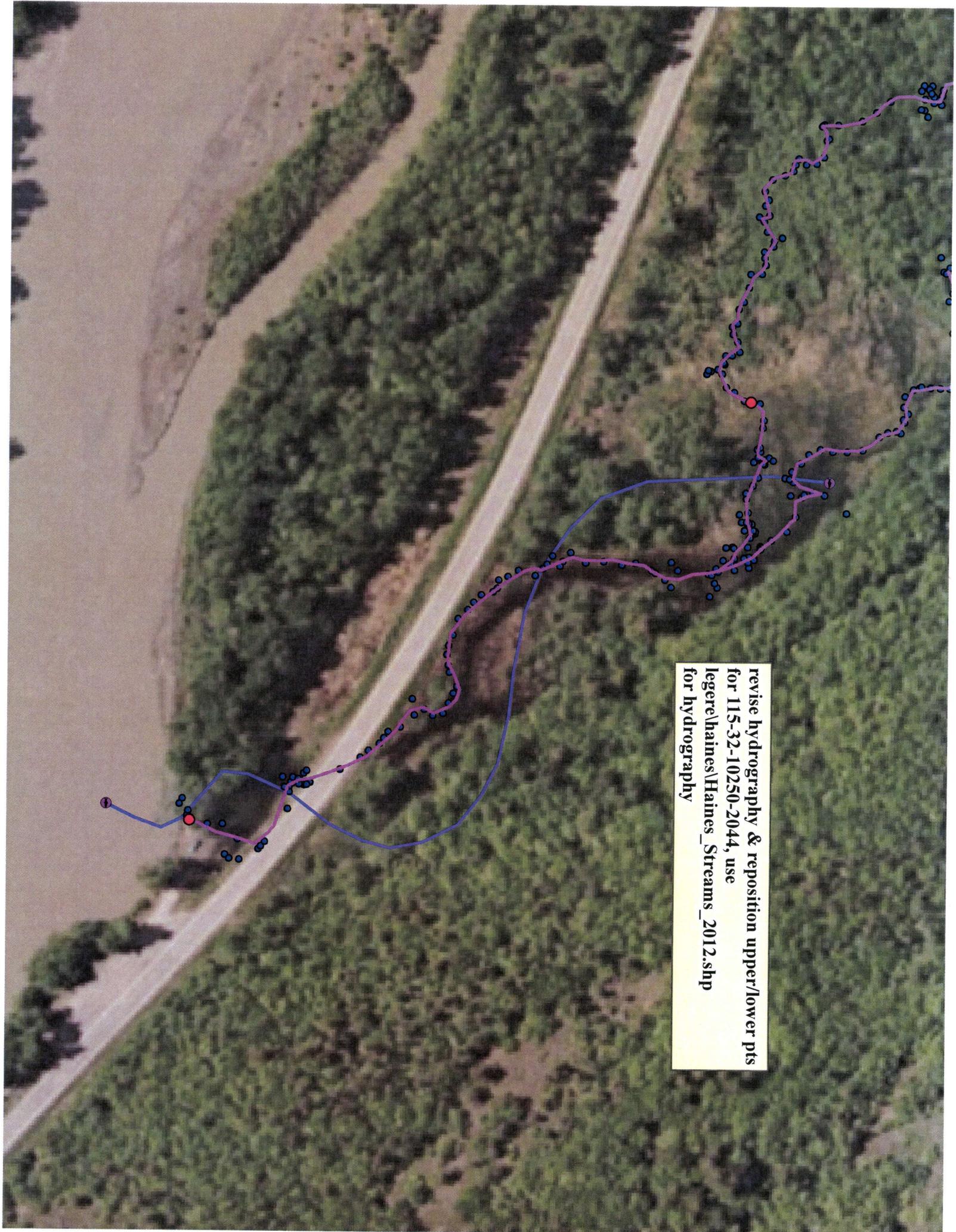


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RUMMAN 7 8 1

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Reposition 115-32-10250-2044
initial run
83-872 Retain species



revise hydrography & reposition upper/lower pts
for 115-32-10250-2044, use
legere/haines/Haines_Streams_2012.shp
for hydrography