



**INTERACTIONS OF WILD AND HATCHERY PINK SALMON  
AND CHUM SALMON IN PRINCE WILLIAM SOUND AND  
SOUTHEAST ALASKA**

**Final Progress Report for 2015**

**For Alaska Department of Fish and Game  
Contract IHP-13-013**

**Volume 4**

**APPENDIX I. SEAK CHUM SALMON SURVEY SUMMARY BY STREAM  
AND DATE**

**APPENDIX J. SEAK STREAM SUMMARIES**

## APPENDIX I. SEAK CHUM SALMON SURVEY SUMMARY BY STREAM AND DATE

Stream Name	Visit date	Samples collected	Alive count	Dead count
Admiralty Creek	7/31/2015	29	111	11
Admiralty Creek	8/8/2015	140	125	125
Admiralty Creek	8/19/2015	32	4	39
Carroll Creek	8/14/2015	288	162	322
Carroll Creek	8/25/2015	192	109	356
Chaik Bay Creek	7/25/2015	1	184	0
Chaik Bay Creek	8/6/2015	30	769	6
Chaik Bay Creek	8/22/2015	36	N/A	N/A
Chaik Bay Creek	9/2/2015	336	42	361
Chuck River	7/27/2015	0	N/A	N/A
Chuck River	7/30/2015	28	51	15
Chuck River	8/10/2015	125	73	127
East of Snug Cove*	7/30/2015	0	83	1
East of Snug Cove*	8/10/2015	153	186	97
East of Snug Cove*	8/22/2015	196	55	206
Fish Creek	7/25/2015	160	874	59
Fish Creek	8/2/2015	285	790	361
Fish Creek	8/17/2015	180	104	651
Ford Arm Creek	8/16/2015	300	298	385
Ford Arm Creek	8/26/2015	187	158	326
Freshwater Creek	7/27/2015	4	107	2
Freshwater Creek	8/5/2015	40	115	25
Freshwater Creek	8/14/2015	50	108	47
Freshwater Creek	8/16/2015	40	13	39
Game Creek	7/26/2015	3	812	2
Game Creek	8/4/2015	89	927	89
Game Creek	8/6/2015	253	275	275
Game Creek	8/15/2015	155	1016	377
Glen Creek	7/29/2015	0	0	0
Glen Creek	8/11/2015	5	4	4
Greens Creek	7/28/2015	62	84	15
Greens Creek	8/3/2015	103	93	88
Greens Creek	8/7/2015	96	50	145
Harding River	8/13/2015	54	N/A	N/A
Harding River	8/27/2015	38	10	41

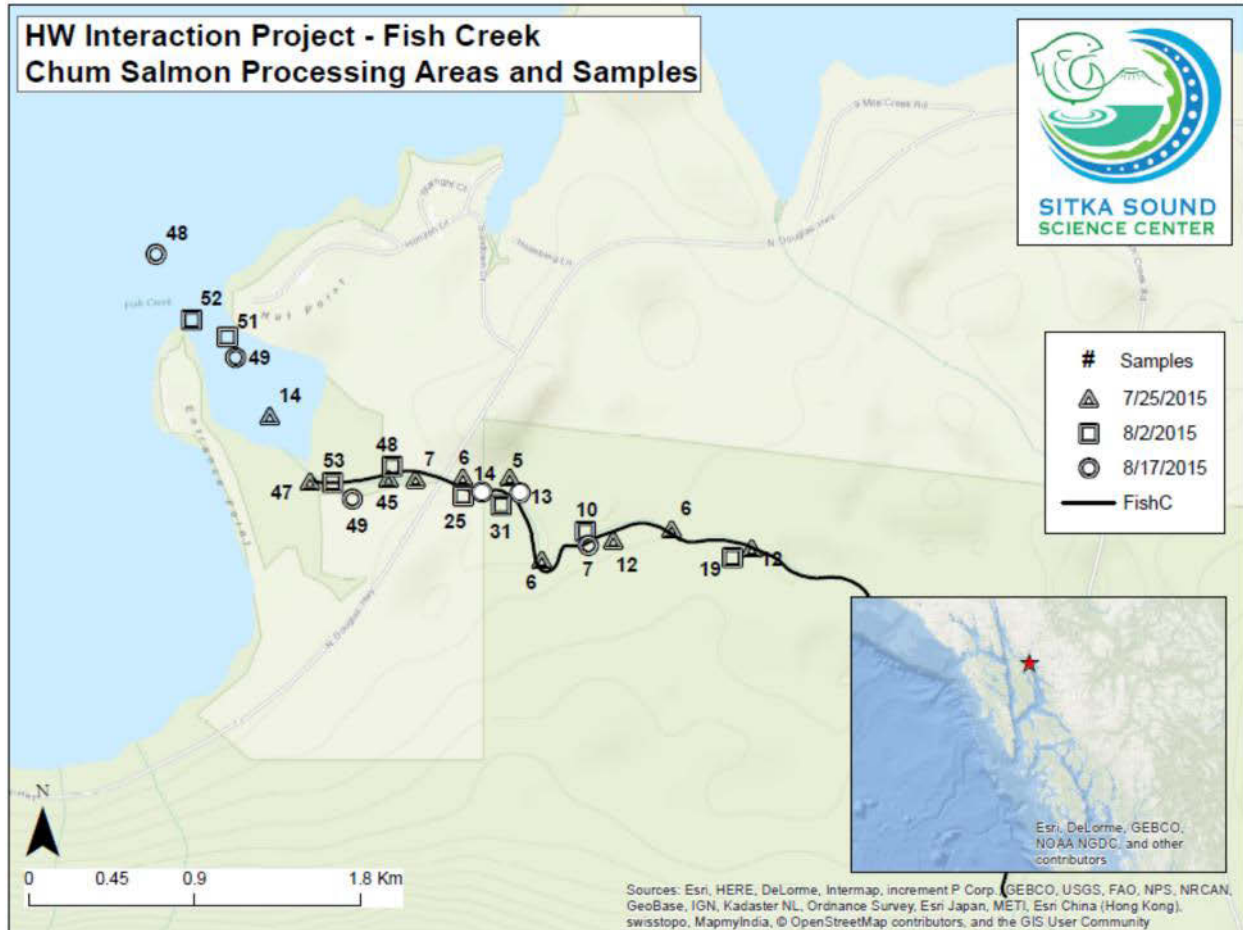
Hidden Inlet*	8/11/2015	217	752	231
Hidden Inlet*	8/21/2015	192	N/A	268
Johnston Creek	7/29/2015	0	244	1
Johnston Creek	8/8/2015	196	640	178
Johnston Creek	8/21/2015	307	166	320
Kadashan River	7/24/2015	0	28	0
Kadashan River	8/1/2015	0	41	0
Kadashan River	8/12/2015	0	N/A	N/A
Kadashan River	9/1/2015	5	23	5
King Creek	8/7/2015	120	557	87
King Creek	8/19/2015	288	91	310
King Creek	8/29/2015	13	6	16
King Salmon River	7/24/2015	0	N/A	N/A
King Salmon River	7/26/2015	96	89	97
King Salmon River	8/1/2015	74	38	80
King Salmon River	8/4/2015	141	250	100
Little Goose Creek	7/29/2015	1	N/A	N/A
Little Goose Creek	8/8/2015	6	32	9
Little Goose Creek	8/21/2015	7	8	9
Marten River	8/9/2015	173	284	137
Marten River	8/10/2015	228	65	219
Marten River	8/21/2015	192	11	203
North Arm Creek	7/28/2015	3	52	3
North Arm Creek	8/3/2015	72	229	56
North Arm Creek	8/16/2015	288	111	284
Petrof Bay W Head*	8/20/2015	102	238	117
Petrof Bay W Head*	8/29/2015	300	389	331
Prospect Creek	8/1/2015	15	30	5
Prospect Creek	8/9/2015	75	141	61
Prospect Creek	8/20/2015	21	11	22
Ralphs Creek	7/23/2015	96	247	104
Ralphs Creek	7/27/2015	137	210	313
Ralphs Creek	8/2/2015	209	113	285
Rodman Creek	8/3/2015	65	791	49
Rodman Creek	8/17/2015	196	306	267
Rodman Creek	8/18/2015	5	N/A	N/A
Rodman Creek	8/27/2015	119	0	127
Saginaw Bay S Head*	8/11/2015	12	115	5
Saginaw Bay S Head*	8/19/2015	19	55	20
Saginaw Bay S Head*	8/30/2015	4	N/A	N/A
Saginaw Bay S Head*	8/31/2015	0	0	0

Sawmill Creek (SSSC ONLY)	7/24/2015	37	81	57
Sawmill Creek (SSSC ONLY)	7/29/2015	36	54	27
Seal Bay Head*	7/26/2015	34	241	0
Seal Bay Head*	8/5/2015	64	84	66
Seal Bay Head*	8/20/2015	86	167	88
Seal Bay Head*	8/26/2015	143	127	154
Sister Lake SE Head*	8/15/2015	315	1300	1095
Sister Lake SE Head*	8/25/2015	198	124	400
Swan Cove Creek	7/24/2015	4	4	3
Swan Cove Creek	7/25/2015	63	191	36
Swan Cove Creek	7/31/2015	35	N/A	N/A
Swan Cove Creek	8/9/2015	232	57	241
Ushk Bay W End*	8/13/2015	13	91	12
Ushk Bay W End*	8/25/2015	88	78	78
Ushk Bay W End*	9/1/2015	151	79	153
W Crawfish NE Arm Hd*	8/20/2015	243	250	270
W Crawfish NE Arm Hd*	8/28/2015	333	151	278
Whitewater Creek	7/26/2015	0	259	0
Whitewater Creek	8/7/2015	41	377	41
Whitewater Creek	8/21/2015	352	119	351

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## APPENDIX J. SOUTHEAST ALASKA STREAM SUMMARIES

### Fish Creek (Douglas Island) 111-50-10690 Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 625

**2015 Samples Collected & Run timing:** There were large numbers of chum present on every visit but most dead fish were seen in mid-August. During the first visit on 7/25, over 90% of fish in the stream were live and the crew collected 160 samples. By the second visit on 8/02 there were more dead fish and we were able to collect 285. The final visit was on 8/17, the vast majority of chums were dead and we collected 180 samples.

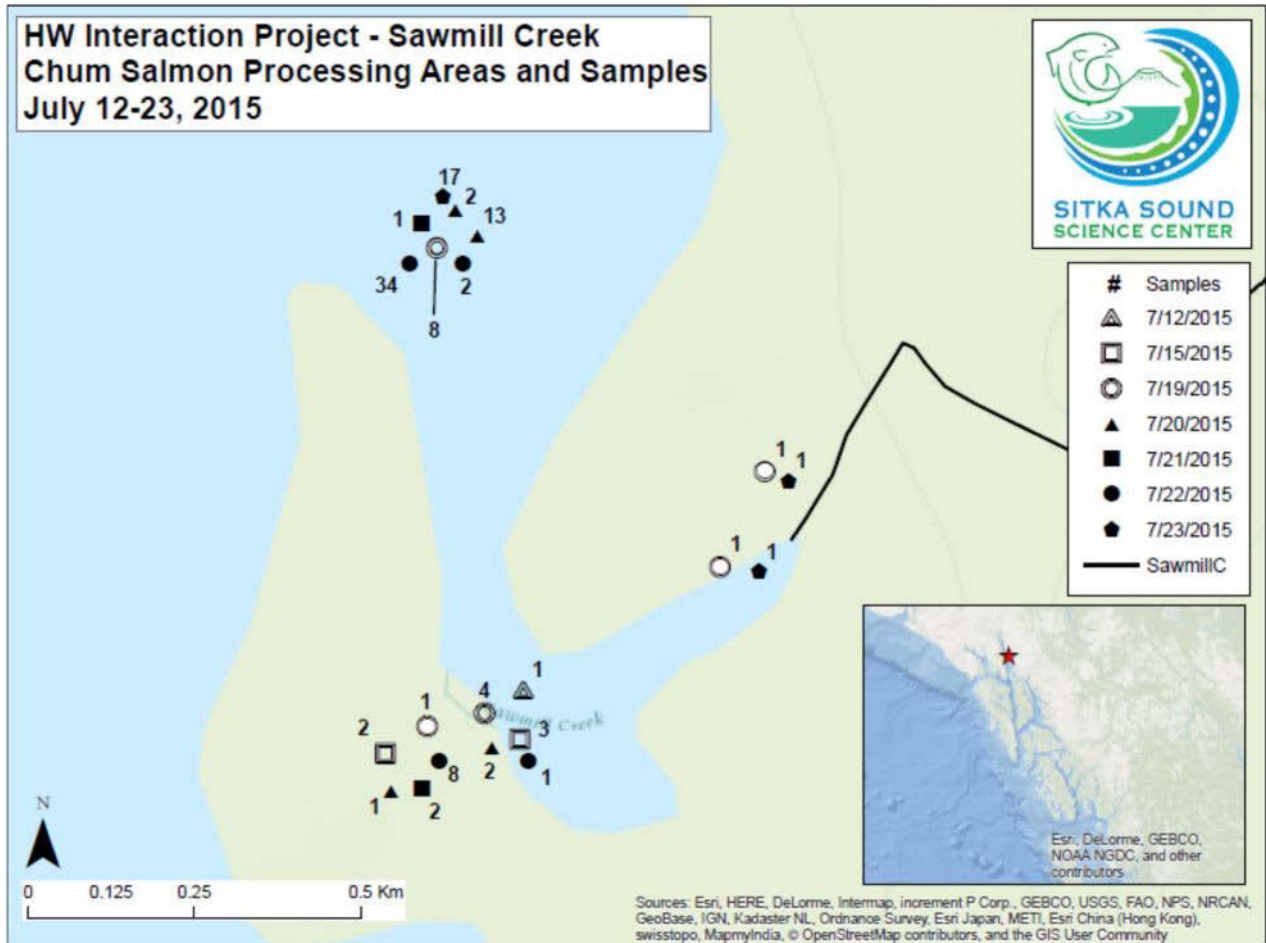
**Extent of stream surveyed:** The crew maintained a process of sampling from the mouth up to the foot bridge, and then at various locations from the highest spawning areas back down. The uppermost extent of the stream surveyed was the large gravel area nicknamed “Valhalla” 58.3266536, -134.5697708 which has proven to be the extent of spawning in the past.

**Unusual events:** Chinook were present along stream but in fewer numbers than seen in 2014.

**Access, safety, or logistics issues:** The majority of samples come from the section of stream between the foot bridge and tide flats, where fish numbers are much more abundant. It is difficult to get an accurate stream sample distribution in a single day visit due to large numbers of fish.

**Recommendations, changes, and other notes:** If we maintain an “otolith only” approach on Fish Cr, 2-day visits should be scheduled in order to better survey the stream.

**Sawmill Creek  
115-20-10520  
Chum Salmon**

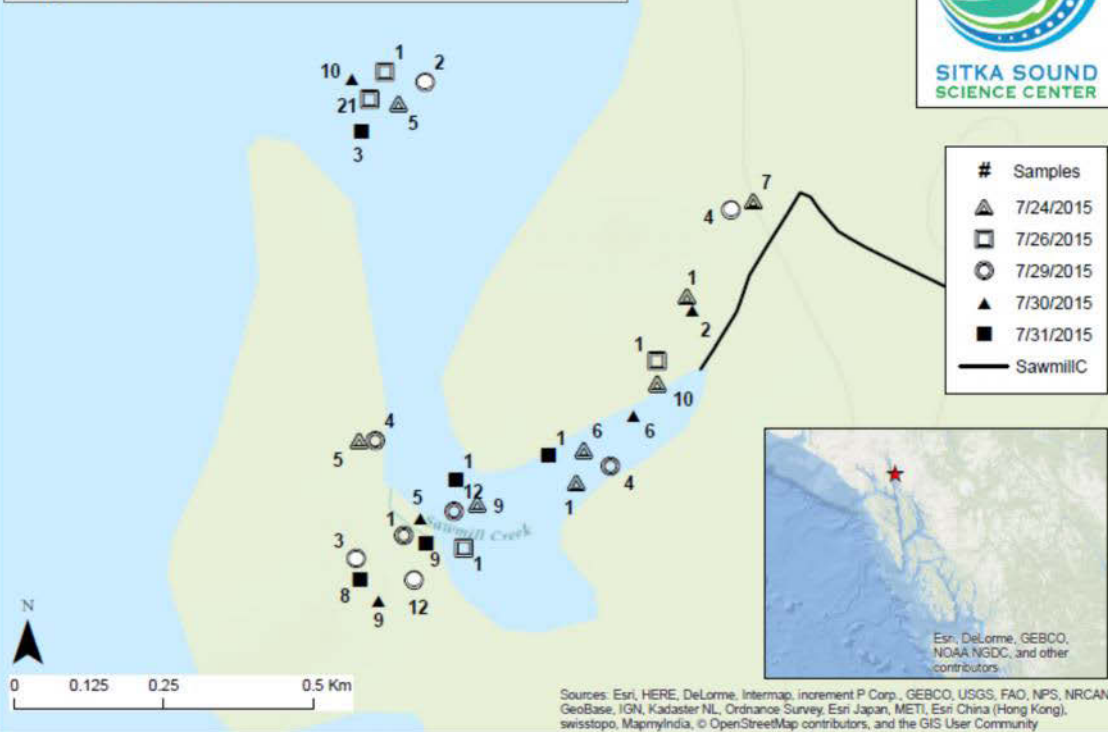


**Number of Visits by SSSC crew: 2**

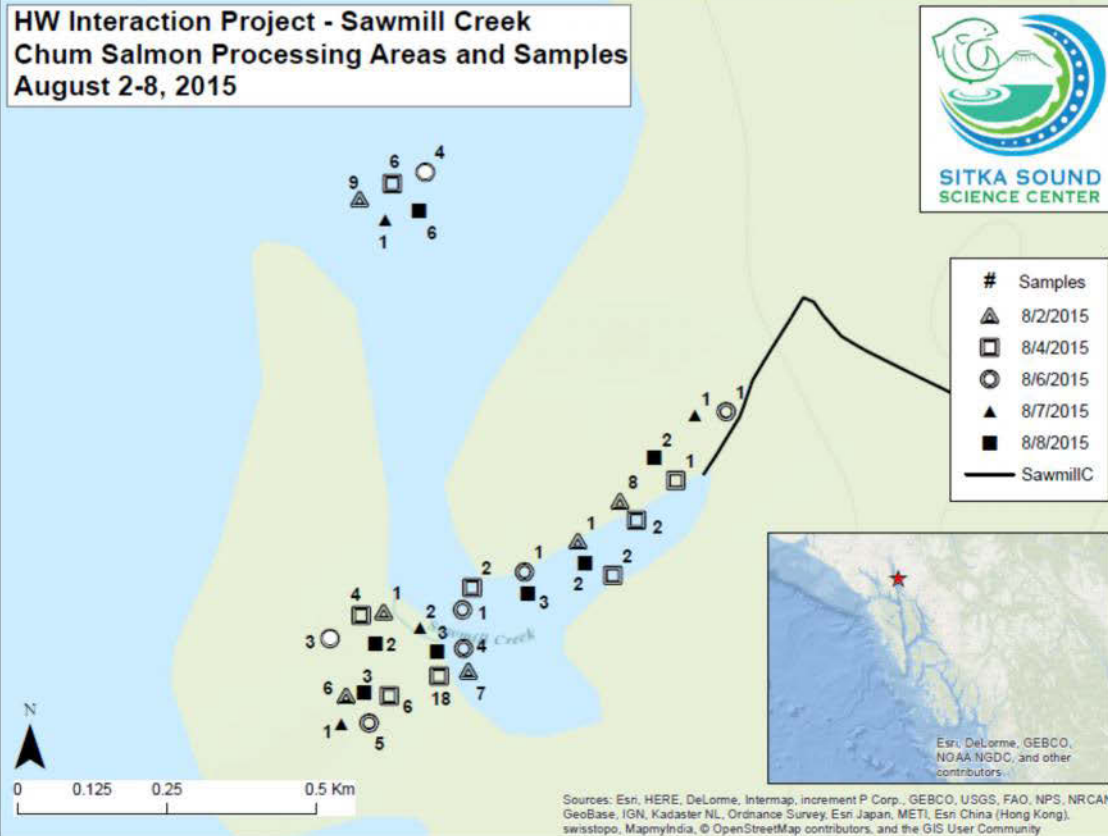
**Total Number Sampled: 563**

**2015 Samples Collected & Run timing:** SSSC crews sampled Sawmill Creek a total of 2 times in 2015 where we collected a total of 73 samples. The bulk of the total samples came from Casey McConnell, a graduate student at the University of Alaska Southeast who was conducting otolith and stress studies on the Sawmill Creek chum salmon population. Our first visit was on 7/24, where we collected 37 samples and first met with Casey. We returned for a second visit on 7/29 to help him sample. On this visit we collected a total of 36 samples from dead fish that were not eligible for Casey’s study. After this visit, Casey maintained a nearly daily presence on the creek. By the end of the season, his total sample size was 490, which in combination with ours totals 563.

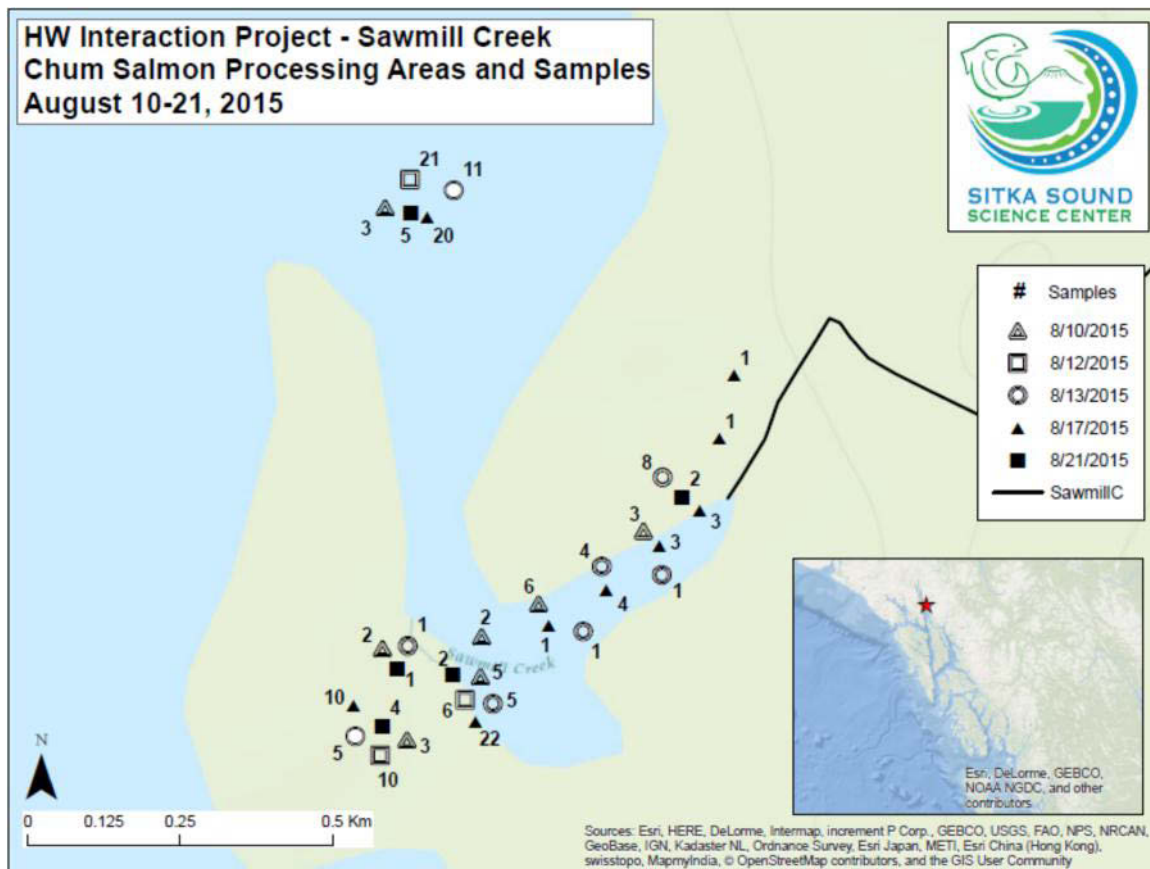
**HW Interaction Project - Sawmill Creek  
Chum Salmon Processing Areas and Samples  
July 24-31, 2015**



**HW Interaction Project - Sawmill Creek  
Chum Salmon Processing Areas and Samples  
August 2-8, 2015**







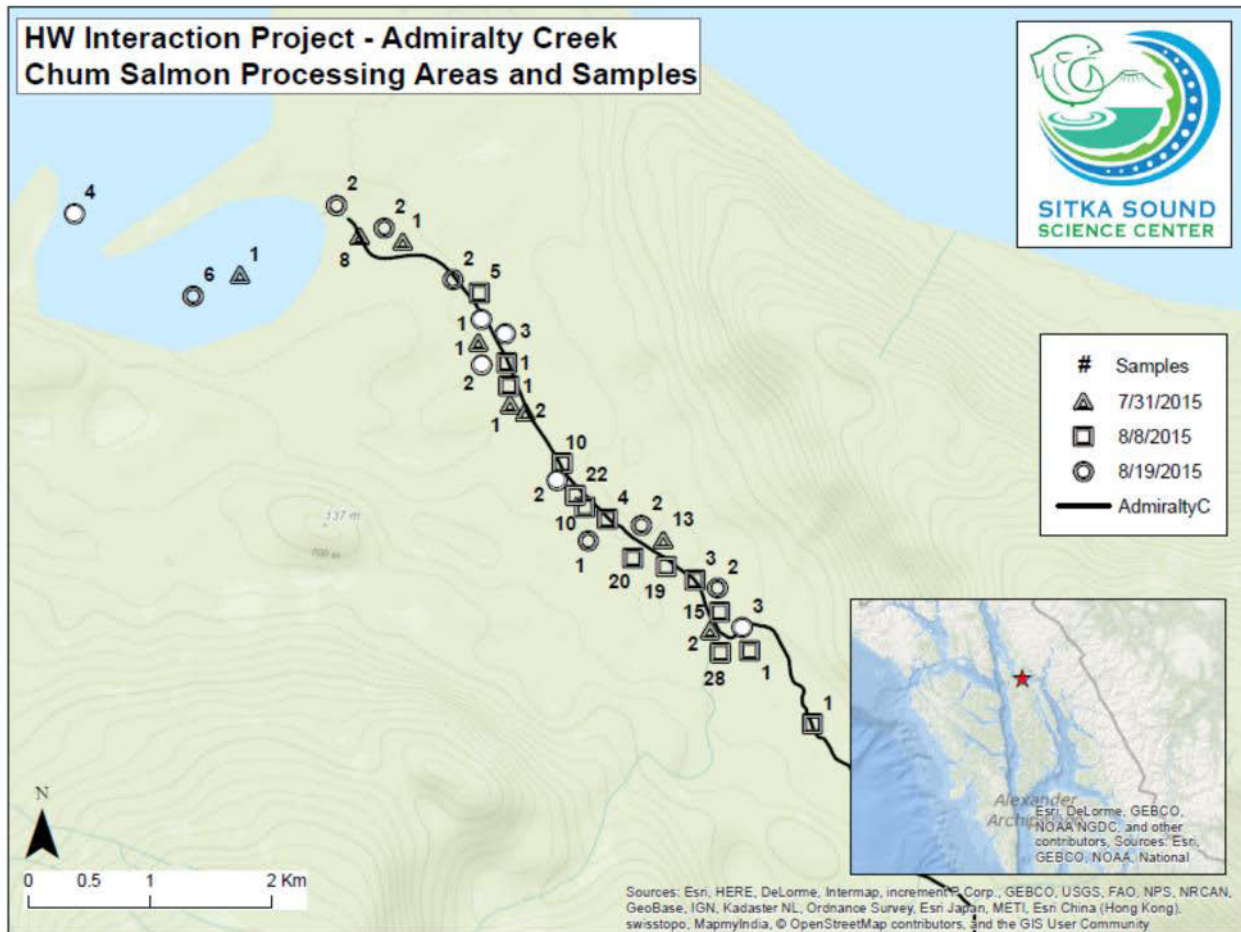
**Extent of stream surveyed:** The stream was surveyed from low tide on multiple visits. The highest extent surveyed was the waterfall 58.71667, -134.93874.

**Unusual events:** None

**Access, safety, or logistics issues:** None

**Recommendations, changes, and other notes:** In 2014, while in transit to Sawmill Creek from Echo Cove, the crew reported running aground on a -4 tide. Future crews should stick to the mainland side of the channel during minus tides, and move slowly. Have surveys on stream aware of other help involved as well as protocol for live/dead counts when other samplers present.

**Admiralty Creek  
111-41-10050  
Chum Salmon**



**Number of Visits: 3**

**Total Number Sampled: 201**

**2015 Samples Collected & Run timing:** We sampled Admiralty on 7/31, 8/8, and 8/19. The first visit was not very productive with just 29 samples. During the second visit the crew sampled 140 and observed a peak count of 125 live and 125 dead. A high water event occurred just before the third visit, which affected live/dead counts and sample numbers. Fewer chum salmon were observed during this visit and the crew was only able to collect 32 samples.

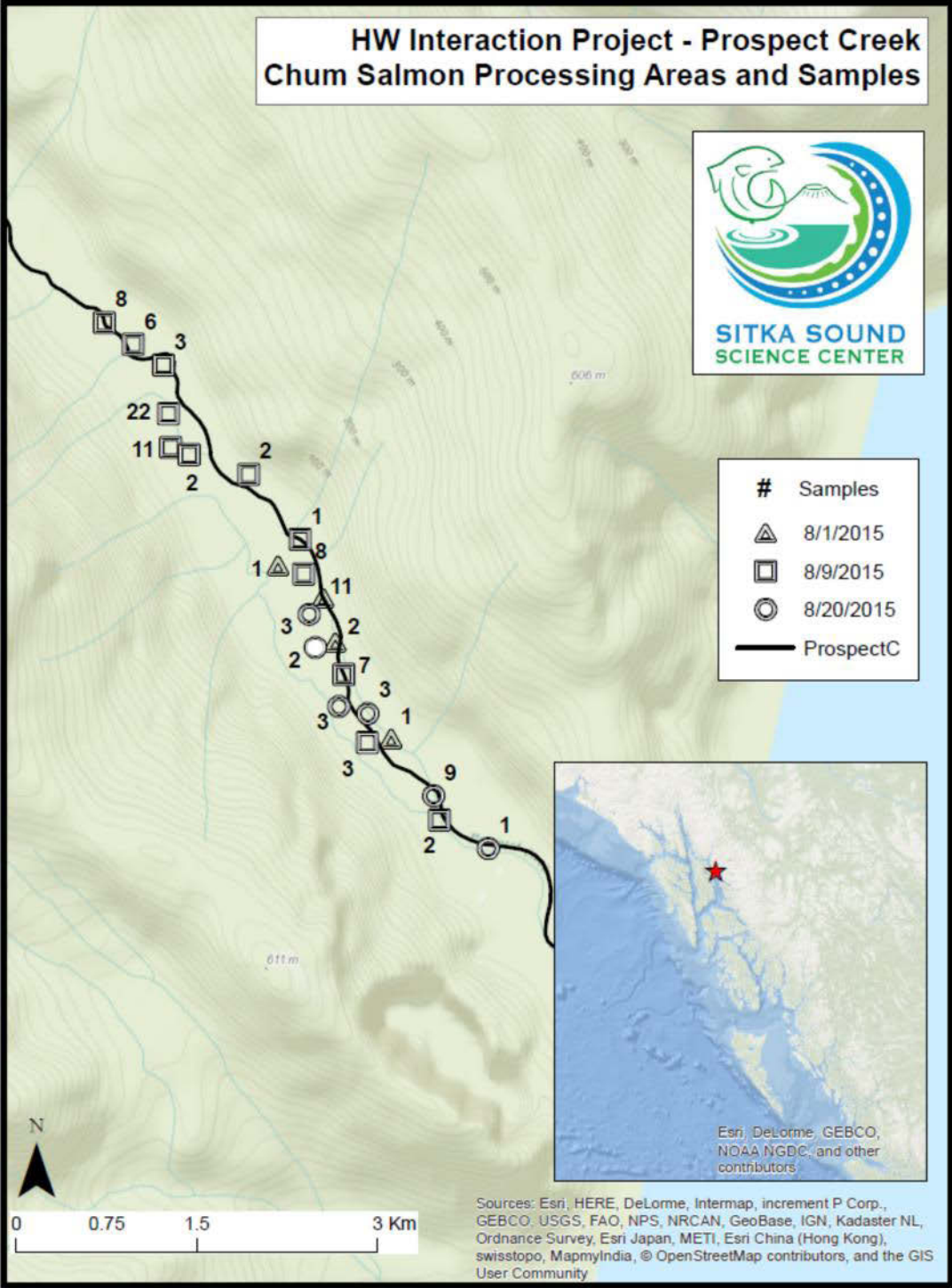
**Extent of stream surveyed:** The highest survey point was roughly 4.25 miles upstream from mouth 58.14854747, -134.5153638. No chums were ever observed within a 20 minute walk downstream of this location. Much of the substrate in the upper portion is not conducive to chum spawning. Very few chums were ever found in the intertidal sections of the creek either, but the flats were surveyed on multiple occasions.

**Unusual events:** The crew reported that a small side channel had productive chum numbers during the second visit only. A high water flushed the fish out of this area before the final visit.

**Access, safety, or logistics issues:** There is a USFS trail running along the east side of the creek, which provides easy access. The crew was usually dropped off at this trail head where they hiked to the upper extent, roughly 1.25 hours of hiking. Once above the fish, the crew would then sample downstream. During extended heavy rain events the creek becomes swift and impassable. Visibility is greatly reduced and most pools become impossible to see into or collect samples.

**Recommendations, changes, and other notes:** Admiralty Creek is characterized by many braided channels, large woody debris, and undercut banks throughout the upper sections where the creek runs through an old growth forest. Here chum visibility is limited.

**Prospect Creek  
111-33-10100  
Chum Salmon**



**Number of Visits:** 3

**Total Number Sampled:** 111

**2015 Samples Collected & Run timing:** We sampled Prospect Creek on 8/1, 8/9, and 8/20. High water prevented us from surveying most of the stream on 8/1 and 8/20. The peak count was observed on 8/9 where the crew counted 141 live and 61 dead chum. The visit on 8/20 was great timing, however high water flushed many of these fish out and prevented the crew from reaching the upper extends of the stream.

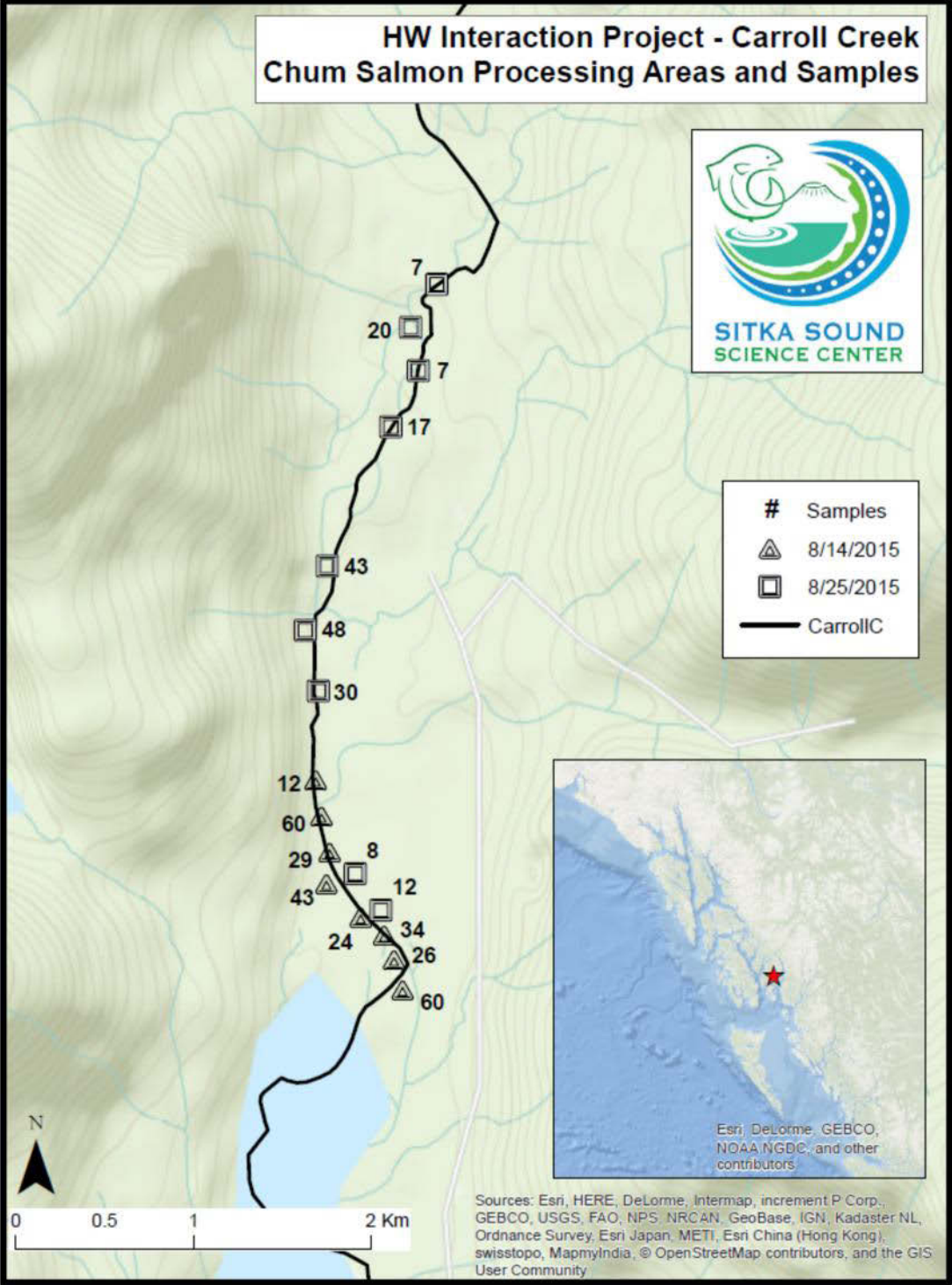
**Extent of stream surveyed:** The highest survey point in 2015 was approximately 2.5 miles upstream from the mouth of the creek 58.07543, -133.85381.

**Unusual events:** none reported

**Access, safety, or logistics issues:** During heavy rain events, Prospect creek rises quickly, and becomes difficult and dangerous to hike. During the heaviest rain events, sampling the majority of the upper creek is not feasible due to murky water conditions and dangerous flow level. On one visit in 2015, the creek was observed to rise well over a foot in a matter of an hour. It is still possible to sample from the lowest sections of the creek, even during the highest water conditions, although snagging is more challenging.

**Recommendations, changes, and other notes:** Prospect Creek is characterized by multiple long riffle and pool sections. There are numerous gravel bars and the stream is flanked by alders in most of the upper reaches. There is one small section of the stream that has fast moving rapids that can be treacherous to hike, therefore our crew created a bypass trail in the woods to the east of the stream.

**Carroll Creek**  
 101-45-10780  
 Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 480

**2015 Samples Collected & Run timing:** Carroll Creek was visited on 8/14 and 8/25. During the visit on 8/14 we counted 162 live chums and 322 dead, collecting 288 samples. On 8/25 we counted 109 live and 356 dead and collected 192 samples. These visits encompassed the run well and with such a strong run the crew easily exceeded the target goal with 480 total samples in just 2 visits.

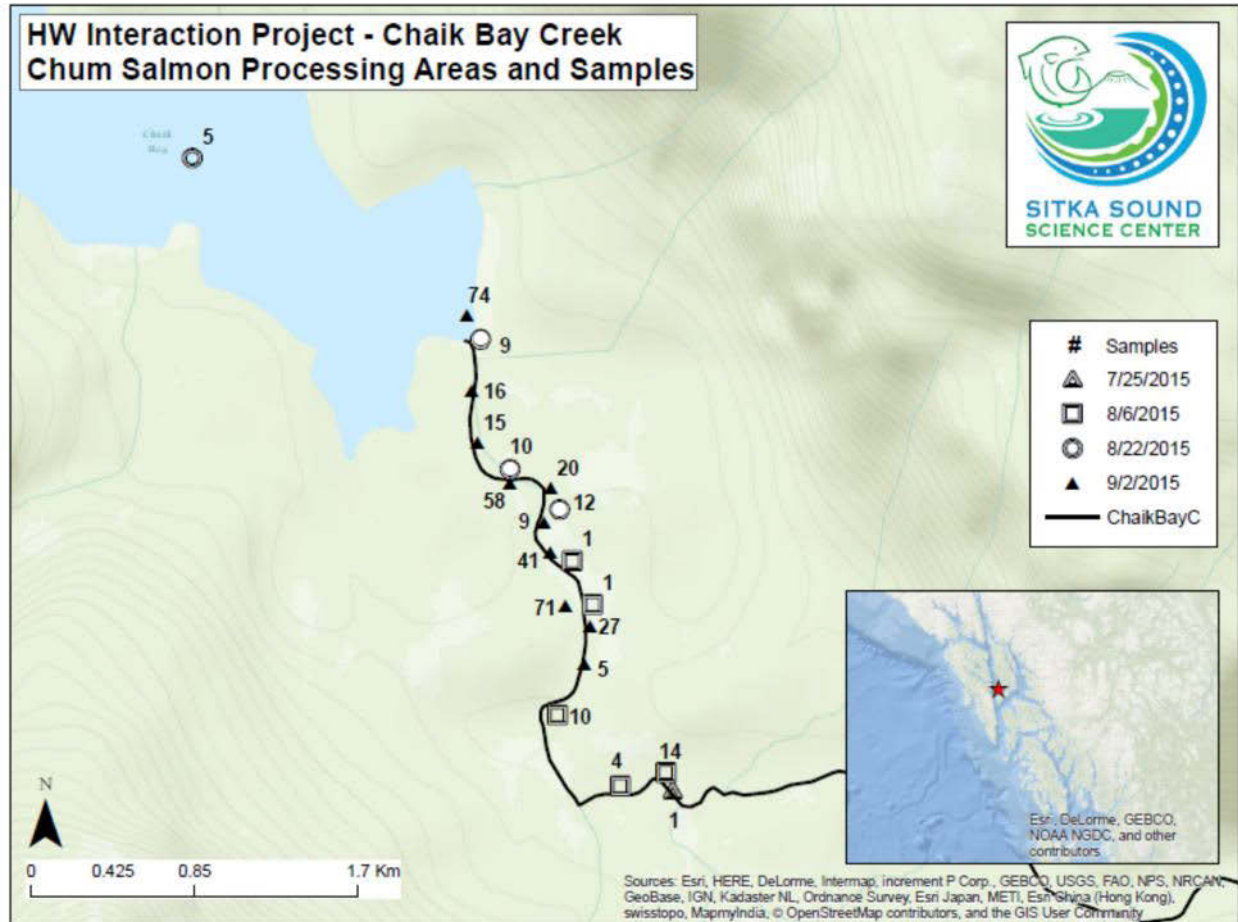
**Extent of stream surveyed:** We surveyed approximately 3.5 miles of stream, from the tide flat up to where the stream became braided and few fish were seen 55.67220073, -131.3532226.

**Unusual events:** None reported

**Access, safety, or logistics issues:** None reported

**Recommendations, changes, and other notes:** We sampled this stream with the use of the jet boat to get across the tide flat. At low tide navigating the lower stretches of this creek can be tough but by mid tide you can easily jet boat up to where chums are actively spawning.

**Chaik Bay Creek**  
112-80-10280  
Chum Salmon



**Number of Visits: 4**

**Total Number Sampled: 403**

**2015 Samples Collected & Run timing:** The first visit on 7/25 was early. Only 184 bright chum were seen on this survey, many in the lower stretches and large pools. Very few new redds were observed. When the crew returned on 8/6, 769 live chum were observed and all but 2 samples came from live chum. Many bright chums were seen holding in the intertidal zone on this visit. On the third visit on 8/22 the creek was flooding and murky. We surveyed through the intertidal and grass flats, up through the first few log jams before turning around. No live/dead count was conducted because of the poor visibility and high water, but still some live chums were seen. A separate crew visited Chaik a 4th time on 9/3 and counted 42 live and 361 dead chums, collecting 336 samples.



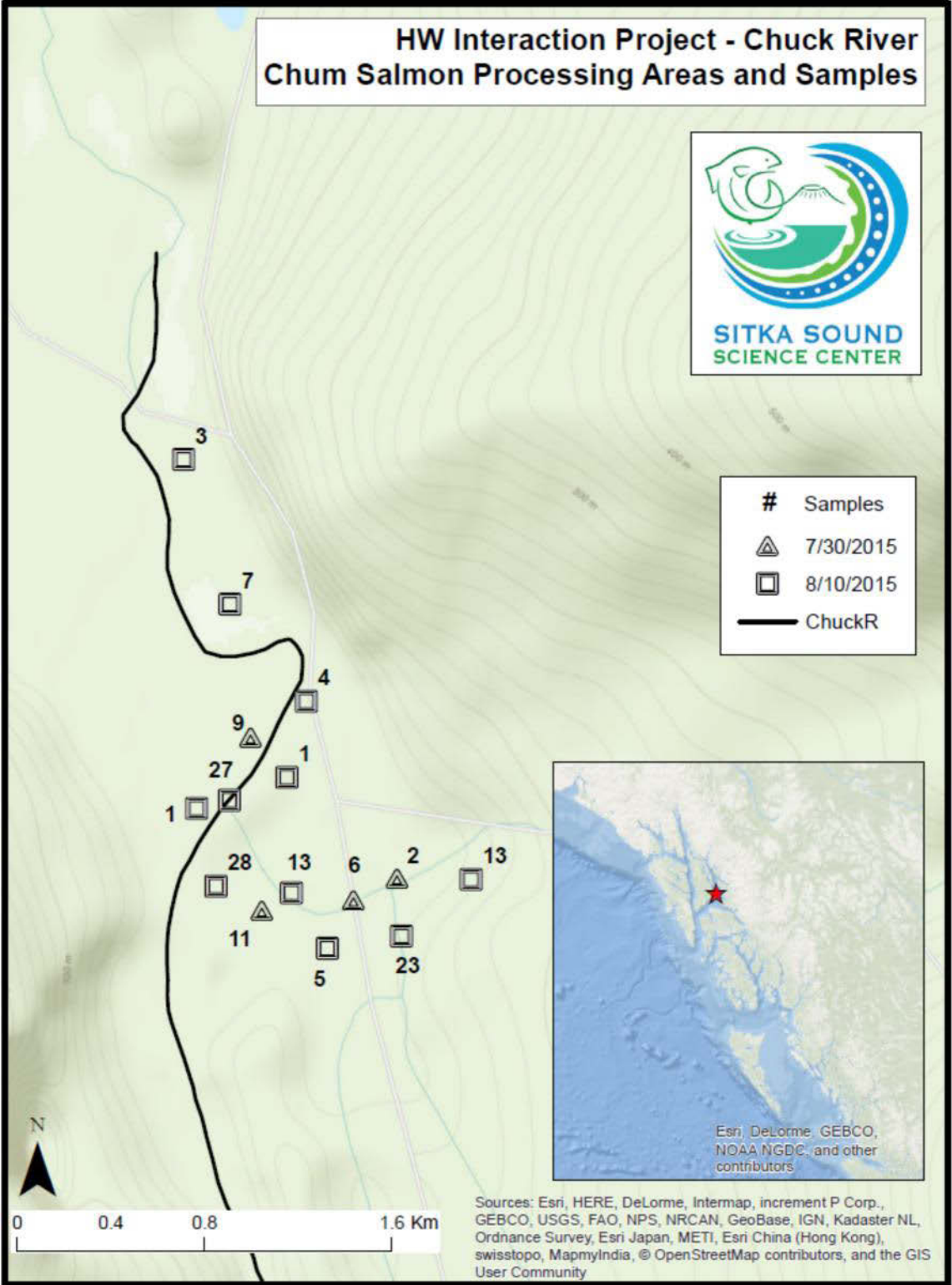
**Extent of stream surveyed:** Crews surveyed roughly 2.75 miles above the tree line of the stream, at that point where both forks become braided and brushy. The highest point surveyed was 57.29271221, -134.4233196.

**Unusual events:** None reported

**Access, safety, or logistics issues:** Chaik has a large tide flat. If a drop-off cannot be arranged, it is best to schedule your survey so that you can go in and come out on a 10' or higher tide. This allows you to avoid walking the 2 mile tide flat or skirting sloughs and down trees at a very high tide. The skiffs can be anchored in the channel of the stream.

**Recommendations, changes, and other notes:** The stream itself is fairly easy to negotiate, aside from multiple log jams.

**Chuck River**  
 110-32-10090  
 Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 153

**2015 Samples Collected & Run timing:** The first visit on 7/27 was during a high water event and the crew was unsuccessful in sampling. High water occurred again on 7/30, but with the river dropping the crew was able to conduct sampling in late afternoon. Only 51 live chums and 15 dead were seen. The final visit was on 8/10 during which 73 live and 127 chum salmon were observed. All samples came from the main stem below Sylvia Creek (a major tributary), or Sylvia Creek itself.

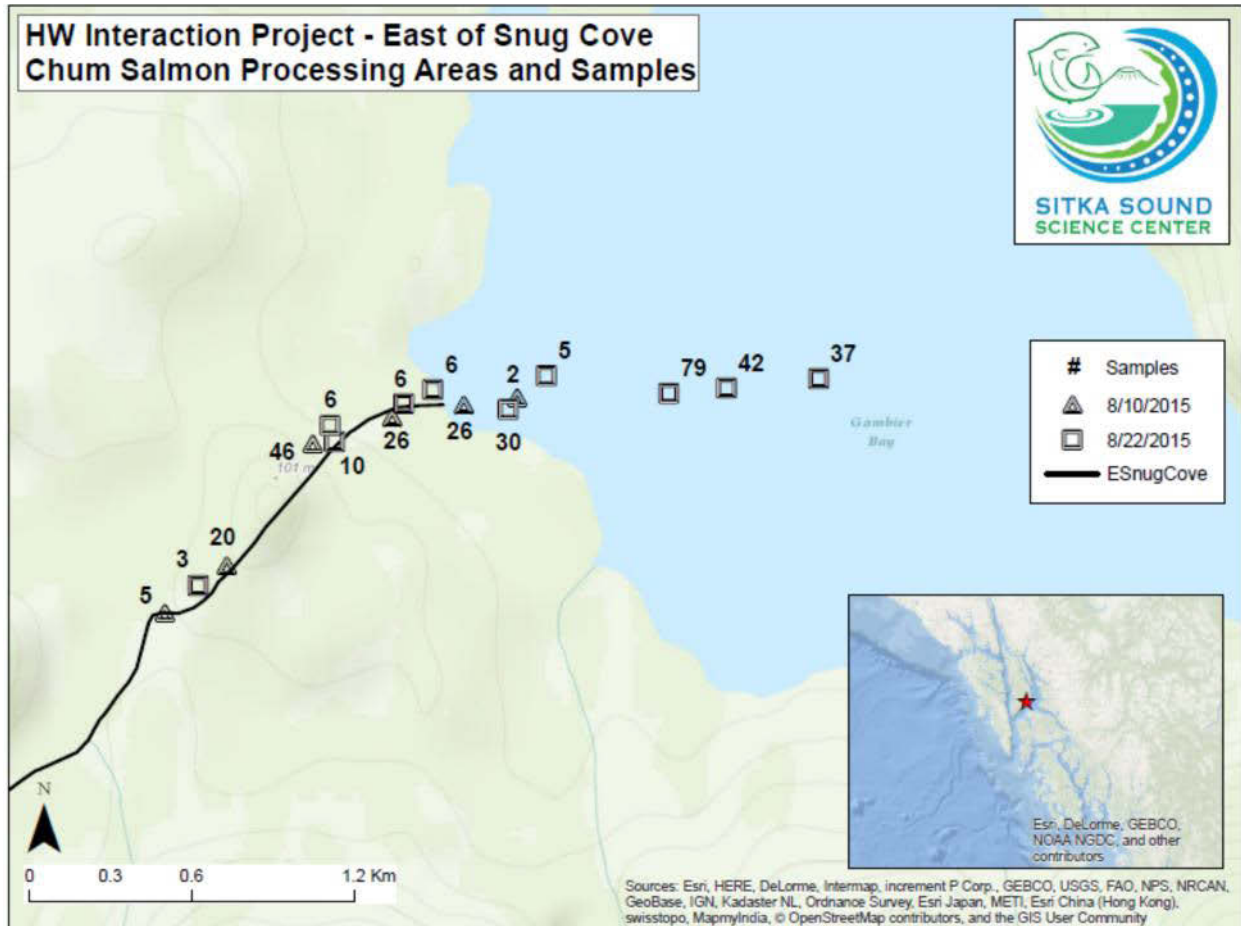
**Extent of stream surveyed:** The Chuck River was surveyed from the mouth of the main stem, to the bottom of the canyon 57.56281338, -133.3518048. This point is just upstream from the Sylvia Creek tributary and approximately 1.75 miles from the mouth. Sylvia Creek was also surveyed from the confluence with the Chuck River (1.25 miles from mouth) to the natural barrier falls (0.5 miles from the confluence) 57.56558148, -133.3395466.

**Unusual events:** None reported

**Access, safety, or logistics issues:** The jet boat can be used to access most of the main river below Sylvia Creek, although the crews have reported that occasionally the main channel is blocked by fallen trees. The main channel below Sylvia Creek is sandy, braided, and easily negotiable, either by foot or by jet boat under normal conditions. However, just upstream from Sylvia Creek is a gorge with large boulders and swift water, which has made wading upstream impossible thus far. Crews have attempted to skirt the canyon, but without success. The Chuck River discharges an extremely large volume of water during periods of high rainfall.

**Recommendations, changes, and other notes:** The chuck River has many miles of stream, however the majority of chum spawning is believed to take place below the confluence of Sylvia Cr. In 2014 we were unable to get permission from the USFS or Goldbelt to land a helicopter in the upper reaches and search for chums above the gorge. Upon realizing that accessing these upper reaches without a helicopter would require a tremendous amount of effort, time, and resources, for little reward, it was decided that sampling Sylvia Cr and the lower Chuck River would suffice.

**East of Snug Cove**  
110-23-10210  
Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 349

**2015 Samples Collected & Run timing:** Our first visit was on 7/30, which was too early. The crew only saw 83 chums, all of which were pre spawners or actively spawning. No samples were collected. The second survey was conducted on 8/10. During this visit we were able to snag many post spawners and sampled 153, but the majority of chum were still alive. We sampled a third time on 8/22 during which we saw 55 live and 206 dead chums and collected 196 samples. The majority of fish sampled here were found on the tide flats during low tide. It appears that high water washed out and piled up carcasses at the mouth.

**Extent of stream surveyed:** The crew surveyed approximately 1 mile upstream from mouth until canyon narrowed and deep pools prevented the crew from walking the stream. On 8/10 the water was low enough in the creek for some of the crew to walk into the gorge, but no chums

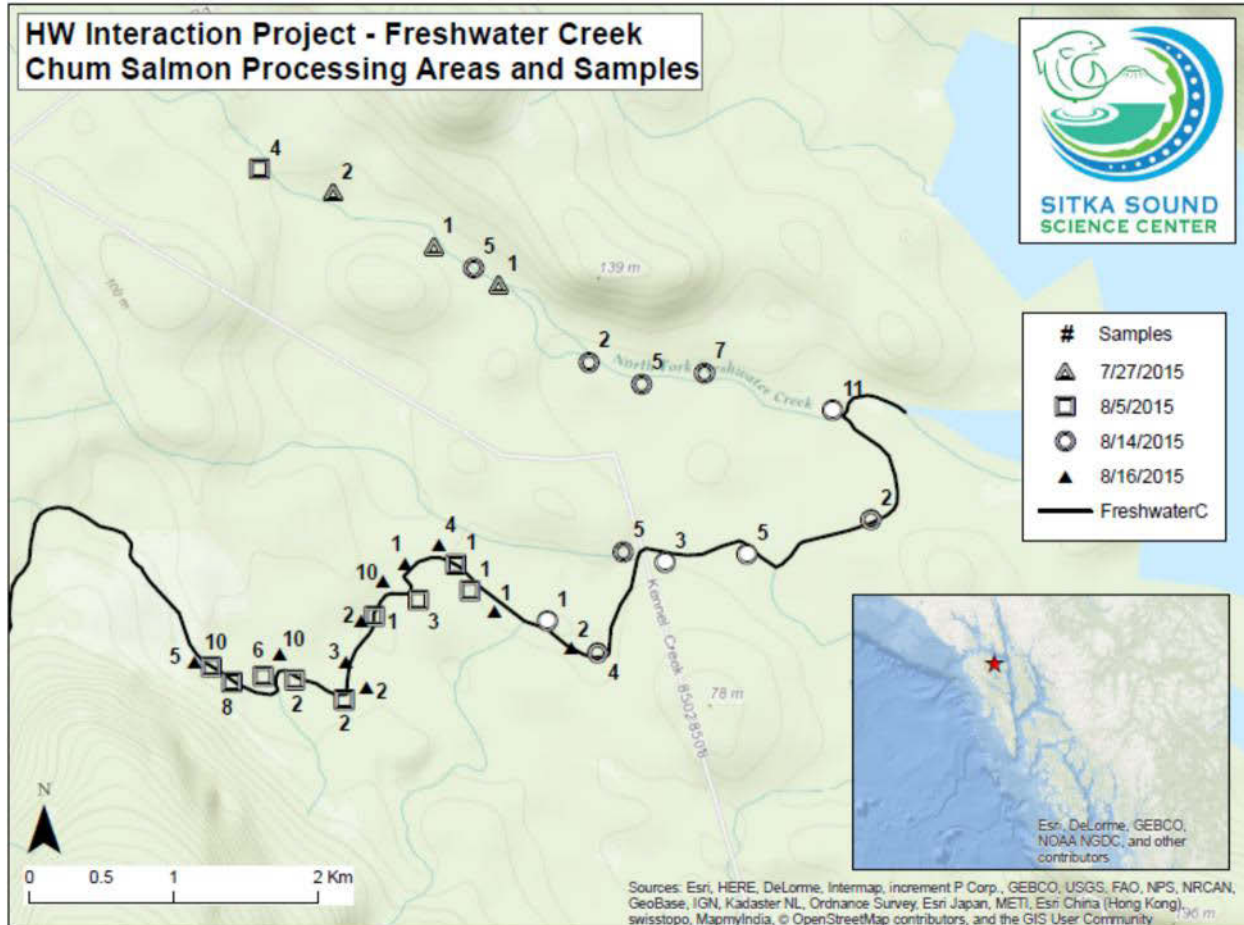
were observed just above the pool. The highest point surveyed there was 57.41373835 - 133.9421679.

**Unusual events:** None reported

**Access, safety, or logistics issues:** None reported

**Recommendations, changes, and other notes:** Crews can anchor skiffs near the USFS cabin and walk the tide flat to get to the stream. On the tide flat, the stream fans out into a series of shallow braids and the main channel can be hard find in low water conditions. It is a small stream with a high gradient throughout. Being a small system, Snug is more likely to be wade able during flooding periods.

**Freshwater Creek**  
112-50-10300  
Chum Salmon



**Number of Visits: 4**

**Total Number Sampled: 134**

**2015 Samples Collected & Run timing:** We sampled Freshwater on 7/27, 8/5, 8/14, and 8/16. We sampled various parts of the creek on each visit, never observing over 155 chums in a single day. On 7/27 we had enough people to survey both forks below the road bridges and collected only 4 samples. The next 3 visits the crew was able to hone in on the more concentrated areas of chum spawning (just below barrier falls on North fork, and just above canyon upstream of the road bridge on the South fork. On these last 3 visits the crew collected 40, 50, and 40 samples respectively.

**Extent of stream surveyed:** Freshwater Creek was accessed entirely from the road system in 2015. On 7/27 we had enough people to survey both forks. One crew worked from the road bridge on the South fork to the salt water, the other worked down from an entry point on the North fork, approximately 2 miles upstream from the confluence 57.94754, -135.26258. The confluence is about 1.25 miles from the salt water. During the second visit on 8/5, efforts were

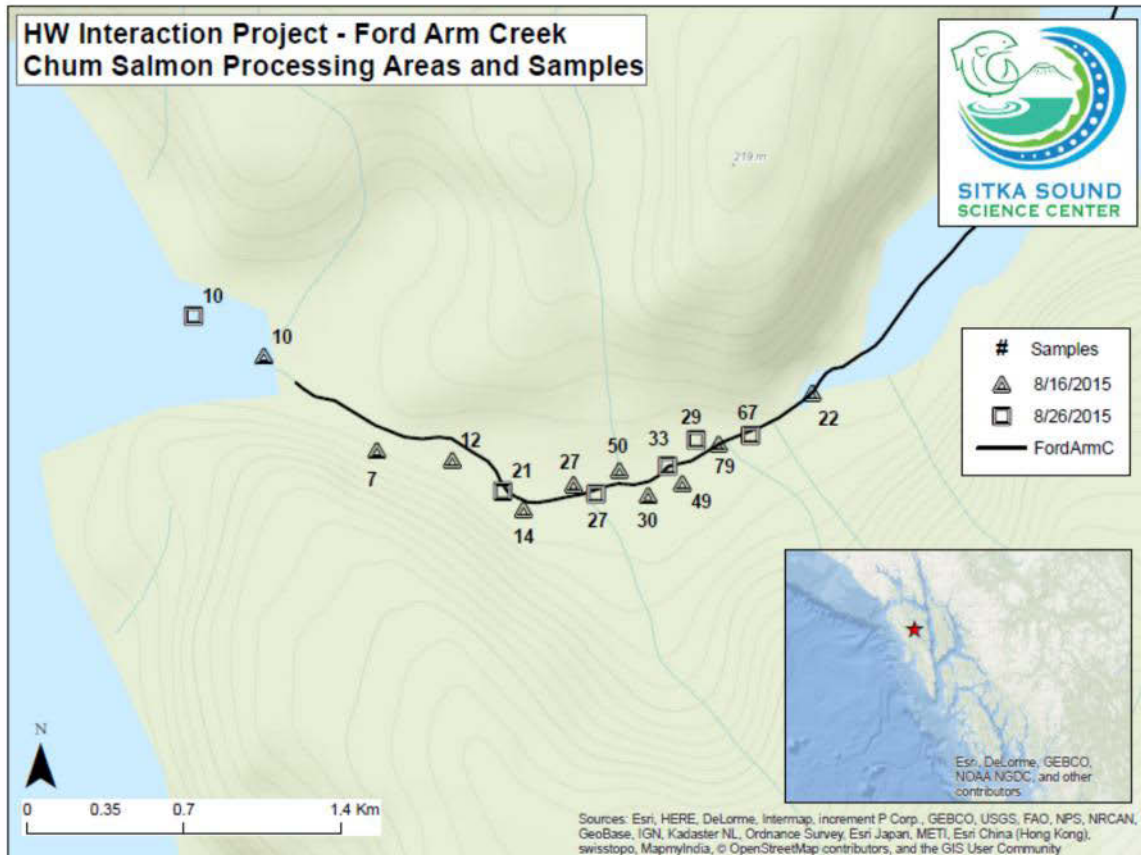
focused upstream from the road bridge on the South fork and then from the road bridge on the North fork, down to the drop-off point from 7/27. During this visit the crew discovered a barrier falls on the North fork at 57.95241, -135.27285, just upstream of the entry point on 7/27. The crew reported that the area just below this falls was excellent chum habitat. The crew also discovered that there was good spawning above the canyon upstream of the road bridge on the South fork. During the third visit on 8/14, the crew walked from the entry point on the North fork, down to the confluence and then back up the South fork to the road bridge. On the last survey, the crew sampled upstream from the road bridge on the South fork. The highest point sampled on the North fork was the road bridge 4 miles from salt water, 57.95468953, -135.2900664. The highest point surveyed on the South was 3 miles from salt water 57.93482574, -135.2713241

**Unusual events:** None reported

**Access, safety, or logistics issues:** Freshwater Creek cannot be safely waded from the bridge in high water. With rain the creek gets very stained with tannins from the muskegs. During regular or low water levels the creek is very easily walked aside for a series of large log jams. Future crews should be aware of the entry point from the road that terminates on the stream at 57.94754, -135.26258.

**Recommendations, changes, and other notes:** The creek can easily be surveyed from the mouth, however, with the road system providing easy access to the bridge 2 miles upstream, it is much more beneficial to have the support vessel port in Hoonah and rent a vehicle for the crew to use instead. Having a crew that is based in Hoonah over the course of the season would be highly beneficial. It might be possible to hire a crew that lives in Hoonah to sample from both Game and Freshwater creeks when conditions and fish numbers are favorable. Survey Freshwater Creek at least once in late August.

**Ford Arm Creek**  
113-73-10030  
Chum Salmon



**Number of Visits: 2**

**Total Number Sampled: 487**

**2015 Samples Collected & Run timing:** The first visit was conducted on 8/16, which was a perfectly timed first visit. The crew counted 298 live chums, roughly 200 of which were fresh and seen in the last big pool before the ADF&G weir. 385 dead chum were observed. Our second visit was on 8/26. Two large storms had come through between these two visits and the weir operators informed us that our second visit had the best visibility and lowest level they had seen since our first visit. The stream had flooded over the weir during one storm event. Despite these events, we were still able to collect 187 samples and observed 158 live and 326 dead chum. This stream had several log jams that catch carcasses even in high water events and has a strong enough run that sampling is not highly impacted by flood events.



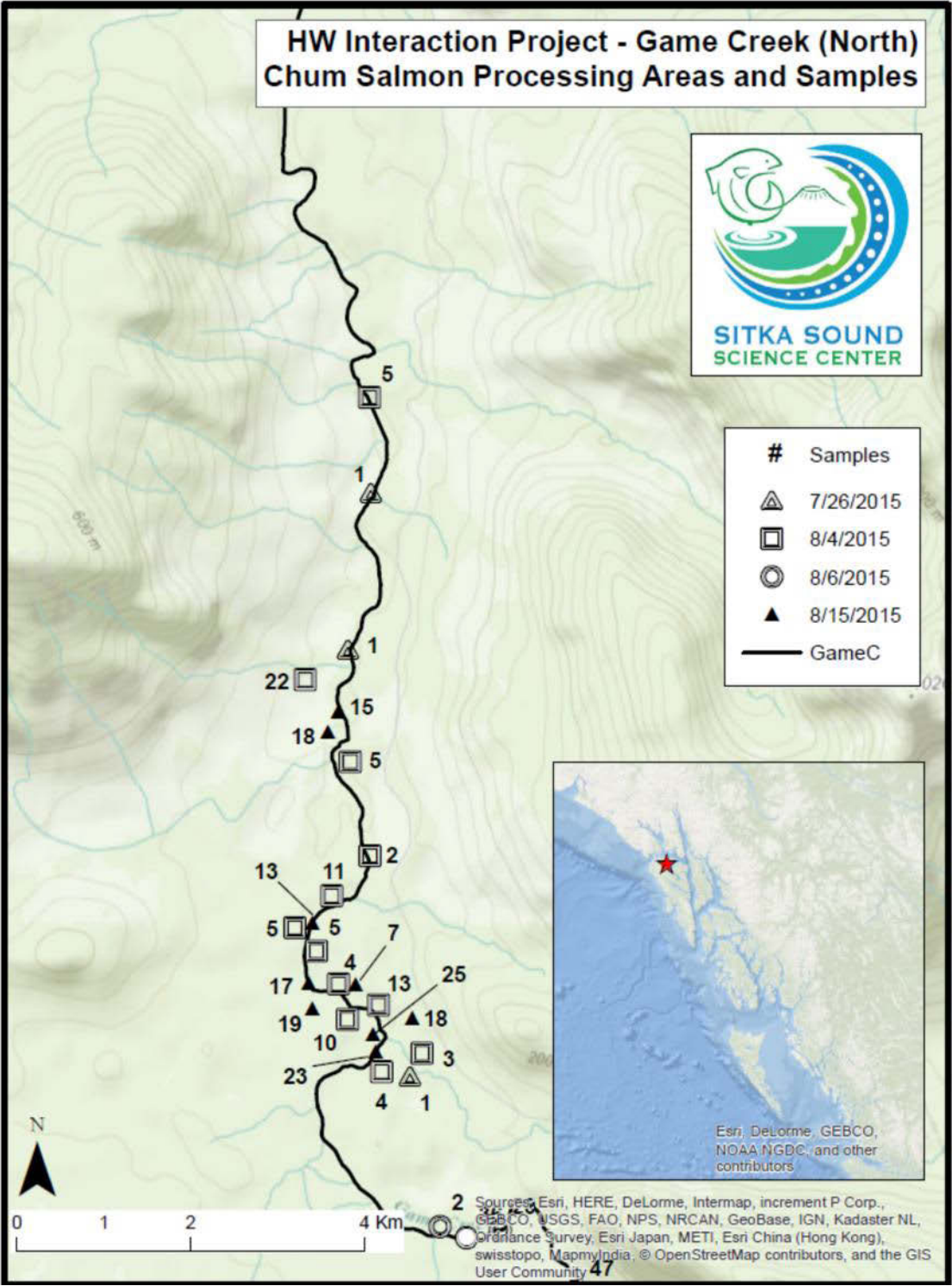
**Extent of stream surveyed:** The stream was surveyed from the tidal flats to the ADF&G weir, approximately 1.25 miles upstream 57.58176734, -135.8944974.

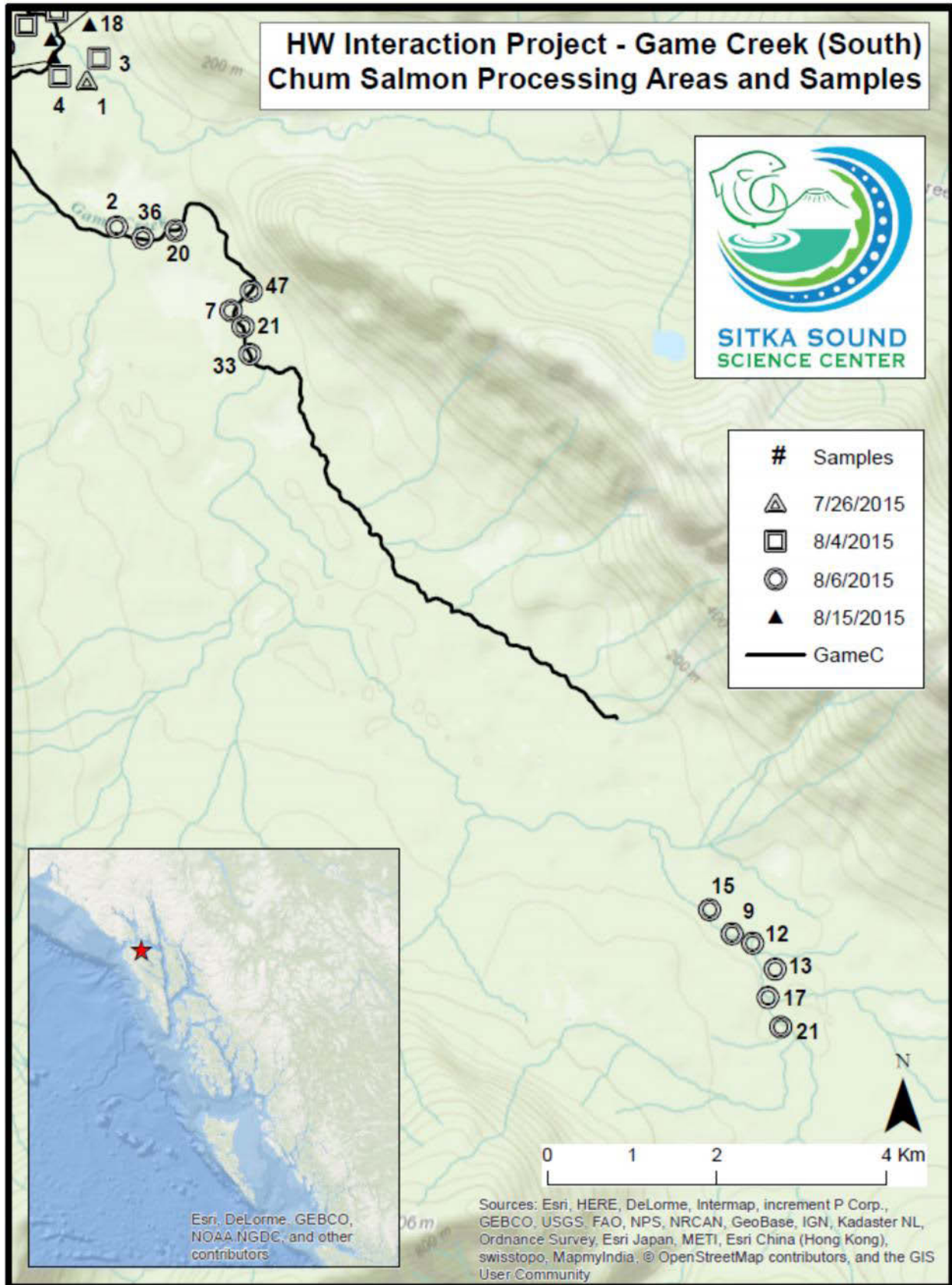
**Unusual events:** None reported

**Access, safety, or logistics issues:** The first ¼ mile of the stream is characterized by large slippery boulders, which can be difficult to safely traverse in high water and low visibility situations. There is a poor, barely maintained trail (as no power tools are allowed in the wilderness area for maintenance) on the left side of the creek that bypasses this section, but ADF&G informed us that due to low water at the beginning of the season, the trail was not used at all in 2015 and is highly overgrown with devils club. We did not look for the trail and opted for the creek route on both visits.

**Recommendations, changes, and other notes:** When accessing this creek, anchor to the left of the mouth. There is a lake with a weir approximately 2 miles upstream. If the vessel cannot make it to the outer coast of Chichagof due to bad weather, the crew should be prepared to fly into these outer coast streams when the timing is right. If the vessel-based crew is unavailable, a Sitka-based crew could be made available to fly into these outer coast streams.

**Game Creek**  
114-31-10130  
Chum Salmon





Number of Visits: 4

**Total Number Sampled: 500**

**2014 Samples Collected & Run timing:** We sampled Game Cr on 7/26, 8/4, 8/6, and 8/15. On the first visit, we had enough people to split into 2 groups. Together, we covered the lower 6.5 miles from the road bridge to the tide flats. We observed 812 live fish which were either pairing up or actively spawning, however we only saw 2 dead and collected just 3 samples. The second and third visits occurred just 2 days apart while the vessel was in Hoonah. During these visits the crew covered various 0.5 mile sections near all of the bridges across the 15 miles of stream. They also sampled from the mouth. It is not possible to get an accurate count of the entire stream by foot, but our fragmented count over the course of both visits was 1,202 live and 364 dead. Most of the dead fish were seen in the lower reaches and the crew collected 342 samples in total. During the final visit the crew counted 1,016 live and 377 dead chums and collected 155 samples in the 2 mile stretch below the second road bridge.

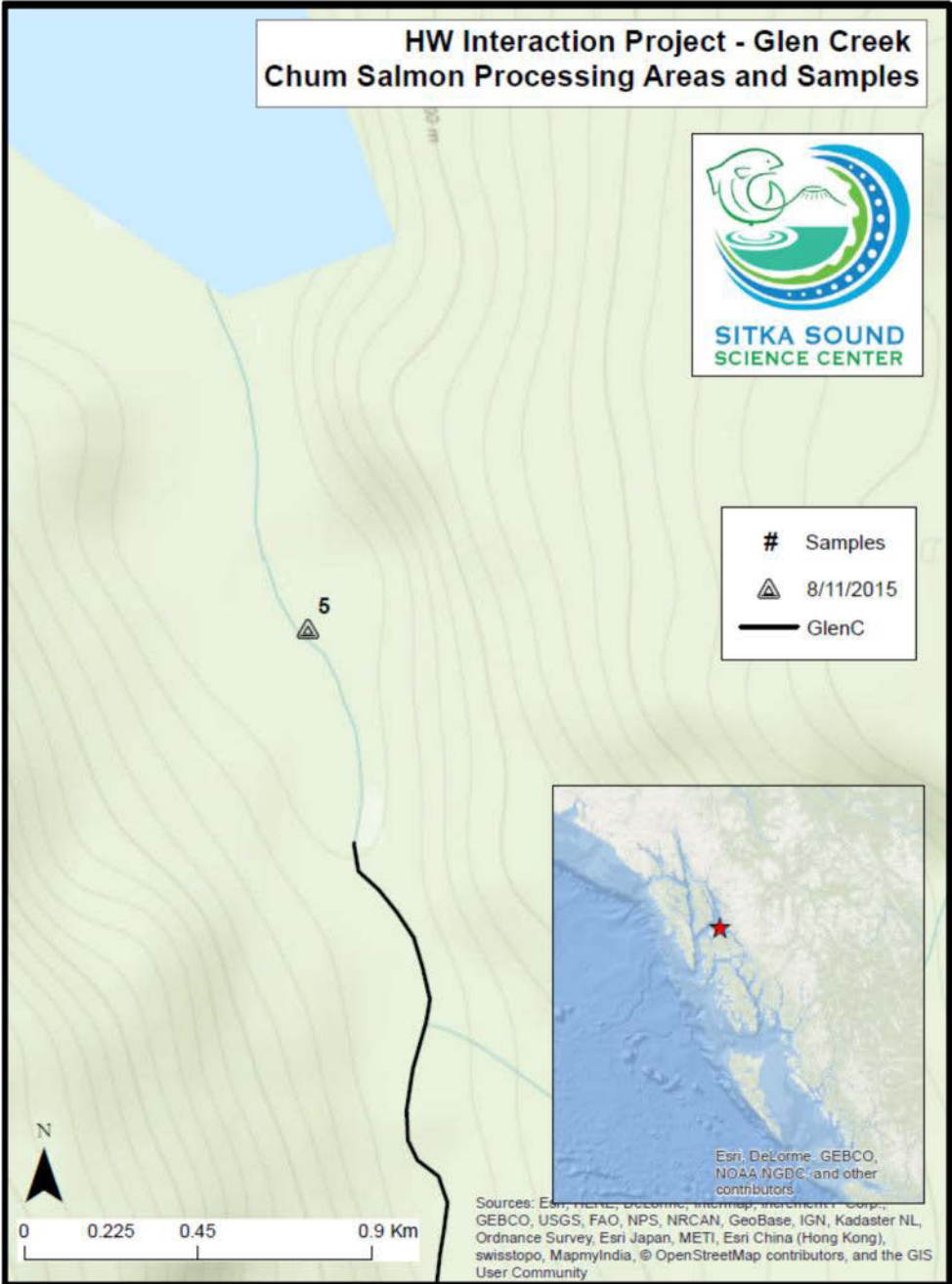
**Extent of stream surveyed:** Game Creek was accessed entirely from the road system in 2015. Crews surveyed several long stretches in the lower 17 miles of stream. The highest point surveyed was 57.94405446, -135.4064363.

**Unusual events:** SeaAlaska pink salmon surveyors informed us that there were spawned out chums at uppermost reach, while spawning activity in the lower reaches was minimal.

**Access, safety, or logistics issues:** Game Creek cannot be safely waded from the bridges in high water. During high water events, the creek gets very stained with tannins from the muskegs. The road system is handy when properly utilized for sampling the different portions. This stream is so long that help from another crew during the peak stages of the run makes a big difference in sample distribution throughout the stream.

**Recommendations, changes, and other notes:** To make the best use of time, crews should have an assigned person to drive the car between pick up and drop off points. During fair stream conditions, a single crew can easily walk most of the lowest nine miles of stream in 2 days, if the road system is efficiently utilized. If enough personnel are present, multiple sections can be walked simultaneously. Having a crew that is based in Hoonah over the course of the season would be highly beneficial. It might be possible to hire a crew that lives in Hoonah to sample from both Game and Freshwater creeks when conditions and fish numbers are favorable.

**Glen Creek**  
110-34-10060  
Chum Salmon



**Number of Visits: 2**

**Total Number Sampled: 5**

**2015 Samples Collected & Run timing:** The crew first visited Glen Creek on 7/29. They saw no sign of a chum salmon whatsoever. A second visit occurred on 8/11 where the crew observed 4 live and 4 dead chum and collected 5 samples.

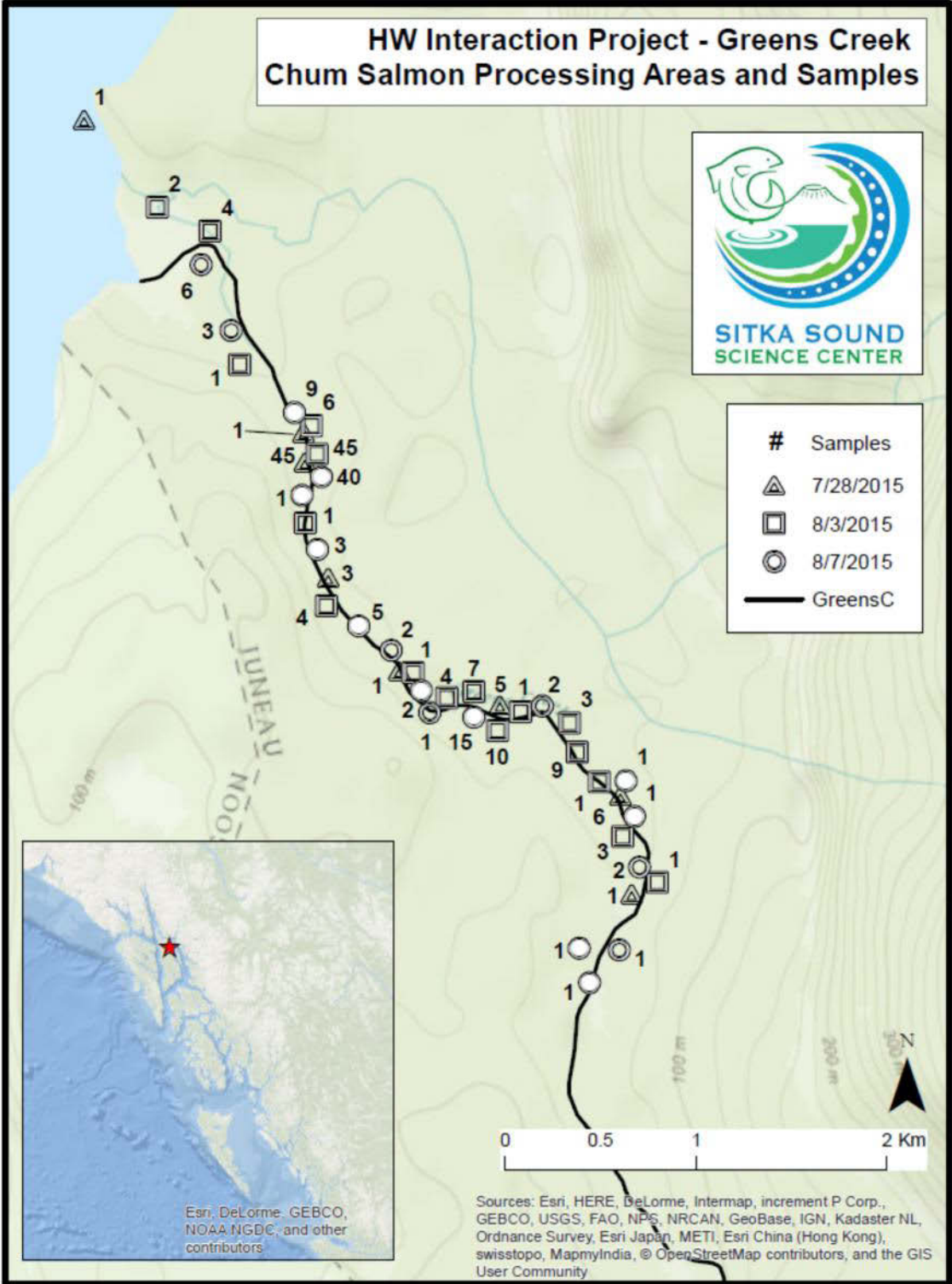
**Extent of stream surveyed:** We surveyed from the mouth until we got above a large boulder strewn canyon, approximately 2 miles upstream. . 57.30840719, -133.0925087

**Unusual events:** None reported

**Access, safety, or logistics issues:** At low tide, two downed trees in the main channel block the river. At high tide it is easy to drive around these trees and drop the crew off, but the crew should not park the boat above these downed trees if the tide is receding or they will likely not be able to get back out. Glen is a tough stream to walk as the substrate is large slippery cobblestone; there are multiple log jams, and some swift water crossings. The gradient of this creek is steep. The drainage has high walls on either side and is subject to flash flooding during heavy rain.

**Recommendations, changes, and other notes:** We saw no chums with good visibility throughout the first survey and very few in the second visit. This is the second year in a row in which chums were exceedingly scarce on Glen Cr. We believe that it is highly unlikely that we will be able meet our sampling goal on Glen Creek in future years.

**Greens Creek**  
 112-65-10240  
 Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 261

**2015 Samples Collected & Run timing:** We sampled Greens Cr on 7/28, 8/3, and 8/7. The crew counted approximately 100 total chums on the first visit and 200 total chums on each subsequent visit. The peak dead count was observed on the third visit at 145. During each visit, the crew collected between 62-93 samples.

**Extent of stream surveyed:** The creek was surveyed roughly 2.25 miles of stream up from mouth. The crew hiked backed to the mouth through a rough trail in the forest 58.08031297, -134.7407397.

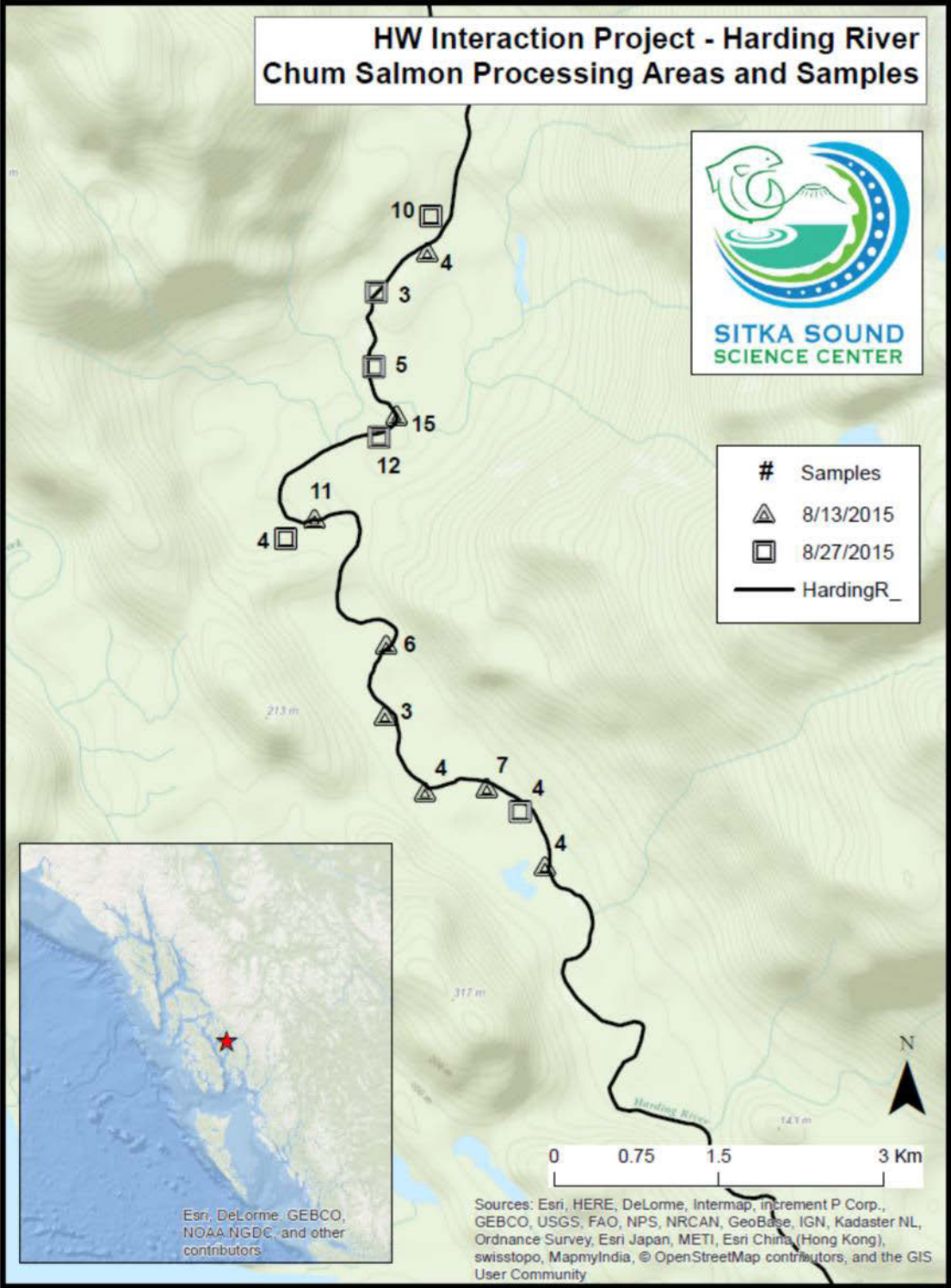
**Unusual events:** None reported

**Access, safety, or logistics issues:** There is a well-marked trail that leads away from the creek, possibly to the mine or road system.

**Recommendations, changes, and other notes:** None



**Harding River**  
107-40-10490  
Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 92

**2015 Samples Collected & Run timing:** Our 2 visits to the Harding were on 8/13 and 8/27. With the frequent high water conditions encountered this year, the Harding flights had to be postponed and rescheduled several times. The crew was originally scheduled to fly on 8/6, but this was cancelled due to poor visibility. On the first actual visit, the crew encountered very high dark water. Due to the poor visibility no live count was possible, however 53 dead were counted. On the second visit, the crew saw 10 live and 41 dead. The timing of the first visit may have been perfect, however several more flood events occurred before the next visit which likely limited our success.

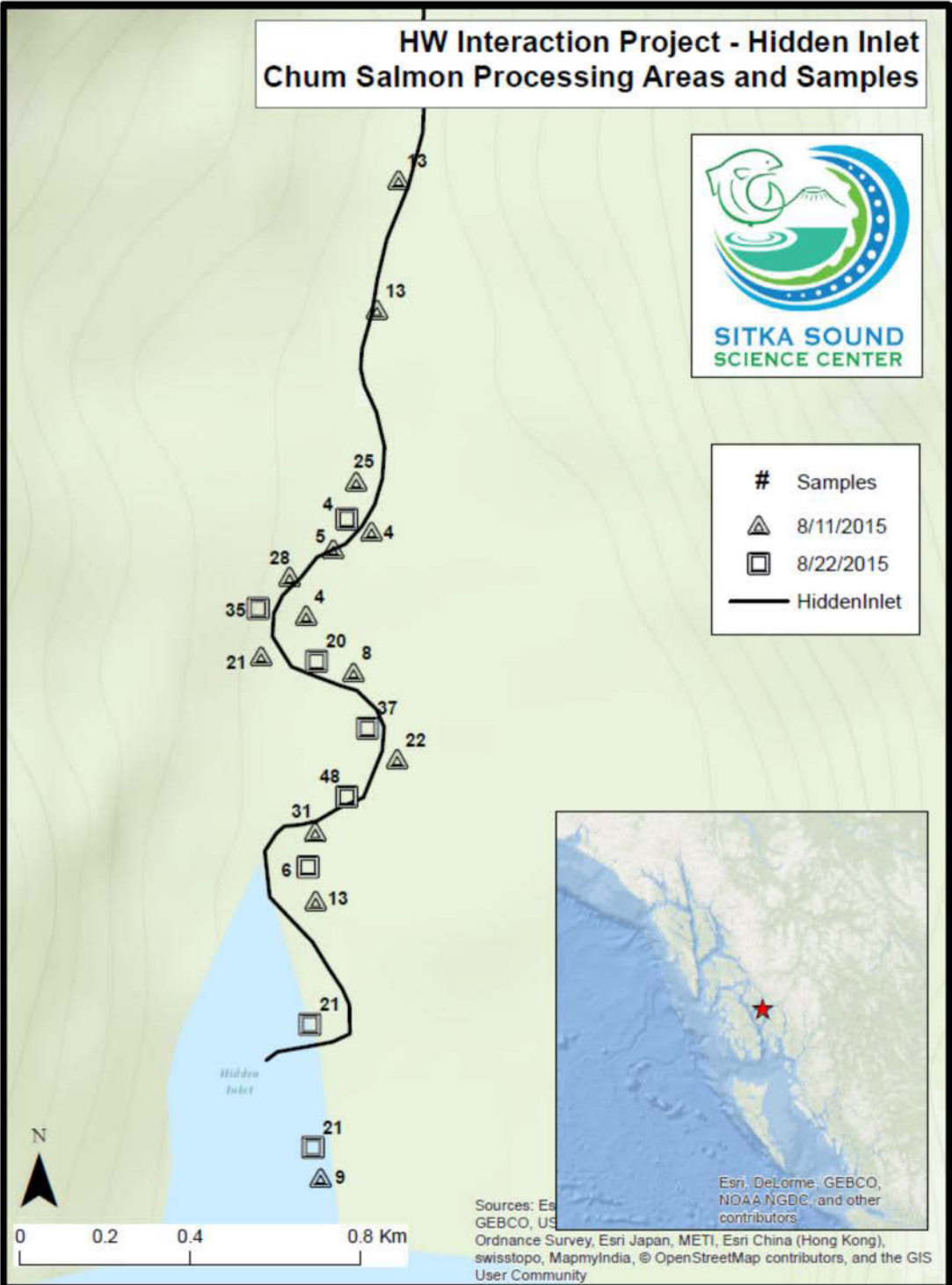
**Extent of stream surveyed:** We sampled this river solely by helicopter. The crew flew the entire length of the stream between the salt water and the lake stopping on most gravel bars and anywhere carcasses were spotted and accessible. The crew leader spotted what was believed to be a barrier at 56.25683, -131.65035. The highest processing area was just below this barrier, 5.5 miles upstream 56.25243, -131.65277.

**Unusual events:** None reported

**Access, safety, or logistics issues:** Sampling by helicopter greatly reduces the risk of injury whilst also allowing for the crew to concentrate in the places where chums are actually accessible. On our first visit with high flows and low visibility, any wading was impossible or unsafe. With better flows on the second visit some wading and crossing was possible but we still encountered many impassable points, even far up river.

**Recommendations, changes, and other notes:** As in 2014, field crews flew into the Harding River via helicopter in 2015. This is absolutely essential for sampling success there as the Harding River is far too deep, wide, and swift to safely wade. Additionally, the best spawning grounds are several miles upstream. Temsco helicopters in Ketchikan were again chartered to fly us on two separate occasions in 2015. The best approach is to have the vessel port in Ketchikan, where the crew can meet the helicopter at the airport to fly directly into the Harding. If the vessel were to meet the helicopter at the mouth of the river, it would add an extra day or two of travel time. Because of the need to time visits during fair conditions, and its difficulty during poor conditions, the Harding remains to be a very challenging river to sample.

**Hidden Inlet**  
 101-11-11010  
 Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 409

**2015 Samples Collected & Run timing:** The first visit by the vessel crew was on 8/11, and the crew reported seeing 752 live and 231 dead chum. No chums were seen in the tide flat but immediately upon entering the mouth of the creek, spawning chums were seen. The next visit was on 8/22, and the crew saw 268 dead but was unable to conduct a live count due to heavy rains and poor visibility. There appeared to still be many live chums scattered throughout the survey.

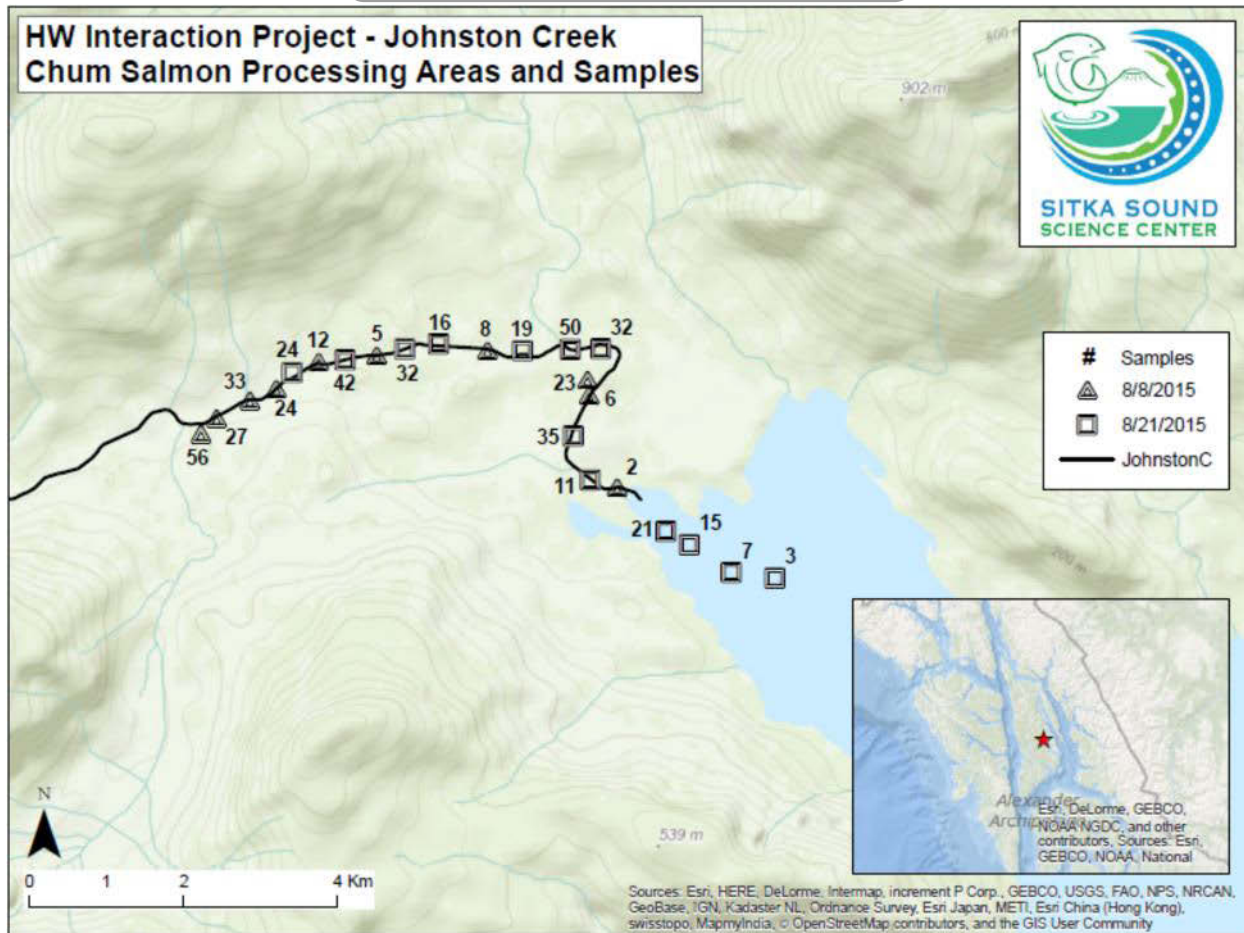
**Extent of stream surveyed:** The creek was surveyed approximately 2.5 miles upstream from the mouth to 55.04422348, -130.3137573.

**Unusual events:** None reported

**Access, safety, or logistics issues:** The support vessel should anchor off of Jack's Lodge at the mouth of the inlet and skiff in, since the narrows are too treacherous for the support vessel. When entering Hidden Inlet through the narrows, it is safest to drive the skiff down the center of the channel, as it is deepest and free of rocks. The inlet is prone to early morning fog, so crews should take caution when driving the skiff.

**Recommendations, changes, and other notes:** On the 8/22 visit the stream started out with very manageable flows and with heavy rains water level rapidly climbed throughout the survey. Wading back downstream proved very difficult and took much longer than wading upstream.

**Johnston Creek**  
110-23-10100  
Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 503

**2015 Samples Collected & Run timing:** The first visit to Johnston was on 7/29, which was too early as all observed chum were pre spawners or actively spawning. No samples were collected on this visit. The second visit was conducted on 8/8, where most of the 196 samples came from dead chum in the top 2 miles of the survey. During the third visit on 8/21, 166 live and 320 dead fish were observed.

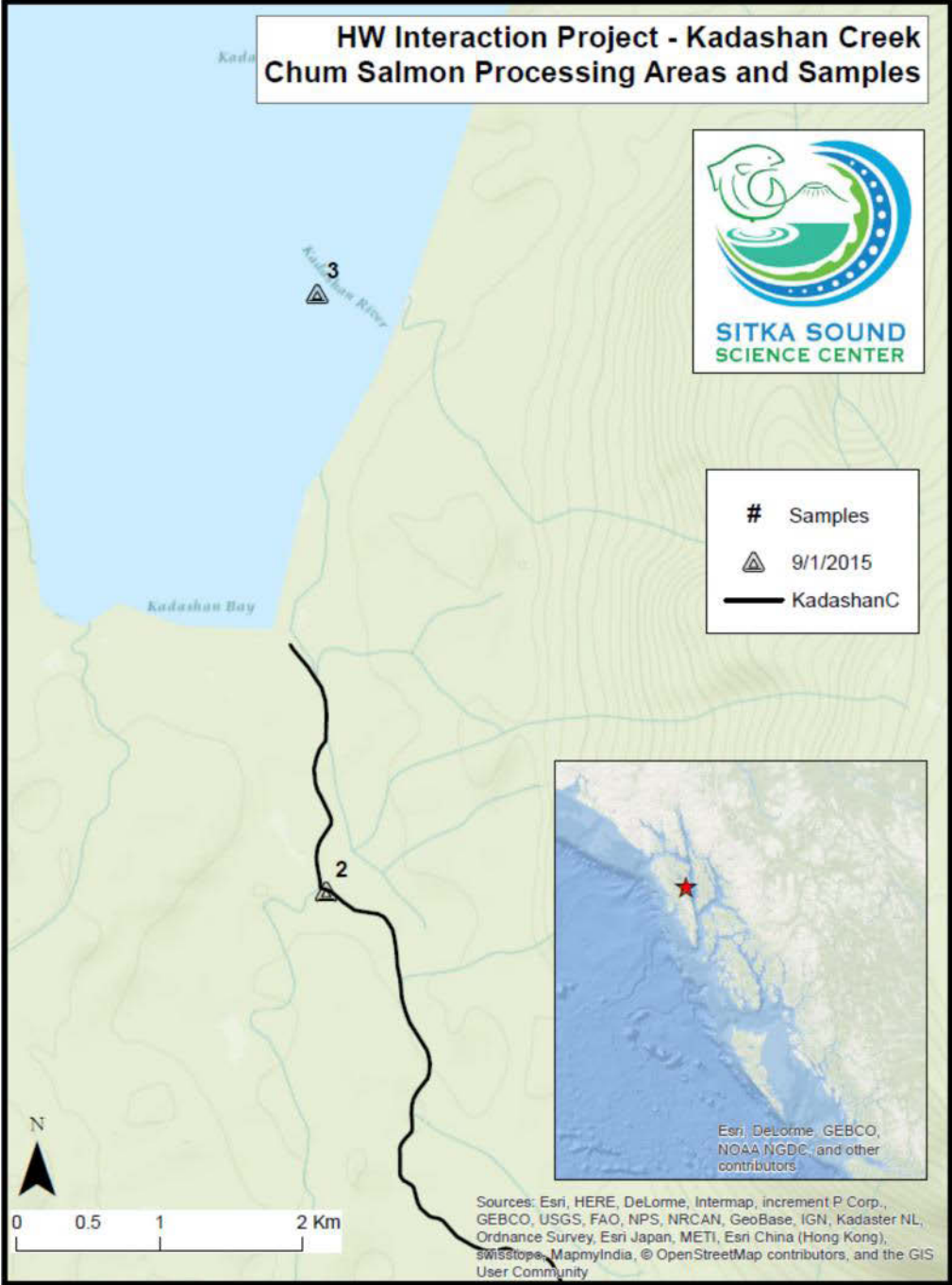
**Extent of stream surveyed:** Crews surveyed upstream approximately 5.5 miles from the tree line 57.51280999, -134.1628716. At this point the stream begins to braid, narrow, and become overgrown. Only the West fork was surveyed.

**Unusual events:** None reported

**Access, safety, or logistics issues:** This stream is long, but wide and relatively easy to hike.

**Recommendations, changes, and other notes:** None reported

**Kadashan River**  
112-42-10250  
Chum Salmon



**Number of Visits: 4**  
**Total Number Sampled: 5**

**2015 Samples Collected & Run timing:** Both the vessel-based and Tenakee crews visited Kadashan on 7/24, where they counted 28 live and 0 dead chum on both forks. This creek is generally very dark, which makes fish identification difficult. Therefore, the actual number of live fish in the creek could be higher than indicated by our count. This visit was too early for the run, as no new redds were observed and all fish were seen holding in deep pools. The vessel based crew returned to the stream on 8/1. On this visit we were not able to get any samples, but observed 41 live fish, again over both forks, however most of these fish were seen on the East fork. The Tenakee crew visited the stream two additional times during the season, on 8/12 and 9/1. The visit on 8/12 was during high water and roughly 10 live fish were seen in the dark pools. On 9/1 the crew scoured the flats and found 5 carcasses to sample. They then counted 23 live upstream which they did not sample.

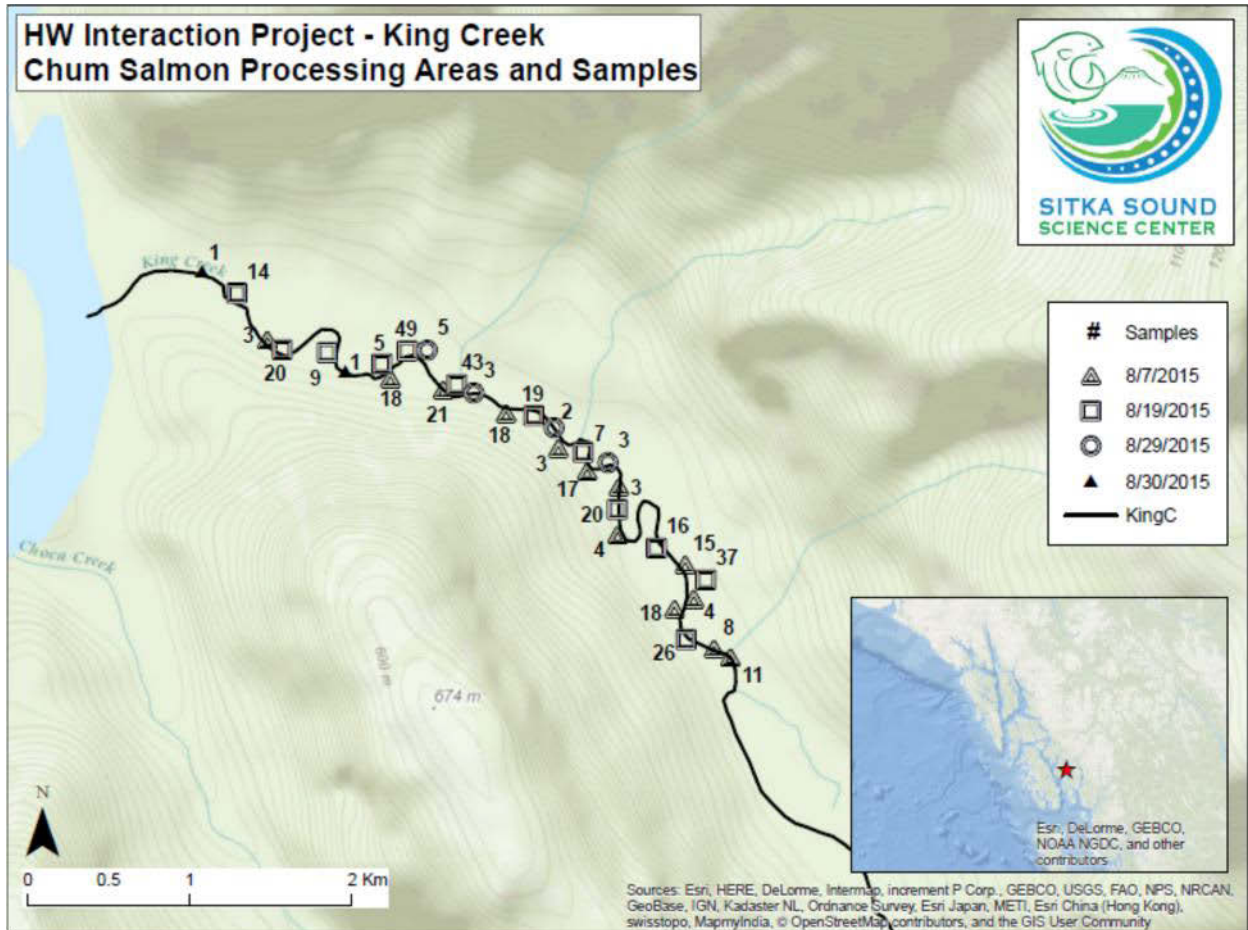
**Extent of stream surveyed:** Crews surveyed each main fork of the river. The highest point surveyed on the East fork was 1 mile above the fork 69338014, -135.2171912. Habitat beyond this point looks conducive to chum spawning, but few chum were seen on this fork whatsoever. The highest point surveyed on the West fork was 0.75 miles above the fork where the stream becomes braided and brushy 57.68894, -135.22171.

**Unusual events:** None reported

**Access, safety, or logistics issues:** Kadashan has a very large tide flats which can be troublesome for anchoring skiffs.

**Recommendations, changes, and other notes:** The contracted Tenakee crew reported that Kadashan has been an unproductive system for chums for multiple years.

**King Creek**  
101-71-10040-2006  
Chum Salmon



**Number of Visits:** 4

**Total Number Sampled:** 423 (360)

**2015 Samples Collected & Run timing:** The first visit took place on 8/7. The crew counted 557 live and 87 dead chum, and collected 120 samples. During the second visit, on 8/19, the crew counted 91 live and 310 dead chum, and collected 288 samples. The third and 4th visits were high water events on 8/29 and 8/30. On 8/29 the crew counted 6 live, 16 dead and retrieved 13 samples. On 8/30 no live chum were seen and samples were removed from the 2 dead chums that were found. The high water seemed to have flushed Chum Salmon out of the system. Overall, our timing seemed good and we were able to encompass most of the run with our visits. Unfortunately, on the first visit 63 otolith pairs were knocked from the tray. While these otoliths are still present in the tray they are of unknown origin. Therefore although 423 samples were taken, it is possible that only 360 of these are useable.



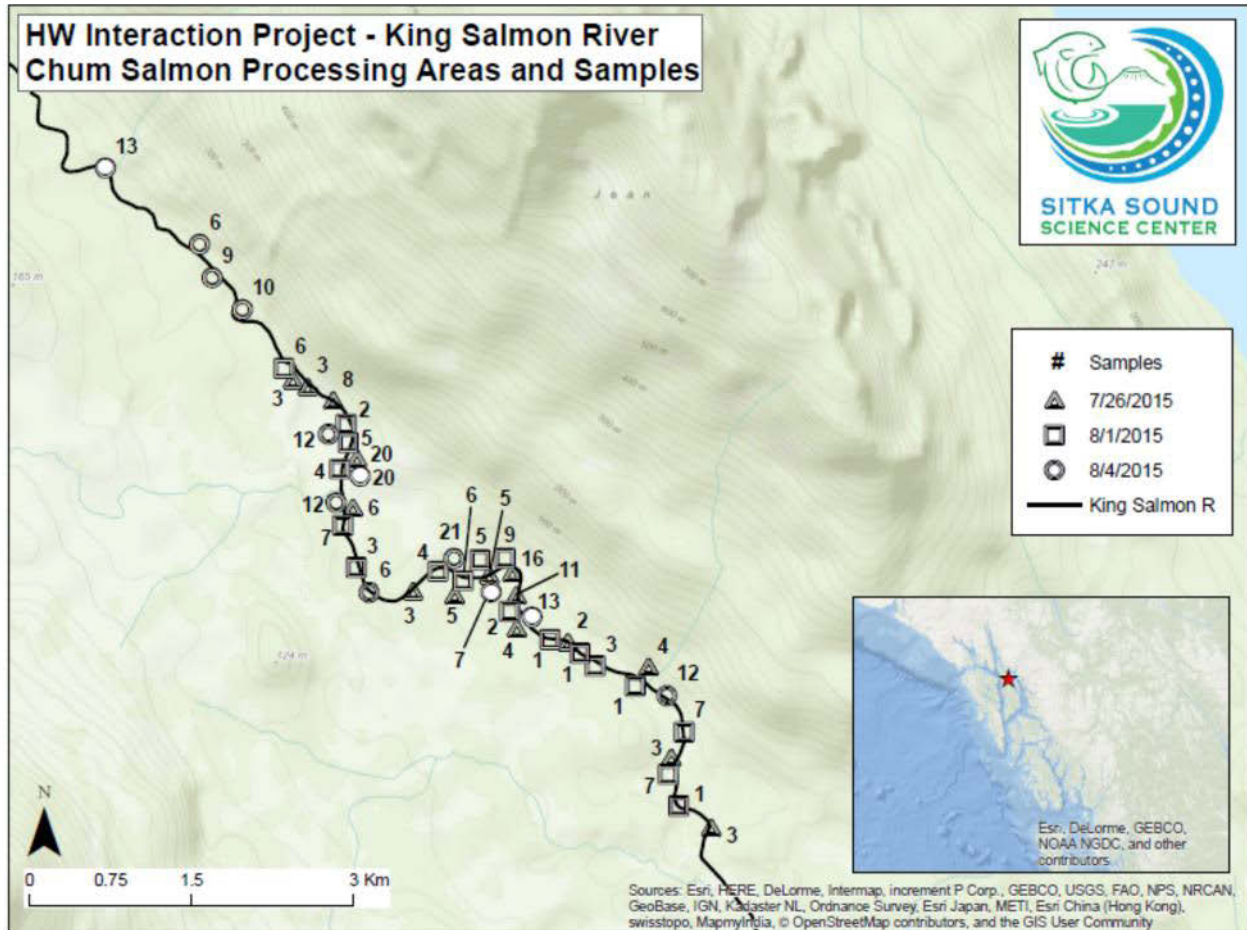
**Extent of stream surveyed:** The crew sampled from the confluence of King Creek and the Chickamen River, upstream 2.5 miles 55.82966081, -130.8163002.

**Unusual events:** As reported above, an otolith tray was spilled with the first 63 samples present.

**Access, safety, or logistics issues:** The mouth of the Chikamen River can become very exposed to high winds creating some possible anchoring issues for the support vessel and bumpy skiff rides in and out of the river. Weather should be planned for accordingly.

**Recommendations, changes, and other notes:** We were able to anchor the skiff and jet boat at the confluence of King Creek and the Chickamen River for each survey. In the high water events, we were able to take the jet boat quite a ways up King Creek, allowing access to some smaller side channels that collect carcasses in high water conditions. On the final survey, the water was flowing over the bank and we surveyed the lower section from the jet boat. Even with the high water, King Creek remains clear.

**King Salmon River**  
111-17-10100  
Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 170

**2015 Samples Collected & Run timing:** The first visit to King Salmon River took place on 7/24. On this visit the crew was unable to survey due to a high water event. The second visit took place on 7/26 and 89 live and 97 dead chum were seen, 96 samples were collected. No chums were seen in the lower stretches of river and numbers seemed to increase as we moved further up river. The third visit was 8/1 and 74 samples were collected. The crew counted 38 live and 80 dead on this visit. Although timing seemed appropriate for these visits, high water likely played a role in how successful our sampling events were. A final visit was conducted when SSSC personnel accompanied an ADF&G foot survey crew on a helicopter trip into the upper reaches. This crew surveyed the 3 most upstream miles of the 5 total miles surveyed

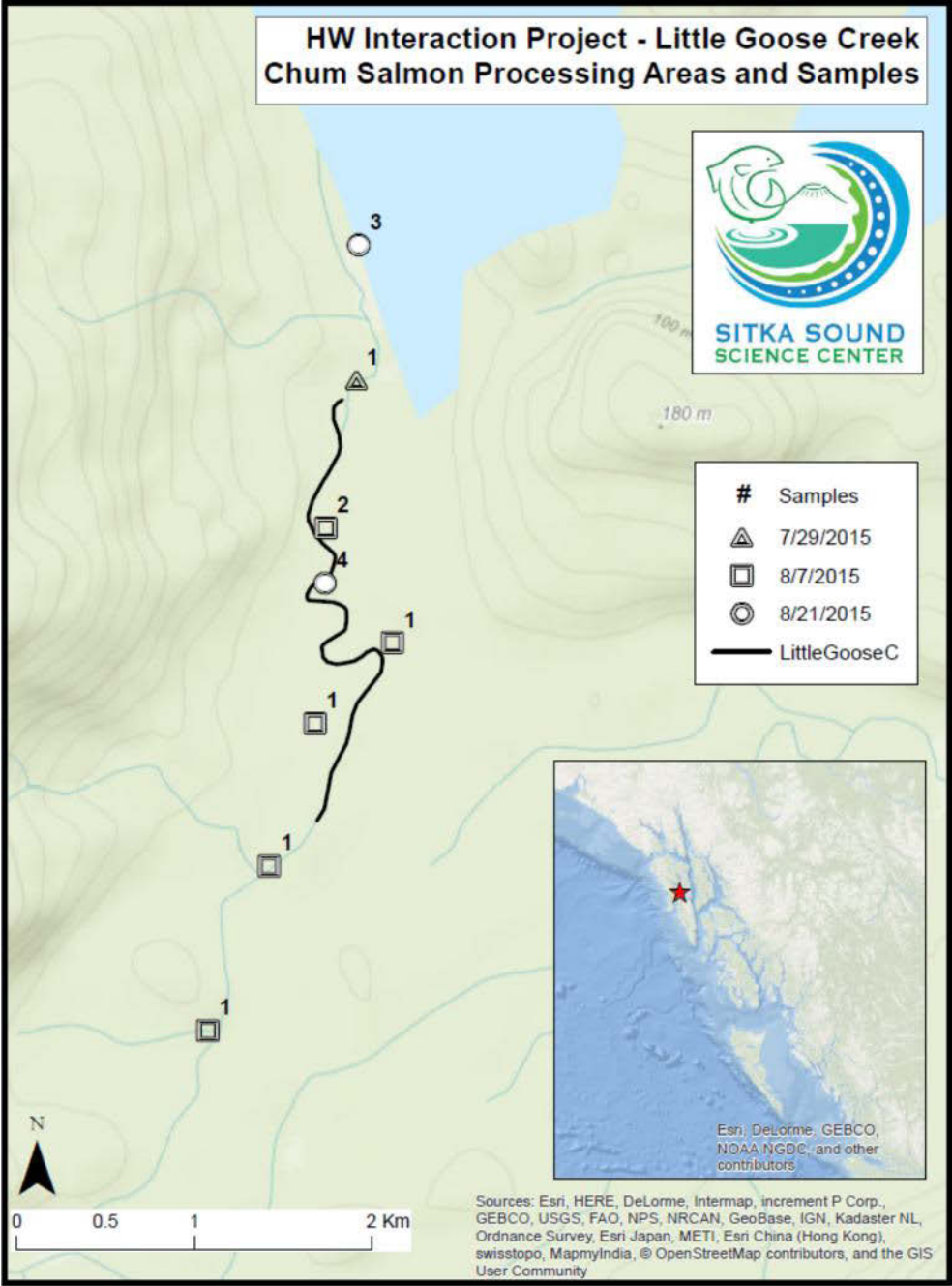
**Extent of stream surveyed:** The highest point surveyed was just above the helicopter drop off point, roughly 5 miles upstream 58.07847531, -134.4006132.

**Unusual events:** None reported

**Access, safety, or logistics issues:** There is a good chance that the jet boat will run aground on the tide flats in low water. When leaving the river, the jet boat should carry all the gear out on the first trip. This way, if it were to run aground, the crew could hike rather than have to go back to pick up gear and carry it out.

**Recommendations, changes, and other notes:** Coordinating with ADF&G foot survey crews was highly advantageous in 2014, and was done again in 2015 on the final visit. A previous visit with ADF&G was scheduled but cancelled due to flooding. This arrangement is highly beneficial to us since the cost of the flights is covered by ADF&G and they generously help us collect carcasses and snag post-spawned chum. We will strive to preserve this relationship, and do what we can to benefit ADF&G crews as well.

**Little Goose Creek**  
112-48-10190  
Chum Salmon



**Number of Visits: 3**  
**Total Number Sampled: 14**

**2014 Samples Collected & Run timing:** Little Goose was visited 3 times by the Tenakee crew on 7/29, 8/8, and 8/21. During the first visit the stream was flooding and the crew counted 4 chums in the dark water, collecting just one sample. During the second visit, they saw 32 live and 9 dead, sampling 6. On the last visit, the crew saw 8 live and 9 dead, sampling 7.

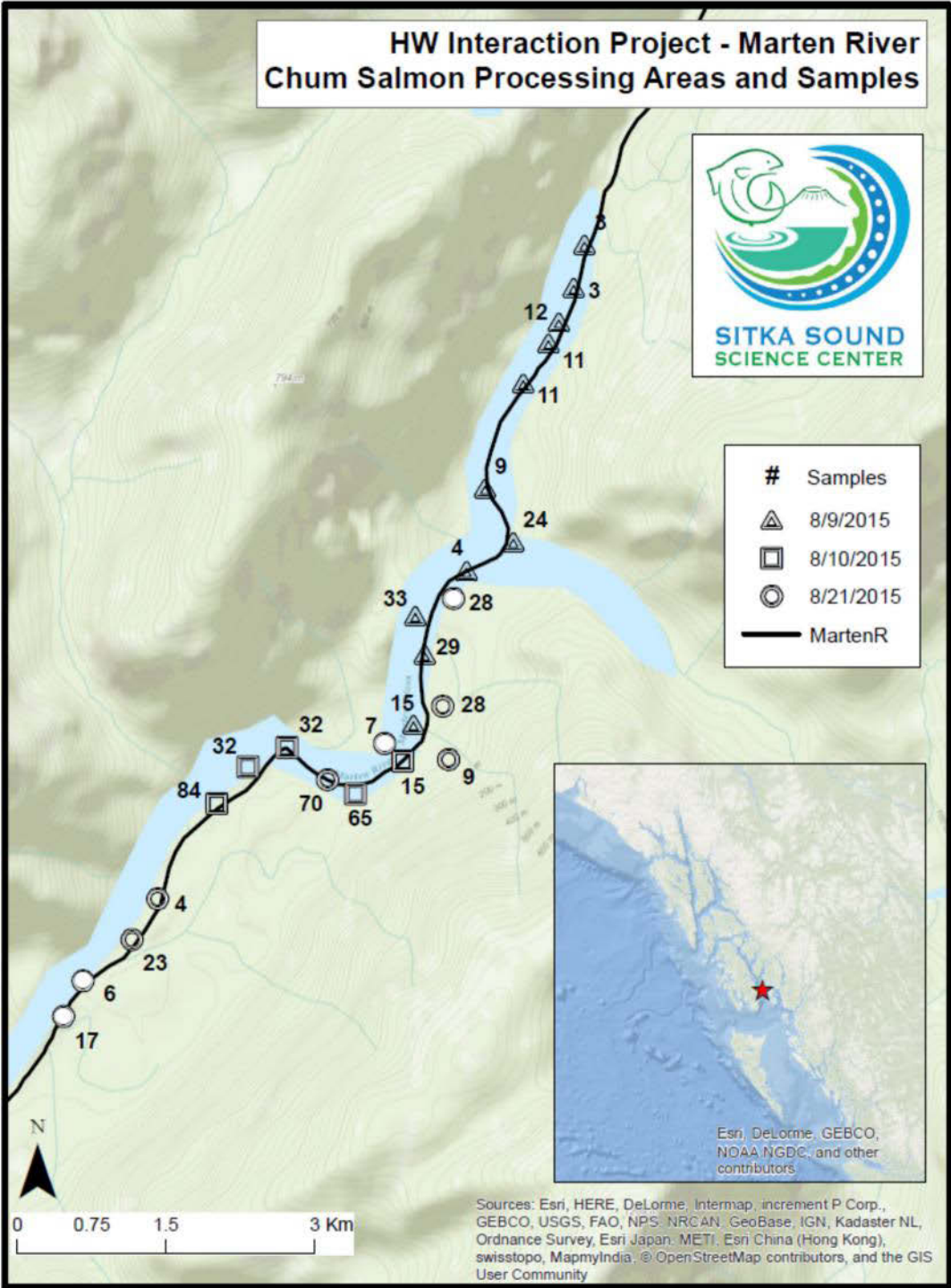
**Extent of stream surveyed:** The crew sampled the lower 3 miles of stream, much farther than in 2014. The highest point surveyed was 57.90446069, -135.7805207.

**Unusual events:** None reported

**Access, safety, or logistics issues:** The crew reported that there is heavy downed timber for roughly half a mile on the stream, which requires a lot of time to negotiate, so crews should be aware of this.

**Recommendations, changes, and other notes:** It is quite possible that the run at Little Goose occurred prior to sampling, however chum numbers are still low in the area.

**Marten River**  
101-30-10600  
Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 593

**2015 Samples Collected & Run timing:** The first visit to the Marten River was on 8/9. The crew collected 173 samples, and counted 284 live and 137 dead chum. The crew opted to spend an extra day to cover the lower reaches of the river and try to get samples while they could in case of a major flood event. The second visit on 8/10 resulted in another 228 samples. In this survey 65 live and 219 dead chum were seen. The third and final visit was on 8/16. The crew collected 288 samples on this visit and counted 11 live and 203 dead. The chum run on the Marten River was very impressive compared to previous years. On each visit, many live and dead chum salmon were seen.

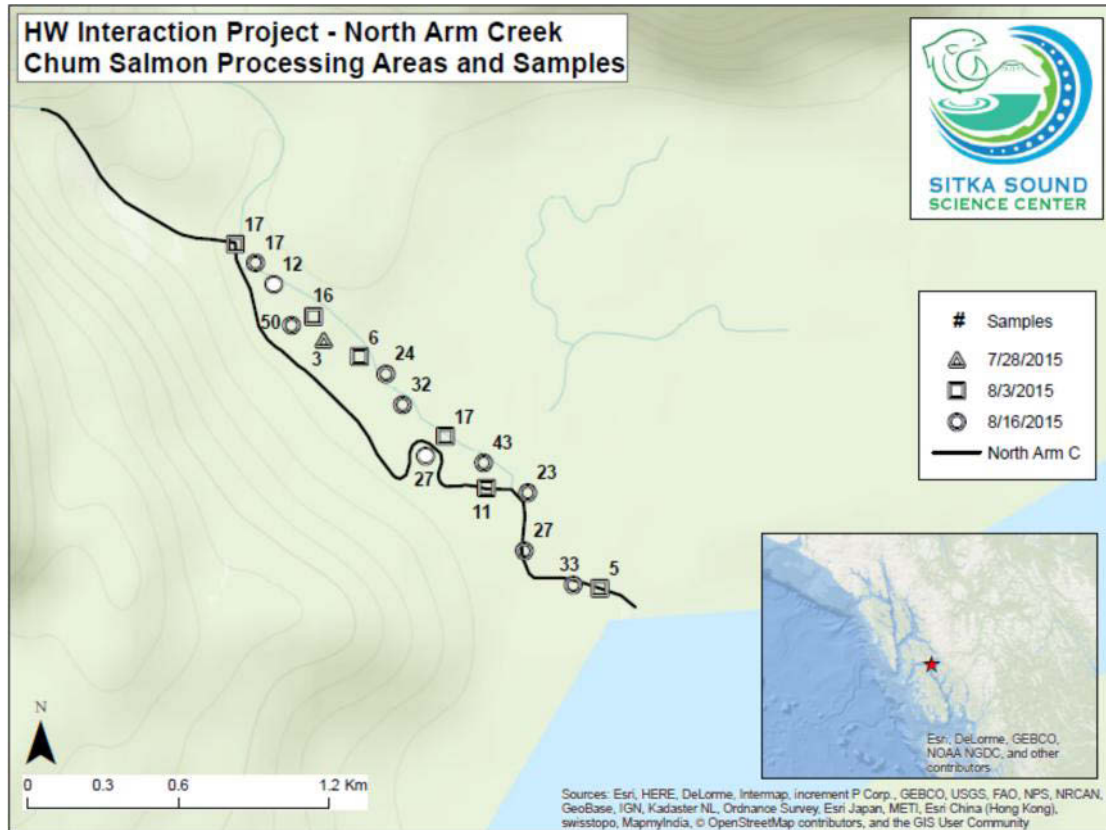
**Extent of stream surveyed:** The mouth of Marten River is very wide slow and deep. We surveyed lower stretches just above this area as well as good spawning ground approximately 7 miles upstream 55.21595748, -130.4477132

**Unusual events:** None Reported

**Access, safety, or logistics issues:** Because of its length, depth, and volume, it is difficult to sample the Marten River on foot. An abundance of fish this year made sampling much easier, and we were able to find carcasses washed up on shore throughout the river.

**Recommendations, changes, and other notes:** On the first visit, the river was slightly higher than usual and this allowed the jet boat to make it further up the river than usual and thus allowed the crew to sample a bit higher than in previous years. We utilized a beaver flight over this system to look at concentrations of chums for this first visit. The highest point of our survey on our first visit is nearing the upper extent of chum salmon as we observed from the air. Where we turned around the gradient picks up and the substrate changes to large boulders. Not far above this is a landslide that blocks the river and we observed no fish above this point from the air. Our crews covered the river well this year and in some cases a bit more water greatly helped for navigation in the jet boat and crew members were still able to successfully wade the river. It is impossible for crews to cover the whole river in a day, so crews must decide whether to do the upper section or the lower section. Alternatives would be to use two days, or consider splitting the crew up.

**North Arm Creek**  
108-40-10150-2007  
Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 363

**2015 Samples Collected & Run timing:** The first visit was on 7/28, and the majority of fish were still very fresh. The crew counted 52 live and 3 dead, and collected 3 samples. The crew was unable to survey the whole way up on this visit due to high water conditions. The second visit was on 8/3 and the crew counted 229 live and 56 dead chum and sampled 72. The final visit was on 8/19 and the crew saw 111 live, 284 dead, and sampled 288 chum.

**Extent of stream surveyed:** The creek was surveyed for 1.5 miles upstream from the North Arm confluence with the Stikine River 56.69587256, -132.3221411.

**Unusual events:** None reported

**Access, safety, or logistics issues:** This creek requires 45 minutes to 1 hour jet boat ride up the north arm of the Stikine River. The mouth of the creek is hard to see from the river so good topo maps and GPS coordinates are necessary for those who have not been there before to find it.

**Recommendations, changes, and other notes:** None reported



**Petrof Bay W Head**  
109-62-10240  
Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 402

**2015 Samples Collected & Run timing:** The first visit on 8/20 was good timing. The crew counted 238 live and 117 dead chums, and collected 102 samples. Most of these samples came from dead fish that looked fresh, many of which had not yet spawned. Most of the creek was less than 15cm deep on this visit. Several fresh chums were seen holding in the intertidal zone. During the second visit on 8/29 the crew counted 389 live, 331 dead, and collected 300 samples, roughly 1/3 of the samples came from live fish. This creek could have been sampled at an even later date if needed.

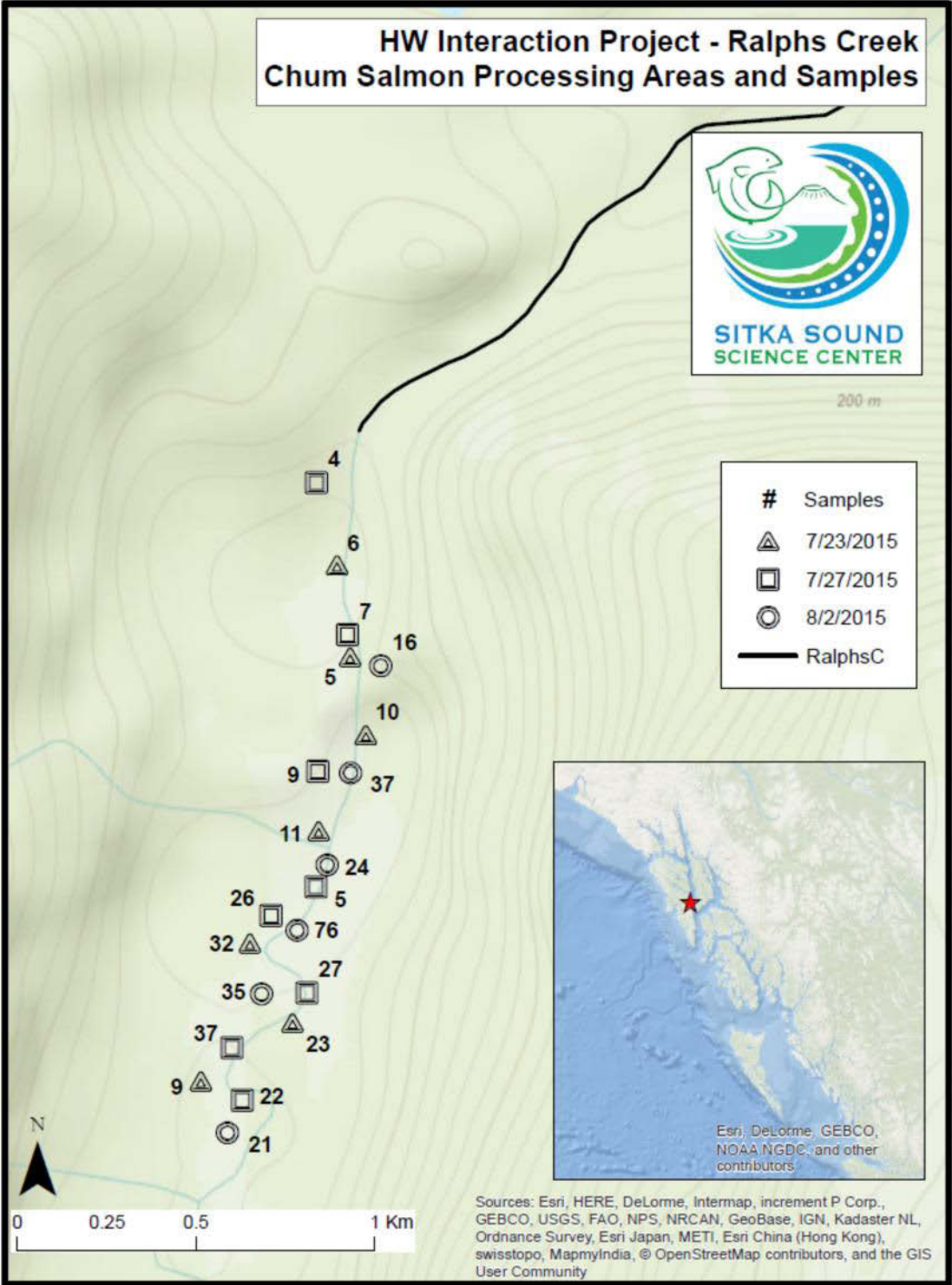
**Extent of stream surveyed:** The highest point surveyed was 0.75 miles upstream from the tree line, where the creek begins to cascade 56.35222974, -134.0688686.

**Unusual events:** None reported.

**Access, safety, or logistics issues:** None reported.

**Recommendations, changes, and other notes:** This stream is shallow and narrow throughout, weaving through alders and brush. These characteristics along with the run size, make this an easy creek to sample provided wind and ocean conditions allow the crew to navigate to the stream. Taking advantage of good weather windows to survey this stream via vessel or arranging fly in surveys are necessary in order to access this stream. Crews are advised not to anchor the skiff on the island in the main channel as the water is too deep to wade across at high tide.

**Ralphs Creek**  
 112-21-10060  
 Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 442

**2015 Samples Collected & Run timing:** Our first visit to Ralphs Creek on 7/23 worked well because most of the 96 samples came from preyed upon, post-spawn fish. All chums spawning was seen above the canyon and all fish seen below the canyon were fresh. During this visit the crew saw 247 live chums. The second survey was conducted on 7/27. On this visit 137 samples were collected, and most live chum appeared to be active or post-spawn. The final visit was on 8/02, and the crew saw 113 live, 285 dead, and collected 209 samples. Our visits covered the run well, however Ralphs should be carefully watched as it is a fairly early run compared to many other streams in the project.

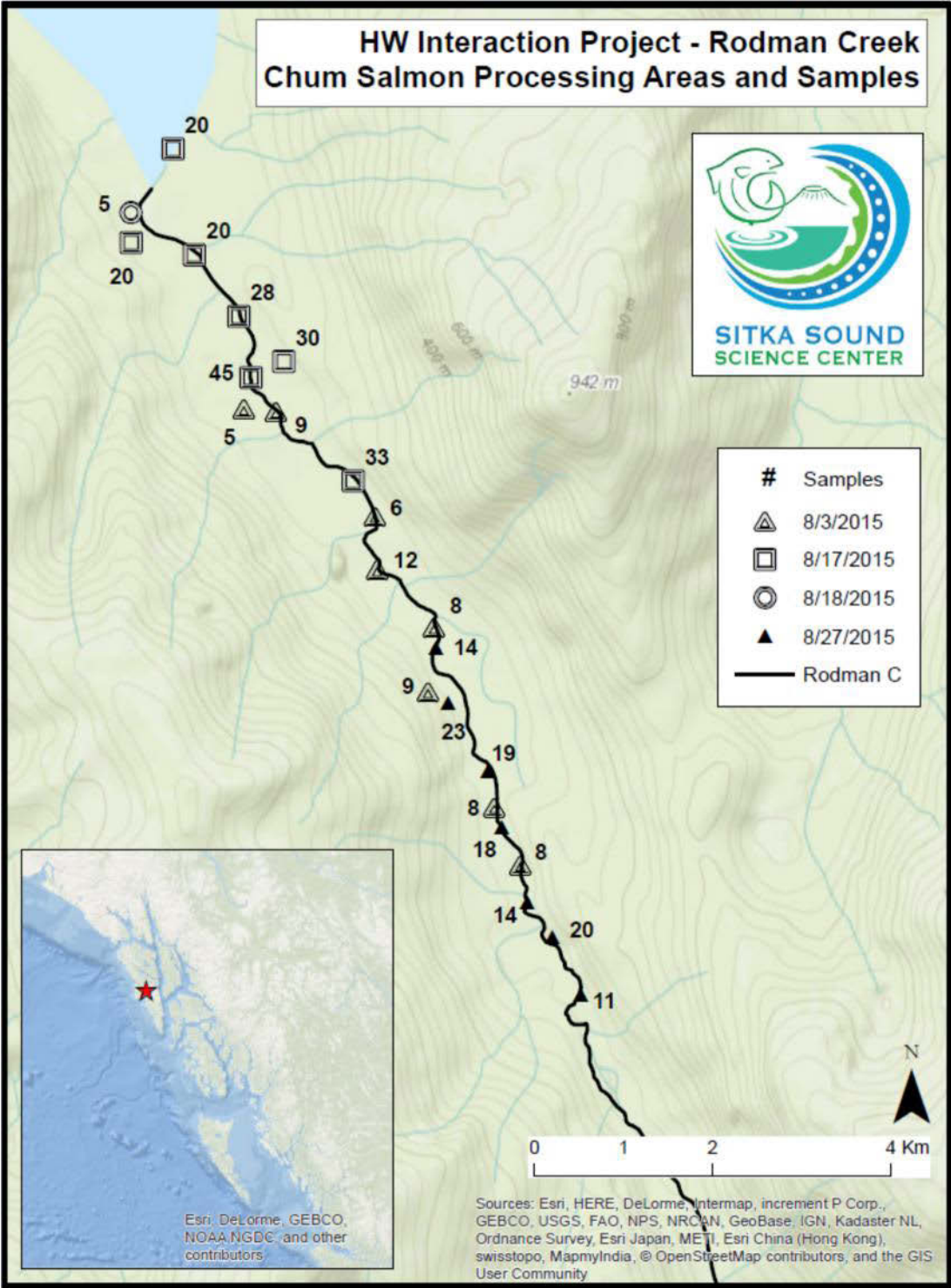
**Extent of stream surveyed:** The crew surveyed approximately 1 mile above the canyon until the stream became braided and very brushy 57.31723886, -135.0290636.

**Unusual events:** None reported.

**Access, safety, or logistics issues:** The canyon on Ralph's Creek is an area where bears cannot easily vacate as the crew approaches. Therefore, bear encounters should be handled with extreme caution in this area. Water levels must be normal in order for the crew to get above the canyon, as it is impossible to wade upstream in this area when it is flooded.

**Recommendations, changes, and other notes:** None reported

**Rodman Creek**  
113-54-10070  
Chum Salmon



**Number of Visits:** 4

**Total Number Sampled:** 385

**2015 Samples Collected & Run timing:** The first visit was on 8/03 and slightly early in the run. The crew counted 791 live and 49 dead chum, and collected 65 samples. The second visit was on 8/17, but the crew was only able to sample the lower half of the creek due to a change of plans after a cancelled float plane pickup in the morning. The crew counted 306 live, 267 dead, and collected 196 samples. The crew went back the following day to survey the top half of the stream, but due to heavy rain overnight, were not able to access the stream beyond the intertidal zone. Five samples were collected in the intertidal and grass flats. The final visit was on 8/27, and only the top half of the stream extent was surveyed on this visit in order to spread the season's sampling efforts out throughout the geographic extent of the stream. The crew counted 0 live, 127 dead, and collected 119 samples, many of which came from highly decomposed carcasses. The last visit was later than desirable.

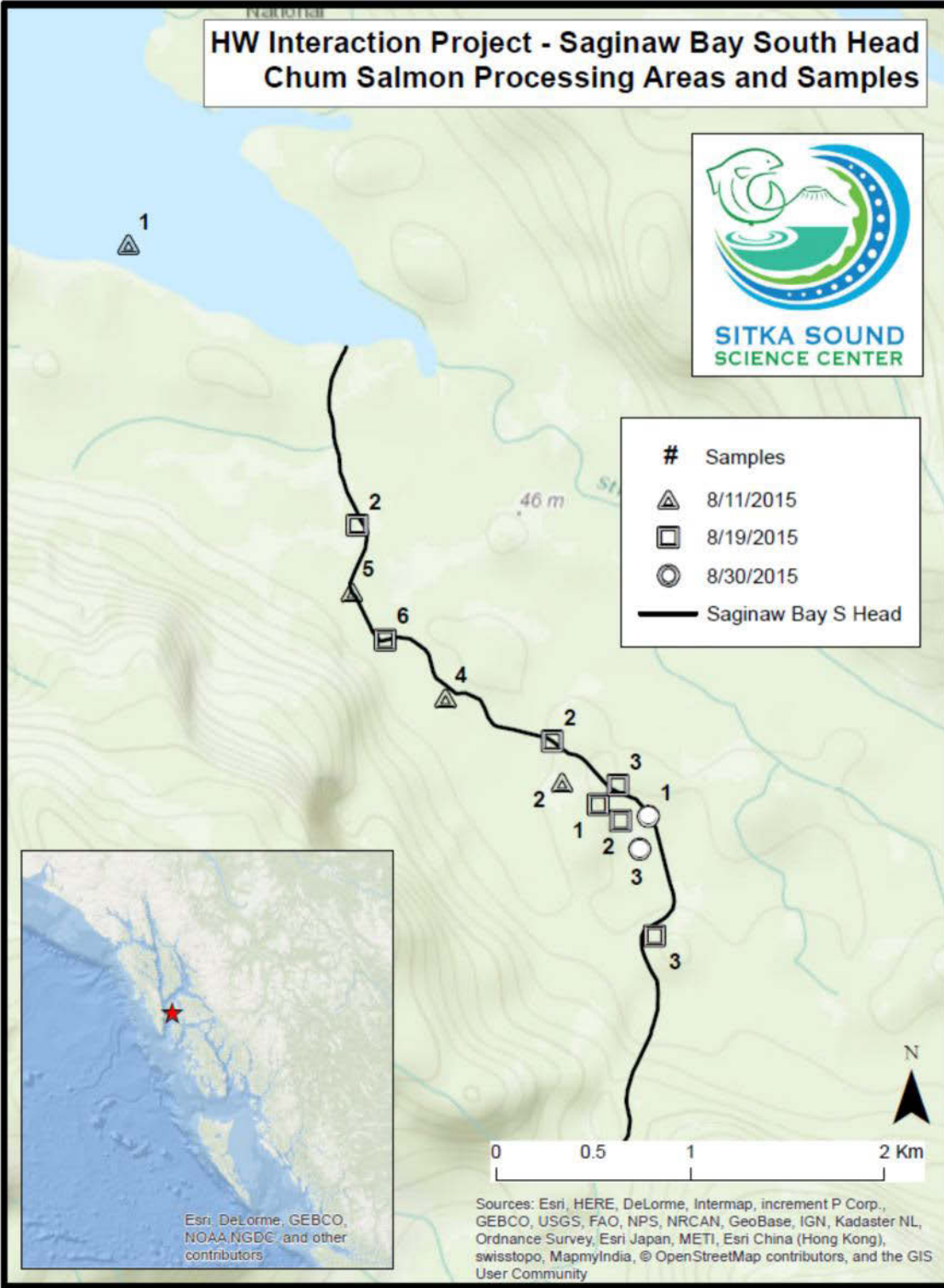
**Extent of stream surveyed:** The highest point surveyed was roughly 5 miles upstream from tree line 57.39021096, -135.3521089.

**Unusual events:** None reported

**Access, safety, or logistics issues:** This stream has a long chum run and may need to be sampled on consecutive days during peak run.

**Recommendations, changes, and other notes:** Crews are advised to anchor the skiff to the left of the river mouth. Given its relatively close proximity, Rodman could be sampled by a crew from Sitka in future field seasons.

**Saginaw Bay S Head**  
109-44-10370  
Chum Salmon



**Number of Visits:** 4 (including 1 visit to Straight Creek, 109-44-10350, described below)

**Total Number Sampled:** 35

**2015 Samples Collected & Run timing:** The first visit was conducted on 8/11. On this visit the crew reported counting 115 live, 5 dead, and collected 12 samples. The second visit was on 8/19. The crew counted 55 live, 20 dead, and sampled 19 chums. The third visit was conducted on 8/30. The crew was unable to count live and dead chum as the creek flooded during this survey. Four samples were collected before the crew had to bushwhack their way out of the stream. Thus far we seen fewer than 400 chums total in Saginaw over all 3 years.

**Extent of stream surveyed:** On the second visit, the crew was able to hike through the canyon to locate the extent of chum migration at a 5' waterfall, approximately 2.5 miles upstream. No chums were seen within 0.5 miles of the extent location 56.82090138, -134.1037475.

**Unusual events:** None reported

**Access, safety, or logistics issues:** Saginaw is characterized by numerous log jams and thick brush on the banks. The stream separates into 2 channels for 0.25 miles. Chum were seen and sampled in both channels, although the East channel seemed to be more productive.

**Recommendations, changes, and other notes:** Crews have consistently found that most of the chums are present in the creek above the bridge. Future surveys should still look for chums in the stream below the bridge but focus more intensely on the upper reaches to acquire the most samples. Crews can anchor near the float house, walk the road (1 mile) to the bridge, then walk the stream from there.

#### **Additional Stream - Straight Creek (109-44-10350)**

**Number of Visits:** 1

**Total Number Sampled:** 0

**2015 Samples Collected & Run timing:** Due to a lack of samples produced from Saginaw Bay S Head, 109-44-10370, the crew sampled Straight Creek, which shares the same drainage. The visit took place on 8/31. The crew hiked roughly 0.75 miles past the tree line, but did not observe any live or dead chum in this creek. The creek substrate was sandy or muddy throughout, with very little spawning habitat.

**Extent of stream surveyed:** The highest point surveyed on Straight Cr was 0.75 miles up from the tree line.

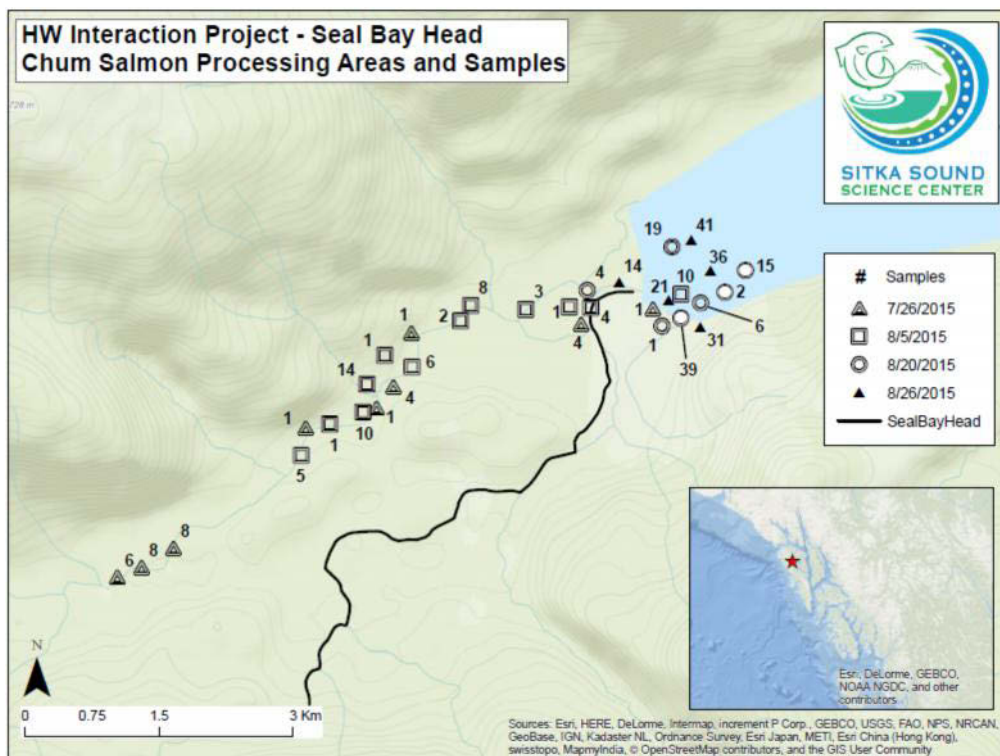
**Unusual events:** None reported

**Access, safety, or logistics issues:** None reported

**Recommendations, changes, and other notes:** This stream does not appear to be a viable chum sampling location.



**Seal Bay Head**  
112-46-100370  
Chum Salmon



**Number of Visits:** 4

**Total Number Sampled:** 327

**2015 Samples Collected & Run timing:** Our first visit on 7/26 was early. The Tenakee based crew counted 241 live and dead, sampling 34 chums. The next two visits were conducted on 8/5 and 8/20, where the crew counted 150 and 255 chums respectively, with the live dead ration about 50/50. The crew collected 150 samples over the course of these 2 visits. During the final visit on 8/26, the crew counted 127 live and 154 dead, sampling 143 chums.

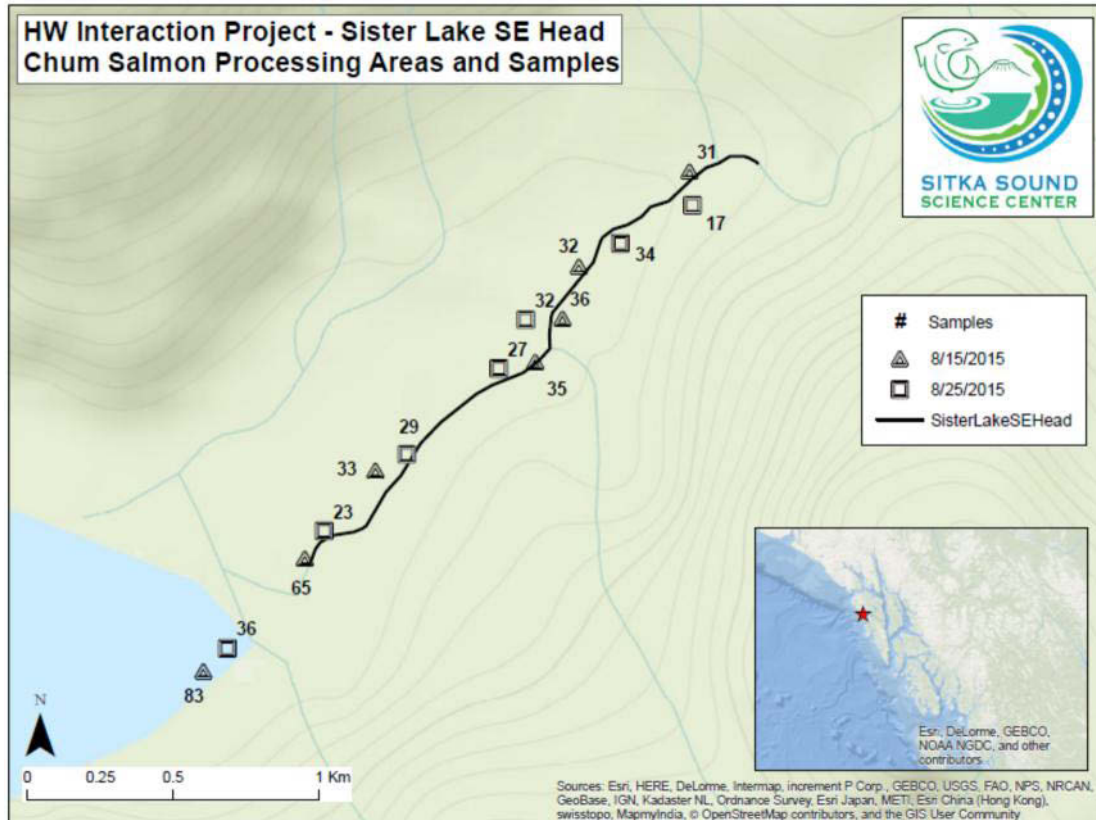
**Extent of stream surveyed:** There are two streams at the head of Seal Bay: the target stream is 112-46-100370 which is smaller and referred to by our crew as the east fork; just to the west is 112-46-100380 which is larger. Crews surveyed each main fork of the river, but favored the West Fork which is larger and holds more fish. The highest point reached was 3 miles upstream from the flats 57.80784691, -135.6467797.

**Unusual events:** The lower portions of the main river channel have undergone major changes in recent years. The channel has been rerouted leaving much of the former (good) spawning habitat dry.

**Access, safety, or logistics issues:** The West fork has many blow downs and log jams, requiring extra time to negotiate.

**Recommendations, changes, and other notes:** Both forks were investigated. Fish numbers quickly tapered off on the East fork but the West fork held many fish and had a lot of good spawning habitat.

**Sister Lake SE Head**  
113-72-10040-2025  
Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 513

**2015 Samples Collected & Run timing:** Our first visit to Sisters Lake occurred on 8/15. We collected 315 samples with 1300 live and 1095 dead chum observed. The second visit took place on 8/25, after a major flood event, which drastically changed many channels and pools within the stream. During this visit we collected 198 samples and saw 124 live and 400 dead chum. Many carcasses were buried in new gravel bars. All live chums observed were moldy and likely post-spawn. This highly productive system was bracketed well with this year's survey dates, but attention should be paid to flooding events early in the run timing.

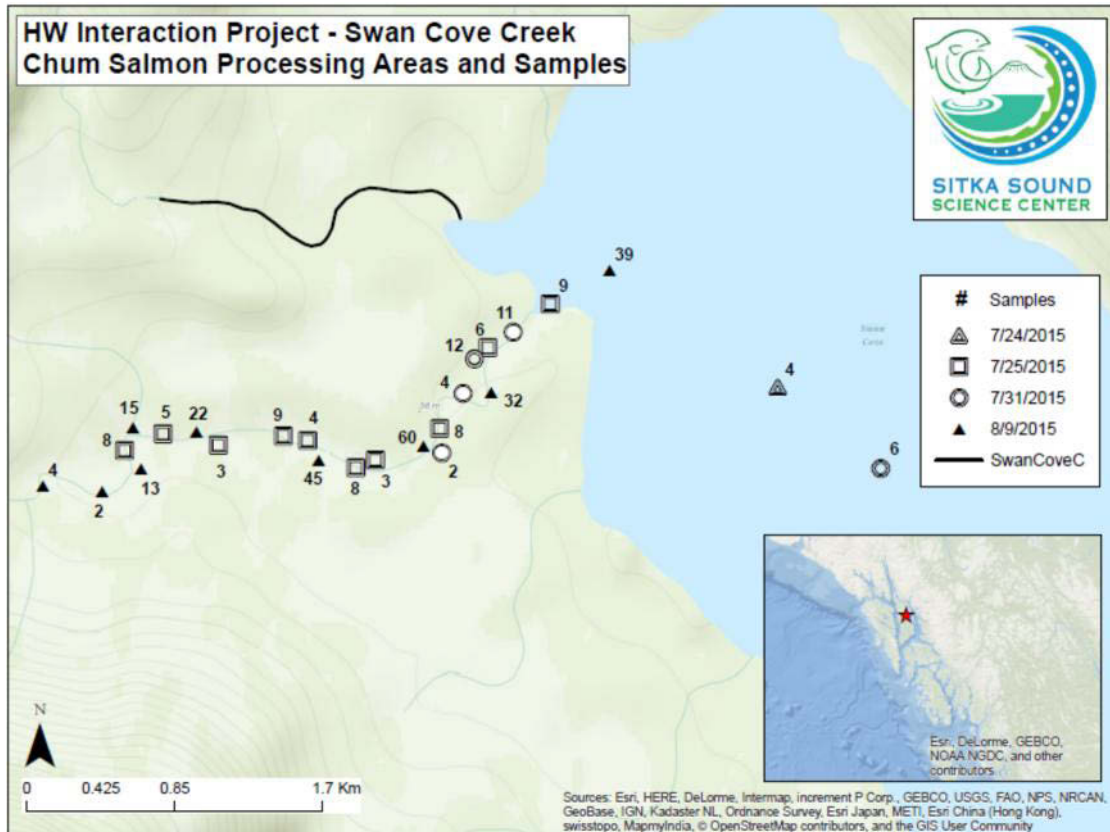
**Extent of stream surveyed:** The highest point surveyed was 1 mile upstream from the tree line 57.63255722, -135.9647467.

**Unusual events:** None reported.

**Access, safety, or logistics issues:** Accessing Sister Lake via float plane could be considered in future field seasons when the weather is too rough for the vessel to travel to the outside coast of Chichagof. The alternative is to build flexibility into the schedule and seize good weather windows to head to the outside coast for both Sister Lake and Ford Arm.

**Recommendations, changes, and other notes:** None reported.

**Swan Cove Creek**  
111-16-10450  
Chum Salmon



**Number of Visits:** 4

**Total Number Sampled:** 334

**2015 Samples Collected & Run timing:** The first visit on 7/24 was a high water event and the crew was unable to survey much more than just the tide flat. In this small stretch they counted 4 live chum and 3 dead and retrieved 4 samples. With good weather the crew surveyed again on 7/25 and counted 191 live, 36 dead, and sampled 63 chums. During the third visit on 7/31 we counted 17 live, 43 dead, and sampled 35 chums. During the 4th visit on 8/9, 232 samples were collected and 57 live and 241 dead chum were observed. All live chum were moldy and post-spawn.

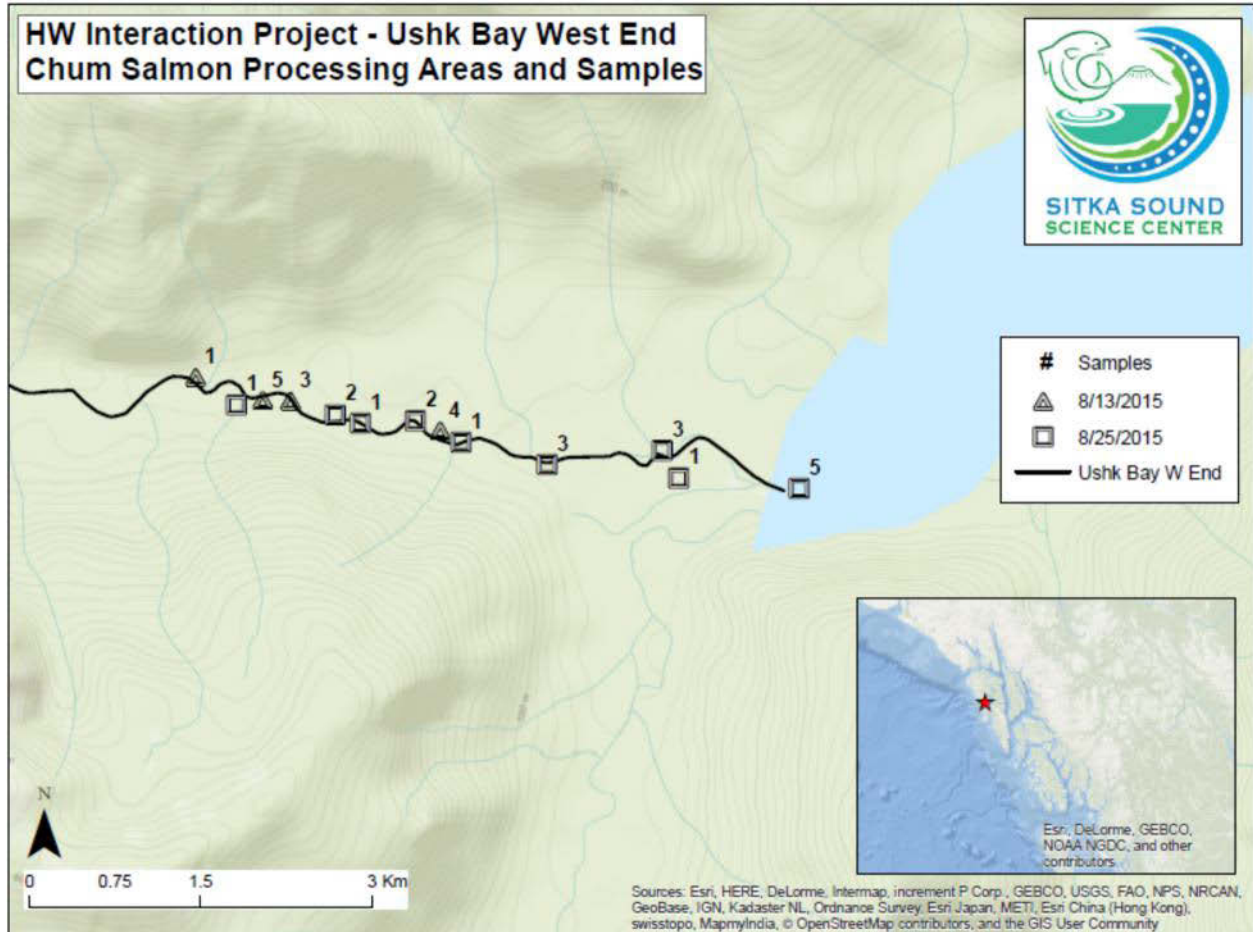
**Extent of stream surveyed:** We surveyed from the bottom of the tide flat 1.5 miles upstream to a series of small falls which together serve as a barrier 57.98688273, -134.3743681

**Unusual events:** None reported.

**Access, safety, or logistics issues:** Crews are advised to not attempt to cross the tide flats in the jet boat as it generally runs aground. Swan Cove Creek is made up of large slimy boulders which make wading difficult and good studs in wading boots essential.

**Recommendations, changes, and other notes:** None reported.

**Ushk Bay W End**  
113-56-10030  
Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 32

**2015 Samples Collected & Run timing:** The first visit was conducted on 8/13, which was early. Only 91 live chums were seen, 90% of which were fresh, and 12 dead. The crew collected 13 samples. The second visit was conducted on 8/25, during which the crew observed 29 live and 17 dead, and sampled 19 chums.

**Extent of stream surveyed:** The highest point surveyed was 3 miles upstream, the stream becomes highly braided and chum sightings had diminished 57.55310418, -135.7465059

**Unusual events:** None reported.

**Access, safety, or logistics issues:** The USGS topo map and forks does not accurately show location of forks.

**Recommendations, changes, and other notes:** It is best to anchor skiffs on the sand beach to the right of mouth. The creek indicated in the project protocol is the main channel. It is a smaller stream with fairly easy walking until you get up high and it becomes smaller with more logjams. Discuss the possibility of surveying only south channel that is more productive on future visits.

**Additional Stream at Ushk Bay W End (113-56-10020)**

This stream was sampled in addition to the adjacent 113-56-10030 so that the number of samples could be increased. Data from the two streams was combined under stream 10030 for the hatchery fraction analysis.

**Number of Visits:** 2

**Total Number Sampled:** 220

**2015 Samples Collected & Run timing:** Crews surveyed the first ¼ mile of the stream on 8/25 during which the crew was able to collect 69 samples. A second visit was then scheduled for 9/1 to survey the entire creek. Both of these visits bracketed the run timing well, although there were still live post spawned fish observed during the last visit.

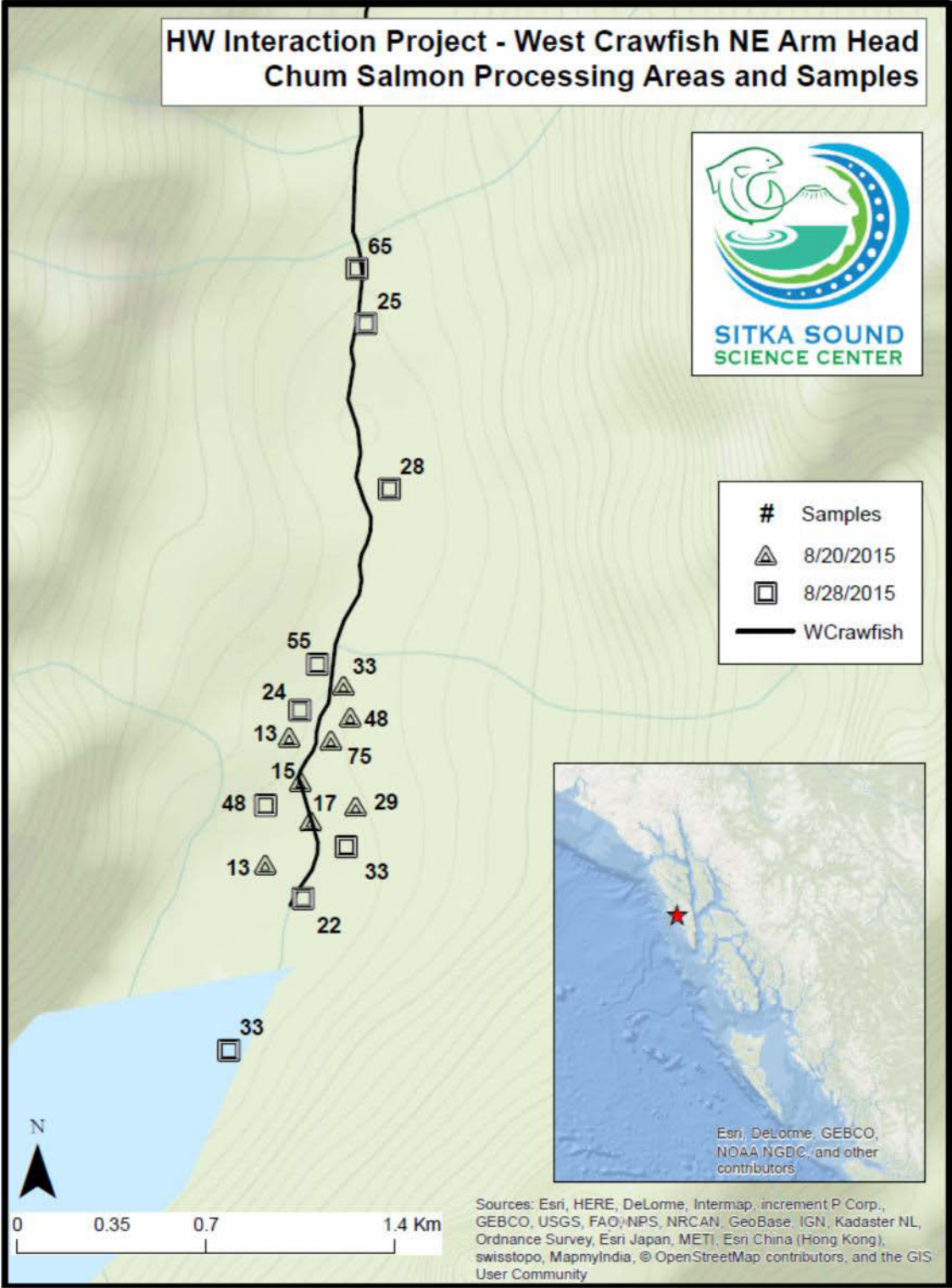
**Extent of stream surveyed:** This stream ends in a large waterfall about 1.5 miles upstream from the tree line, all of which was surveyed during our 9/1 visit. 57.5332528, -135.6943005

**Unusual events:** None reported.

**Access, safety, or logistics issues:** None reported

**Recommendations, changes, and other notes:** It is worthwhile to survey the intertidal zone at low tide on this creek as carcasses were found to have washed out into the intertidal zone.

West Crawfish NE Arm Hd  
113-32-10050  
Chum Salmon



**Number of Visits:** 2

**Total Number Sampled:** 576

**2014 Samples Collected & Run timing:** Our first planned visit was delayed due to recurring high water and bad weather. We were able to conduct a first visit on 8/20 where we counted 250 live, 270 dead, and collected 262 samples. Our second visit was on 8/28. Here we counted 151 live, 278 dead, and collected 333 samples. This visit was timed well with the late stages of the run.

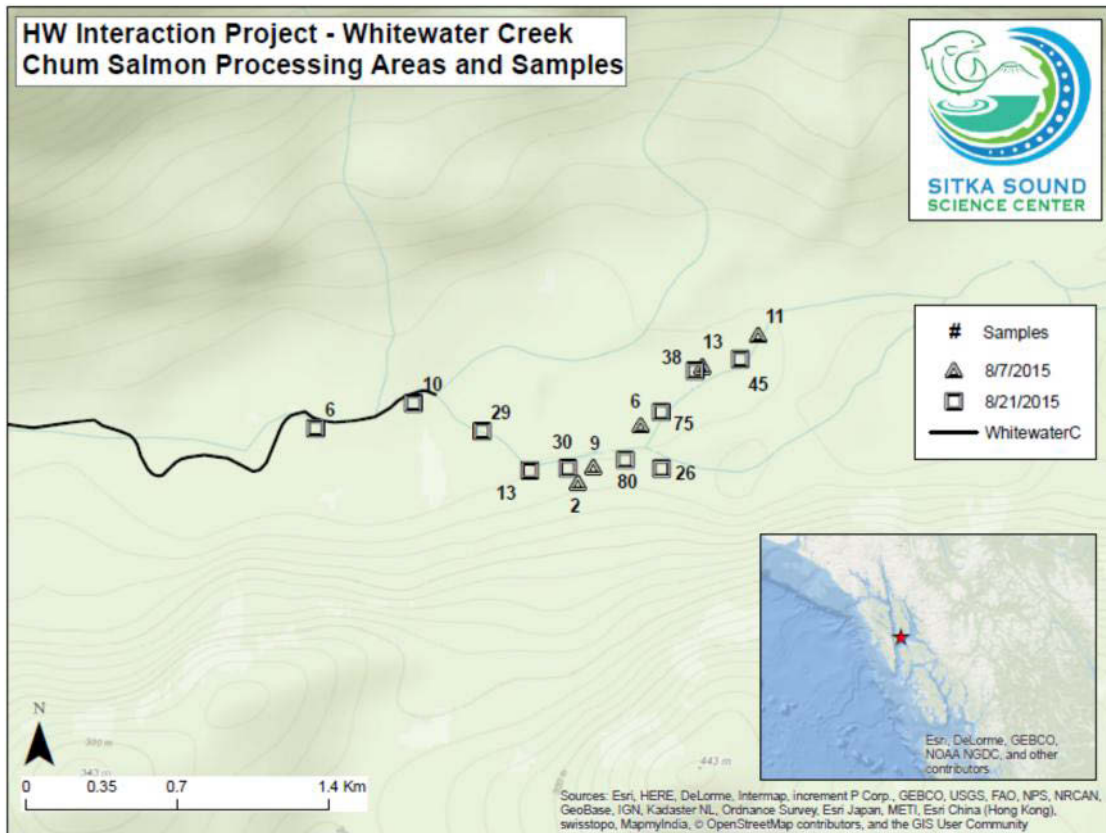
**Extent of stream surveyed:** The highest point sampled was 1.5 miles upstream at the point where the gradient picks up and is less conducive to chum spawning.

**Unusual events:** None

**Access, safety, or logistics issues:** None

**Recommendations, changes, and other notes:** This stream is likely the most remote of the 28 otolith streams. This stream was visited twice by SSSC personnel and volunteers, who travelled to the stream via skiff and float plane from Sitka. This approach was very successful in that it allowed for the North vessel to concentrate their efforts elsewhere. Furthermore, by establishing that a Sitka crew will sample this stream, there is a higher degree of flexibility as to when it can be sampled.

**Whitewater Creek**  
112-90-10140  
Chum Salmon



**Number of Visits:** 3

**Total Number Sampled:** 393

**2015 Samples Collected & Run timing:** Our first visit on 7/26 was early. Our crew saw 259 live and 0 dead chum, and took 0 samples. No post-spawn chum and few new redds were observed on this visit. On the second visit on 8/07 the crew counted 377 live and 36 dead chum, and took 41 samples. Most of the live chums were fresh on this visit. The crew returned on 8/21, and collected 352 samples from 119 live and 351 dead chum observed in the stream. At this time, most of the live chum appeared to be post-spawn, but the majority of carcasses sampled were freshly dead.

**Extent of stream surveyed:** The highest point surveyed was 1.75 miles upstream on the North fork, at this point the stream narrows, braids, and becomes brushy 57.24469108, -134.4855679.

**Unusual events:** None reported.



**Access, safety, or logistics issues:** Whitewater Creek has a very large tide flat. There needs to be a 10 foot high tide in order for the skiff to approach the flats. Walking in at a lower tide can be dangerous to hike due to sinking into silty, muddy substrate.

**Recommendations, changes, and other notes:** The creek forks upstream and the North fork has the most water, however both forks split again shortly thereafter. Some chums were seen in all forks, but most were seen in the North.