

# Appendix: Angoon

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



## Symbols and Abbreviations

Survey data codes.

Code	
	<b>Species</b>
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
	<b>Lifestage</b>
s	spawning
r	rearing
p	presence
	<b>Sampling</b>
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.*

## ANGOON SURVEYS

The city of Angoon is located on the southwest coast of Admiralty Island at Kootznahoo Inlet. With 459 residents,<sup>1</sup> Angoon is the only permanent Admiralty Island settlement.<sup>2</sup> The three mile Killisnoo road splits and ends either at Killisnoo Harbor or at Auk'Tah Lake (Figure 1).



Figure 1.–Angoon survey map.

<sup>1</sup> U.S. Census Bureau. 2010. Demographic profile for Angoon city. 2010 Census: Alaska demographic profiles. Retrieved from: <http://live.laborstats.alaska.gov/cen/dp.cfm> (Accessed November 13, 2014).

<sup>2</sup> State of Alaska Department of Commerce, Community, and Economic Development, Community and Regional Affairs database. Available from <http://www.commerce.state.ak.us/cra/DCRAExternal/community/Details/72294383-ddd6-4441-8c63-eb92786a82a1> (Accessed November 13, 2014).

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**112-17-10500****CORRECTION****Water body name:** Thayer Creek**Survey date:** 8/6/2014**Water body number:** 112-17-10500**Species & Lifestage:** CHp, COr, Pp, Sp**Watershed:** Fishery Creek-Frontal Chatham Strait**MTR:** C049S067E **Quad:** Sitka C-2

**Findings:** We surveyed Thayer Creek using an electrofisher, handnet, and GPS (Table 1). There is a series of water falls approximately 1250' upstream from the mouth of the creek that we determined are fish passage barriers (Figures 1, 2). Below the falls we visually identified adult pink salmon, chum salmon, and sockeye salmon and captured rearing coho salmon (Figures 3, 4). The substrate below the falls was gravel and cobble. Upstream of the waterfall, the creek flows through a bedrock gorge, then opens up to a low gradient stream with gravel and cobble substrate. We surveyed a tributary in this area and caught resident cutthroat trout and Dolly Varden char.

**Recommendations:** Correct the anadromous section of Thayer Creek in the AWC and add rearing coho salmon and sockeye salmon presence (Figure 5).

**Nomination:** 14-619

Table 1.–112-17-10500 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
837	57.5935	-134.6217	Tributary on river right. This tributary provides the most water to Thayer Creek.		
845	57.5939	-134.6178	Stopping here, habitat continues.		
846	57.5931	-134.6165	Mouth of tributary.		
849	57.5929	-134.6227	Small tributary into gorge.		
850	57.5776	-134.6275	Mouth of Thayer Creek.	HN	2 CO, 10 CT
851	57.5785	-134.6276		EF, VI	2 CT, 1 CH
852	57.5785	-134.6273		EF	3 CT, 1 flat fish
853	57.5795	-134.6263		EF	1 CO
854	57.5799	-134.6251		EF	3 CT
855	57.5798	-134.6244		EF	1 CO, 2 CT
856	57.5803	-134.6236	16 yds away from base of a series of three waterfalls. The first fall is approximately 12 ft. with at least 20 ft. deep plunge pool. Visual of salmon trying to jump the falls with no success. The second fall is the approximately 14 ft. bedrock substrate, no plunge pool, and higher velocity. We did not have a visual of the third falls but there is confirmation it exists.	VI	2 S, 4 P





Figure 1.—First 12' waterfall with 20' deep plunge pool.



Figure 2.—Second 14' waterfall with no plunge pool.



Figure 3.—Coho salmon caught below waterfall in Thayer Creek.



Figure 4.—Rick Hoffman walking upstream from the mouth of Thayer Creek.

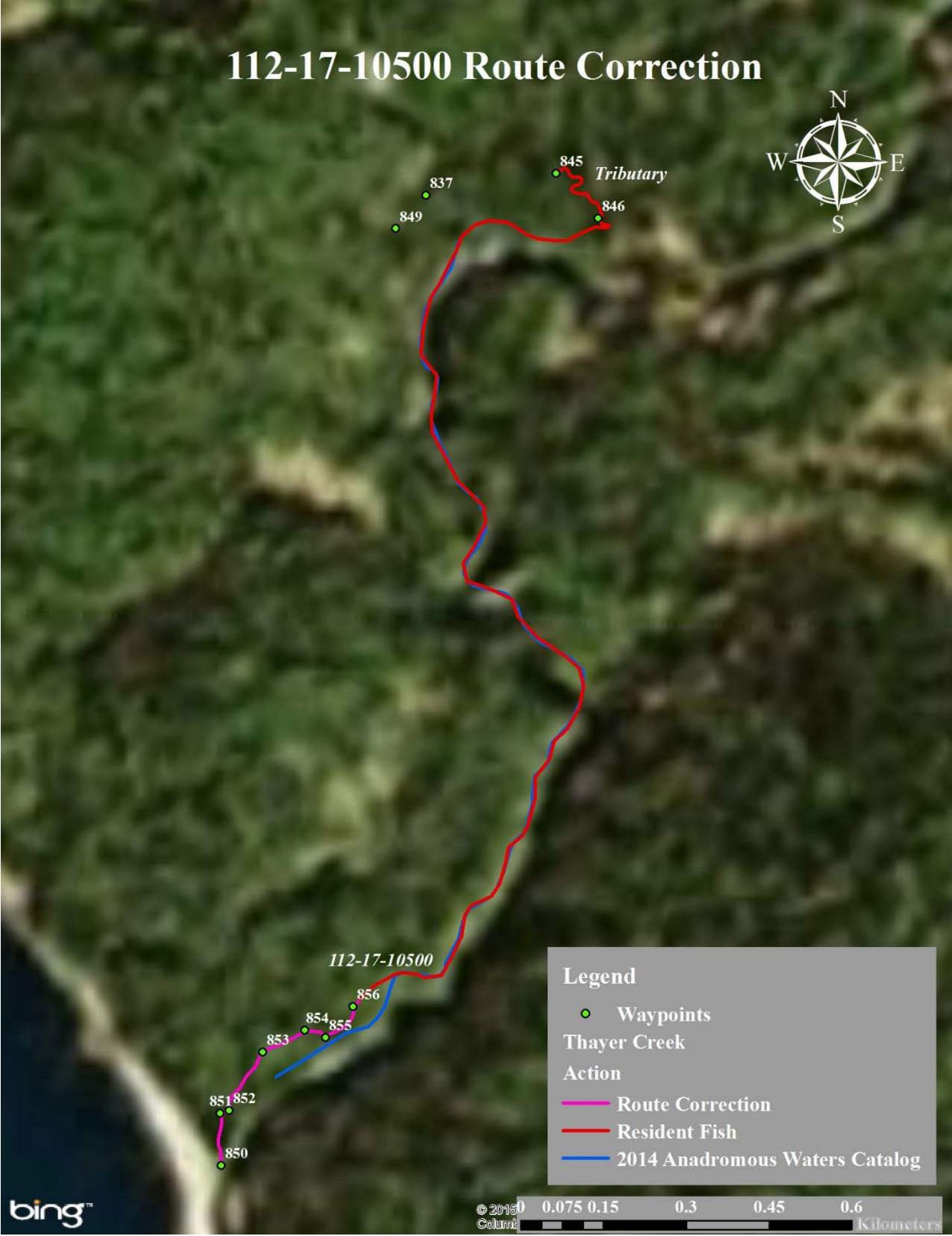


Figure 5.—112-17-10500 route correction map.

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**112-67-10350****CORRECTION****Water body name:** Hasselborg Creek**Survey date:** 8/27/2015**Water body number:** 112-67-10350**Species & Lifestage:** COr and Ss**Watershed:** Kootznahoo Inlet-Frontal Chatham Strait**MTR:** C049S069E **Quad:** Sitka C-1**Findings:** I caught 20 juvenile coho salmon in a minnow trap at waypoint 811 and visually observed >100 spawning sockeye beginning at waypoint 812 while moving downstream (Table 1, Figures 1,2).**Recommendations:** Correct the species list to include rearing coho salmon and spawning sockeye salmon at specified waypoints 811 and 812.**Nomination:** Pending

Table 2.–Survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
800	57.5708	-134.3655	Airplane pickup location marked from air.		
801	57.5955	-134.3267	Start of low gradient alder dominated floodplain marked from the air.		
802	57.6065	-134.3110	Log jam, marked from the air.		
803	57.6168	-134.2992	Falls, marked from the air. Confirmed on the ground is ~40 ft barrier.		
804	57.6447	-134.2683	Confluence of sorts, marked from the air.		
805	57.6503	-134.2631	Falls here and 200 ft upstream, marked from the air.		
806	57.6649	-134.2526	Landing and Hasselborg Lake cabin.		
807	57.6605	-134.2522	3 ft falls.		
808	57.6474	-134.2638	6 ft falls on RR, mellower on RL.		
809	57.6276	-134.2835	Stopped for lunch, caught no fish on hook and line.		
810	57.6222	-134.2907	Left boat here during portage.		
811	57.6064	-134.3064	Camp site, 20 CO and 10 CT.	MT	20 COr, 10 CTr
812	57.5924	-134.3317	15 ft falls near Jim's Creek confluence. Started seeing adult sockeye here.	VI	>100 Ss



Figure 2.-10 cutthroat trout (left) and 20 juvenile coho salmon (right) captured in a minnow trap.





Figure 3.—Hasselborg Creek correction map.

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# 112-67-10600

# CORRECTION

**Water body name:** Kanalku Creek

**Survey date:** 7/1/2012

**Water body number:** 112-67-10600

**Species & Lifestage:** CHp, COr, Pp, Sp, DVP

**Watershed:** Kootznahoo Inlet-Frontal Chatham Strait

**MTR:** C050S069E **Quad:** Sitka B-2

**Findings:** Commercial Fisheries Division staff have record of capturing about 20 juvenile coho salmon above the falls at waypoint 2 and annually seine adult sockeye salmon at the head of the lake at waypoint 3 (Table 1, Figures 1, 2).

**Recommendations:** Please correct the species list to include rearing coho at waypoint 2, spawning sockeye salmon in lake, and shorten chum salmon and pink salmon reach to below falls.

**Nomination:** 13-631

Table 1.—112-67-10600 survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
1	57.4900	-134.3890	Waterfall.		
2	57.4903	-134.3804	Rearing coho caught in minnow traps.	MT	20 CO
3	57.4800	-134.3420	Spawning sockeye adults recorded annually in ADFG Commercial Fisheries Mark-Recapture study.	VL	25 S

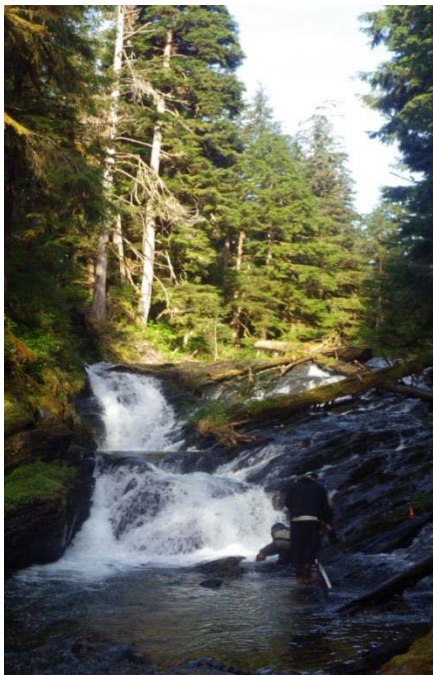


Figure 1.—Kanalku Creek falls.



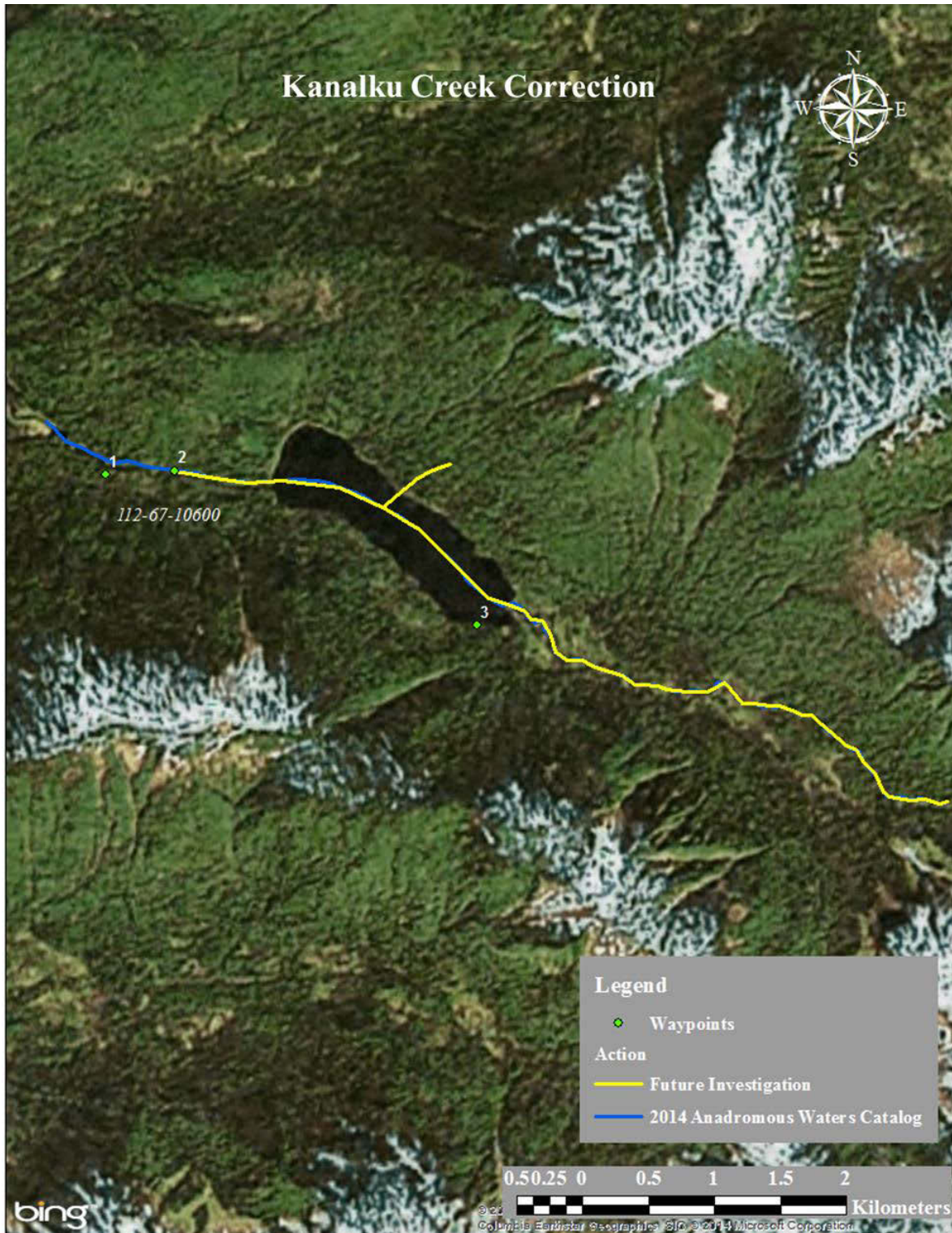


Figure 2.—Kanalku Creek correction map.

## 112-67-10600

## CORRECTION

**Water body name:** Kanalku Creek

**Survey date:** 10/27/2014

**Water body number:** 112-67-10600

**Species & Lifestage:** CHp, COr, Pp, Sp, DVp

**Watershed:** Kootznahoo Inlet-Frontal Chatham

**MTR:** C050S069E **Quad:** Sitka B-2

**Findings:** I observed 15 adult coho salmon in the lower reach of Kanalku Creek (Table 1, Figures 1, 2). I did not observe these fish spawning.

**Recommendations:** Please correct the species list to include coho salmon presence in the AWC, and survey for spawning activity if in area during the fall.

**Nomination:** 15-535

Table 1.–112-67-10600 survey data

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
1	57.4930	-134.3960	Observed 15 "weathered" adult CO between the mouth and treeline.	VL	15 CO



Figure 1.–Adult coho salmon in the intertidal area of Kanalku Creek.



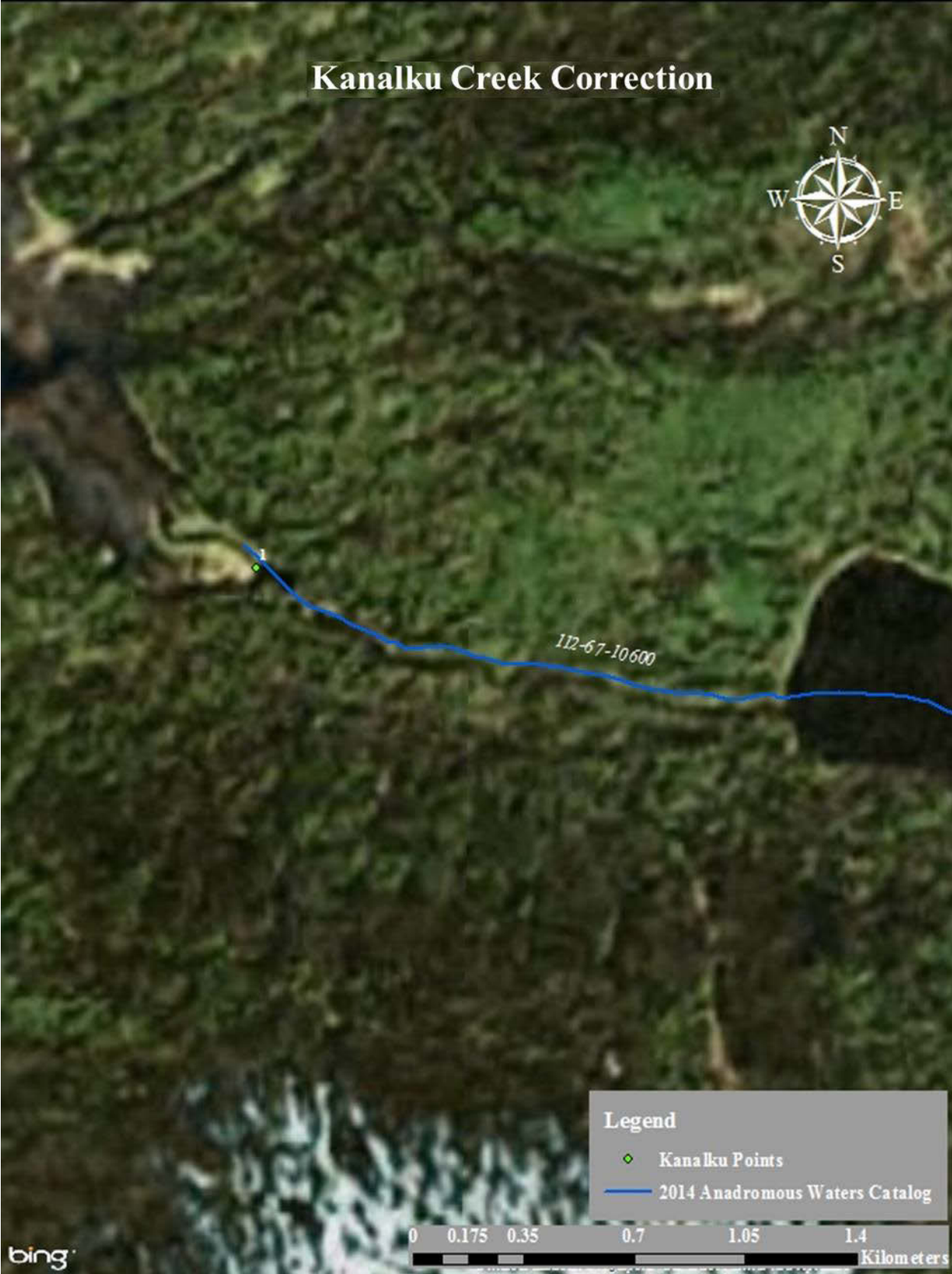


Figure 2.—Kanalku Creek correction map.

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## **ANGOON STREAMS REQUIRING FUTURE INVESTIGATION**

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

<u>Waypoint</u>	<u>Latitude</u>	<u>Longitude</u>
1	57.4810	-134.3380
2	57.4880	-134.3540



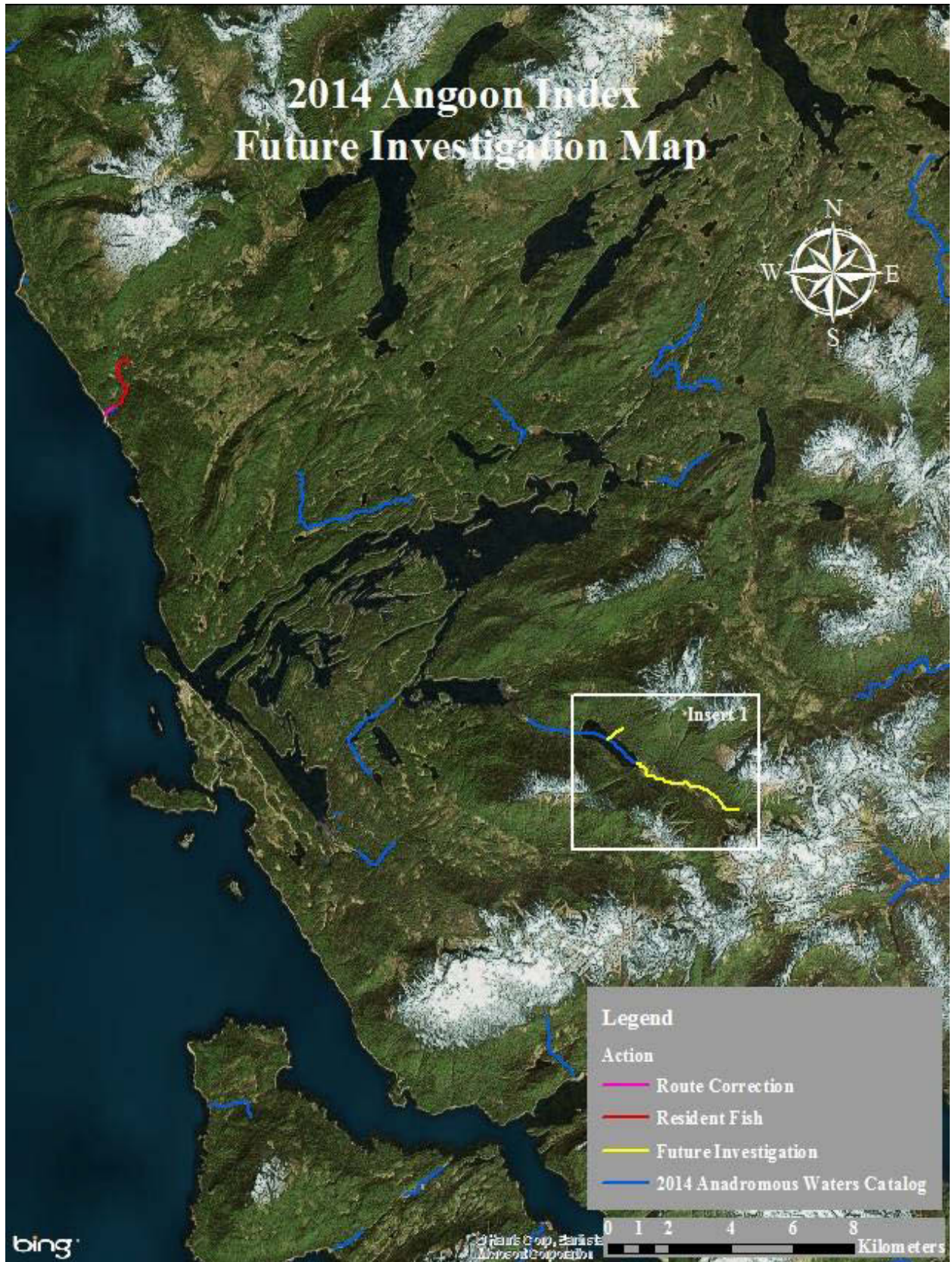


Figure 1.—2014 Angoon index future investigation map.

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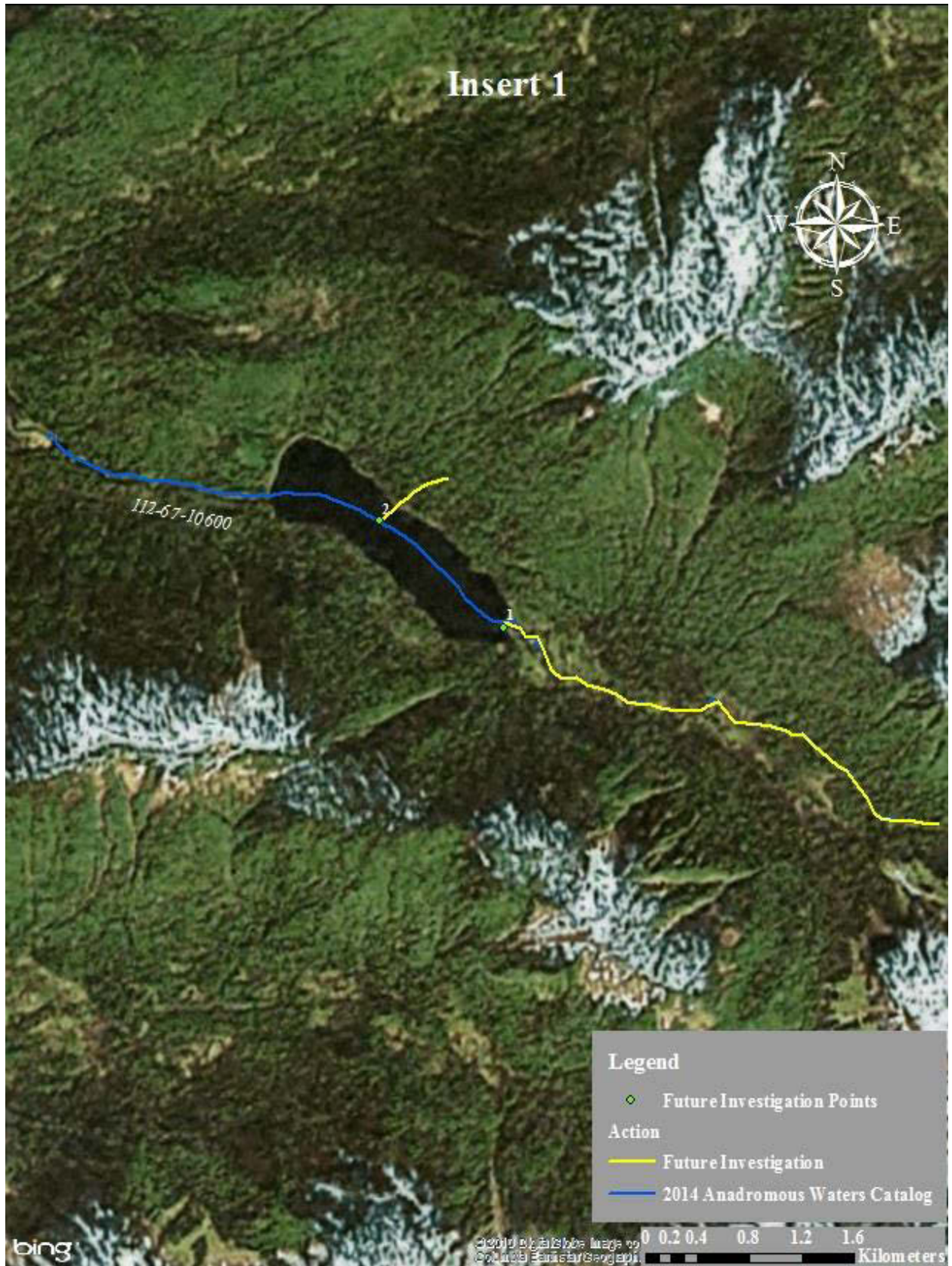


Figure 2.-Insert 1 map.

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