

Appendix: Hoonah

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.

HOONAH SURVEYS

Hoonah, population 787, is a Tlingit community located on the northeast shore of Chichagof Island (Figure 1), 40 air miles west of Juneau.¹



Figure 1.—Hoonah 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/7b1783c7-a548-47fe-b944-dc9bb6ebfc0d>. (Accessed June 24, 2015).

Hoonah

114-31-10080**CORRECTION****Water body name:****Survey date:** 10/2/2014**Water body number:** 114-31-10080**Species & Lifestage:** COsr, Pp, DVp**Watershed:** Port Fredrick-Frontal Icy Strait**MTR:** C043S061E **Quad:** Juneau A-5

Findings: We surveyed this stream using a backpack electrofisher and GPS (Table 1). We found the current track for this stream is incorrect and coho salmon use areas upstream of the current documented point of anadromy (Figures 1, 2, 3).

Recommendations: Update the stream route and extend the upper extent of anadromy for Stream No. 114-31-10080 (Figure 4).

Nomination: 15-500

Table 1.–114-31-10080 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
919	58.0997	-135.3819	Upstream of 114-31-10080 60" culvert.		
920	58.0999	-135.3814	1 CO about 55mm and 1 young of the year CT.	EF	1 CO, 1 CT
921	58.1000	-135.3814	Tributary entering on river right.		
924	58.1000	-135.3809	Gravel substrate, silt. 3 CO about 55mm.	EF	3 CO
925	58.1006	-135.3790		EF	2 CO, 2 DV
926	58.1007	-135.3732	Good rearing habitat and spawning gravel.	EF	2 CO
927	58.1014	-135.3723		EF	2 CO, 1 DV, 1 CT
928	58.1016	-135.3723	Gravel, undercut.	EF	2 CO
929	58.1023	-135.3720	Slight gradient increase, cobble and gravel.	EF	1 CO, 1 DV, 1 CT
930	58.1025	-135.3720		EF	2 CT, 1 DV
931	58.1029	-135.3714	Back pool, higher gradient.	EF	1 CO, 1 CT
932	58.1036	-135.3708	Gradient increase, no CO habitat, cobble and gravel.	EF	2 CT
933	58.1039	-135.3709	Stopping survey. Cobble, gravel, increased gradient.		
936	58.1023	-135.3718	Tributary on river left. Went subterranean in some parts.		
937	58.1012	-135.3722	Tributary on river left. Went subterranean in some parts.		
955	58.0987	-135.3837	Confluence of 114-31-10080 and 114-31-10080-2012. Area flooded due to beaver dams.		
956	58.0996	-135.3820	Downstream of 114-31-10080 culvert. Backed up beaver dam through culvert.		



Figure 1.—Three coho salmon caught in stream number 114-31-10080.



Figure 2.—Low gradient gravel habitat that coho salmon were caught in.



Figure 3.—Upper section of stream number 114-31-10080. No anadromous fish were caught in this section.

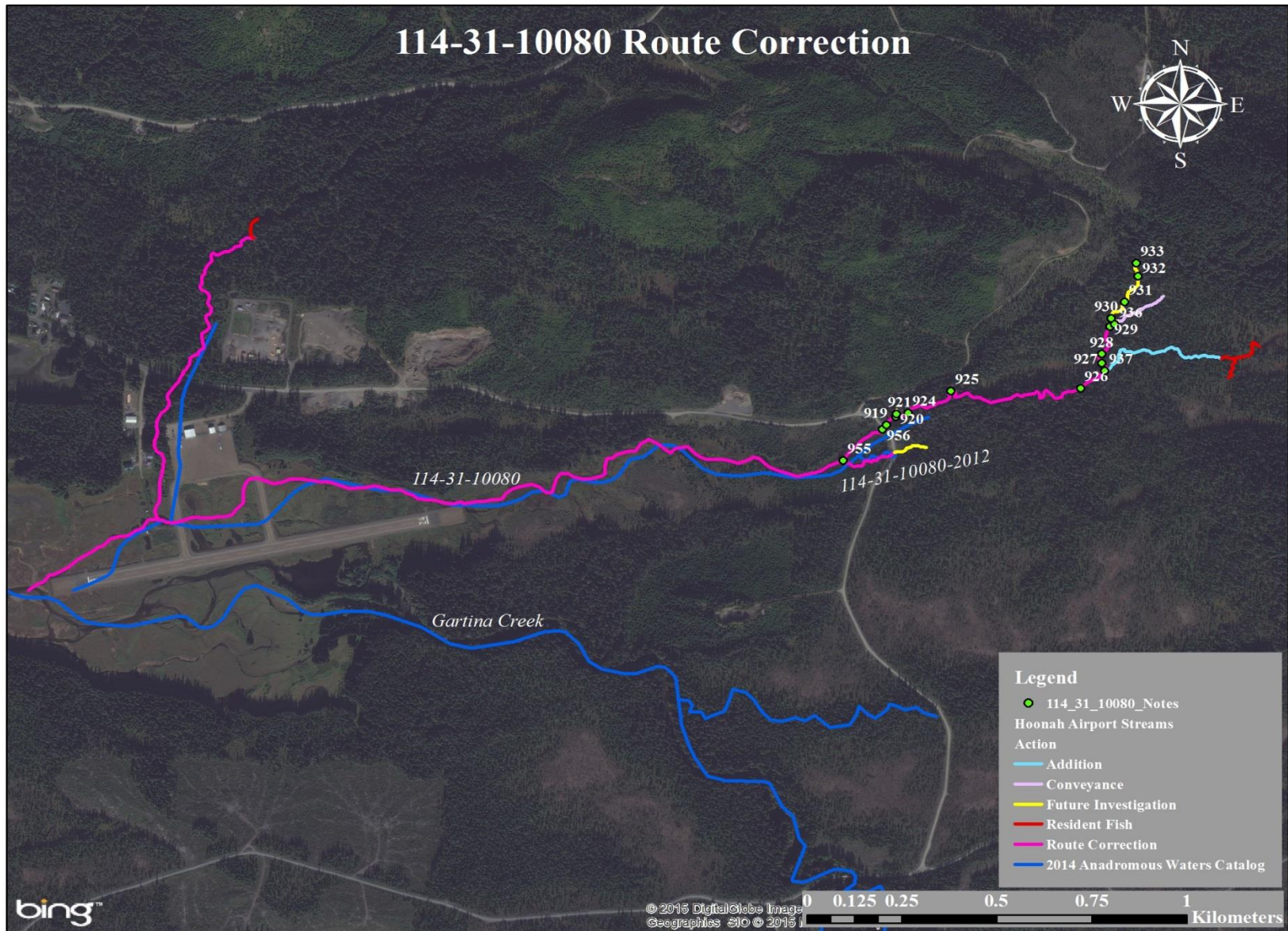


Figure 4.-114-31-10080 route correction map.

Hoonah

Hoonah

114-31-10080-2003

CORRECTION

Water body name: Shotter Creek

Survey date: 7/9/2015

Water body number: 114-31-10080-2003

Species & Lifestage: COsr

Watershed: Port Fredrick-Frontal Icy Strait

MTR: C043S061E **Quad:** Juneau A-5

Findings: We sampled stream number 114-31-10800-2003 using a backpack electrofisher and GPS (Table 1). We captured coho salmon, cutthroat trout, and Dolly Varden char. The upper extent of fish use is at an old 3-4 m high dam and spillway spanning across the creek (Figure 1). Sediment filled in the area upstream of the dam and there was a small amount of water overtopping the spillway. We did not walk upstream of the dam, but from what we could see the stream was dry (Figure 2). Shotter Creek used to be the primary water source for Hoonah up until the late 1980's.

Recommendations: Correct the stream route and extend the upper extent of anadromy for coho salmon as shown in Figure 3.

Nomination: 15-642

Table 2.– 114-31-10080-2003 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
1050	58.1004	-135.4135	Upstream of culvert.		
1051	58.1005	-135.4135	Visual on many coho.	EF	2 CO
1052	58.1010	-135.4129		EF	1, CO, 2 CT
1053	58.1012	-135.4126		EF	2 CO
1054	58.1022	-135.4121		EF	2 CO, 5 DV
1055	58.1024	-135.4122		EF	2 CO, 1 CT, 2 DV
1056	58.1030	-135.4125		EF	2 CO, 1 CT
1057	58.1032	-135.4126	Cobble and gravel substrate up to this point. Gradual gradient increase.	EF	2 CO
1058	58.1036	-135.4122		EF	2 CO
1059	58.1037	-135.4113		EF	2 CT
1060	58.1038	-135.4111		EF	2 DV, 4 CO
1061	58.1039	-135.4109	Visual on many coho.	EF	2 CO
1062	58.1040	-135.4104		EF	2 CO, 2 DV, 2 CT
1063	58.1045	-135.4103	Old wooden dam with ~10 ft high spillway. Upstream of dam is filled with gravel and the water is seeping of the ground out over the spillway.		



Figure 1.—Tess Quinn below the spillway on Shotter Creek.



Figure 2.—Looking down at Shotter Creek immediately upstream of the dam.

Hoonah

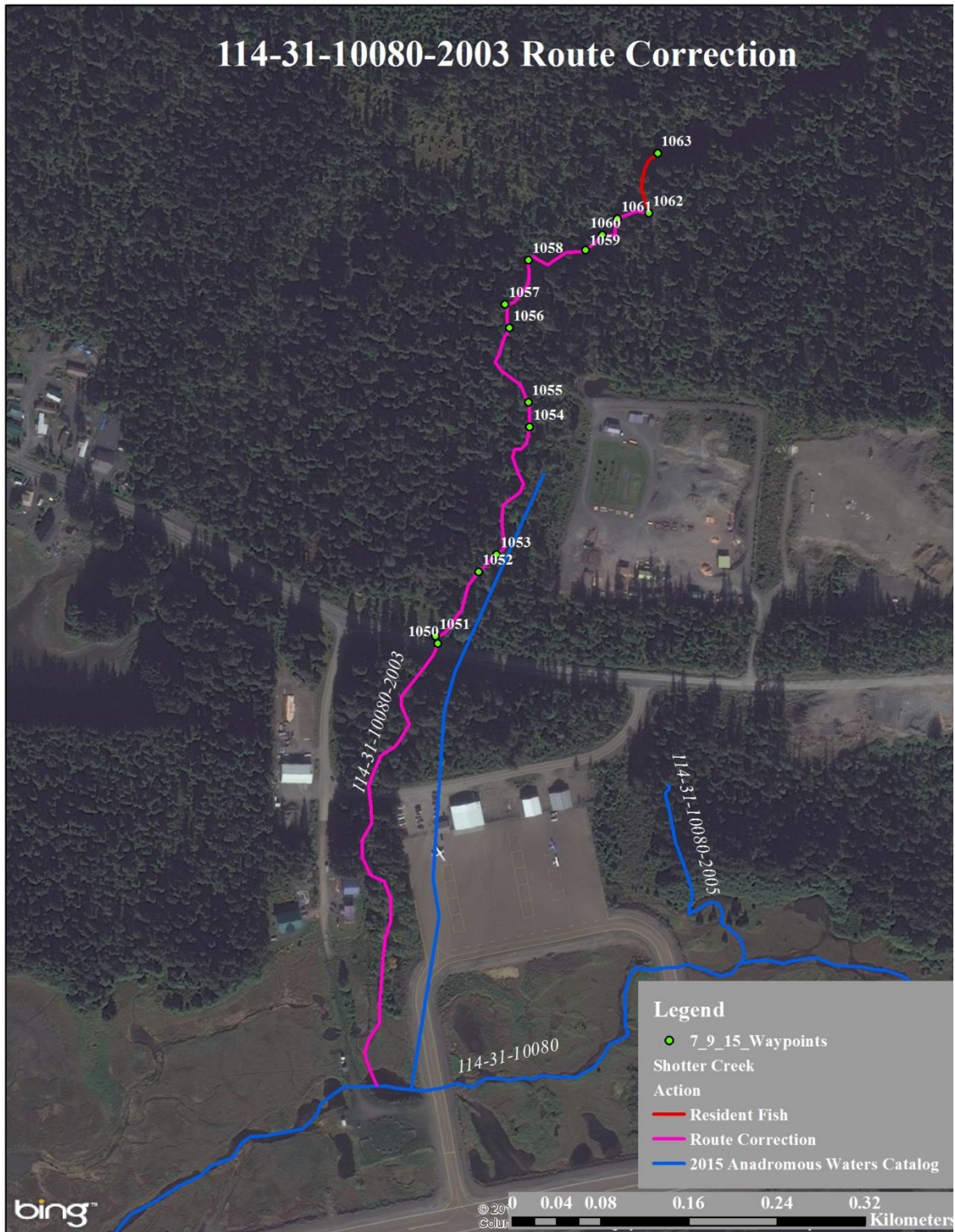


Figure 3.—114-31-10080-2003 route correction map.

Hoonah

114-31-10080-2012

CORRECTION

Water body name:

Survey date: 10/2/2014

Water body number: 114-31-10080-2012

Species & Lifestage: CO

Watershed: Port Fredrick-Frontal Icy Strait

MTR: C043S061E **Quad:** Juneau A-5

Findings: We surveyed 114-31-10080-2012 using a backpack electrofisher and GPS (Table 1). We found the stream route differs from the Anadromous Waters Catalog (Figures 1, 2). We did not catch any fish above the current AWC upper extent for this stream.

Recommendations: Update the stream route in the AWC (Figure 3).

Nomination: 15-502

Table 1.—114-31-10080-2012 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
917	58.0990	-135.3813	Upstream of 114-31-10080-2012 culvert.		
918	58.0991	-135.3801	No fish to this point upstream of road. Seeps in.	EF	No Fish
954	58.0990	-135.3815	Downstream of 114-31-10080-2012 culvert.		
955	58.0987	-135.3837	Confluence of 114-31-10080-2012 and 114-31-10080. The entire area is beaver dam.		



Figure 1.—Upper extent of survey area of 114-31-10080-2012.



Figure 2.—Confluence of 114-31-10080 and 114-31-10080-2012. This area is flooded by beaver dams.



Figure 1.-114-31-10080-2012 route correction map.

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114-31-10080-2005**ADDITION****Water body name:****Survey date:** 2/5/2014**Water body number:** 114-31-10080-2005**Species & Lifestage:** CO**Watershed:** Port Fredrick-Frontal Icy Strait**MTR:** C043S061E **Quad:** Juneau A-5

Findings: In October 2012 the east apron at the Hoonah Airport was expanded and this tributary to stream number 114-31-10080 was rerouted as a ditch which parallels the apron. Coho salmon were documented previous to the reroute, but were never nominated to the Anadromous Waters Catalog. ADF&G has been monitoring this stream since the reroute. In 2014, we caught coho salmon, Dolly Varden char, and cutthroat trout in this creek with minnow traps during three sampling events (Tables 1-3), (Figures 1-3). Portions of the rerouted section have been dry during our site visits, but there is a possibility water flows during rain events that allows fish to pass.

Recommendations: Add this stream to the Anadromous Waters Catalog (Figure 4).

Nomination: 14-708

Table 1.–114-31-10080-2005 survey data on February 5, 2014.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
44	58.0984	-135.4095	CO-85 mm	MT	1 CO
45	58.0983	-135.4095	CO length range: 40-70 mm	MT	5 CO

Table 2.–114-31-10080-2005 survey data on April 21, 2014.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
44	58.0984	-135.4095	CO-69 mm	MT	1 CO
45	58.0983	-135.4095	CO length range: 44-84 mm	MT	9 CO
83	58.0993	-135.4098	CO length range: 58-95 mm	MT	10 CO

Table 3.–114-31-10080-2005 survey data on July 23, 2014.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
44	58.0984	-135.4095	CO length range: 40-97 mm	MT	16 CO, 2 DV, 1 CT
45	58.0983	-135.4095	CO length range: 42-85 mm	MT	22 CO, 3 SB
83	58.0993	-135.4098	CO length range: 62-84 mm	MT	6 CO, 2 DV, 1 CT



Figure 1.—Coho salmon caught in stream number 114-31-10080-2005.



Figure 2.—Upper extent of fish use (WPT 83).



Figure 3.—Dry section of stream number 114-31-10080-2005.

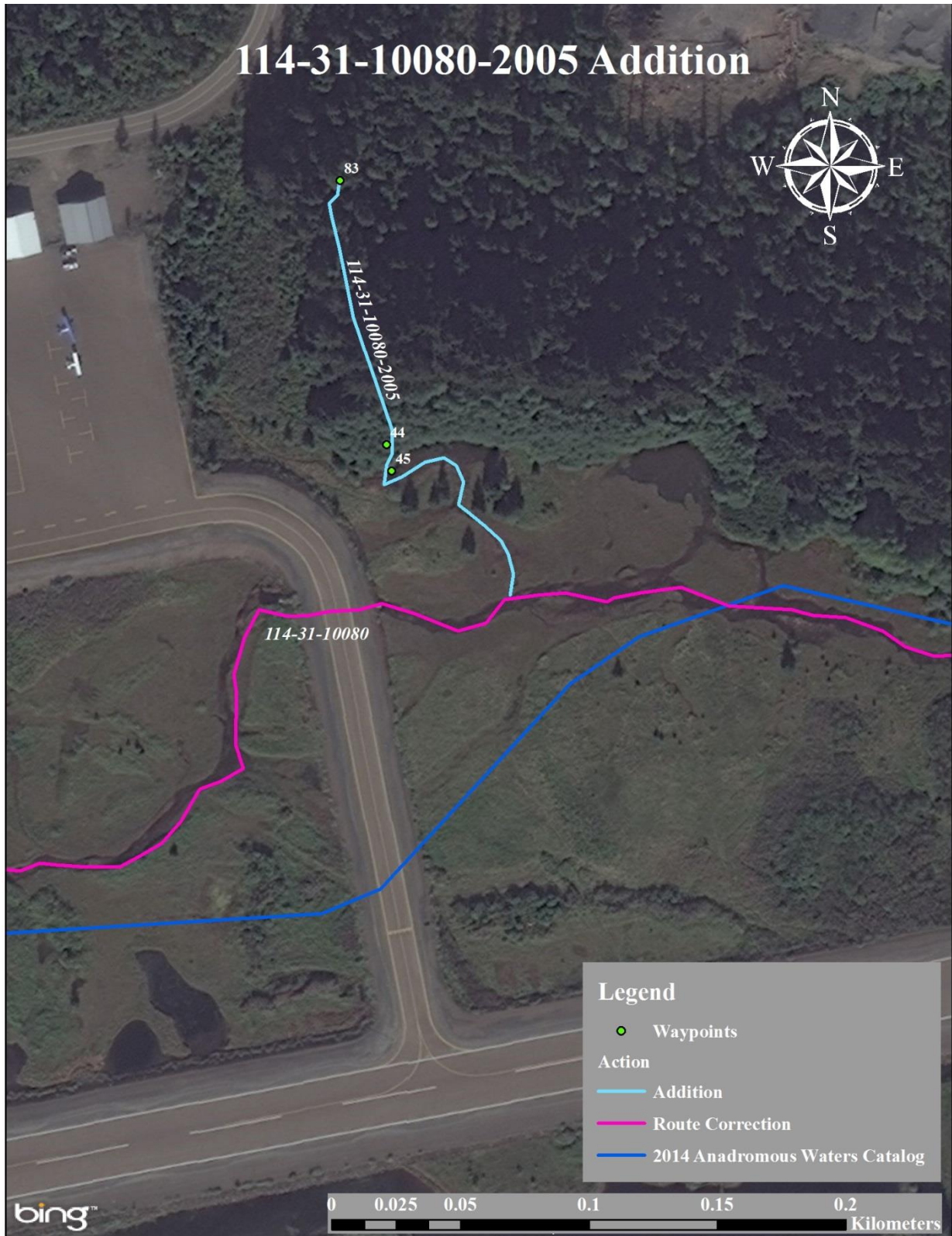


Figure 4.-114-31-10080-2005 addition map.

Hoonah

Hoonah

114-31-10080-2009**ADDITION****Water body name:****Survey date:** 7/24/2014**Water body number:** 114-31-10080-2009**Species & Lifestage:** CO**Watershed:** Port Fredrick-Frontal Icy Strait**MTR:** C043S061E **Quad:** Juneau A-5

Findings: We surveyed this stream using a backpack electrofisher and GPS (Table 1). We caught rearing coho salmon, Dolly Varden char, and cutthroat trout (Figure 1). This shallow stream flows through an open forest throughout skunk cabbage and ferns (Figure 2). The substrate is gravel with several shallow pools. We stopped catching fish at a small cave-like undercut with a two foot drop into a pool (Figure 3). Upstream of the drop, the stream flows from a meadow (Figure 4). We did not catch any fish in the meadow.

Recommendations: Add this stream to the Anadromous Waters Catalog (Figure 5).

Nomination: 14-617

Table 1.–114-31-10080-2009 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
803	58.0981	-135.3946	Mouth of tributary into 114-31-10080 on river right.		
804	58.0982	-135.3948		EF	2 CO
805	58.0987	-135.3954		EF	2 CO, 1 CT
806	58.0990	-135.3954		EF	2 CO, 1 DV
807	58.0991	-135.3957		EF	3 CO, 1 CT
808	58.0991	-135.3961		EF	2 CO
809	58.0991	-135.3963		EF	1 CO, 1 CT
810	58.0992	-135.3965	There is a two foot drop here inside a clay cave with water flowing over logs. Appears to be a barrier.	EF	2 CO, 1 CT
811	58.0993	-135.3970	Stopped electrofishing. We did not catch any fish above falls. Stream is running through a meadow.		



Figure 1.—Coho salmon caught in 114-31-10080-2009



Figure 2.—114-31-10080-2009 habitat.



Figure 3.—Cave-like undercut.



Figure 4.—Stream in meadow above last fish location.

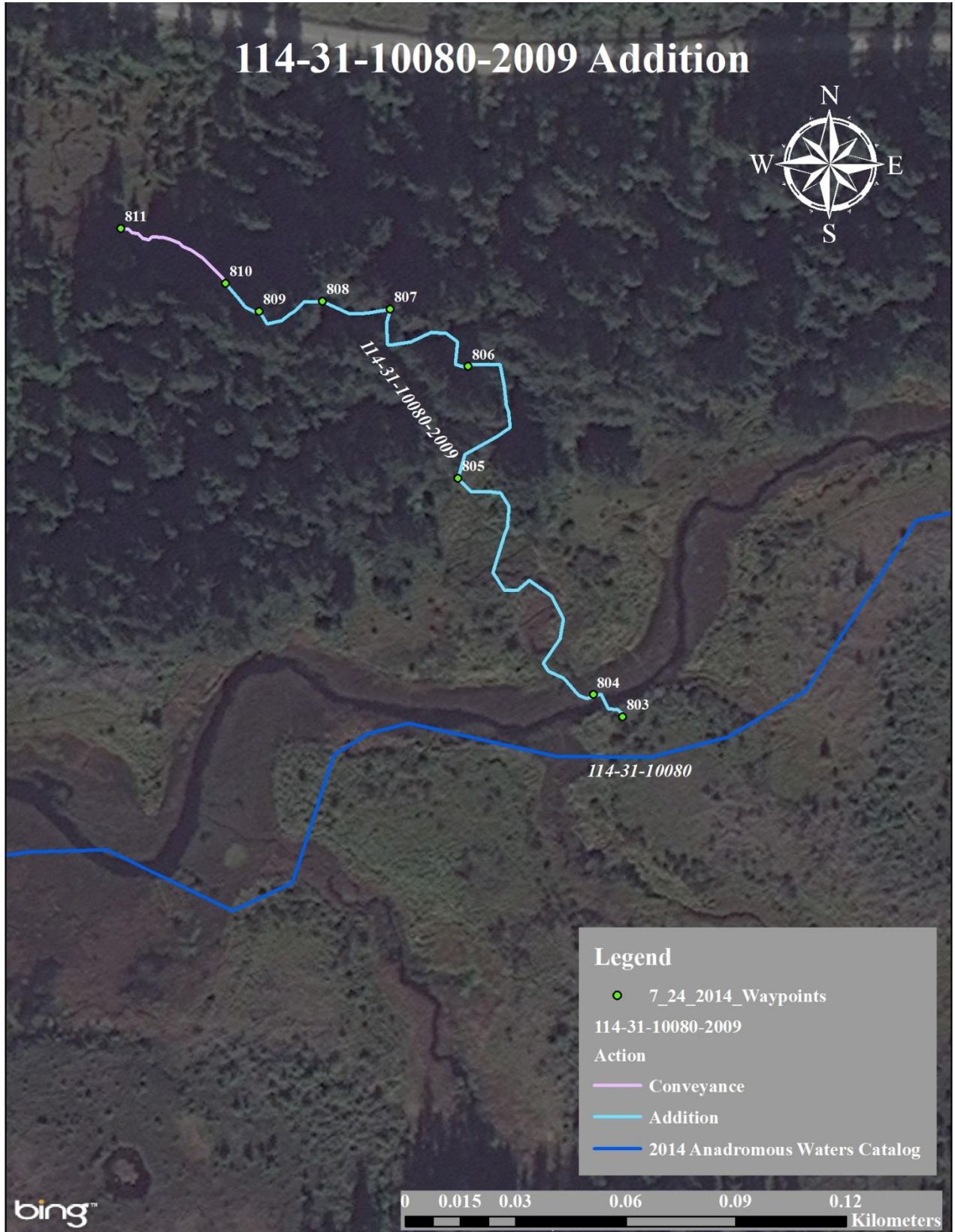


Figure 5.—114-31-10080-2009 addition map.

Hoonah

Hoonah

114-31-10080-2032**ADDITION****Water body name:****Survey date:** 10/2/2014**Water body number:** 114-31-10080-2032**Species & Lifestage:** CO**Watershed:** Port Fredrick-Frontal Icy Strait**MTR:** C043S061E **Quad:** Juneau A-5

Findings: We surveyed this stream using a backpack electrofisher and GPS (Table 1). We caught rearing coho salmon in this stream (Figure 1). This is a beautiful rearing stream that ends at a muskeg pond (Figures 2, 3).

Recommendations: Add this stream to the Anadromous Waters Catalog (Figure 4).

Nomination: 15-502

Table1.-114-31-10080-2032 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
937	58.1012	-135.3722	Tributary enters on river left. Approximately 1/3 of water.		
938	58.1014	-135.3717	Tannic and gravel.	EF	2 CO, 1 CT
939	58.1016	-135.3716		EF	2 CT, 1 CO
940	58.1017	-135.3711		EF	2 DV, 2 CO
941	58.1017	-135.3702		EF	2 CO, 1 CT
942	58.1017	-135.3697	Small shallow pool.	EF	2 CO
943	58.1016	-135.3688	Gradient increase.	EF	1 CT, 1 CO
944	58.1016	-135.3680		EF	2 CO, 1 CT
945	58.1016	-135.3672		EF	1 CT
946	58.1015	-135.3670	Narrow, incised, gravel, sand.	EF	2 CO, 1 CT
947	58.1015	-135.3666	Base of 2 ft drop. Habitat changed to incised, deep, channel through meadow.	EF	2 DV
948	58.1017	-135.3656	1 ft wide. 1.5 ft deep. Grassy meadow.	EF	1 CT
949	58.1019	-135.3653	Ends at muskeg pond.		
950	58.1015	-135.3664	Tributary entering on river left. Narrow meadow channel.		



Figure 1.—Coho salmon caught in 114-31-10080-2032.



Figure 2.—114-31-10080-2032 habitat.



Figure 3.—Tributary ends at a muskeg pond.

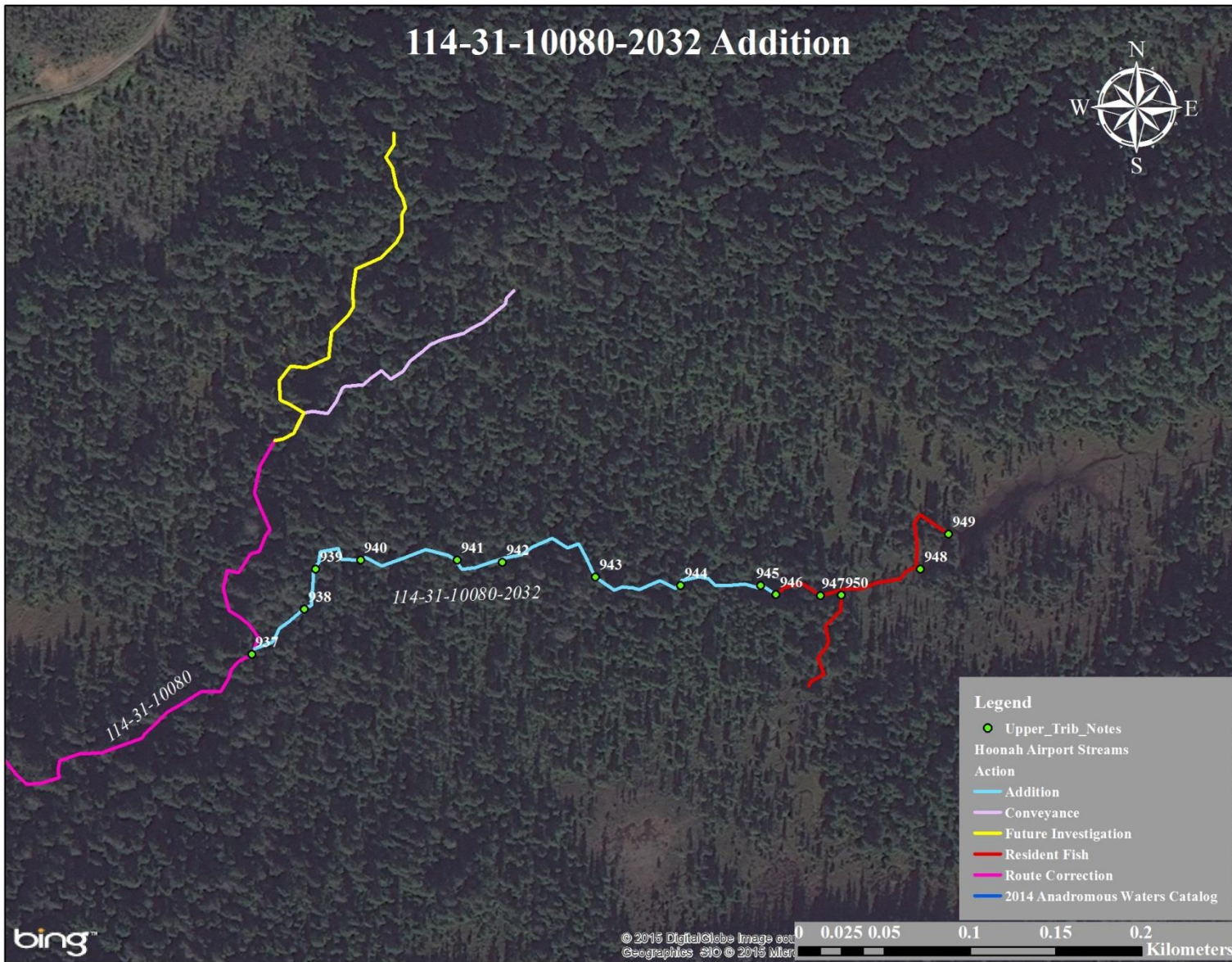


Figure 4.-114-31-10080-2032 addition map.

Hoonah

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HOONAH STREAMS REQUIRING FUTURE INVESTIGATION

Table 1.–Start points of Hoonah streams requiring future investigation.

Waypoint	Latitude	Longitude
1	58.0990	-135.3810
2	58.1000	-135.3814
3	58.1023	-135.3720

2014 Hoonah Index Future Investigation Map

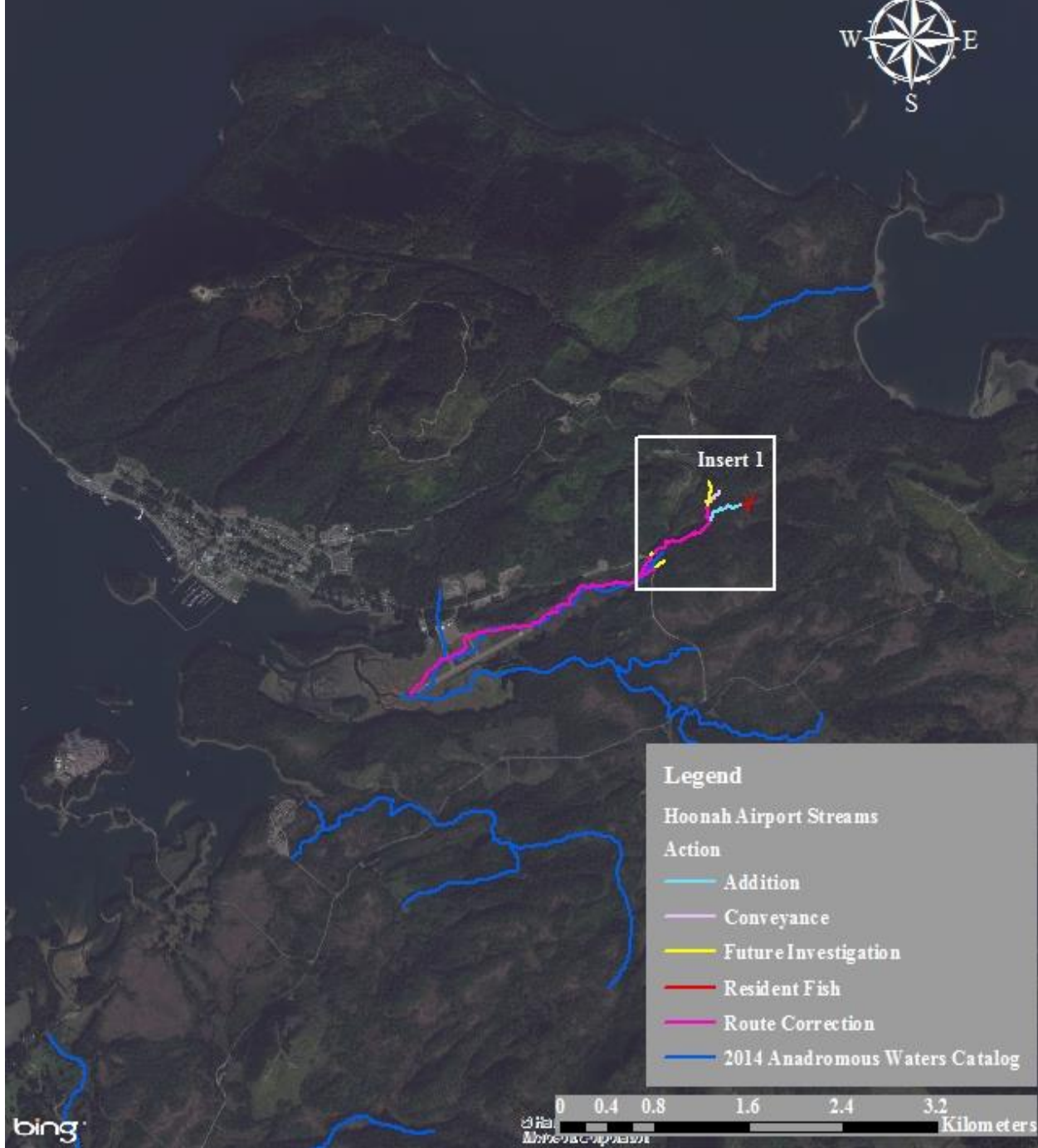


Figure 1.-2014 Hoonah index future investigation map.

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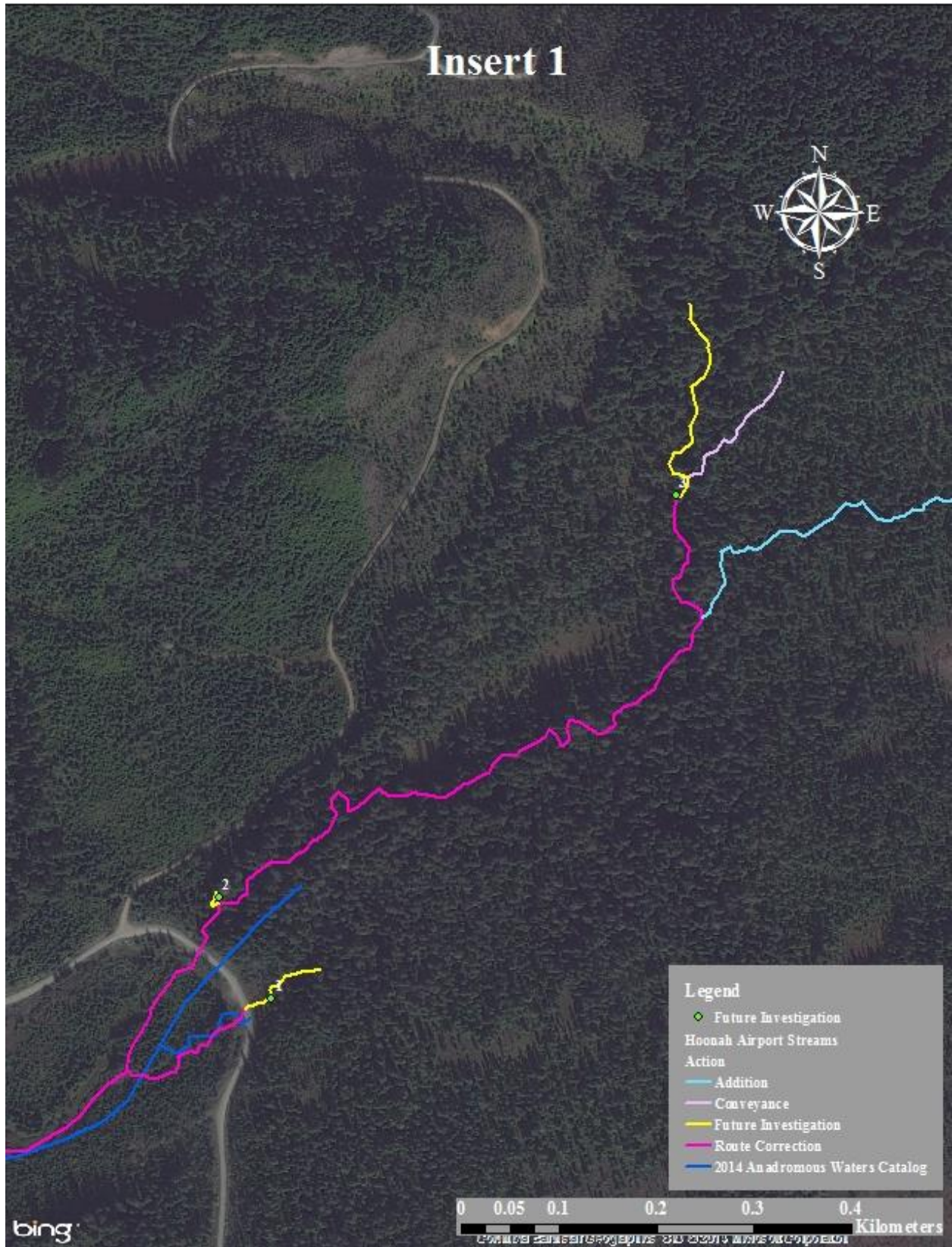


Figure 2.—Insert 1.

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