

Appendix: Ketchikan

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



Symbols and Abbreviations

Survey data codes.

Code	
	Species
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 spp.
SH	steelhead trout (adult)
SB	threespine stickleback
LP	lamprey
	Lifestage
s	spawning
r	rearing
p	presence
	Sampling
EF	electrofishing
VI/VL	visual identification
HN	handnet
RS	route survey
MT	minnow trap
BS	beach seine
FN	fyke net

Map color key.

Action	Color
route correction	ginger pink
addition	apatite blue
future investigation	solar yellow
resident fish	poinsettia red
conveyance	lepidolite lilac
AWC	lapis lazuli

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.

KETCHIKAN SURVEYS

Ketchikan, population 8,314, is located on the southwestern coast of Revillagigedo Island, opposite Gravina Island, near the southern boundary of Alaska (Figure 1). The 2.2 million acre Misty Fiords National Monument lies 22 air miles east of Ketchikan. It is the first Alaska port of call for northbound cruise ships and state ferries.¹

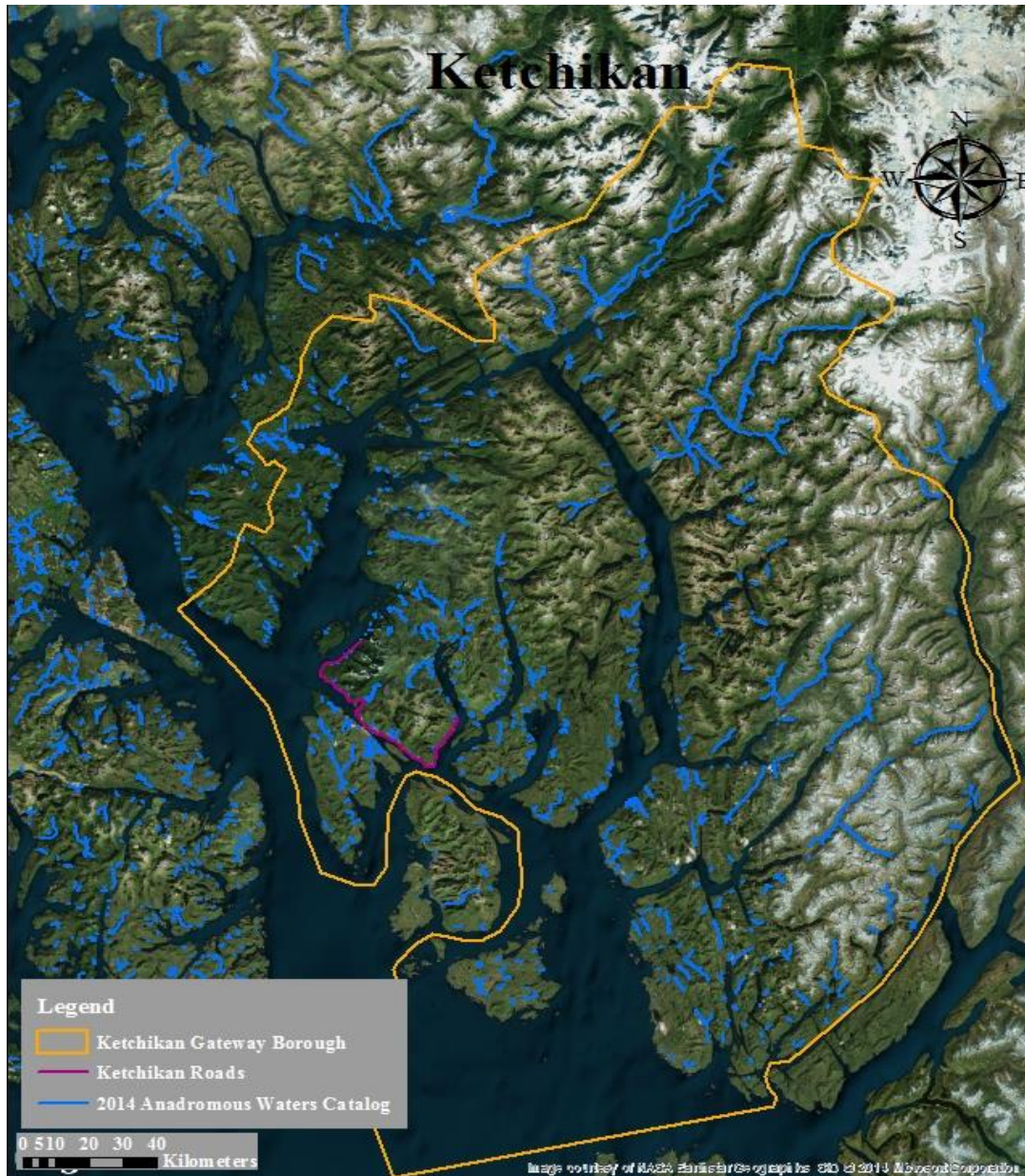


Figure 1.–Ketchikan survey map.

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/1bf4ffe8-2534-4163-8660-078cc02feb1a>. (Accessed June 24, 2015).

Ketchikan

101-45-10070

CORRECTION

Water body name: Herring Cove Creek

Survey date: 5/8/2014

Water body number: 101-45-10070

Species & Lifestage: CHp,COp,Pp

Watershed: Carroll Inlet-Frontal Revillagigedo Channel

MTR: C075S090E **Quad:** Ketchikan B-5

Findings: We surveyed this stream using a backpack electrofisher and a GPS (Table 1). We ended the survey at a cascade waterfall that is a barrier to fish passage (Figure 1). The stream's cataloged route differs from the field verified route.

Recommendations: Update this stream's course to reflect the field verified route (Figure 2).

Nomination: 14-622

Table 1.–101-45-10070 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
182	55.3271	-131.5284	Back on Herring Cove creek.		
183	55.3276	-131.5319	Tributary entering river right, ends in seep.		
184	55.3283	-131.5342	Cataloged upper limit is correct. Long bedrock cascade before a tall falls.		

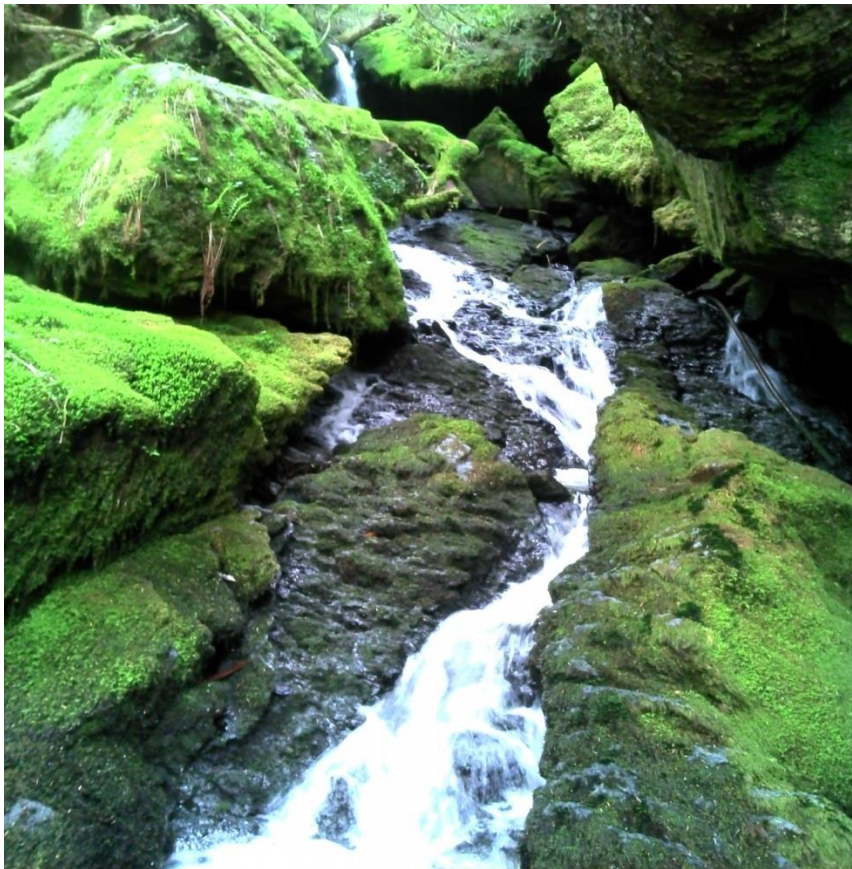


Figure 1.–Lower portion of the bedrock cascade barrier on Herring Cove Creek.

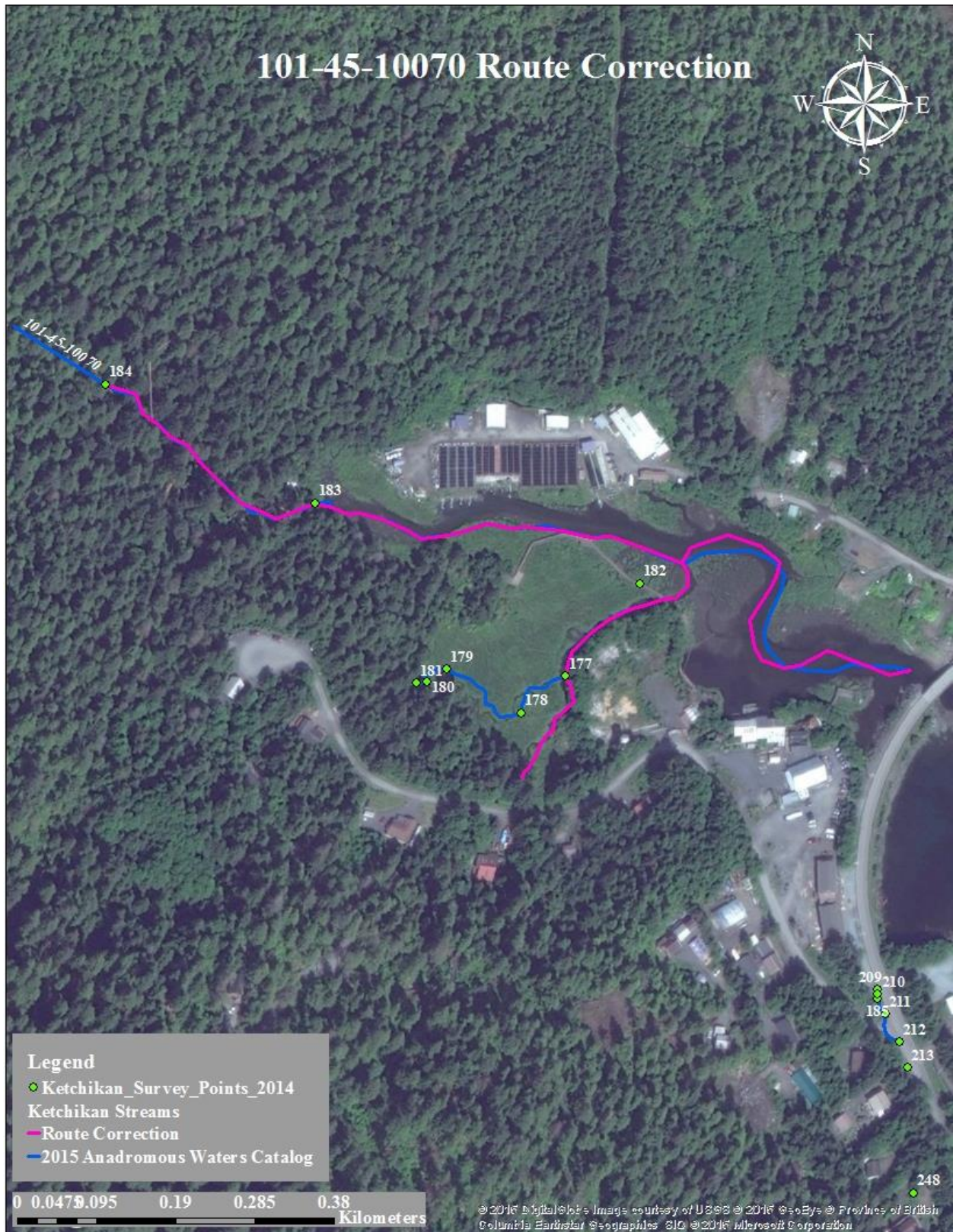


Figure 2.—101-47-10070 route correction map.

Ketchikan

101-45-10070-2011-3012**ADDITION****Water body name:****Survey date:** 5/7/2014**Water body number:** 101-45-10070-2011-3012**Species & Lifestage:** CO**Watershed:** Carroll Inlet-Frontal Revillagigedo Channel**MTR:** C075S091E **Quad:** Ketchikan B-5**Findings:** We surveyed stream number 101-45-10070-2011-3012 using a backpack electrofisher and a GPS (Table 1). This stream provides rearing habitat for rearing coho salmon.**Recommendations:** Add this stream to the AWC (Figure 1).**Nomination:** 14-623

Table 1.–101-45-10070-2011-3012 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
177	55.3266	-131.5292	High tide mark, tributary entering on river left.		
178	55.3263	-131.5297		HN	2 CO
179	55.3266	-131.5305		EF	3 CO
180	55.3265	-131.5307	Seep that is providing half of the flow entering on river right. Only 10' long so not tracking.		
181	55.3265	-131.5308	Calling it the top. Water is seeping out of th ground.		



Figure 1.-101-45-10070-2011-3012 addition map.

Ketchikan

101-41-10005**CORRECTION****Water body name:** Adams Creek**Survey date:** 5/6/2014**Water body number:** 101-41-10005**Species & Lifestage:** Ps**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C076S091E **Quad:** Ketchikan B-6

Findings: We surveyed Adams Creek using minnow traps and a GPS (Table 1). This creek is substantially shorter than currently cataloged. The anadromous reach terminates in a 15' falls and bedrock chute (Figures 1, 2). There is a 2.5' pool at the base that provides good spawning gravel, but no upstream migration is possible.

Recommendations: Update the route of this stream to reflect the field verified upper extent of anadromy (Figure 3).

Nomination: 14-605

Table 1.—101-41-10005 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
198	55.3102	-131.5820	Mouth of Adams Creek		
199	55.3106	-131.5819	Adams Creek culvert inlet.		
200	55.3115	-131.5821	Base of series of bedrock cascades. Pool 2.5' deep here. Setting trap.	MT	4 RT, 1 CT
201	55.3117	-131.5822	Base of falls approximately 15' long.		
202	55.3119	-131.5821	Top of bedrock chute above falls.		
203	55.3123	-131.5825	Culvert outlet on Adams Creek.	MT	1 RT
204	55.3124	-131.5826	Big resident trout drifting around here.		
205	55.3142	-131.5830	Above upper limit. The lower falls is a barrier. Big water intake here, has good screen.		



Figure 1.—Cascade barrier on Adams Creek.

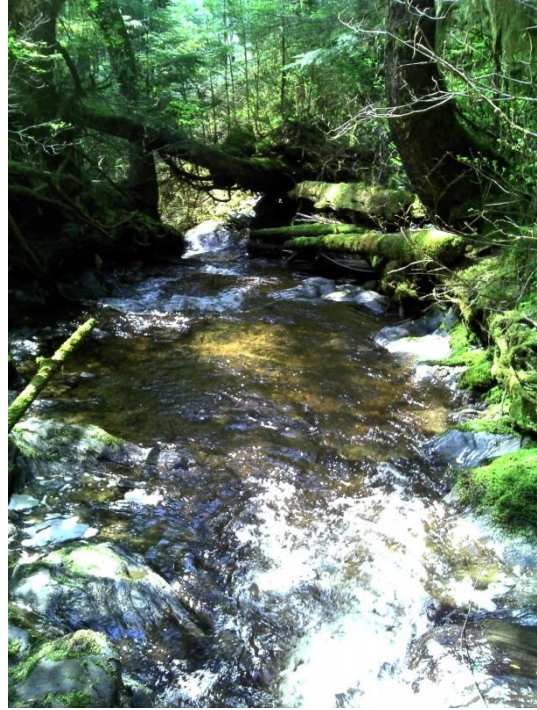


Figure 2.—Bedrock reach above cascade on Adams Creek.



Figure 3.—101-41-10005 route correction map.

Ketchikan

Ketchikan

101-47-10090

CORRECTION

Water body name: Whipple Creek
Water body number: 101-47-10090

Survey date: 2/10/2014
Species & Lifestage: COp,Pp

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C074S090E **Quad:** Ketchikan B-6

Findings: We conducted a foot survey of Whipple Creek (Table 1). This stream's anadromous reach ends at a 24' falls (Figure 1).

Recommendations: Please update this stream's mapped course to reflect the field-verified route (Figure 2). Additionally, there are no nominations indicating coho present for this stream, and the pink salmon were only observed in the intertidal.

Nomination: 14-615

Table 1.-101-47-10090 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
48	55.4380	-131.8005	Just above a second 10' falls at tidewater. Too incised for us to get down and measure. Only a short distance from the larger falls upstream. Falls height is 24' vertical.		
47	55.4383	-131.8006	Falls on Whipple Creek. Looks like a deep plunge pool, but it is unsafe for us to get down the cliff face to measure. However, the falls are about 25-30' vertical drop. They are quite impressive.		

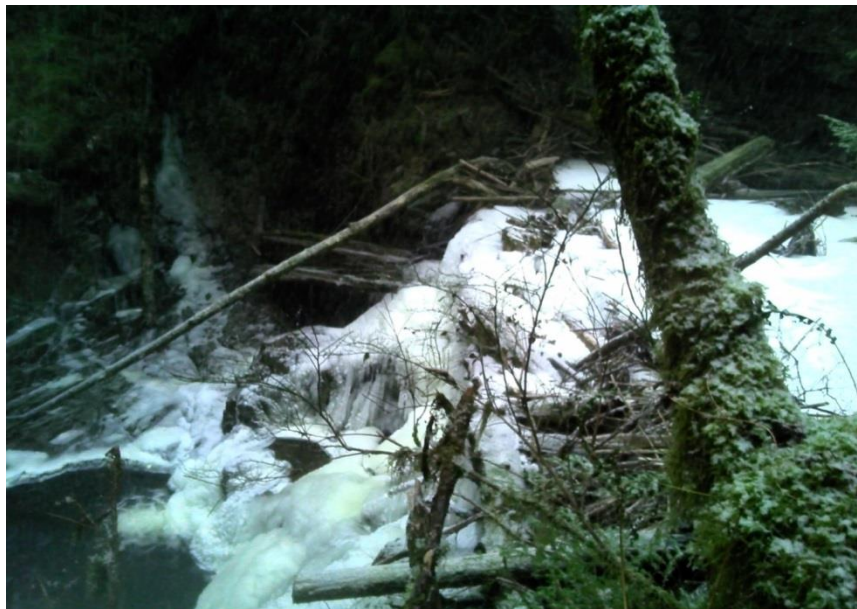


Figure 1.-Barrier Falls on Whipple Creek.

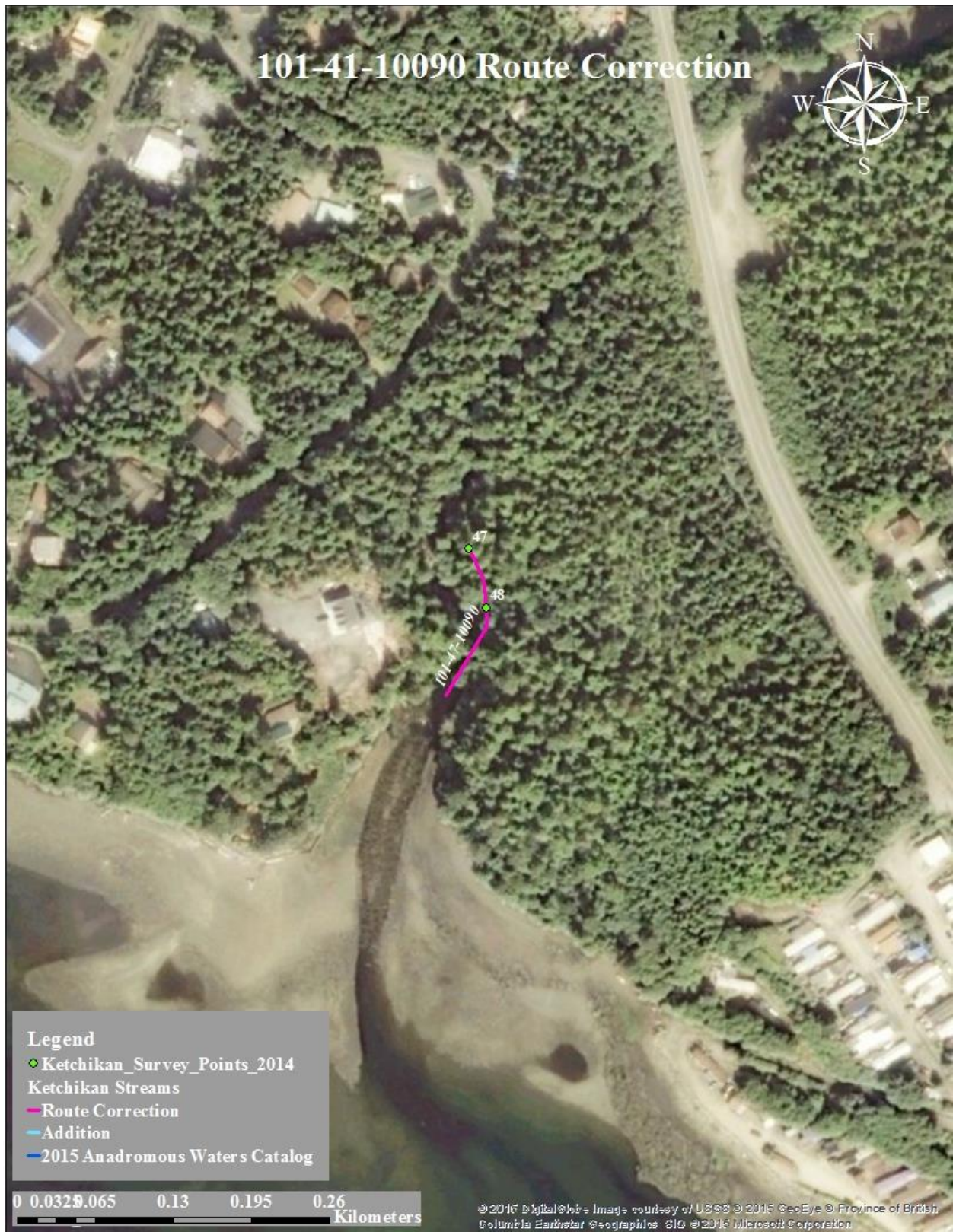


Figure 2.—101-47-10090 route correction map.

Ketchikan

101-47-10111

CORRECTION

Water body name:

Survey date: 2/11/2014

Water body number: 101-47-10111

Species & Lifestage: Ps

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C074S090E **Quad:** Ketchikan B-6

Findings: We conducted a foot survey of this stream using a GPS (Table 1). This stream's actual course differs from that illustrated in the AWC. The stream's anadromous reach ends at a perched culvert.

Recommendations: Update this stream's mapped route to reflect the field verified course (Figure 1).

Nomination: 14-616

Table 1.–101-47-10111 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
49	55.4256	-131.7828	"Unknown" stream on Collins Drive.		
50	55.4259	-131.7812	Outlet of baffled culvert. Pink salmon bones littered the bank the whole way up.		
51	55.4262	-131.7807	Inlet of culvert.		
52	55.4273	-131.7795	Confluence of flow from perched culvert and mainstem. Log jam tangle, iron sediment covering the rocks.		
53	55.4276	-131.7796	Top of steep hillside with culvert outlet. Steep channel barrier.		

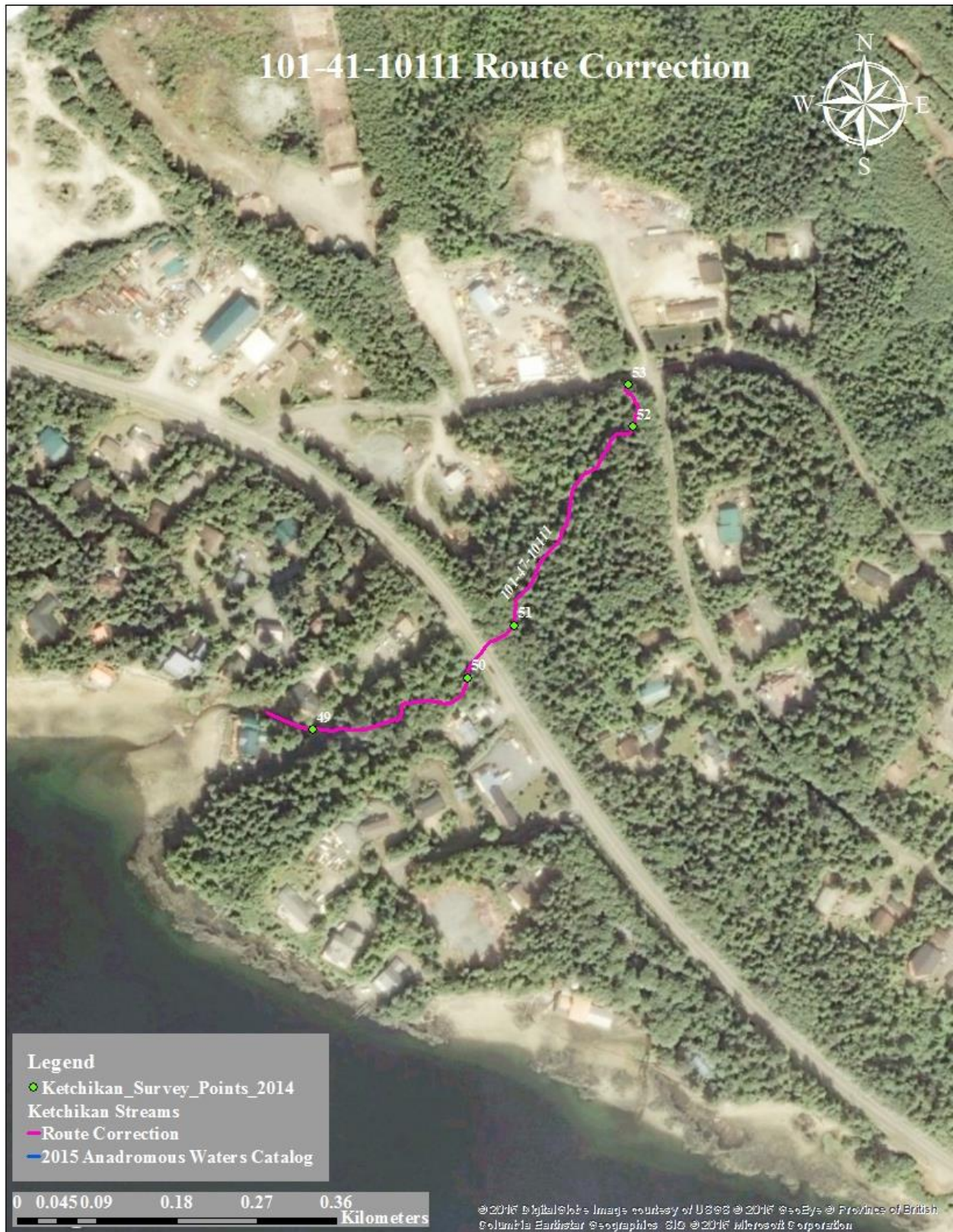


Figure 1.-101-47-10111 route correction map.

Ketchikan

101-47-10145**CORRECTION****Water body name:****Survey date:** 5/7/2014**Water body number:** 101-47-10145**Species & Lifestage:** COsr,Ps**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C074S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this stream using a backpack electrofisher and GPS (Table 1). This stream goes through a very nice culvert that provides easy fish passage (Figure 1). The actual course of this stream differs from that currently cataloged, but the upper extent remains the same.**Recommendations:** Update this stream's route to reflect the field verified course (Figure 2).**Nomination:** 14-256

Table 1.–101-47-10145 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
152	55.4102	-131.7138	At stream confluence.		
155	55.4105	-131.7138	Second stream from wpt 152 on river left.		
156	55.4113	-131.7121		EF	1 CT
157	55.4116	-131.7119		EF	2 RT
158	55.4119	-131.7116		EF	2 RT
159	55.4133	-131.7100		EF	2 CO
160	55.4138	-131.7097		EF	2 CO
161	55.4144	-131.7092		VI	1 CT
			Visual on 1 adult cutthroat trout.		
162	55.4147	-131.7090	Culvert under hwy. There is really nice gravels below and into the culvert. Gravels perfect for spawning.		
163	55.4156	-131.7082	Tributary on river right.	EF	1 DV
164	55.4157	-131.7082	Top of tributary. Becomes very overgrown with salmonberry and has lost decent flows.		
165	55.4161	-131.7073	Earthen dam here that would be very hard for anything to pass. Water is barely flowing through rootwads, passage limited to none.		
166	55.4165	-131.7070		EF	1 CT
167	55.4167	-131.7058	Calling it. Only been capturing resident fish.	EF	2 CT



Figure 1.–Culvert crossing on 101-47-10145.



Figure 2.—101-47-10145 route correction map.

Ketchikan

Ketchikan

101-47-10145-2005

CORRECTION

Water body name:

Survey date: 5/7/2014

Water body number: 101-47-10145-2005

Species & Lifestage: CO_r,Ps

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C074S090E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a backpack electrofisher and a GPS (Table 1). We end the survey at a bedrock chute that is about 300' long (Figure 1). This stream's actual route differs from that in the AWC.

Recommendations: Update this stream's course to reflect the field verified route in the AWC (Figure 2).

Nomination: 14-610

Table 1.–101-47-10145-2005 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
152	55.4102	-131.7138	At stream confluence.		
153	55.4111	-131.7154		EF	1 CT
154	55.4113	-131.7150	From this point down, there was a bedrock section about 300' long.	EF	No Fish

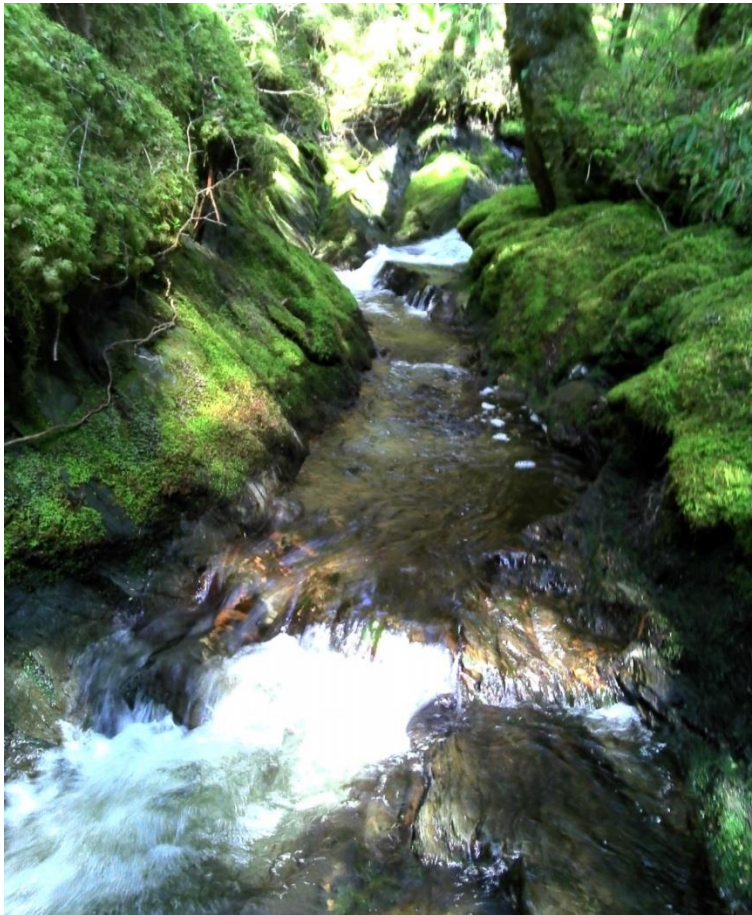


Figure 1.–Portion of bedrock reach on 101-47-10145-2005.



Figure 2.—101-47-10145-2005 route correction map.

Ketchikan

101-47-10200

CORRECTION

Water body name: Hoadley Creek
Water body number: 101-47-10200

Survey date: 5/6/2014
Species & Lifestage: COp,Ps

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C075S090E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a minnow trap and a GPS (Table 1). We ended the survey at a perched culvert that had a very deep and large pool at base (Figure 1). The culvert is long enough to impede fish passage. The stream's actual route differs significantly from the currently cataloged route.

Recommendations: Update this stream's course to reflect the field verified route (Figure 2).

Nomination: 14-618

Table 1.–101-47-10200 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
21	55.3530	-131.6881	Hoadly Creek's tidewater influence.		
22	55.3532	-131.6882	Bridge for Tongass Hwy.		
23	55.3540	-131.6876	Culvert here, believe that this is the upper limit for anadromy.		
24	55.3540	-131.6865	Inlet of culvert about 150' long, with a 45 degree bend in the middle. Baffles could aid upstream migration.		
206	55.3541	-131.6866	On Hoadly Creek above the superculvert	MT	3 DV, 4 CT
207	55.3558	-131.6855	Accurate upper limit if culvert is not a barrier.		



Figure 1.–Hoadley Creek barrier culvert.



Figure 2.—101-47-10200 route correction map.

Ketchikan

101-47-10300

CORRECTION

Water body name:

Survey date: 5/6/2014

Water body number: 101-47-10300

Species & Lifestage: CHp,Pp

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C075S091E **Quad:** Ketchikan B-5

Findings: We surveyed this stream using a backpack electrofisher, minnow traps and a GPS (Table 1). This stream has a box culvert barrier to upstream migration; there is no jump pool (Figure 1). I called Mark Eisenman with the culvert project in Anchorage; my suspicions were confirmed that fish cannot pass.

Recommendations: Adjust the upper limit of anadromy to reflect the field verified route (Figure 2).

Nomination: 14-624

Table 1.–101-47-10300 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
17	55.3151	-131.5916	Mouth of uncatalogued creek.		
18	55.3165	-131.5927	Fished a possible rainbow juvenile. Outlet of huge box culvert. Residents upstream claim to never have seen a single salmon make it above the culvert.	EF	RT
19	55.3167	-131.5925	Set trap upstream of box culvert in calm pool on RR.	MT	No Fish



Figure 1.–101-47-10300 culvert barrier in the winter.



Figure 2.—101-47-10300 route correction map.

Ketchikan

101-47-10320-2021

CORRECTION

Water body name:

Survey date: 5/8/2014

Water body number: 101-47-10320-2021

Species & Lifestage: CO

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C075S090E **Quad:** Ketchikan B-6

Findings: We conducted a survey of this stream and visually observed rearing coho salmon (Table 1). This creek's upper limit and route differs from that illustrated in the Catalog. The upper limit has been filled to accommodate the Gravina Island Highway (Figures 1, 2).

Recommendations: Update this stream to accurately reflect the field verified route, from waypoint 215 to 234 (Figure 3).

Nomination: 14-587

Table 1.–101-47-10320-2021 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
236	55.3202	-131.6696	Stopping here. Becomes a beaver pond.		
215	55.3194	-131.6707	Culvert inlet, tracking up.		
216	55.3194	-131.6710	Tributary entering river right. Coho young are visible throughout this area. Huge rearing habitat.	VL	CO
232	55.3196	-131.6718		VL	5 CO
233	55.3198	-131.6721		VL	3 CO
234	55.3200	-131.6727	Top of stream. Ends at a culvert under the road. Stream was disconnected.		
235	55.3194	-131.6721		VL	3 CO



Figure 1.–Filled upper limit on Stensland tributary.



Figure 2.–Looking downstream at intermittent pools on Stensland tributary.



Figure 3.-101-47-10320-2021 route correction map.

Ketchikan

101-47-10320-2021-3015**ADDITION****Water body name:****Survey date:** 5/8/2014**Water body number:** 101-47-10320-2021-3015**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C075S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this tributary using a minnow trap, visual identification and GPS (Table 1). This creek provides excellent rearing habitat for juvenile coho salmon, as evident by their proliferation throughout.**Recommendations:** Add this stream to the AWC (Figure 1).**Nomination:** 14-588

Table 1.–101-47-10320-2021-3015 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
232	55.3196	-131.6718		VL	5 CO
235	55.3194	-131.6721		VL	3 CO
247	55.3191	-131.6720		MT	3 CO
246	55.3190	-131.6720			

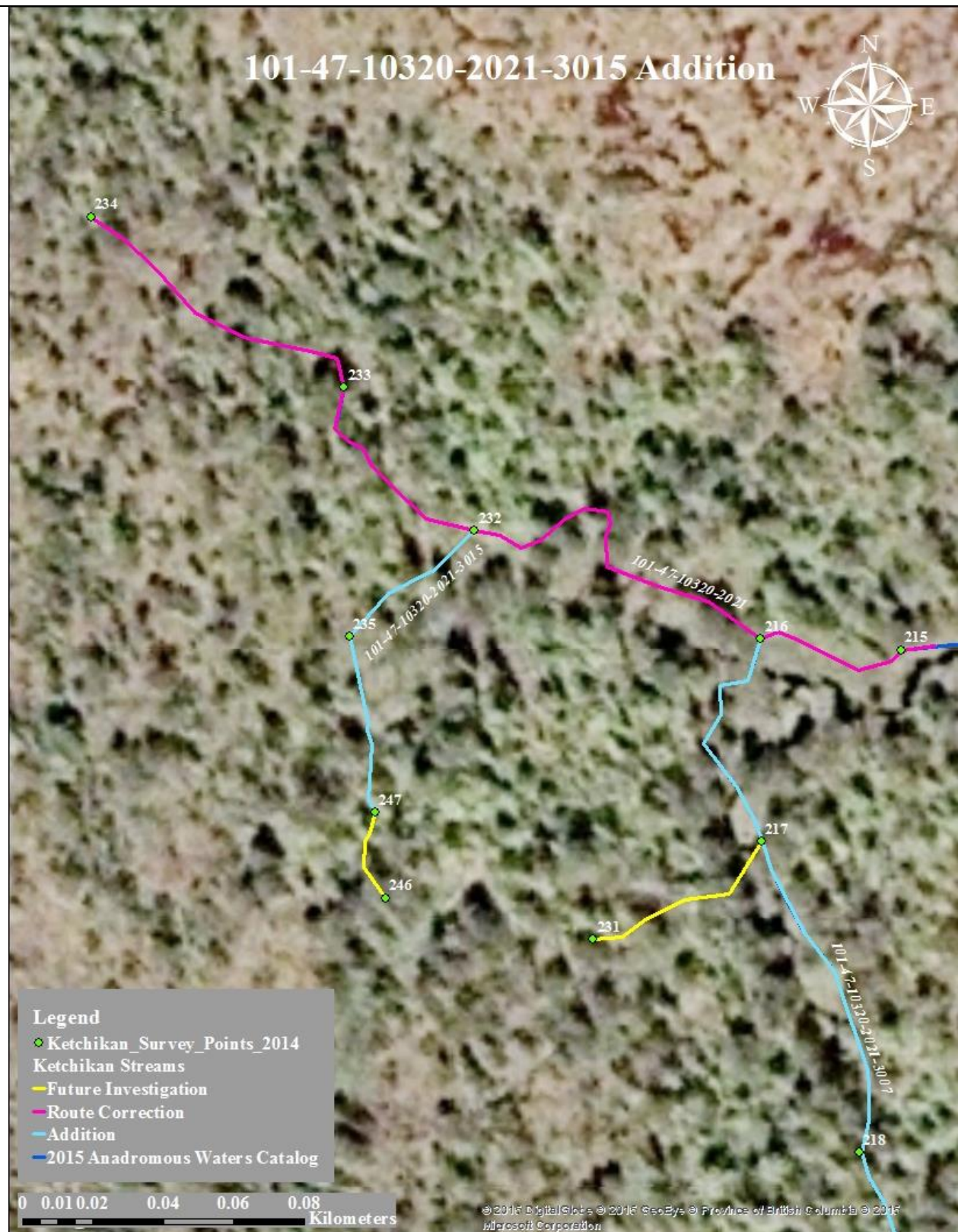


Figure 1.-101-47-10320-2021-3015 addition map.

Ketchikan

101-47-10320-2021-3007**ADDITION****Water body name:****Survey date:** 5/8/2014**Water body number:** 101-47-101320-2021-3007**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C075S090E **Quad:** Ketchikan B-6**Findings:** We surveyed stream number 101-47-10320-2021-3007 using visual identification, handnet, and a GPS (Table 1). This creek provides excellent rearing habitat for rearing coho salmon, as evident by their proliferation throughout.**Recommendations:** Add this stream to the AWC (Figure 1).**Nomination:** 14-590

Table 1.–101-47-10320-2021-3007 data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
216	55.3194	-131.6710	Trib entering RR. Coho young are visible throughout this area. Huge rearing habitat. Caught multiple coho.	VI	CO
217	55.3191	-131.6710	Multiple coho caught.	VI	CO
218	55.3186	-131.6708	Multiple coho caught.	VI	CO
219	55.3184	-131.6705	Small trib on RL to come back to.		
220	55.3180	-131.6695	Trib entering RR. Coho young are visible throughout this area. Huge rearing habitat.	HN	5 CO
221	55.3175	-131.6692	Stream is just a little bedrock chute at this point. Caught multiple coho.	VI	CO
222	55.3172	-131.6691		HN	3 CO
223	55.3169	-131.6691	Water floes are very low, have a couple of pools but water is barely flowing over rocks.		
224	55.3180	-131.6691		VI	6 CO
225	55.3179	-131.6687		HN	3 CO
226	55.3173	-131.6678		VI	10 CO
227	55.3171	-131.6674		VI	3 CO
228	55.3167	-131.6675	Pool here with a trickle of water coming off 1' drop. Water is draining from meadow.	HN	4 CO

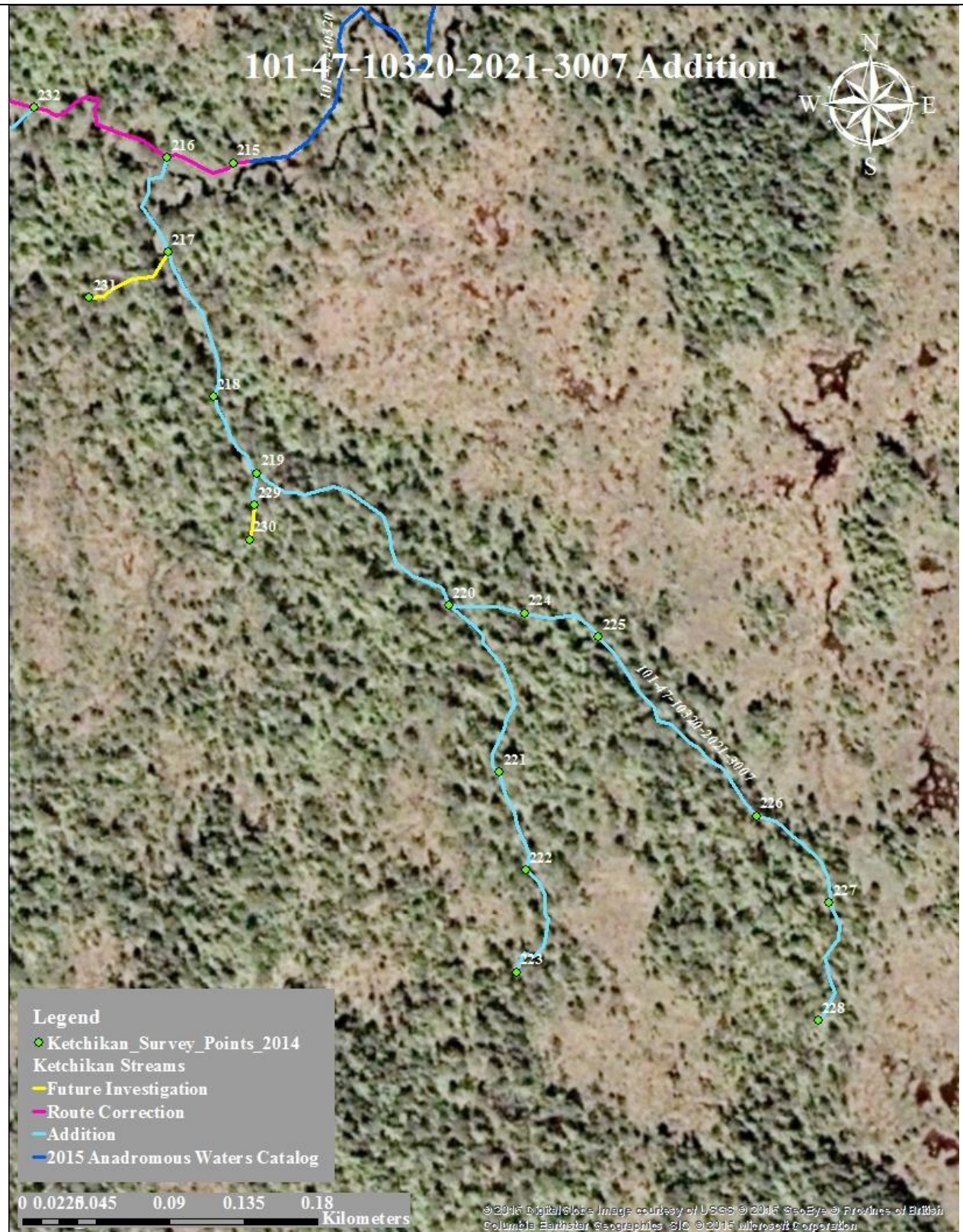


Figure 1.–101-47-10320-2021-3007 addition map.

Ketchikan

101-47-10320-2021-3007-4030**ADDITION****Water body name:****Survey date:** 5/8/2014**Water body number:** 101-47-10320-2021-3007-4030**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C075S090E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a handnet, visual identification, and a GPS (Table 1). This creek provides excellent rearing habitat for juvenile coho salmon, as evident by their proliferation throughout.

Recommendations: Please add this stream to the AWC (Figure 1).

Nomination: 14-589

Table 1.–101-47-10320-2021-3007-4030 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
220	55.3180	-131.6695	Trib entering RR. Coho young are visible throughout this area. Huge rearing habitat.	HN	5 CO
221	55.3175	-131.6692	stream is just a little bedrock chute at this point.	VI	Multi CO
222	55.3172	-131.6691		HN	3 CO 130mm
223	55.3169	-131.6691	Water flows are very low, have a couple of pools but water is barely flowing over rocks.		



Figure 1.-101-47-10320-2021-3007-4030 addition map.

Ketchikan

101-47-10320-2021-3007-4020**ADDITION****Water body name:****Survey date:** 5/8/2014**Water body number:** 101-47-10320-2021-3007-4020**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C075S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this tributary using a minnow trap and were also able to visual identify rearing coho salmon (Table 1). This small tributary provides excellent rearing habitat for juvenile coho salmon, and were observed throughout.**Recommendations:** Add this stream to the AWC (Figure 1).**Nomination:** 14-591

Table 1.–101-47-10320-2021-3007-4020 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
219	55.3184	-131.6705	Small tributary on river left.		
229	55.3183	-131.6706		VL	4 CO
230	55.3182	-131.6706	Water becomes a seepy trickle.	MT	No Fish



Figure 1.-101-47-10320-2021-3007-4020 addition map.

Ketchikan

101-47-10150**CORRECTION****Water body name:** Ward Creek**Survey date:** 5/7/2014**Water body number:** 101-47-10150**Species & Lifestage:** CHp,COp,Pp,Sp,DVp,SHp**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C074S090E **Quad:** Ketchikan B-6

Findings: We conducted a foot survey of Ward Creek and marked tributaries using a GPS to return to (Table 1). This is a very nice stream with good spawning habitat, which turns into more vegetation covered boulders as you get closer to dam (Figures 1, 2). This stream's actual route differs from that illustrated in the AWC.

Recommendations: Update the stream route to reflect the field verified course (Figure 3).

Nomination: 14-255

Table 1.–101-47-10150 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
61	55.4110	-131.6978	Ward Creek enters Ward Lake.		
62	55.4113	-131.6961	Bridge over Ward Creek to access forest service campground.		
63	55.4115	-131.6955	Tributary enters on river left.		
64	55.4161	-131.6940	Tributary enters on river left.		
65	55.4180	-131.6920	The inlet of side channel.		
66	55.4193	-131.6902	Tributary enters river left.		
67	55.4216	-131.6932	Tributary enters on river right.		
68	55.4218	-131.6918	Tributary enters river left.		
69	55.4226	-131.6928	Looks to be a small tributary. Just a seep.		
70	55.4228	-131.6918	Inlet of side channel that ends at WPT 68.		
71	55.4270	-131.6861	Tributary enters river left.		
72	55.4273	-131.6868	Tributary entering river right.		
73	55.4306	-131.6853	Tributary on river right.		
74	55.4323	-131.6851	Tributary on river right.		
75	55.4336	-131.6793	Tributary on river right.		
76	55.4332	-131.6756	Tributary on river left.		
77	55.4335	-131.6748	Inlet to side channel that ends at WPT 76		
78	55.4317	-131.6723	End of Ward Creek at the dam. No fish passage. Obviously.		



Figure 1.—Wintertime on Ward Creek.



Figure 2.—Dam on Ward Creek.

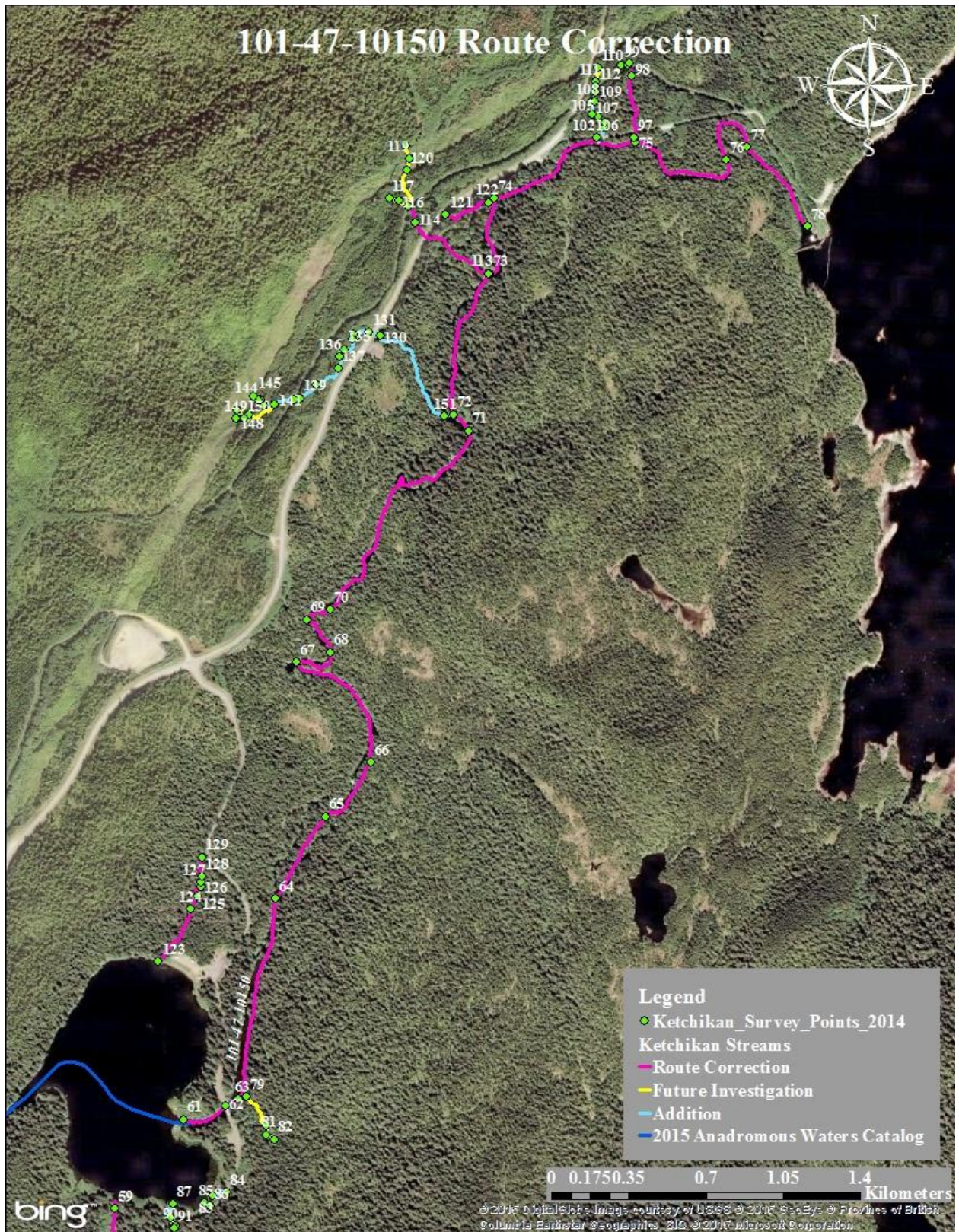


Figure 3.-101-47-10150 route correction map.

Ketchikan

Ketchikan

101-47-10150-2031**ADDITION****Water body name:****Survey date:** 5/6/2014**Water body number:** 101-47-10150-2031**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C070S094E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a backpack electrofisher and a GPS (Table 1). This stream provides excellent rearing habitat for juvenile coho salmon and also has good spawning gravels. This tributary passes under old wood culvert used for transporting water from Ward Creek dam (Figure 1). It is a tributary to Ward Creek.

Recommendations: Add this stream to the AWC (Figure 2).

Nomination: 14-595

Table 1.–101-47-10150-2031 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
72	55.4273	-131.6868	Tributary entering river right.		
151	55.4273	-131.6871	Confluence with Ward Creek		
130	55.4292	-131.6898	Outlet of huge culvert. This stream is not even on the map layer.		
131	55.4292	-131.6902	Inlet of culvert. Visual on many rearing coho.	EF	CO
132	55.4292	-131.6907	Tributary on river right.		
133	55.4292	-131.6908	Top of tributary; steepens, no water flowing.		
134	55.4291	-131.6909	Pool filled with baby coho sunning themselves!	VL	CO
135	55.4289	-131.6912		VL	CO
136	55.4287	-131.6914		VL	CO
137	55.4284	-131.6915		EF	3 CO
138	55.4280	-131.6923		EF	CO
139	55.4277	-131.6930	There are 3 concrete culverts	EF	CO
140	55.4277	-131.6933	Inlet of the culverts.	EF	3 CO
141	55.4276	-131.6941	Confluence of tributary, also where we meet the mapped stream.		
142	55.4276	-131.6945	Seeing many more coho than the one that we captured.	EF	1 CO
143	55.4277	-131.6946		EF	1 CO, 1 CT
144	55.4277	-131.6948	Earthen cascade here, shocking above. Have not seen a coho in a while.	EF	1 DV
145	55.4278	-131.6949	Only resident CTs up here.		



Figure 1.—Battery of three culverts under the Connell Lake penstock.



Figure 2.-101-47-10150-2031 addition map.

Ketchikan

Ketchikan

101-47-10150-2047**ADDITION****Water body name:****Survey date:** 5/7/2014**Water body number:** 101-47-10150-2047**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C070S094E **Quad:** Ketchikan B-6**Findings:** We surveyed this stream using a backpack electrofisher and a GPS (Table 1). This tributary to Ward Creek provides great rearing habitat for juvenile coho salmon.**Recommendations:** Add this stream to the AWC (Figure 1).**Nomination:** 14-597

Table 1.–101-47-10150-2047 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
102	55.4338	-131.6809	Outlet of tiny tributary into Ward Creek. Conveyance stream.		
103	55.4340	-131.6806	2 CO in slow water undercut bank.	EF	2 CO
104	55.4341	-131.6806	Captured in pool below riffle.	EF	2 CO
105	55.4342	-131.6808	Calm shallow pool.	EF	2 CO
106	55.4343	-131.6811	Rooty log jam pool.	EF	2 CO
107	55.4346	-131.6811	Pool below a small bedrock cascade.	EF	1 CO
108	55.4346	-131.6810	Below debris jam.	EF	2 CO
109	55.4348	-131.6810	Below debris jam and culvert.	EF	1 CO
110	55.4354	-131.6808	Top of creek. Flows from steep culvert onto huge sharp boulders. Not friendly to any living thing.		



Figure 1.-101-47-10150-2047 addition map.

Ketchikan

101-47-10150-2008**CORRECTION****Water body name:** Signal Creek**Survey date:** 5/5/2014**Water body number:** 101-47-10150-2008**Species & Lifestage:** COr,Ps,SHr**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C074S090E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a backpack electrofisher and a GPS (Table 1). We switched to a spawning survey after we found adult steelhead spawning in the stream. This creek's upper limit needs to be extended, because spawning steelhead were visually identified past the cataloged portion.

Recommendations: Extend the upper portion of this creek to reflect upper most pair of spawning steelhead (Figure 1).

Nomination: 14-611

Table 1.—101-47-10150-2008 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
59	55.4089	-131.7006	Mouth of Signal Creek into Ward Lake.		
60	55.4049	-131.7014	Stopping for today		
92	55.4065	-131.7006		EF	1 RT
93	55.4062	-131.7006		EF	1 RT, 1 P
94	55.4051	-131.7012		VI	SH
95	55.4013	-131.7020		VI	SH
96	55.4001	-131.7020	Calling it here, have not found a barrier for steelhead, but have not seen another in a long time. Not shocking for risk of injuring adult fish.		

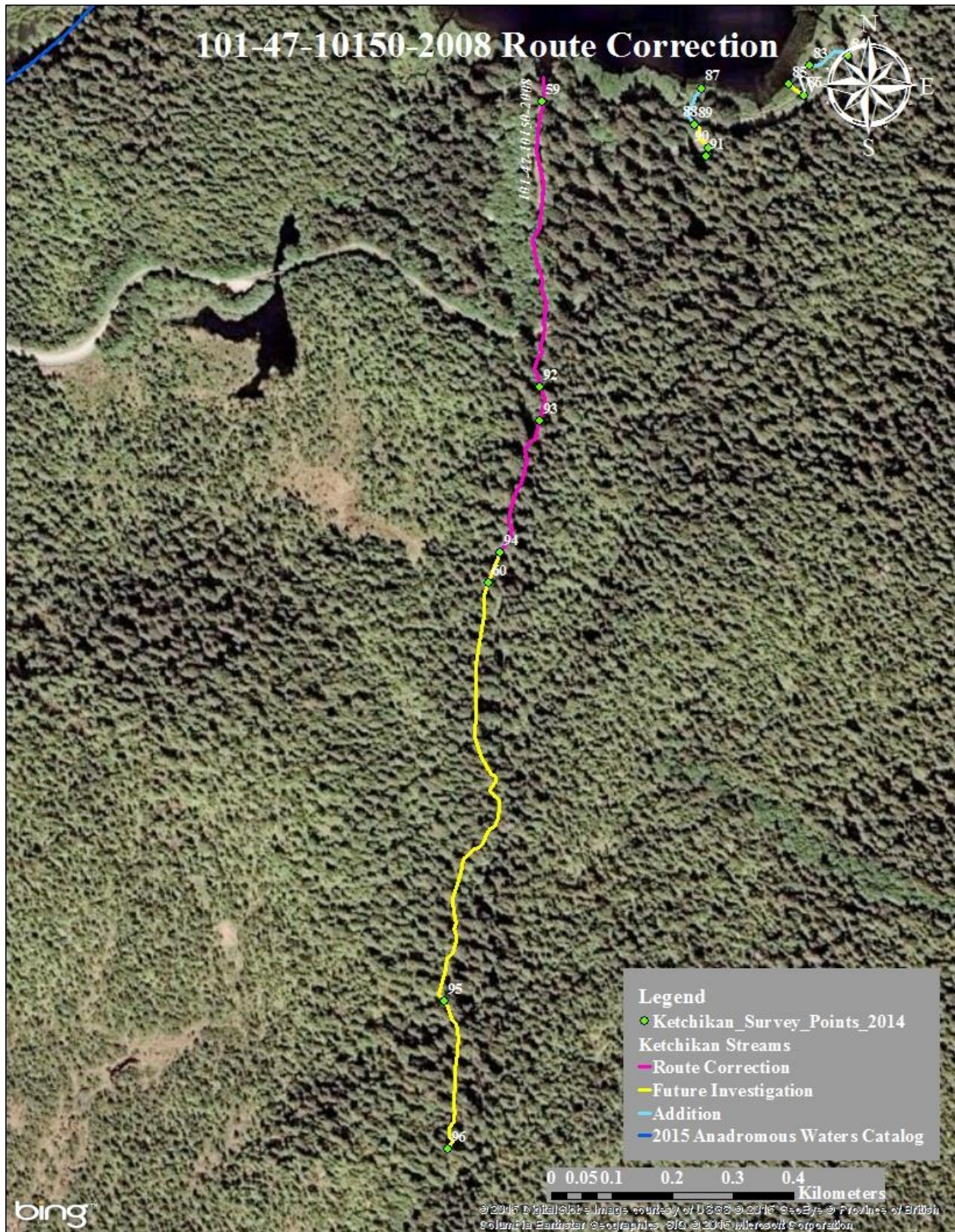


Figure 1.-101-47-10150-2008 route correction map.

Ketchikan

101-47-10150-2011**CORRECTION****Water body name:****Survey date:** 5/6/2014**Water body number:** 101-47-10150-2011**Species & Lifestage:** COsr**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C074S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this stream using a backpack electrofisher and a GPS (Table 1). This stream's actual course differs from that illustrated in the AWC.**Recommendations:** Update this stream's course to reflect the field verified route (Figure 1).**Nomination:** 14-612

Table 1.–101-47-10150-2011 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
123	55.4147	-131.6988	Mouth of small trib into Ward Creek.		
124	55.4159	-131.6975	Enjoying the sunny day.	VI	CO
125	55.4162	-131.6972	Young of the year.	EF	2 CO
126	55.4164	-131.6971		EF	1 RT
127	55.4165	-131.6971		EF	1 CT
128	55.4166	-131.6970	Also found a huge dorsal fin from a trout.	EF	1 CT
129	55.4171	-131.6970	Top of creek where it hits the road. No coho, only cuts and dollies. A huge, tightly packed mangle of debris here.		



Figure 1.-101-47-10150-2011 route correction map.

Ketchikan

101-47-10150-2035**CORRECTION****Water body name:****Survey date:** 5/7/2014**Water body number:** 101-47-10150-2035**Species & Lifestage:** COR**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C070S094E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a backpack electrofisher and a GPS (Table 1). This stream passes through a battery of three culverts that may impact fish passage (Figure 1). This stream's lower limit, upper limit, and route differ from that currently cataloged. It does not make a 90-degree angle; the stream ends at waypoint 115.

Recommendations: Update this stream to reflect the field verified route and upper limit (Figure 2).

Nomination: 14-596

Table 1.—101-47-10150-2035 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
113	55.4306	-131.6853	Mouth of tributary into Ward Creek.		
114	55.4318	-131.6883	Battery of 3 concrete culverts below the Connell Lake penstock.		
115	55.4322	-131.6886	Inlet of 3 culverts, one is a separate tributary on river right.		
116	55.4323	-131.6890	Tributary steepens upward to the road, flat cobble, low flows, not many places to fish.		
117	55.4324	-131.6894	Top of steep, rooty section. Ends at a perched pipe. No passage, no fish.		
118	55.4336	-131.6887	Large resident fish. Not shocking anymore because this seems to be a resident reach with large adults.	EF	2 DV
119	55.4333	-131.6885	Pocket dial.		
120	55.4330	-131.6887	Large resident cutthroat.	EF	1 CT



Figure 1.—Battery of 3 concrete culverts on 101-47-10150-2035.

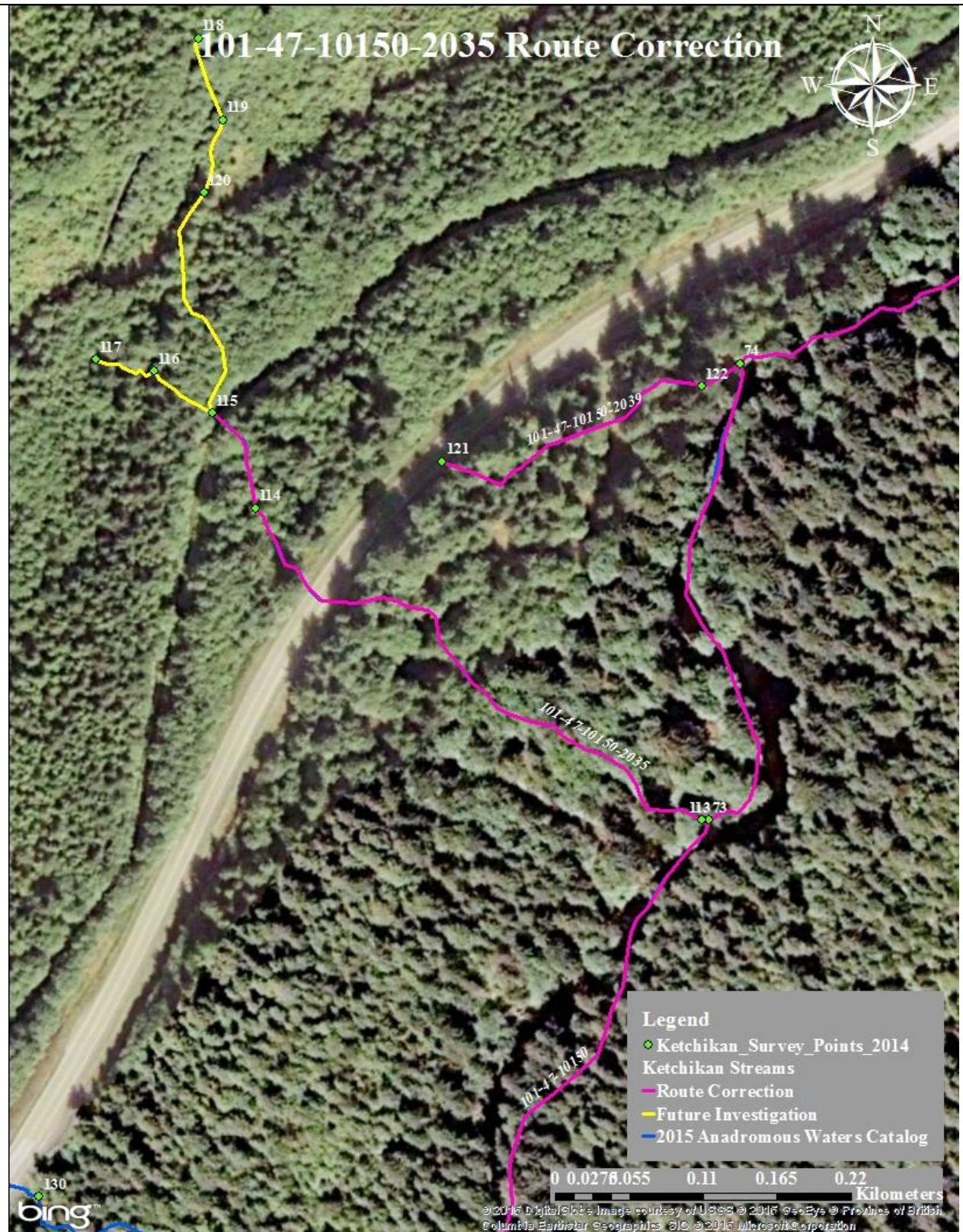


Figure 2.—101-47-10150-2035 route correction map.

Ketchikan

Ketchikan

101-47-10150-2039**CORRECTION****Water body name:****Survey date:** 5/6/2014**Water body number:** 101-47-10150-2039**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C074S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this tributary using a handnet, visual identification, and a GPS (Table 1). This tributary's actual course differs from that illustrated in the AWC.**Recommendations:** Update this stream's mapped course to reflect the field verified route (Figure 1).**Nomination:** 14-613

Table 1.–101-47-10150-2039 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
74	55.4323	-131.6851	Tributary on river right.		
221	55.3175	-131.6692	Stream is going through a little bedrock chute at this point. Captured multiple rearing coho salmon.	VL	CO
222	55.3172	-131.6691	Handnetted 2 CO about 130mm.	HN	3 CO



Figure 1.-101-47-10150-2039 route correction map.

Ketchikan

101-47-10150-2049**CORRECTION****Water body name:****Survey date:** 5/6/2014**Water body number:** 101-47-10150-2049**Species & Lifestage:** COsr**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C074S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this stream using a backpack electrofisher and a GPS (Table 1). Fish passage on this stream ends at a series of badly mangled culverts. Sampling efforts above the barrier only yielded Dolly Varden.**Recommendations:** Update the stream course to reflect the field verified route (Figure 1).**Nomination:** 14-614

Table 1.–101-47-10150-2049 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
75	55.4336	-131.6793	Tributary on river right.		
97	55.4337	-131.6794	Begin tracking first tributary downstream from Connell Lake dam.		
98	55.4352	-131.6795	Huge old concrete culverts, likely a barrier as they are broken in two places and are a jumbled mess.		
99	55.4354	-131.6799	Sampling above culvert barrier. DVs only. This stream forks.	EF	DV
100	55.4354	-131.6796	Stream forks at a double culvert.		
101	55.4355	-131.6796	Sampled above double culverts.	EF	1 DV, 1 RT



Figure 1.-101-47-10150-2049 route correction map.

Ketchikan

101-47-10165

CORRECTION

Water body name:

Survey date: 2/6/2014

Water body number: 101-47-10165

Species & Lifestage: Ps

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C075S090E **Quad:** Ketchikan B-6

Findings: We conducted a foot survey of this stream using a GPS (Table 1). This stream's cataloged route is not consistent with the field verified route.

Recommendations: Update this stream's course in the AWC to reflect the field verified route (Figure 1).

Nomination: 14-635

Table 1.–101-47-10165 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
30	55.3797	-131.7320	Stream meets tidewater influence.		
31	55.3800	-131.7322	Culvert outlet under side street.		
32	55.3801	-131.7322	Culvert inlet. Ditch piped from under a driveway also enters here, but pipe is perched 1.5' with no pool at the base.		
33	55.3802	-131.7323	Another culvert outlet, this one is under the back corner of the property. Culvert has baffles in it, looks to be half a culvert, has the natural streambed as a bottom.		
34	55.3803	-131.7324	Culvert inlet.		
35	55.3804	-131.7324	Culvert outlet where stream crosses Tongass Highway.		

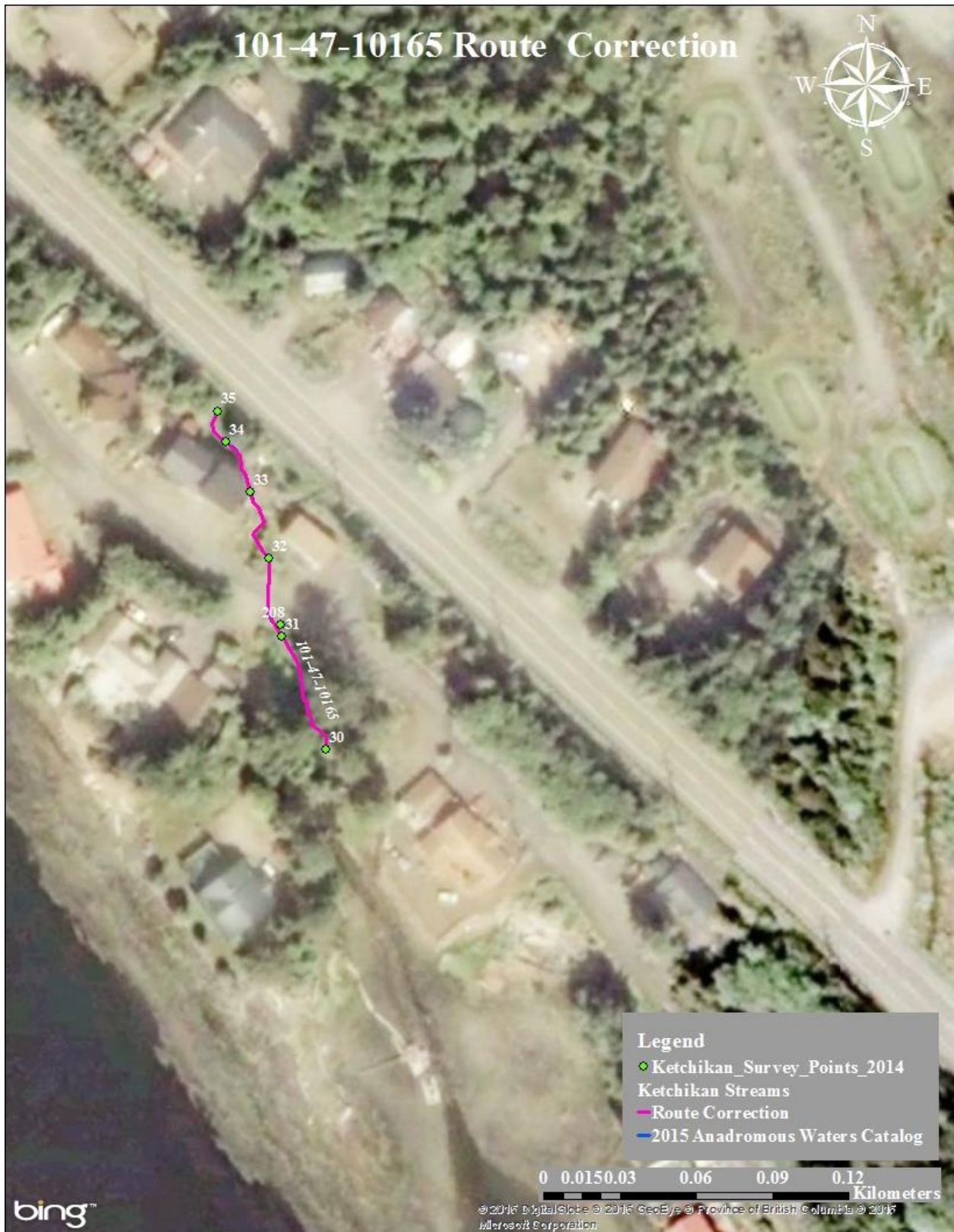


Figure 1.-101-47-10165 route correction map.

Ketchikan

101-47-10180

CORRECTION

Water body name: Carlanna Creek

Survey date: 2/9/2014

Water body number: 101-47-10180

Species & Lifestage: CHp,COp,Pp

Watershed: Carlanna Creek-Frontal Tongass Narrows

MTR: C075S090E **Quad:** Ketchikan B-6

Findings: We conducted a foot survey of Carlanna Creek using a GPS (Table 1). Upon walking the entirety of this creek, we found several places where fish passage could be restricted and that the upper limit is a waterfall approximately 80 feet tall (Figures 1, 2). Anadromy most certainly does not extend to the lake as currently cataloged.

Recommendations: Update the route of this creek to reflect the field verified upper extent at waypoint 28 (Figure 3).

Nomination: 14-586

Table 1.—101-47-10180 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
25	55.3578	-131.6962	Just above tide influence on Carlanna Creek.		
26	55.3582	-131.6950	A small falls here, about 5', with a decent jump pool at the base.		
27	55.3661	-131.6952	Tributary entering on river right.		
28	55.3667	-131.6946	80' falls here, this is the top of Carlanna Creek. This drains from the dam above.		

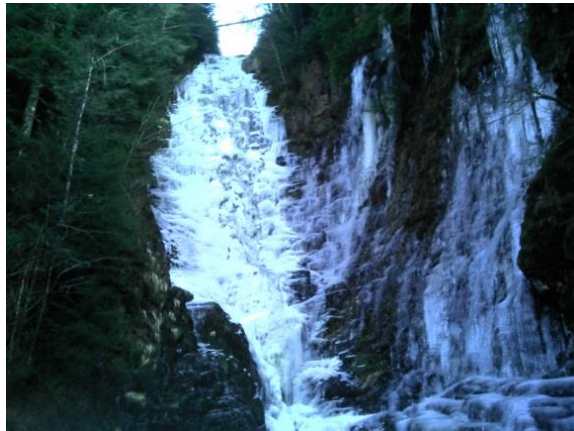


Figure 1.—Waterfall barrier on Carlanna Creek.



Figure 2.—Surveying Carlanna Creek.



Figure 3.—101-47-10180 route correction map.

Ketchikan

101-90-10690

Water body name: Second Waterfall Creek

Water body number: 101-90-10690

Watershed: Naha River-Frontal Behm Canal

MTR: C074S090E **Quad:** Ketchikan B-6

Findings: This stream terminates in a 25-30 foot waterfall at tidewater (Figure 1). The photos taken in the winter show the high tide line in the ice on the falls.

Recommendations: Remove this stream from the AWC (Figure 2). Note: as of 2015, this stream has been shortened to the road, not delisted, as it is an index stream.

Nomination: 14-593

CORRECTION

Survey date: 2/9/2014

Species & Lifestage: Pp



Figure 1.—Waterfall barrier at tideline on Second Waterfall Creek.

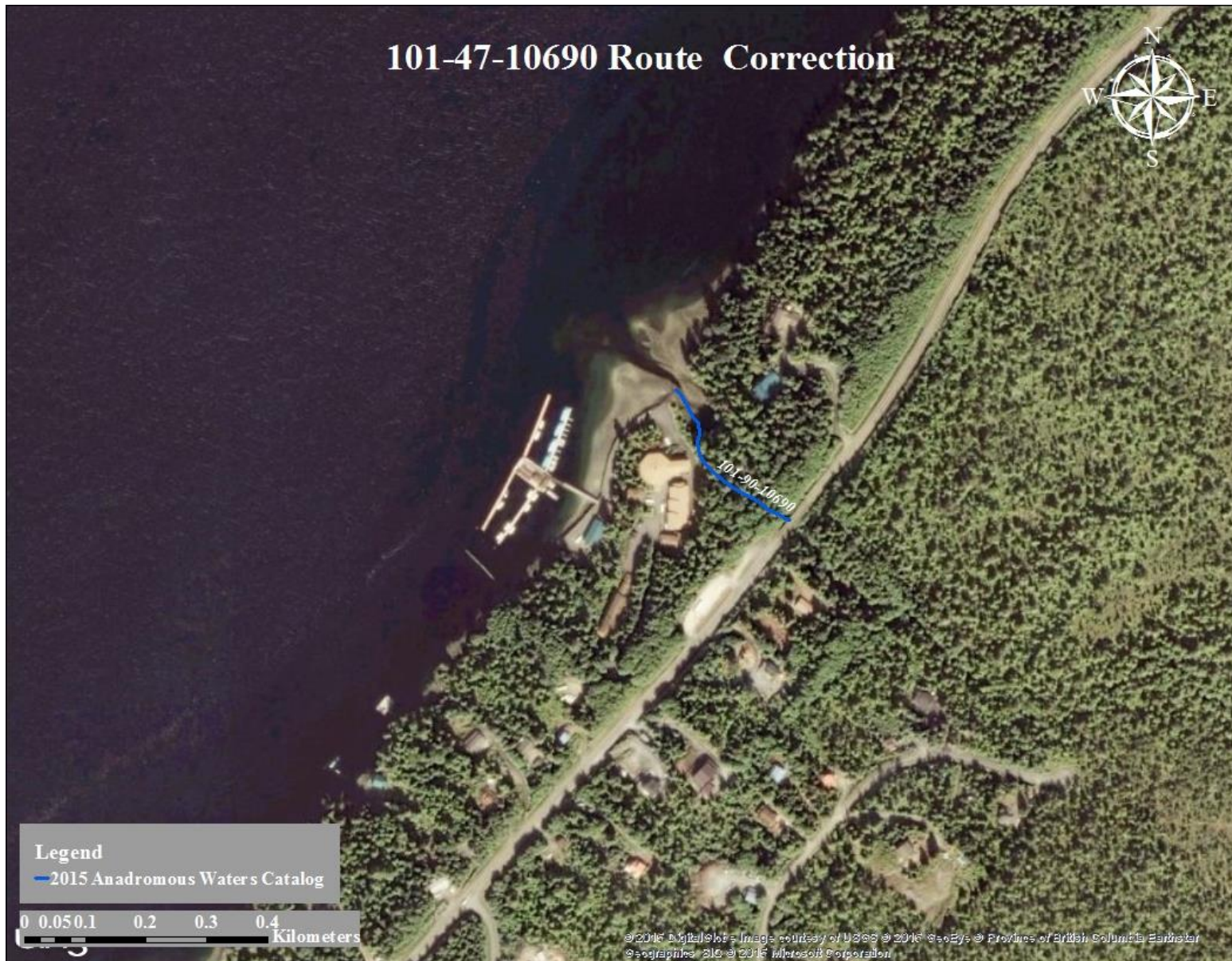


Figure 2.—101-90-10690 correction map.

Ketchikan

101-90-10695

CORRECTION

Water body name: First Waterfall Creek

Survey date: 2/9/2014

Water body number: 101-90-10695

Species & Lifestage: Pp

Watershed: Naha River-Frontal Behm Canal

MTR: C074S090E **Quad:** Ketchikan B-6

Findings: This stream terminates in a 25-30 foot waterfall at tidewater (Figures 1, 2). The photos taken in the winter show the high tide line in the ice on the falls.

Recommendations: Remove this stream from the AWC (Figure 3). Note: as of 2015, this stream has been shortened to the road, not removed, as it is an index stream.

Nomination: 14-592



Figure 1.—Waterfall barrier at tideline on First Waterfall Creek.

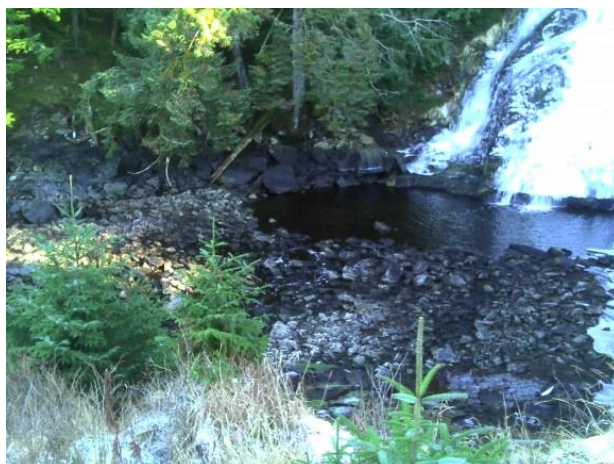


Figure 2.—Tideline in the ice on First Waterfall Creek.

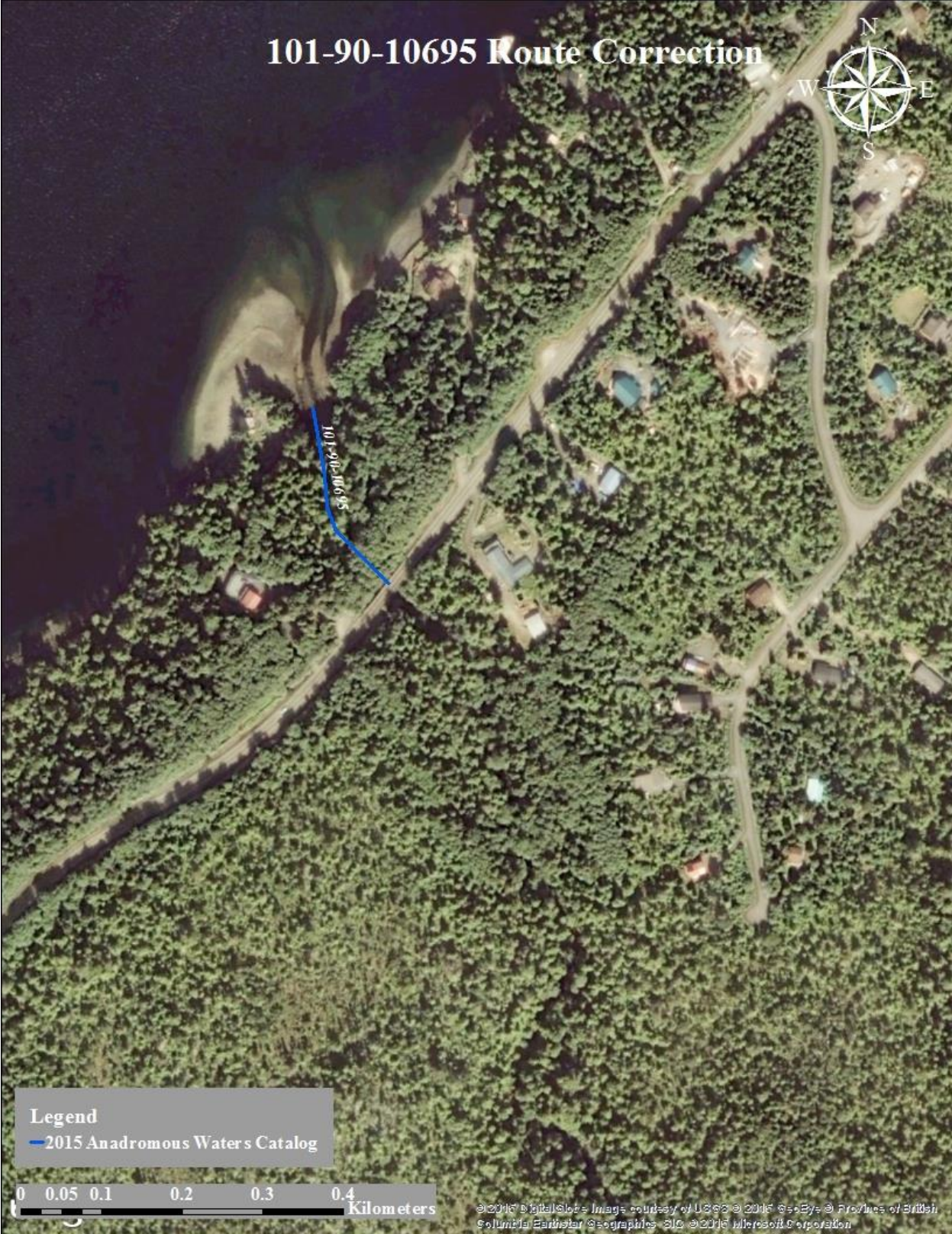


Figure 3.-101-90-10695 correction map.

Ketchikan

101-90-10700

CORRECTION

Water body name: 1st Waterfall Creek

Survey date: 5/7/2014

Water body number: 101-90-10700

Species & Lifestage: Pp, COr

Watershed: Naha River-Frontal Behm Canal

MTR: C074S090E **Quad:** Ketchikan B-6

Findings: We conducted a foot survey using a GPS (Table 1). This stream's currently cataloged route is inconsistent with the actual field verified route. Additionally, juvenile coho salmon were captured in a tributary to this stream, so coho rearing needs to be added to the AWC database. We ended the survey at a 25' waterfall where there are old dam remains (Figure 1).

Recommendations: Please update this stream's route to reflect the field verified route, and add COr to the AWC database (Figure 2).

Nomination: 14-620

Table 1.—101-90-10700 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
39	55.4732	-131.7892	Stream forks, tracking main flow.		
40	55.4724	-131.7882	Culvert outlet that goes under tongass ave, has good pool at base but is perched 2' and there are several pipes in and around this area.		
41	55.4723	-131.7880	Culvert inlets, pipes enter river left of culvert.		
42	55.4709	-131.7855	30' barrier falls here. Looks like there is an old dam at the to where the channel narrows. Wood culvert also at the base of the falls.		

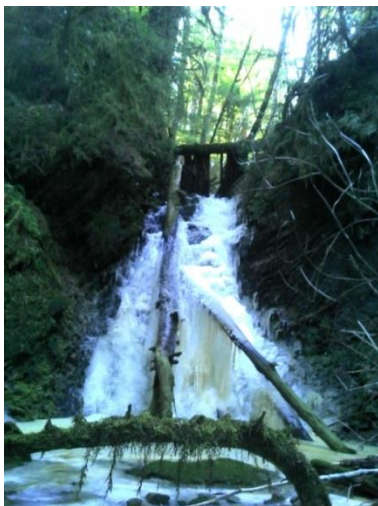


Figure 1.—Barrier falls on 1st Waterfall Creek.

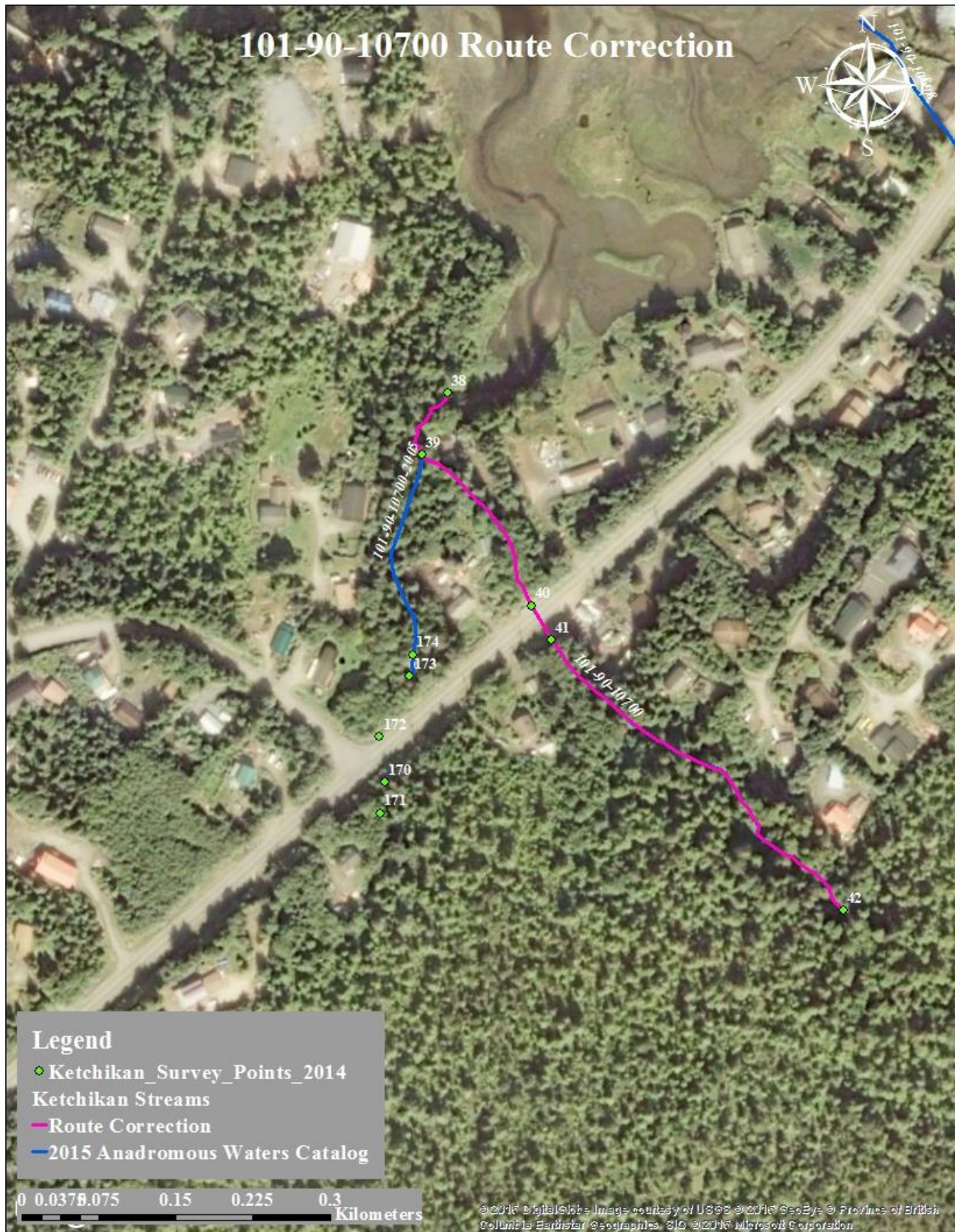


Figure 2.—101-90-10700 route correction map.

Ketchikan

101-90-10700-2005**ADDITION****Water body name:****Survey date:** 5/7/2014**Water body number:** 101-90-10700-2005**Species & Lifestage:** COOr, CTp**Watershed:** Naha River-Frontal Behm Canal**MTR:** C074S090E **Quad:** Ketchikan B-6

Findings: We surveyed this stream using a backpack electrofisher and a GPS (Table 1). This stream provides rearing habitat for juvenile coho salmon, however, it has become quite a disgusting stream due to human impacts.

Recommendations: Add this stream to the AWC and wear a biohazard suit for any future surveys (Figure 1).

Nomination: 14-621

Table 1.–101-90-10700-2005 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
39	55.4732	-131.7892	Stream forks, tracking main flow.		
170	55.4716	-131.7895	Inlet culvert on N Tongass.		
171	55.4714	-131.7895	No fish captured. Marginal habitat.	EF	No Fish
172	55.4718	-131.7895	Culvert outlet. Connect with WPT 39 from 2/9.	EF	1 CT
173	55.4721	-131.7893		EF	3 CT, 2 CO
174	55.4722	-131.7892		EF	2 CT, 3 CO

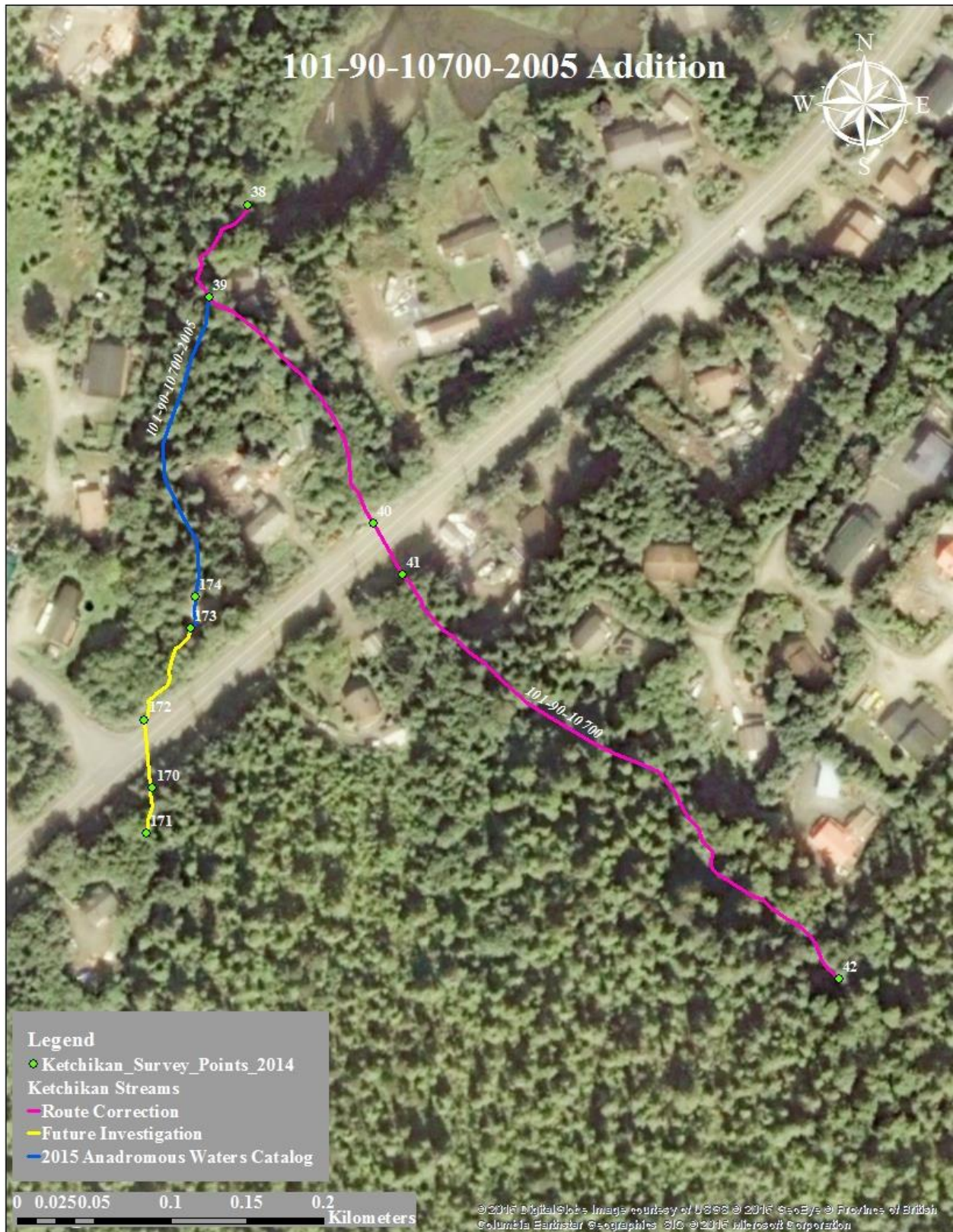


Figure 1.—101-90-10700-2005 addition map.

Ketchikan

101-47-10306**ADDITION****Water body name:****Survey date:** 5/9/2014**Water body number:** 101-47-10306**Species & Lifestage:** CO**Watershed:** Carlanna Creek-Frontal Tongass Narrows**MTR:** C070S090E **Quad:** Ketchikan B-6**Findings:** We surveyed this stream using a minnow trap and a GPS (Table 1). This stream provides excellent rearing habitat for juvenile coho salmon, which were observed throughout.**Recommendations:** Add this stream to the AWC (Figure 1).**Nomination:** 14-612

Table 1.–101-47-10306 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
245	55.3179	-131.6506	Outlet of uncataloged stream.		
214	55.3147	-131.6558	Set minnow trap near outlet of culvert under Airport road.	MT	14 CO



Figure 1.- 101-47-10306 addition map.

Ketchikan

101-45-10068

ADDITION

Water body name:

Survey date: 5/8/2014

Water body number: 101-45-10068

Species & Lifestage: CO

Watershed: Carroll Inlet-Frontal Revillagigedo Channel

MTR: C075S091E **Quad:** Ketchikan B-5

Findings: We conducted several trapping events using minnow traps and a GPS (Table 1). We captured smolty coho salmon in every trapping event (Figures 1, 2). This stream provides rearing habitat for juvenile coho salmon.

Recommendations: Add this stream to the AWC (Figure 3).

Nomination: 14-650

Table 1.–101-45-10068 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
209	55.3246	-131.5258	This is the lowest point of ditch creek on Herring Cove. Was filled in with large rocks for road expansion.		
210	55.3246	-131.5258	WPT 185 trap results.	MT	3 CO
211	55.3245	-131.5257	Culvert under Wood Drive.		
212	55.3243	-131.5256	Culvert under private driveway.		
213	55.3242	-131.5255		MT	11 CO
248	55.3234	-131.5254			



Figure 1.–Coho captured in Herring Cove ditch.



Figure 2.–Coho captured in Herring Cove ditch.



Figure 3.—101-45-10068 addition map.

Ketchikan

KETCHIKAN STREAMS REQUIRING FUTURE INVESTIGATION

Table 1.—Start points of Ketchikan streams requiring future investigation.

Waypoint	Latitude	Longitude
1	55.4087	-131.6980
2	55.4354	-131.6800
3	55.4276	-131.6950
4	55.4276	-131.6940
5	55.4272	-131.6960
6	55.4153	-131.7080
7	55.3305	-131.5150
8	55.3078	-131.6950
9	55.3661	-131.6950
10	55.4051	-131.7010
11	55.4346	-131.6810
12	55.4322	-131.6890
13	55.4322	-131.6890
14	55.4156	-131.7080
15	55.4721	-131.7890
16	55.3183	-131.6710
17	55.3191	-131.6710
18	55.3191	-131.6720

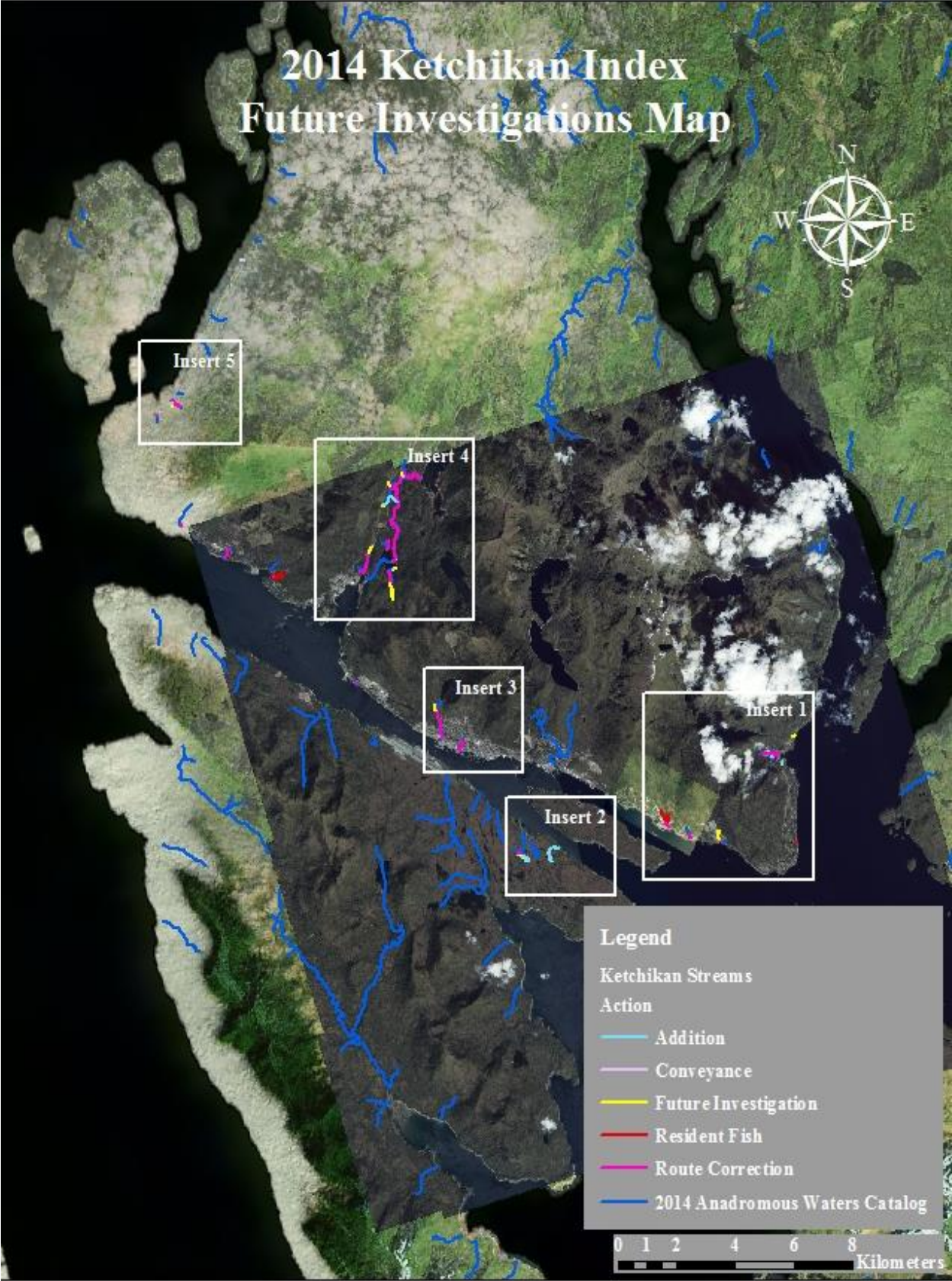


Figure 1.—2014 Ketchikan index future investigation map.

Ketchikan



Figure 2.—Insert 1 map.

Ketchikan

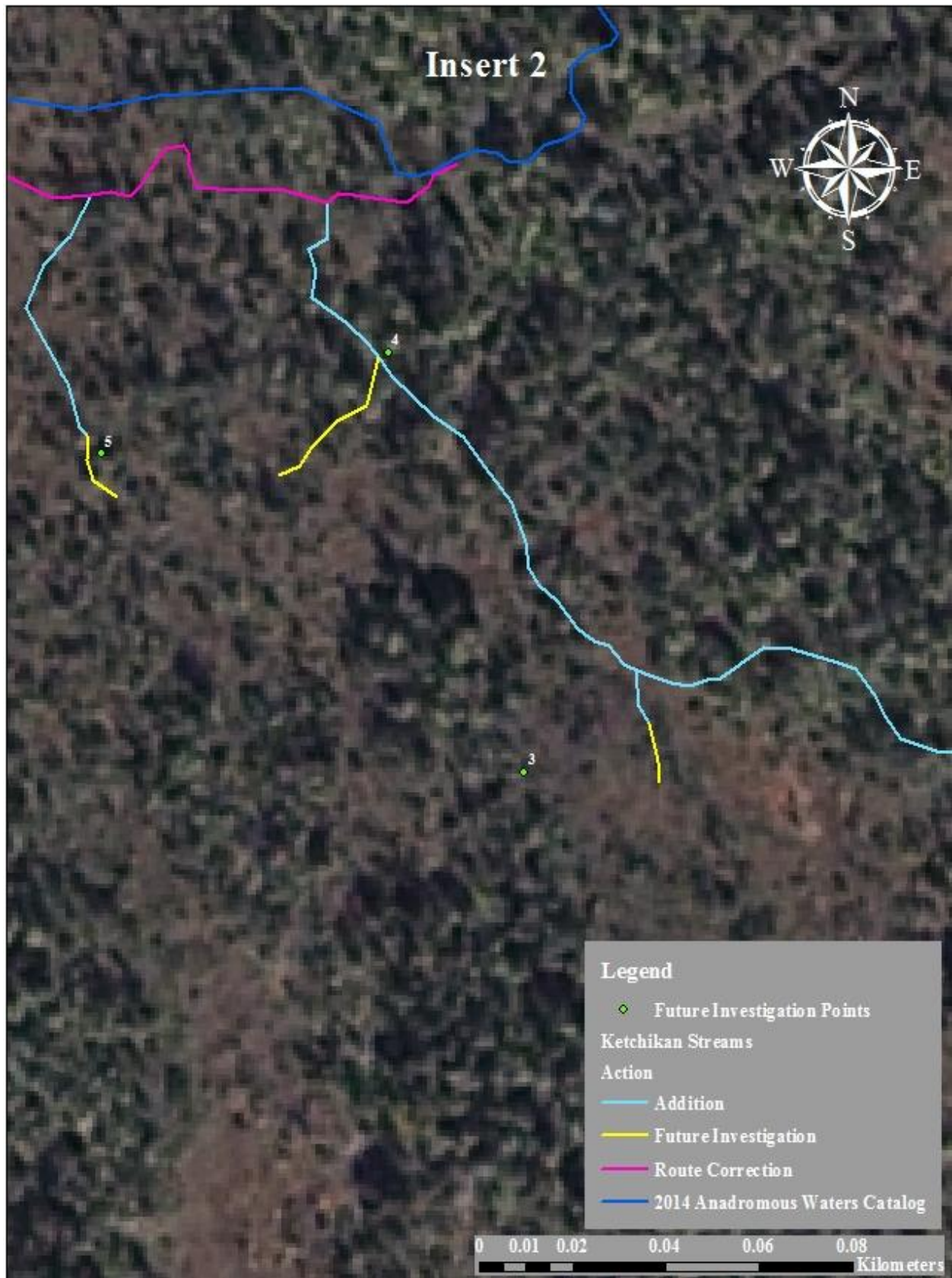


Figure 3.–Insert 2 map.

Ketchikan



Figure 4.–Insert 3 map.

Ketchikan

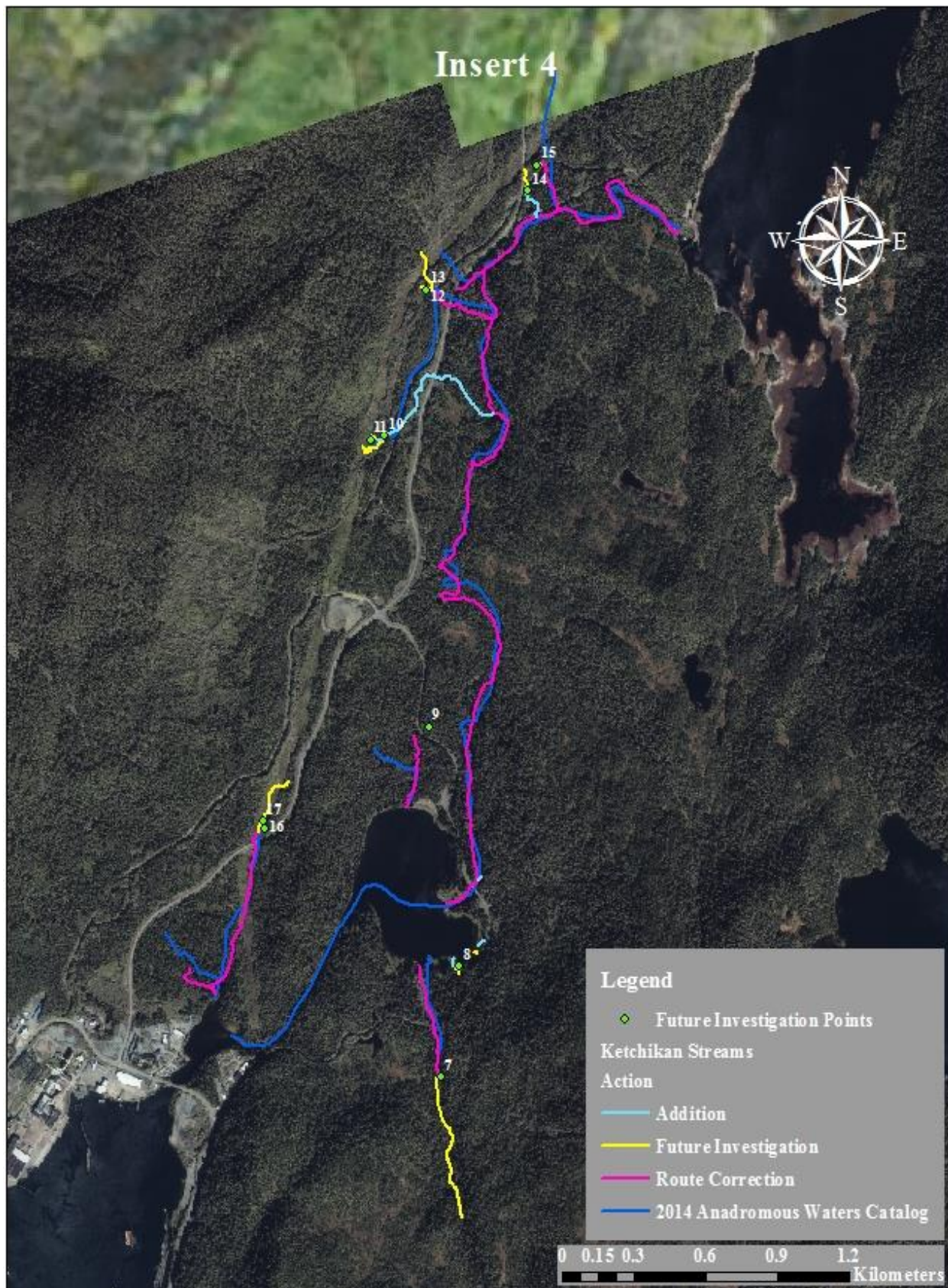


Figure 5.—Insert 4 map.

Ketchikan



Figure 6.–Insert 5 map.

Ketchikan