









Appendix P: Skagway

Guide to direct fieldwork for cataloging anadromous water bodies in Southeast Alaska



Symbols and Abbreviations

K	Chinook salmon
CH	chum salmon
CO	coho salmon
CT	cutthroat trout (anadromous and resident juveniles and adults)
DV	Dolly Varden char
OU	eulachon
S	sockeye salmon
P	pink salmon
RT	rainbow trout (unknown juvenile or resident adult)
SC	sculpin sp.
SH	steelhead trout (adult)
SB	threespine stickleback
s	spawning
r	rearing
p	presence
EF	electrofishing
VI	visual identification
HN	handnet
RS	route survey
MT	minnow trap
BS	beach seine
FN	fyke net
 (ginger pink)	route correction
 (apatite blue)	addition
 (solar yellow)	future investigation
 (poinsettia red)	resident fish
 (lepidolite lilac)	conveyance
 (electron gold)	deletion
 (lapis lazuli)	AWC
 (electron gold)	barrier

This appendix is a working document updated as new information is acquired. Figures and tables are numbered per water body. Pages numbers are eliminated to prevent document reprinting when individual pages are inserted or removed.

SKAGWAY SURVEYS

Skagway, population 1,031, is located 90 miles northeast of Juneau at the northernmost end of Lynn Canal, at the head of Taiya Inlet, and just west of the Canadian border with British Columbia (Figure 1).¹

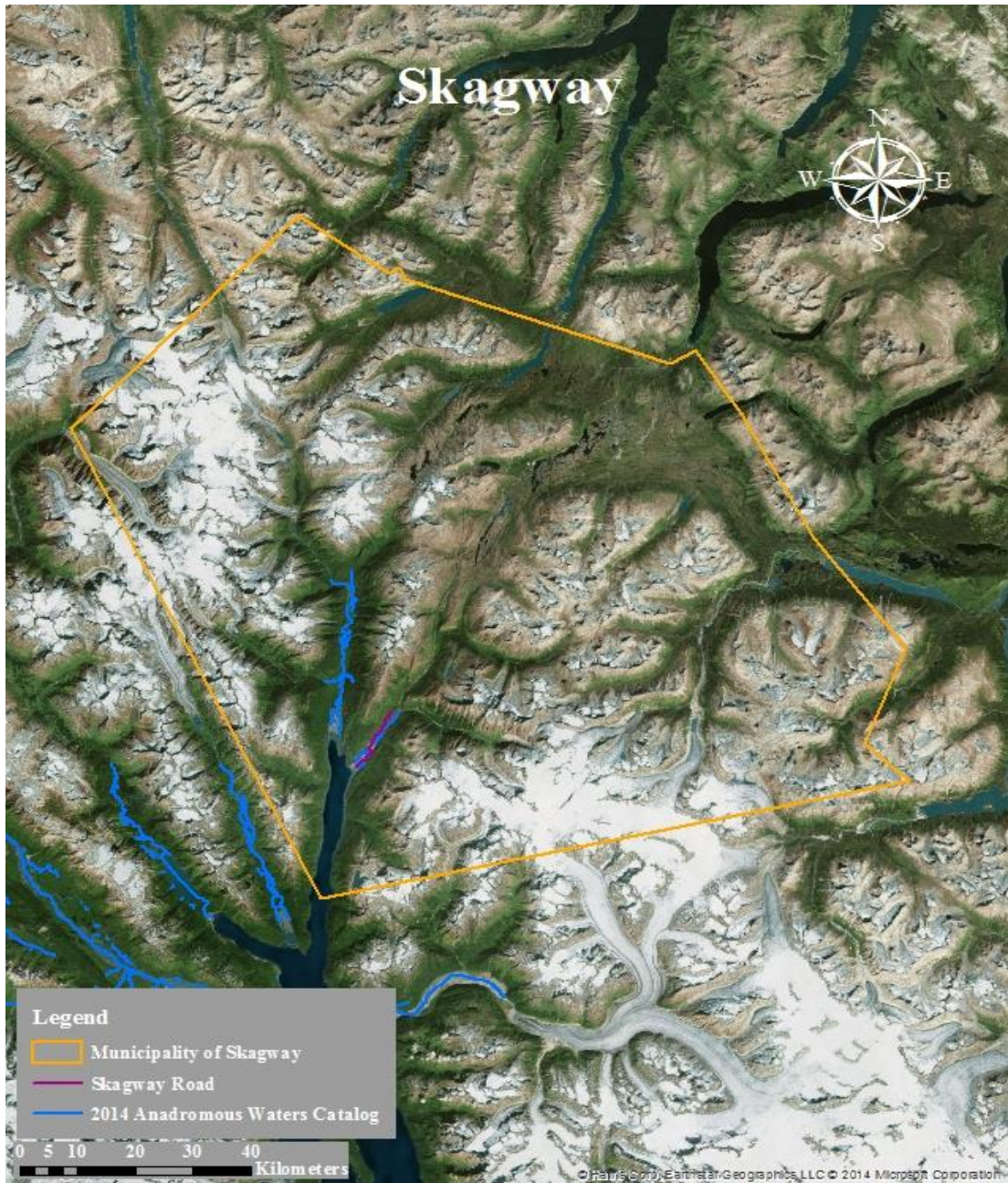


Figure 1.—Skagway survey map.

¹ State of Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs database. Available from: <http://www.commerce.state.ak.us/cra/DCRAExternal/Community/Details/2fa901e2-54a9-4807-9027-73982c3ba746>. (Accessed June 24, 2015).

115-34-10300**CORRECTION****Water body name:** Skagway River**Survey date:** 4/13/2017**Watershed:** Skagway River**Species & Lifestage:** CHp, COp, Kp, DVp, OUp**MTR:** C028S059 **Quad:** Skagway B-1**Findings:** We surveyed this stream using minnow traps and captured rearing coho salmon and Dolly Varden char (Table 1; Figures 1, 2).**Recommendations:** The original Skagway River nomination contains no fish capture data. Correct the upper extent of anadromy to reflect the documented capture of anadromous fish at waypoint 171 (Figure 2) and return for future investigations.**Nomination:** Pending

Table 1.–115-34-10300 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
167	59.5003	-135.2519	18 inch deep pool at confluence of side channel into east fork.	MT	
168	59.5005	-135.2564	8 foot deep pool at confluence of forks. Current upper extent of AWC here. Water tannic and warmer, possibly from Goat Lake influence. 2 traps here.	2 MT	
169	59.4994	-135.2579	160 foot long pool, 10 feet deep.	MT	
170	59.4979	-135.2587	50 foot long pool, 6 feet deep.	MT	
171	59.4911	-135.2671	Backwatered slough.	MT	2 CO, 5 DV
172	59.4908	-135.2695	Slough; CO 55-70mm, DV 55-90mm.	MT	27 CO, 18 DV
173	59.4908	-135.2662	Side channel recently filled with rising water. 2 MTs here, CO 65-85mm.	2 MT	5 CO, 98 DV
174	59.4890	-135.2707	Side channel recently filled with rising water.	MT	11 DV
175	59.4880	-135.2729	Side channel recently filled with rising water, all substrate is cobble or larger.	MT	9 DV
210	59.4896	-135.2726	Root wad in main stem.	MT	1 DV
215	59.4931	-135.2607	Boulder Creek near confluence with main stem.	MT	2 DV
216	59.4941	-135.2607	Boulder Creek in area still seasonally overtaken by river.	MT	
217	59.4946	-135.2600	Outlet of pond on Boulder Creek.	MT	
218	59.4950	-135.2595	Upstream end of pond, maximum depth 2 feet, remaining ice at least 12 inches thick.	MT	
856	59.4785	-135.2858	Root wad in main channel.	MT	21 DV
857	59.4785	-135.2871	Lillegraven confluence.	MT	11 DV
858	59.4755	-135.2876	Confluence of Reid Creek with main stem, 2 MTs here.	2 MT	12 DV

Table 1.–Continued

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
859	59.4733	-135.2923	Behind root wad in main stem.	MT	5 CO, 23 DV
860	59.4685	-135.3010	Back eddy in main stem.	MT	2 DV
861	59.4675	-135.3031	Behind concrete block in main	MT	
862	59.4699	-135.3006	In rip rap in main stem.	MT	1 DV



Figure 1.–2 coho salmon and 5 Dolly Varden char, waypoint 171.

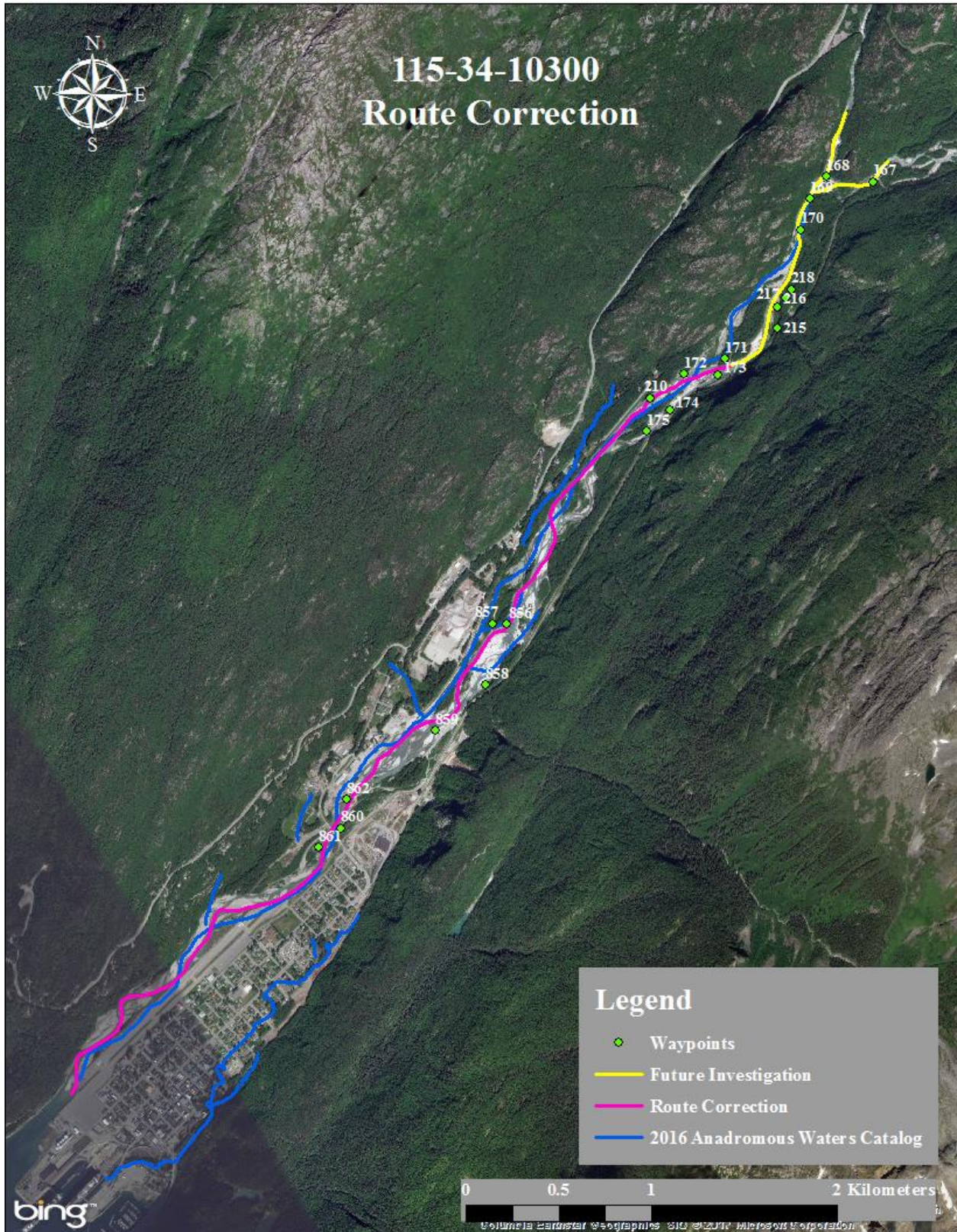


Figure 2.-115-34-10300 route correction map.

Skagway

115-34-10300-2017**CORRECTION****Water body name:****Survey date:** 8/29/2012**Water body number:** 115-34-10300-2017**Species & Lifestage:** COpr**Watershed:** Skagway River**MTR:** C028S059E **Quad:** Skagway B-1

Findings: We surveyed and tracked this stream and found juvenile coho salmon present past the current AWC upper extent (Table1). There is a barrier cascade just upstream of the culvert that passes under the Klondike Highway. Several juvenile coho salmon were in the pool under the cascade.

Recommendations: Extend coho salmon rearing for this stream in the AWC (Figure 1).

Nomination: 12-611

Table 1.–115-34-10300-2017 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
79	59.4738	-135.2933	Tributary on river right. Clear, cobbles, gravel substrate.		
80	59.4739	-135.2935	Handnetted 1 DV about 40mm.	HN	1 DV
81	59.4739	-135.2936	Electrofished 2 CO between 75-80mm in a series of pools.	EF	2 CO
82	59.4741	-135.2937	Electrofished 1 CO in a pool.	EF	1 CO
83	59.4743	-135.2940	Culvert. Cobble/gravel substrate.		
84	59.4747	-135.2943	Electrofished 1 CO in calm run. Muddier substrate here.	EF	1 CO
85	59.4747	-135.2944	Electrofished 1 CO about 75mm in a riffle.	EF	1 CO
86	59.4757	-135.2951	Handnetted 5 CO between 45-60mm.	HN	5 CO
87	59.4760	-135.2958	Handnetted 2 CO between 50-60mm.	HN	2 CO
88	59.4760	-135.2958	Handnetted 5 CO between 50-60mm.	HN	5 CO
89	59.4762	-135.2961	Handnetted 1 CO at culvert.	HN	1 CO
90	59.4762	-135.2962	Handnetted 1 CO.	HN	1 CO
91	59.4765	-135.2968	Handnetted 8 CO.	HN	8 CO
92	59.4767	-135.2973	Rock weir below the culvert. CO in pool just below here.		
93	59.4768	-135.2974	CO captured just below the culvert.	HN	1 CO
94	59.4770	-135.2976	Electrofished 4 CO at base of barrier cascade.	EF	4 CO

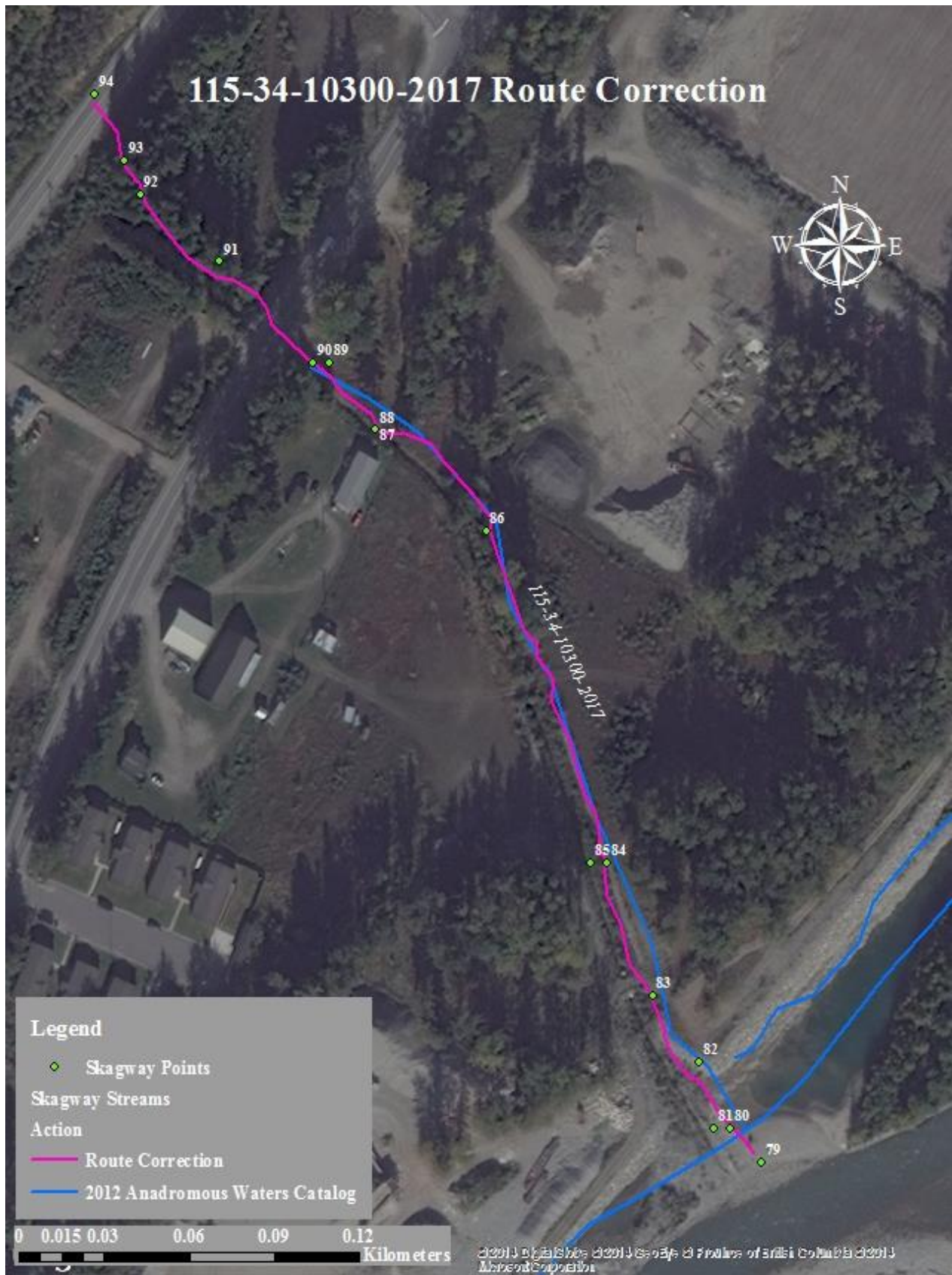


Figure 1.—115-34-10300-2017 route correction map.

Skagway

115-34-10300-2031**CORRECTION****Water body name:****Survey date:** 8/29/2012**Water body number:** 115-34-10300-2031**Species & Lifestage:** CO, DVr**Watershed:** Skagway River**MTR:** C027S060E **Quad:** Skagway B-1**Findings:** We tracked and surveyed this stream and found its route differs from the catalog (Table 1). We followed stream to its confluence with Skagway River.**Recommendations:** Update stream route in AWC (Figure 1).**Nomination:** 12-615

Table 1.–115-34-10300-2031 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
112	59.4824	-135.2845	Confluence of stream and Skagway River.		
111	59.4826	-135.2845	Captured 2 CO at mouth of stream.	EF	2 CO
108	59.4859	-135.2801	Tributary entering on river left.		
107	59.4863	-135.2796	Outlet of repair shop culvert.		
106	59.4868	-135.2795	Outlet of DOT culvert.		
95	59.4869	-135.2795	Electrofished 2 DV.	EF	2 DV
96	59.4870	-135.2794	Electrofished 3 DV.	EF	3 DV
97	59.4871	-135.2791	Electrofished 3 DV.	EF	3 DV
98	59.4873	-135.2789	Electrofished 3 DV.	EF	3 DV
99	59.4876	-135.2788	Electrofished 1 DV.	EF	1 DV
100	59.4880	-135.2786	Electrofished 1 DV.	EF	1 DV
101	59.4880	-135.2784	Electrofished 3 DV.	EF	3 DV
102	59.4884	-135.2778	Electrofished 2 DV.	EF	2 DV
103	59.4887	-135.2777	Electrofished 2 DV. Rock weir and water is a trickle.	EF	2 DV
104	59.4891	-135.2770	Electrofished 1 DV.	EF	1 DV
105	59.4900	-135.2763	End of possible anadromy near little village (Liarsville). Electrofished only DV.	EF	DV



Figure 1.-115-34-10300-2031 route correction map.

Skagway

115-34-10310**CORRECTION****Water body name:** Pullen Creek**Survey date:** 8/29/2012**Water body number:** 115-34-10310**Species & Lifestage:** CHp, COsr, Ps, DVsr**Watershed:** Skagway River**MTR:** C028S059E **Quad:** Skagway B-1**Findings:** We tracked and surveyed this stream and found the stream route differs from the catalog (Table 1).**Recommendations:** Update the stream route in the AWC (Figure 1).**Nomination:** 12-612

Table 1.–115-34-10310 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
35	59.4513	-135.3226	Mouth of Pullen Creek. Large angled culvert with cement shoot to contain water. Enters cruise ship harbor.		
36	59.4519	-135.3212	Stream goes beneath road in about a 60" CMP culvert.		
37	59.4519	-135.3176	Pullen Creek Chinook Project weir. Just below small pond/park. Holding pens for ripening Kings.		
38	59.4522	-135.3164	Large ~ 8' culvert CMP, halfway embedded, good fish passage.		
39	59.4523	-135.3158	Small open spot, then another similar culvert under railroad tracks. 2-3 spawning fish visible, 1 Chinook, 2 unidentifiable.		
40	59.4541	-135.3131	Majority of water comes through what looks to be a power house. Might be a barrier. Smaller fork comes in from the other side.		
41	59.4549	-135.3127	Small clear stream enters on river left. Some flow, vegetated channel, begin shocking.		
51	59.4553	-135.3127	E-fished 5 DV between 40-120mm.	EF	5 DV
52	59.4556	-135.3126	E-fished 2 DV between 40-50mm.	EF	2 DV

Table 1.–Continued.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
53	59.4559	-135.3124	E fished 5 DV between 45-90mm. Stream flows through 48" CMP culvert under Rd. Looks good for fish passage.	EF	5 DV
54	59.4563	-135.3118	E-fished 3 DV between 40-55mm. Substrate is sandy. CBW consistent 5-8'. Moderate flow, water becoming less silty.	EF	3 DV
55	59.4564	-135.3120	Stream flows through culvert 1.5-2' CMP. Beneath neighborhood. Skirting left around structures.		
56	59.4567	-135.3116	On stream again at upstream side of yard. Then enters culvert again through backyards with high fences. Possible obstruction in stream criss crossed fence.		
57	59.4572	-135.3116	Back on stream. Extensive stream bank manipulation, bank stabilization with plastic mesh filled with rocks and also stacked flat pieces of concrete. Some channelization, but looks fish passable. Goes through culvert beneath someone's driveway.		
58	59.4574	-135.3112	Stretch of straight channel bank stabilization with stream between someone's long straight green lawn and the road.		
59	59.4580	-135.3101	Outlet of long culvert.		
60	59.4584	-135.3093	Inlet of long culvert. Captured 1 DV about 60mm. Stream continues to run adjacent to sidewalk. Best bushwhacking all summer.		
61	59.4589	-135.3089	Captured 2 DV between 40-70mm.	EF	2 DV

Table 1.–Continued.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
62	59.4593	-135.3072	Another culvert 48" CMP. Embedded about 1/6th. Looks very passable. Smell of dead fish somewhat noticeable, but no spawners visible.		
63	59.4596	-135.3070	Another culvert looks fine about 44".		
64	59.4599	-135.3071	E-fished 2 DV between 45-80mm.	EF	2 DV
67	59.4606	-135.3075	Stream goes through another 48" CMP culvert.		
68	59.4608	-135.3072	Another culvert looks passable. Good gravels present, visual of two unknown salmonids about 160mm.	VI	2 Unknown
69	59.4610	-135.3063	E-fished 6 DV between 40-50mm.	EF	6 DV
70	59.4618	-135.3032	Stream flows through another culvert. Skirting around peoples backyards to the river left.		
71	59.4628	-135.3023	Runoff filled tributary enters on river right. Looks to be source of recent silt on main channel.		
72	59.4631	-135.3030	Stream seemingly dead ends into State St. with no visual culvert.		
73	59.4633	-135.3031	Stream channel dry due to possible diversion? Lots of flow downstream, may be just seasonally watered.		
74	59.4628	-135.3019	2 Old intake pipes, don't look active. Area boomed off possibly from a former oil spill or something similar.		
75	59.4634	-135.3009	Stream goes beneath road through culvert that looks to go under RailRoad tracks. Will look for other side. Rain is keeping water levels nice and high.		

Table 1.—Continued.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
76	59.4634	-135.3004	E-fished 2 DV between 40-75mm. Stream continues between Railroad tracks and mountainside. Abundant DV, no coho in this system yet.	EF	2 DV
77	59.4643	-135.2992	Reached the source of water flows out of rocks in the hillside.		

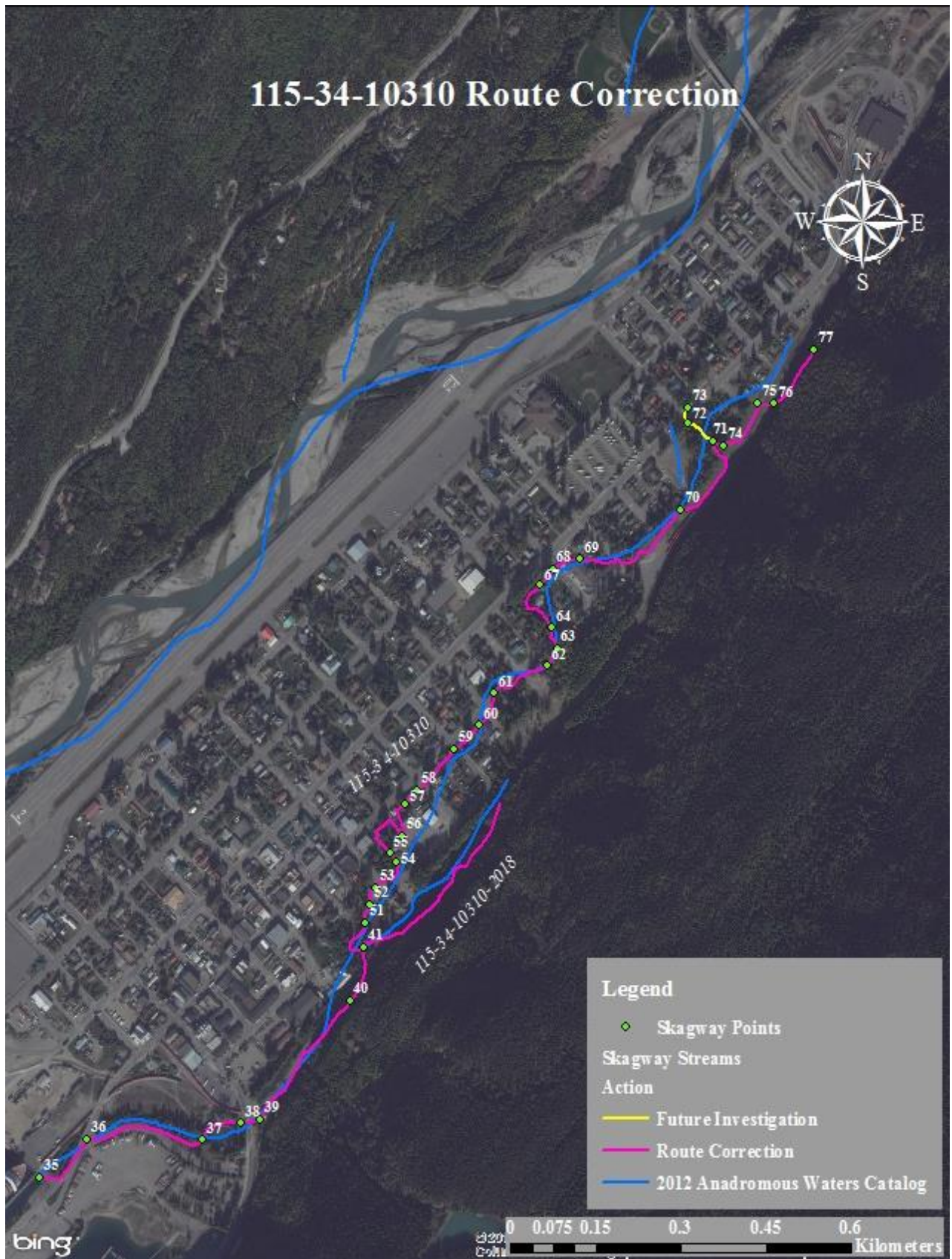


Figure 1.-115-34-10310 route correction map.

Skagway

115-34-10310-2018**CORRECTION****Water body name:****Survey date:** 8/28/2012**Water body number:** 115-34-10310-2018**Species & Lifestage:** COsr, DVr**Watershed:** Skagway River**MTR:** C028S059E **Quad:** Skagway B-1**Findings:** We tracked and surveyed this stream and found the stream route differs from what is in the catalog (Table 1).**Recommendations:** Update the stream route in the AWC (Figure 1).**Nomination:** 12-613

Table 1.–115-34-10310-2018 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
41	59.4549	-135.3127	Small clear stream enters on river left. Some flow, vegetated channel.		
42	59.4550	-135.3127	E-fished 5 DV between 45-55mm.	EF	5 DV
43	59.4551	-135.3120	Captured 2 DV about 45mm.	EF	2 DV
44	59.4553	-135.3114	E-fished 1 DV about 95mm. Black Currants noticed.	EF	1 DV
45	59.4558	-135.3105	E-Fished 1 DV about 50mm.	EF	1 DV
46	59.4560	-135.3100	E-fished 4 DV between 45-55mm.	EF	4 DV
47	59.4562	-135.3096	Stream flows through small 18-24" culvert under railroad.		
48	59.4566	-135.3092	Site of salmon hatchery (Est. 1982 and run by Sitka High). Large pool fishing up.	EF	No Fish
49	59.4568	-135.3089	Top of potential anadromy. Pools above connected to the hatchery through narrow pipe that pours onto former waterway for the hatchery. Future restoration possibility.		
50	59.4572	-135.3086	Stream goes under tracks again, perched culvert but good looking, low gradient habitat upstream.		

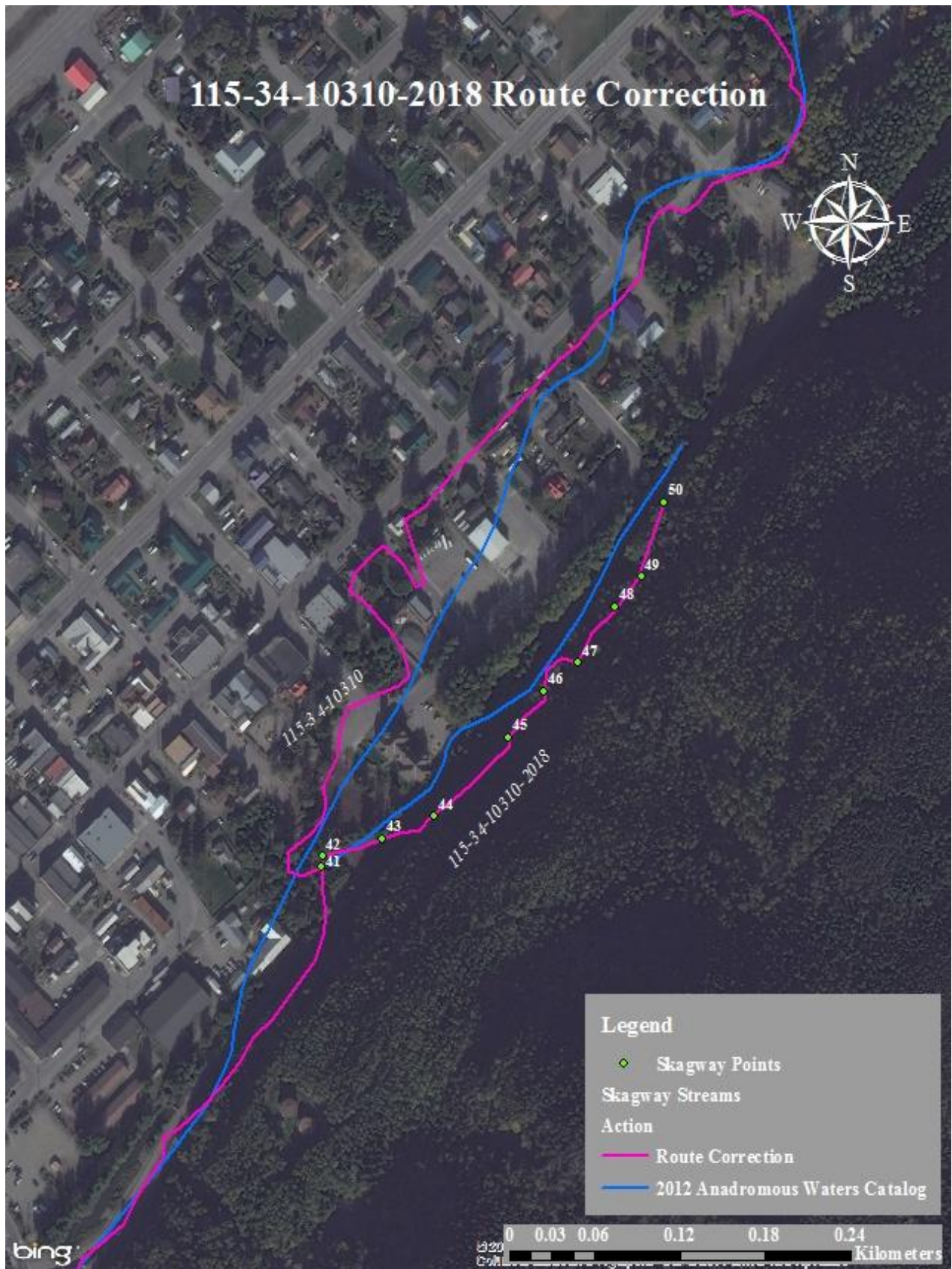


Figure 1.-115-34-10310-2018 route correction map.

Skagway