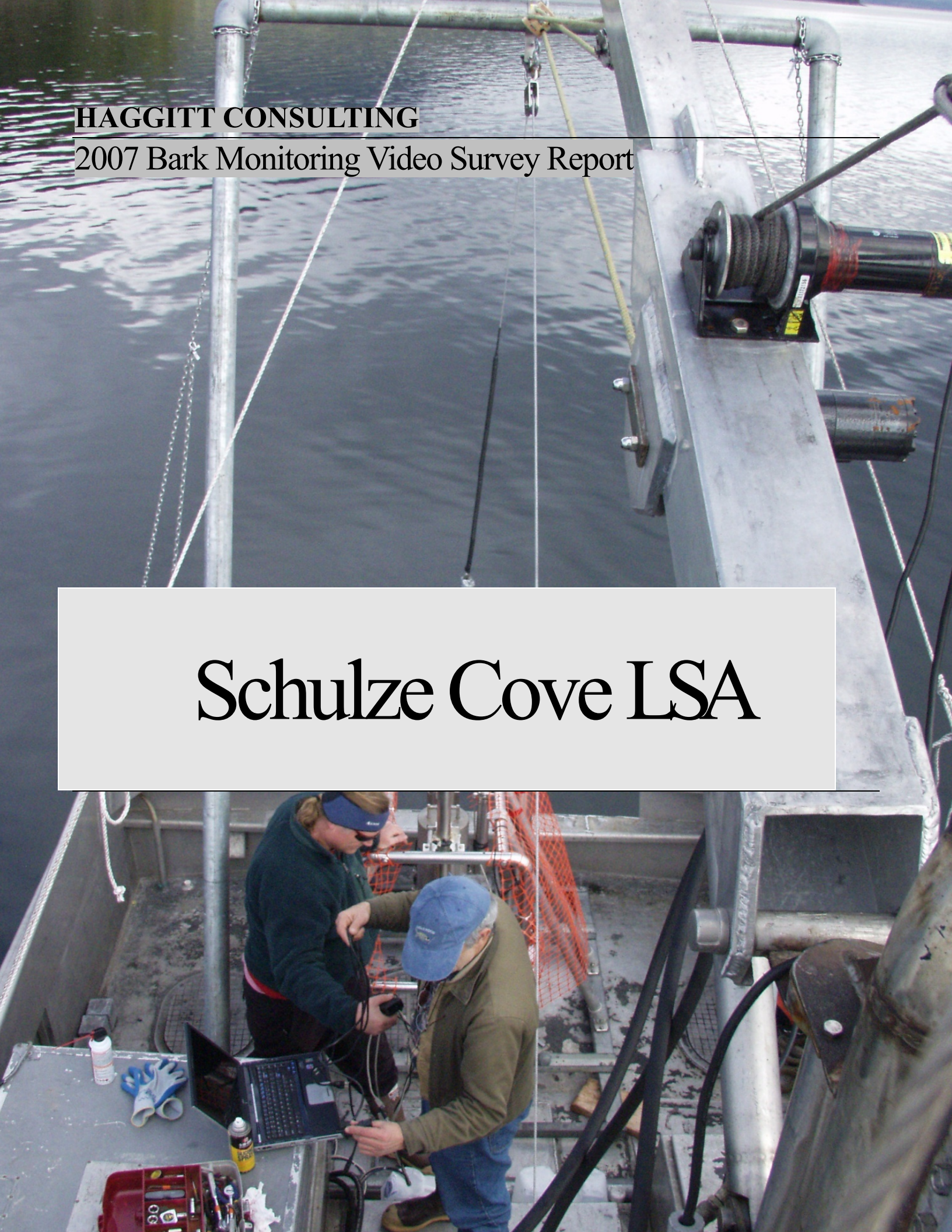

HAGGITT CONSULTING

2007 Bark Monitoring Video Survey Report

Schulze Cove LSA

MAY 7, 2007 THROUGH MAY 10, 2007 SURVEY

Schulze Cove Log Storage Area

Submitted to:
Alaska Department of Environmental Conservation
Division of Water
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Contract Number:
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Submitted On:

December 22, 2007

Figures

Abstract

An underwater reconnaissance was conducted on May 7 through May 10, 2007 at the former Schulze Cove Log Storage Area (LSA) to determine the current extent of bark debris accumulation on the ocean bottom. Schulze Cove is located on the east coast of Baranof Island. The site is approximately 22 miles north of Sitka-adjacent to Peril Straits in Fish Bay, Alaska.

This investigation was done under contract to the Alaska Department of Environmental Conservation to assess the current extent of bark debris coverage in the Log Storage Area.

The investigation combined the scientific resources of Haggitt Consulting and Germano and Associates. Video, still and sediment profile view images were taken at 116 sample points over a parallel transect array. At selected sample points, benthic samples of sediments were collected for biological and chemical analysis.

This report represents results only from the video survey. However, the Appendix B and C in this report contain the full record of all the sediment profile and plan view images recorded during the study. The analysis of those images is presented separately in the companion report by Germano and Associates.

The parallel pattern used to survey the site consisted of 17 transects at 300 foot spacing intervals. The sample point frequency was at 300 foot intervals using video survey methods. The survey documented that the LSA contained no continuous coverage by bark debris, and 25.02 acres of discontinuous coverage by bark debris.

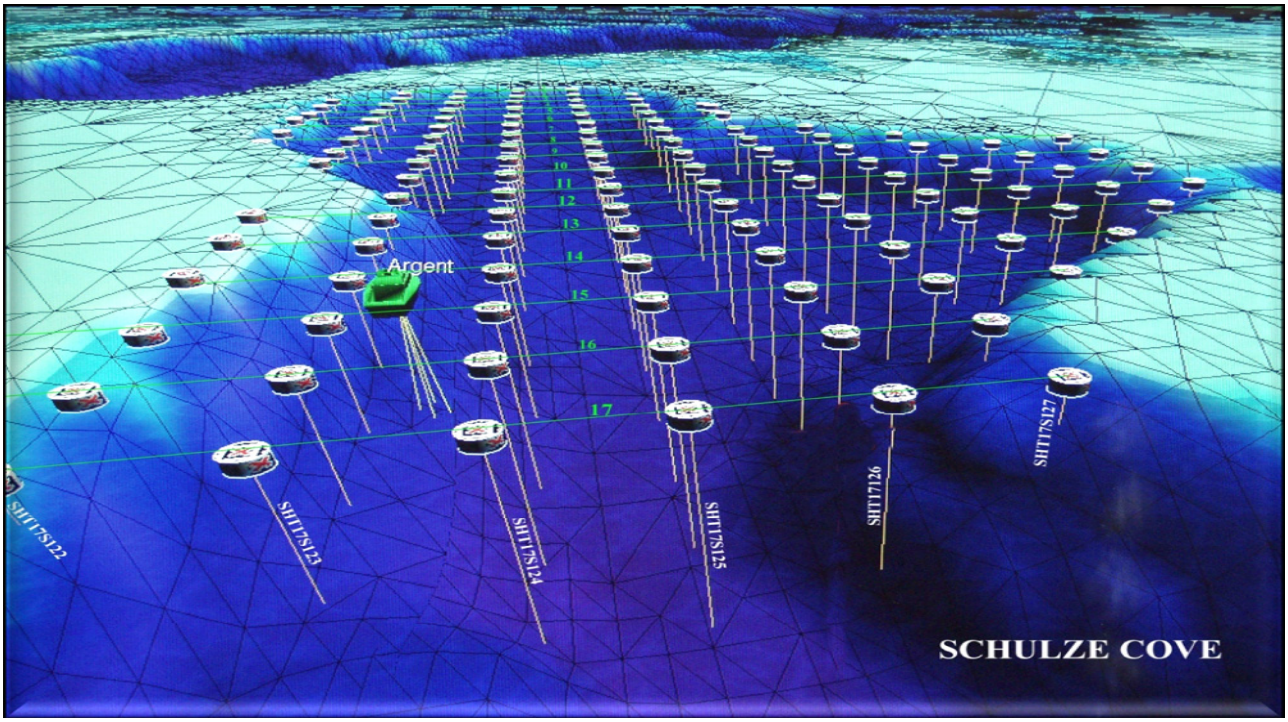

Figure 1

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Introduction

The Schulze Cove LSA was has not operated since closure of the APC Sitka pulp mill in 1993. No log moorage or other facilities remain at the site. The Log Storage area is located in the western portion of Schulze Cove, with a southern exposure. The weather conditions were good but the underwater visibility was poor during this bark assessment survey. The bathymetric conditions at the site are that of a flat grade at an average elevation of -64 ft MLLW. Bark debris and other organic debris were noted in discontinuous coverage and tended to congregate at areas where log rafting had been extensively used. A summary of the approach and techniques used in the LSA survey is provided below in the Methods Section. The result of the survey is then presented together with estimates of the spatial extent and thickness of bark cover on the seafloor.

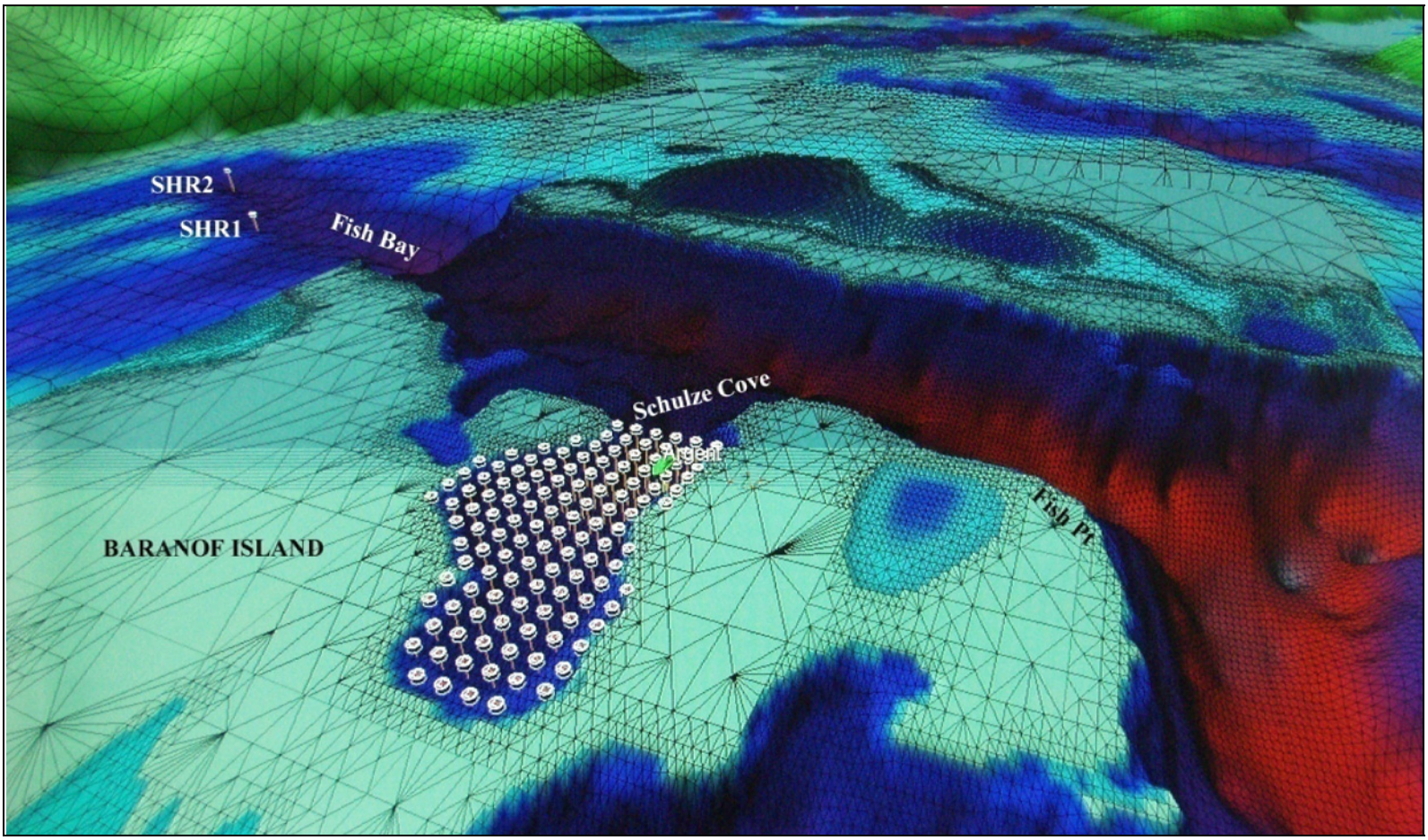


Figure 2 Bathymetric view of Schulze Cove and Fish Bay.

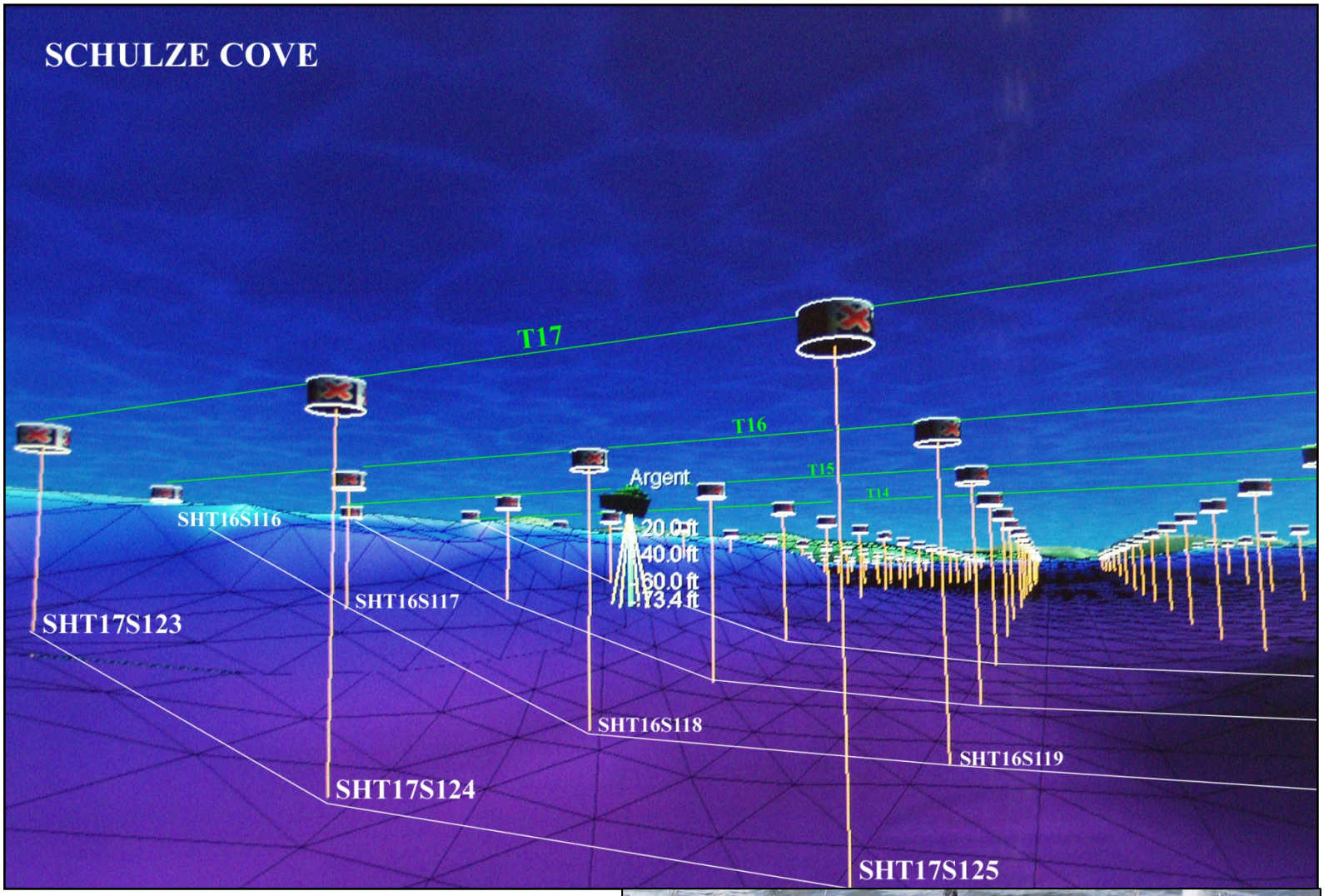


Figure 3 Parallel Transects- bathymetric view.

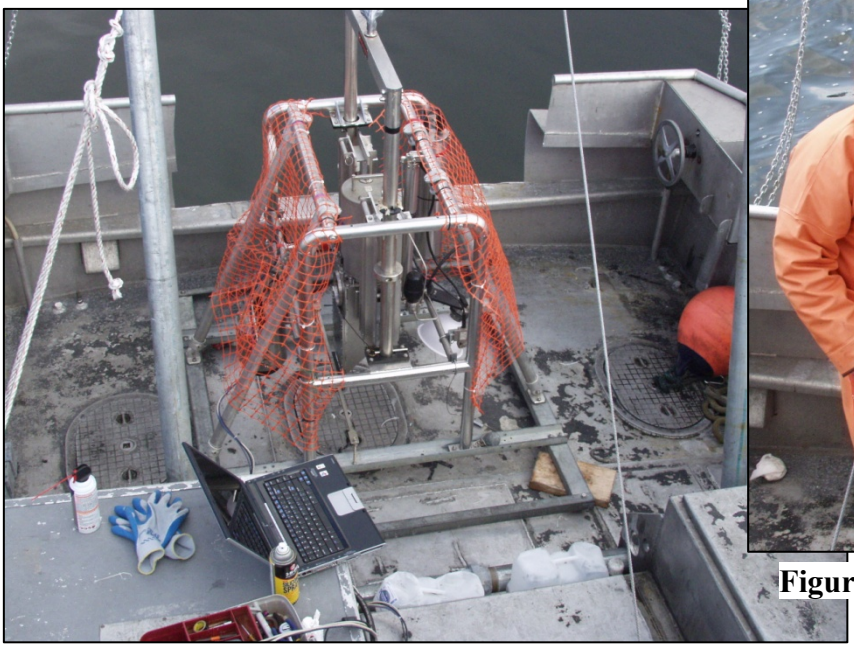


Figure 4 Launching the SPI/PUC imaging device.

Methods

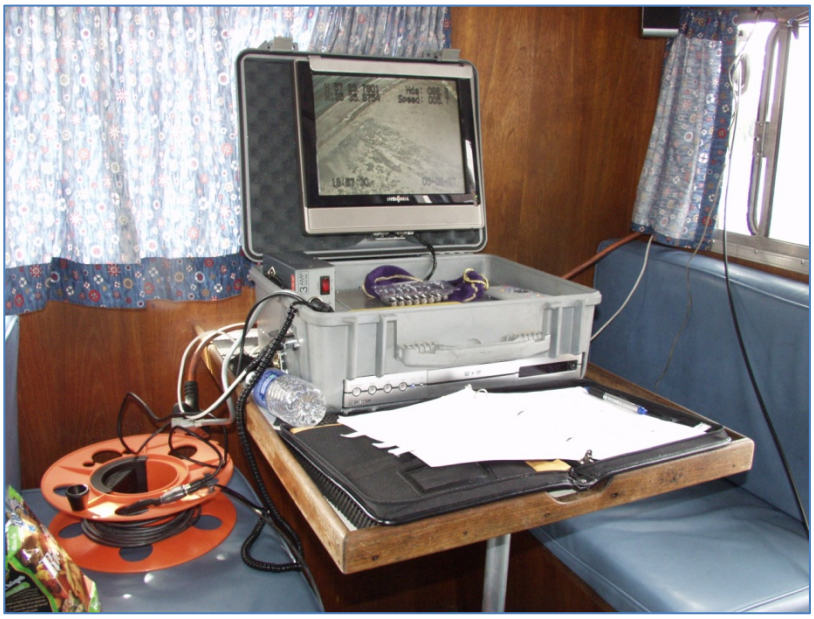


Figure 5 Plan View Video / Satellite link console and HDD recording device.

Parallel transects were used to assess the Schulze Cove LTF/ LSA area. Plan View Video as well as a Plan View Underwater Camera and a Sediment Profile Camera were employed to assess the condition of the substrate directly beneath the parallel transects. In addition to the photographic work, grab sampling was used at six stations along the parallel transects to assess the sediment content. This report presents results only from the video survey. Other results are presented separately in a report by Germano and Associates

Video Survey Methods

The video survey system is comprises a 12 channel satellite receiver providing DGPS and WAAS coordinates to shipboard navigation and infrared camera equipment. The satellite receiving antenna is located directly above the sample point being observed. The camera is weighted and lowered on lead line from the vessel to within 2 vertical feet of the sample point. The infrared camera records the substrate condition for at least 60 seconds, this video feed is combined with a live satellite data stream that includes; Latitude and Longitude (to the fourth decimal point), speed, heading, time (Greenwich mean time) and date. The video is then edited to the 30 second segment that includes the projected sample point location. This survey also included video "stills."

The live data and tapes that result from this survey are reviewed by professional bark monitoring divers to determine the percent of bark coverage at each sample point. Observations of the debris viewed over the full 60 seconds of tape are compared against the representative clip of the sample point to ensure fair portrayal of the intended sample point. Observations are recorded in data tables and a coverage map is produced. Each report includes a video appendix of the sample points observed.

The fixed hub reference points for the parallel transects delineating bark debris areas were selected by observing the site conditions, operational history and positioning the hubs (baseline) in a location that would provide the best survey coverage of the area used as a Log Storage Area. Additionally, during the survey DGPS/WAAS coordinates are acquired at the hub and each sample point along the transect to facilitate relocation. Transects were established at 068 degrees magnetic and 300 feet apart. Transects and sample points were pre-plotted onto an electronic chart, with longitude and latitude coordinates. The vessel tracked on this chart using a satellite receiver that provides data for the electronic chart software to trace the vessels progress along the transect. The transects were terminated by the requisite of beyond the area of significant bark accumulation, physical barrier or the required scope of services.

Area of Bark Cover

For each survey, the percentage of bark coverage was determined by using the protocol for operating a bark-monitoring program given in the EPA General Permit for Log Transfer Facilities. The area calculation used in this report is outlined in the ADEC publication "Required Method for Bark Monitoring Surveys under the LTF General Permits".

Area calculations were accomplished by drafting scaled transect diagrams from the sample point tables in TurboCAD Professional V10. The TurboCAD program then accomplished the area calculations.

Figure 6 Reference Station 1 SHR1
57' 22.384 N 135' 31.524 W

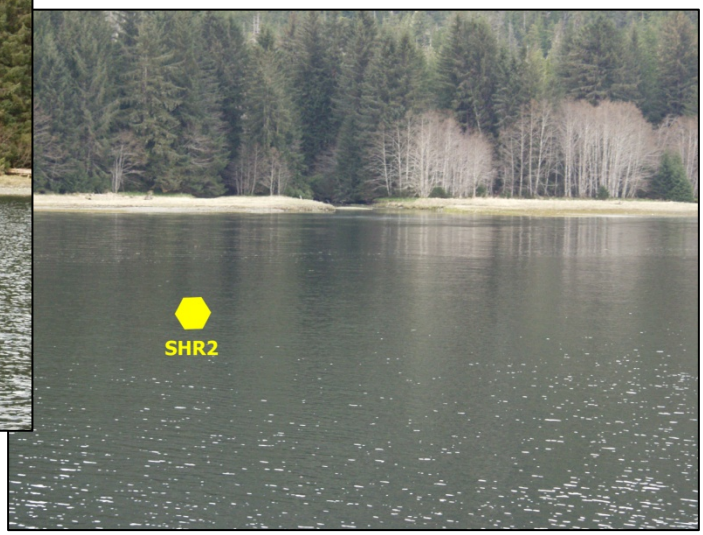


Figure 7 Reference Station 2 SHR2
57' 21.792 N 135' 29.901 W

Chapter 1

Schulze Cove LSA Plan View Video Survey

Surveyed on May 7, 2007 through May 10, 2007

The survey was conducted under contract to the Alaska Department of Environmental Conservation. An underwater reconnaissance was requested to determine the representative condition of an area formally operating as a Log Storage Area (LSA). The video survey was conducted May7, 2007 through May 10th, 2007. The site surveyed is located in Schulze Cove, Baranof Island, Alaska.

This investigation documented findings according to the Alaska Department of Environmental Conservation (ADEC), Environmental Protection Agency (EPA) and NPDES requirements. The percentage of bark coverage was determined by using the protocol for operating a bark-monitoring program given in the EPA General Permit for Log Transfer Facilities. The area calculation used in this report is outlined in the ADEC publication **"Required Method for Bark Monitoring Surveys under the LTF General Permits".**

Findings[1]

Video Survey Results:

Continuous Coverage	Discontinuous Coverage	Total Survey Area[2]
0.0 Acres / 0.0 M_2	25.02 Acres / 99, 719 M_2	191 Acres / 772, 887 M_2

[2] 165.98 Acres were determined to be zero to trace surface bark cover.

Figure 8 Schulze Cove- Looking into Schulze Cove from the east side of Piper Island

Weather conditions during the survey consisted of overcast skies with winds at less than 5 knots. Surveying by video camera commenced on May 7, 2007; during low water. The tidal station (subordinate station #1819) was used to correct depths to MLLW. The station reported a tide level of 2.8 ft at 8:30 a.m. The current velocity remained negligible. Seawater temperature was recorded at 42 degrees F. The horizontal of visibility near the bottom was estimated to be <1 foot.

Seventeen parallel transects, emanating from a bearing line located at the west end of the bay, traversed the bottom on bearings labeled: T1 - T17 at 068 degrees magnetic. A total of 116 sample locations at a 300-foot interval distance was assessed. Two additional reference stations were also observed with a similar bottom type, in an area of Fish Bay that had not been used for log storage activities.

Site conditions remained fairly steady with winds less between 5 knots and 25 knots. The sky remained overcast. Surveying concluded at 7:35 p.m. on May 10, 2007 during mid tide. The tidal station (subordinate station #1819) was used for depth corrections, reporting an 8.0 ft tide level at 7:30 p.m. The tidal current velocity was estimated to be 0.0 knots. The horizontal visibility remained constant and was estimated to be <1 foot. The grade for these transects remained fairly flat.

Observations

The bark debris encountered varied from zero/trace to 40% surface coverage. The areas that contained this coverage seamed to coincide with substrate that was "hard" in nature (sand and gravel mixes). The Plan View Video did encounter a sunken bundle of logs near station 40 and some minor patches of 100 percent bark cover. However, these points were less than 25 feet across in- spatial extent, and not close enough to a designated sample location to be recorded as a station result. The bundle of logs and surrounding debris field was in a state of heavy decomposition. The ends were under severe attack from torredo worms, as was the length of the individual logs. The surrounding bark field appeared to be reduced to small pieces, not unlike that normally found at LTF discharge points. It did not resemble the long strips and large pieces that are routinely observed under log storage areas.

Visibility conditions remained constant throughout the balance of the survey. As is typical for this time of year; the light penetrating from the surface reduced quickly with the descent of the camera. In typical conditions of similar Alaska bays in winter, the camera automatically switches from a color standard light mode at about sixty feet in depth, to an infra red/infra white- black and white mode. In Schulze Cove in May, this automatic switch based on available light conditions occurred at a depth of about 15 feet.

In the near bottom, the horizon of visibility reduced to about 1.5 feet of linear visibility that grew increasing dense as the final approach was made to bottom contact. The low visibility apparently was due to a soup-like accumulation of detritus from a heavy plankton bloom that settled to the bottom. The visibility did hamper the assessments of surface bark debris by standard photographic methods. Infra red and Infra white diodes in the PVV camera have the ability to penetrate suspended particles with out producing "backscatter" that a standard strobe causes film to record. For this reason the camera was able to record images clear enough to produce quantifiable results.

The camera needed to be suspended at an altitude of 4 to 6 inches off the bottom to produce a clear view; as closer made the image out of focus and farther away allowed too much of the "soup" between the bottom and camera to allow for a clear image. While the video images remained fairly clear, still images of individual video frame required that the moving camera also be stopped in order to prevent the motion blur that normally occurs at speeds over 0.5 knots and 24 frames per second. For this reason, observations recorded in the tables of percent of cover were made off the moving video, at the point nearest the intended sample point; and the still images contained in the Appendix were at the point nearest to the intended sample point that the survey vessel was able to arrest the camera movement.

The bark debris observed remained constant at a few inches in size, and all appeared to be brittle in nature. Present in large areas was Beggiatoa. It quilted the substrate in both large and small patches. Most of the bark debris seemed to be intermixed in the top few inches of

the silt substrate. This observation of this phenomenon was possible from the video as a 24 ounce lead ball was suspended six inches below the camera for stability and focal distance. Because the camera was "stopped" to arrest its motion to provide an opportunity for a still image, it would often reverse its direction and view the trail disturbed by the lead sinker. This trail revealed bark pieces intermixed with the substrate.

Generally, the bottom was a fairly flat grade composed primarily of silt and fine sands covered extensively with decomposing layer of phytodetritus deposits. The bark debris appears to be brittle, and well mixed with the top few inches of the substrate. Marine life is considered low in abundance at the time of the survey in comparison with other bays with comparative flushing. However, the video did note small shrimp in high abundance throughout the survey area.

This determination is based on the calculations derived from the transect data collected for this report only. For further service regarding this report, please direct inquiries to (253) 209-9380 or e-mail at Haggitt1@juno.com.

Respectfully submitted,

Stephen Haggitt
December 22, 2007

Chapter 2

Survey Summary

The results from the video survey and the benthic examination by scientists from Germano and Associates reveal a bay that is impaired as a result of seasonal blooms of plankton and the impacts from the storage of log rafts are unlikely to be much of a contributing factor to the status of this impaired water body.

The video survey covered a large area (191 acres) at a relatively low resolution, with 300-foot sample grid points. Actual results as to the area of discontinuous cover may be considered conservative at this resolution. The area containing discontinuous cover was calculated by standard bark monitoring calculation methods at 25.02 acres. It is possible this spatial extent would be further reduced; in a finer resolution survey that could account for discrete areas of continuous and trace coverage by bark debris within the mapped boundaries of discontinuous cover.

This survey used standard reporting methods and included only coverage that was determined to be 10% to 90% in the reported discontinuous coverage area; however, coverage observed did not exceed 40%. Determinations of bark debris coverage over 100% are reported as continuous coverage and determinations of bark debris coverage of less than 10% are reported as zero or trace coverage.

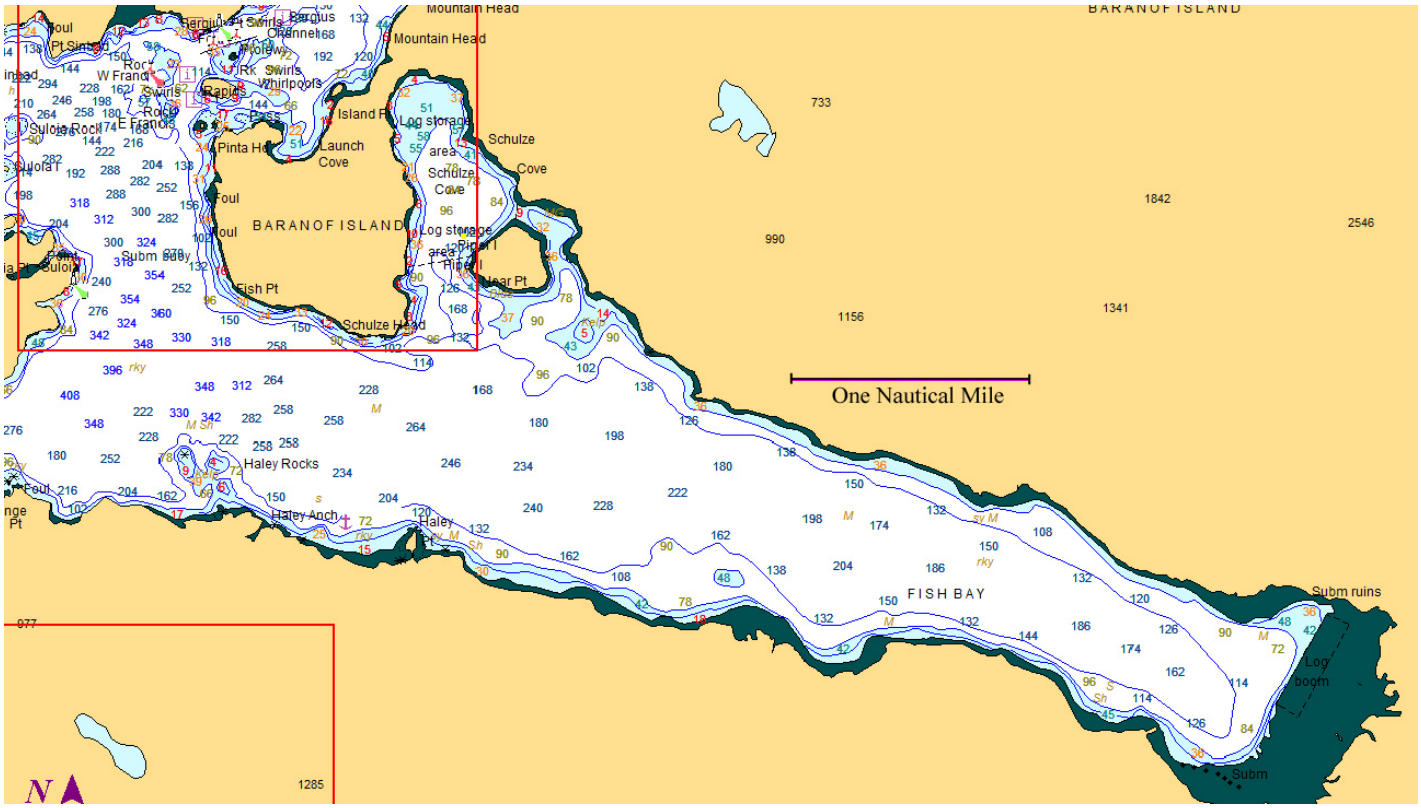


Figure 9 Vector Chart view of Schulze Cove and Fish Bay

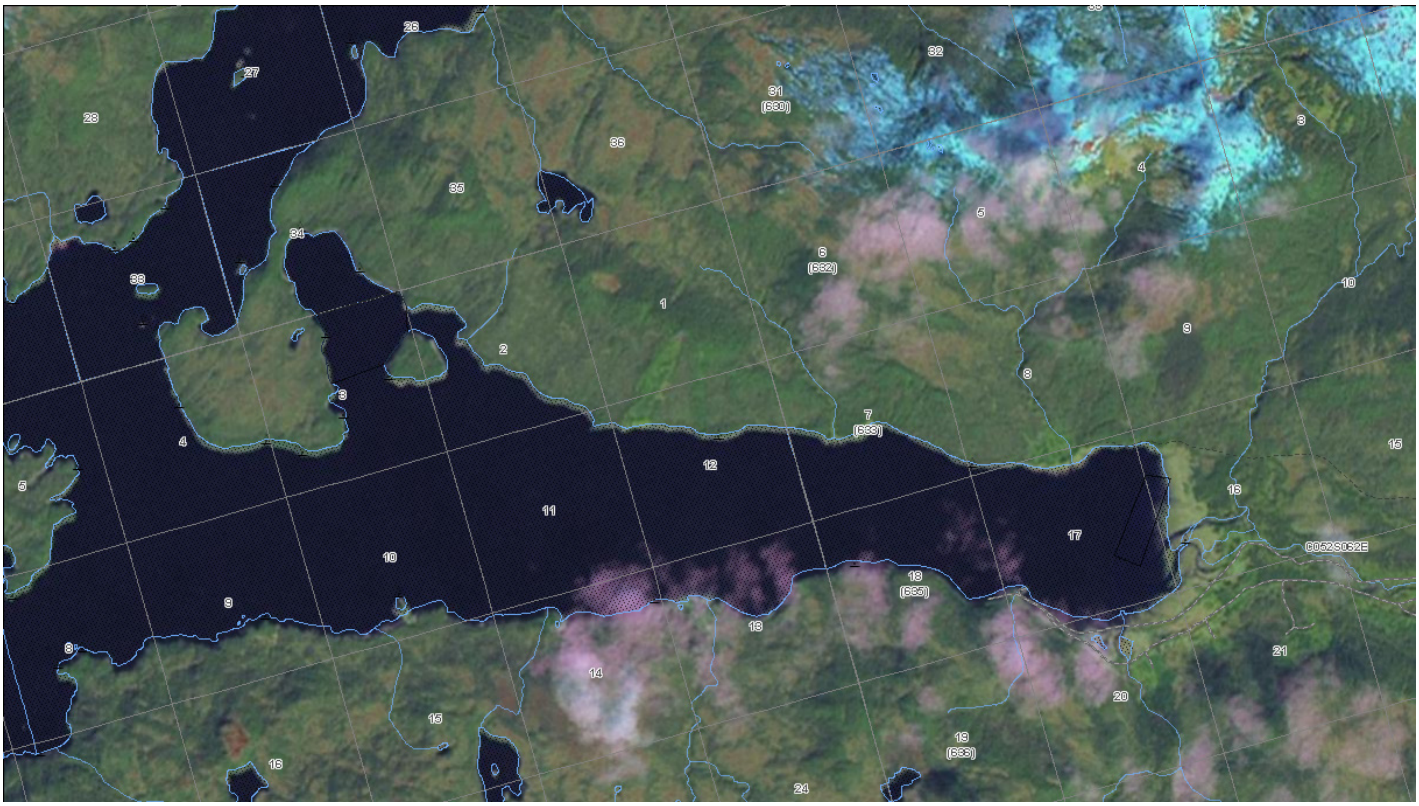


Figure 10 Satellite image with DNR grid overlay

Figure 11 Satellite view of Schulze Cove and Piper Island

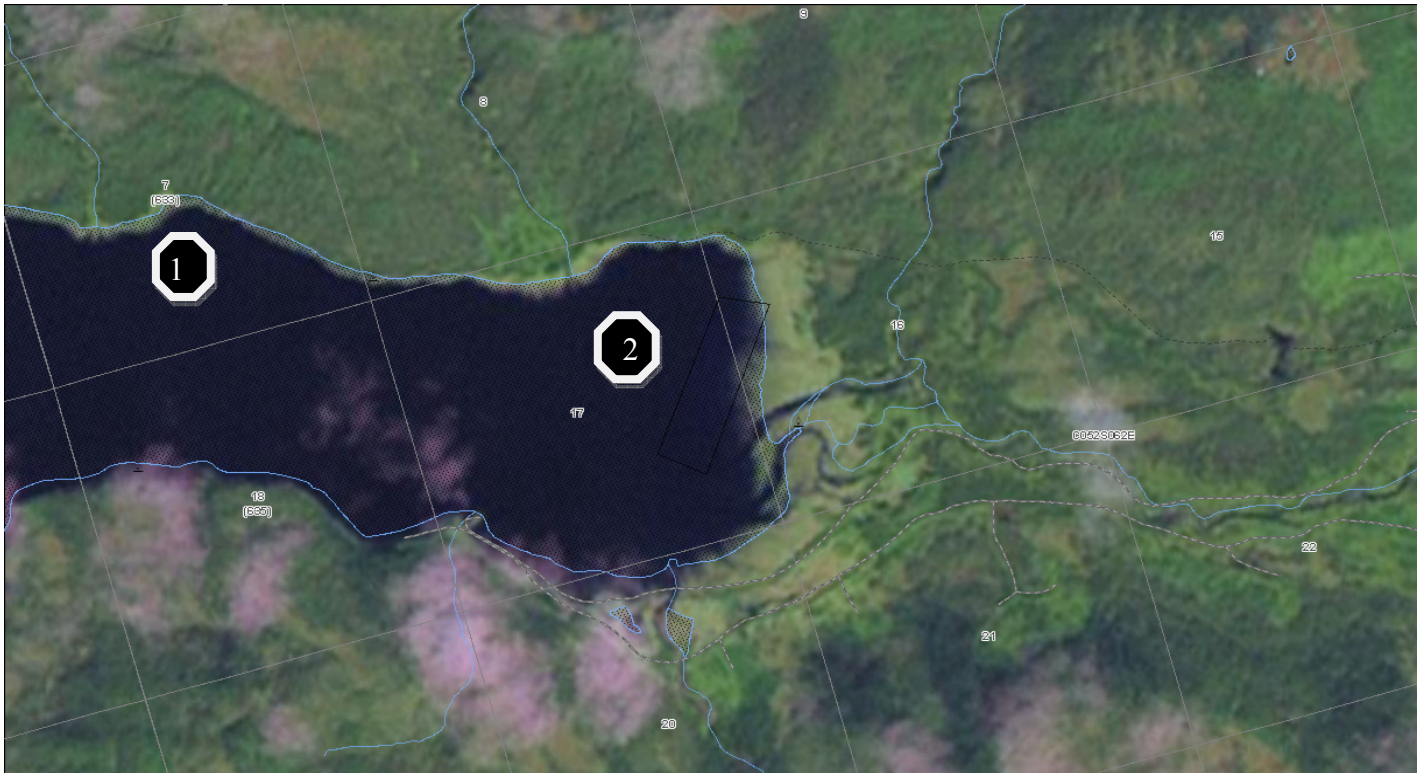


Figure 12 Satellite image of Fish Bay Reference stations

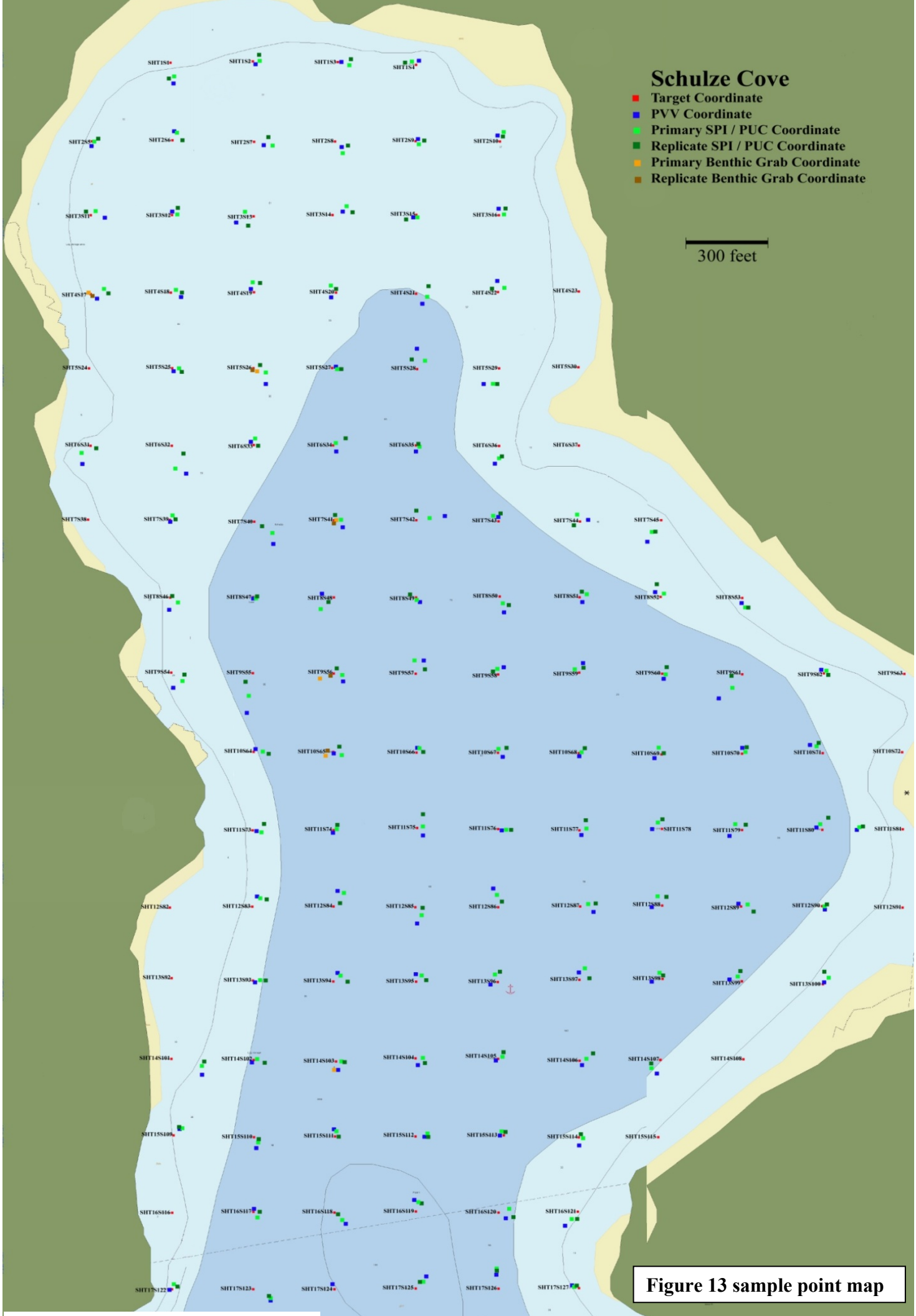


Figure 13 sample point map

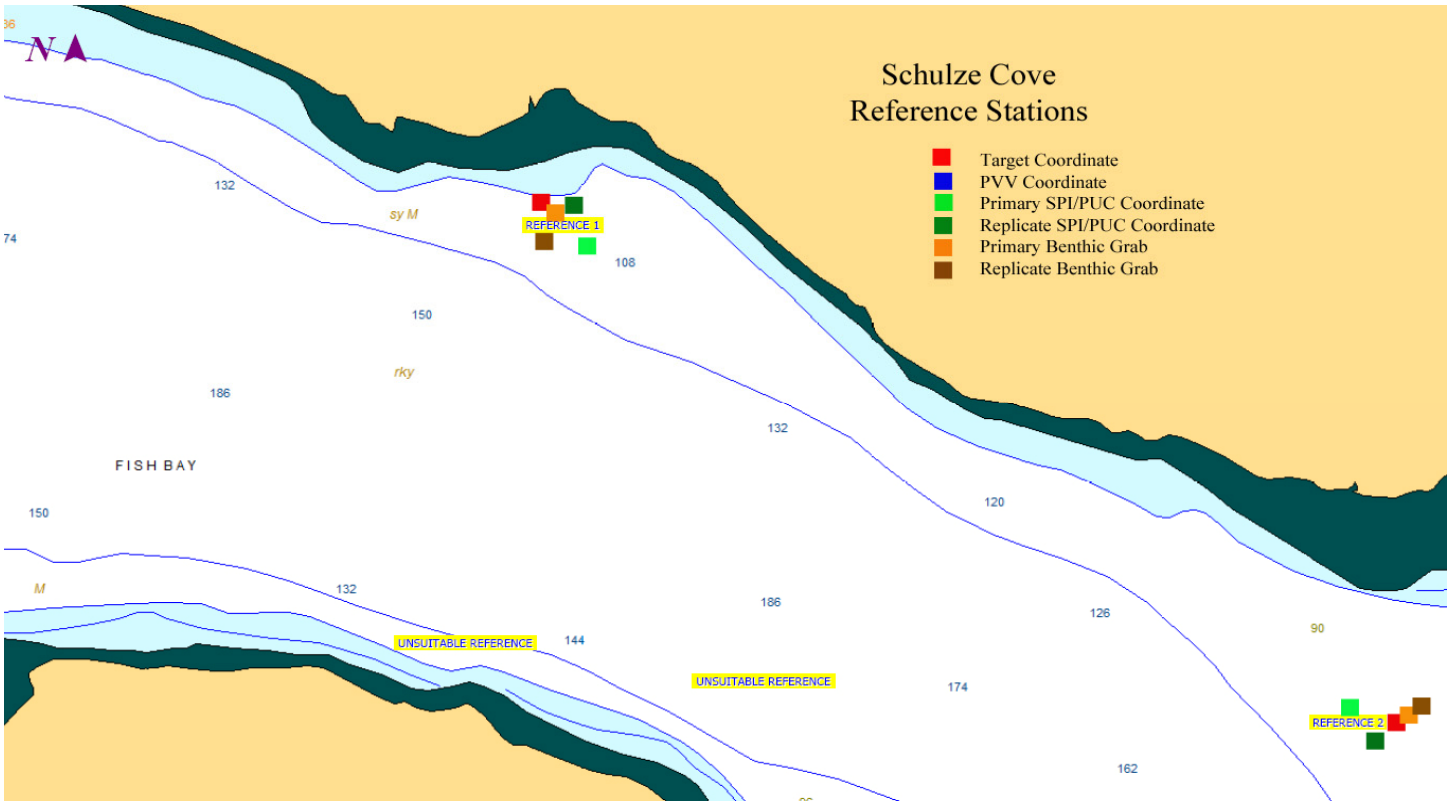


Figure 14 Fish Bay Reference Stations Vector map.

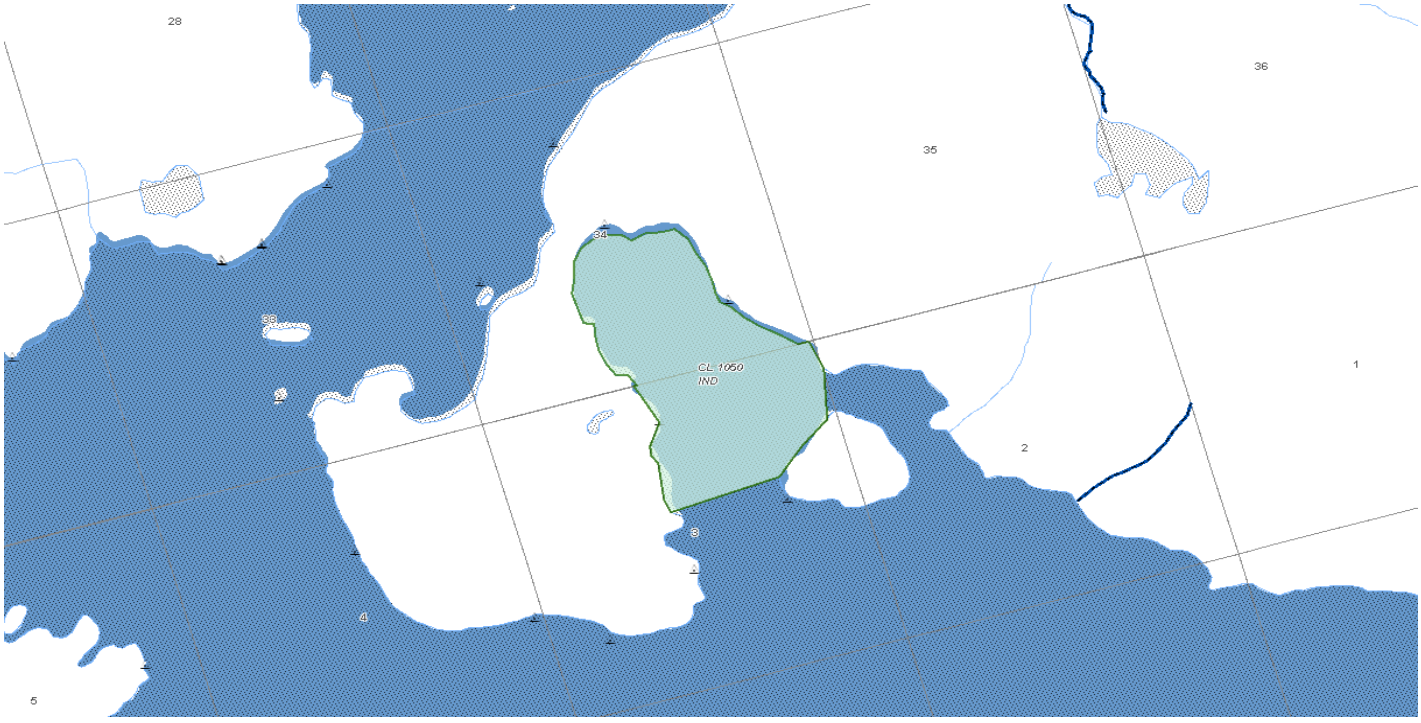


Figure 15 DNR land use designation map for Schulze Cove.

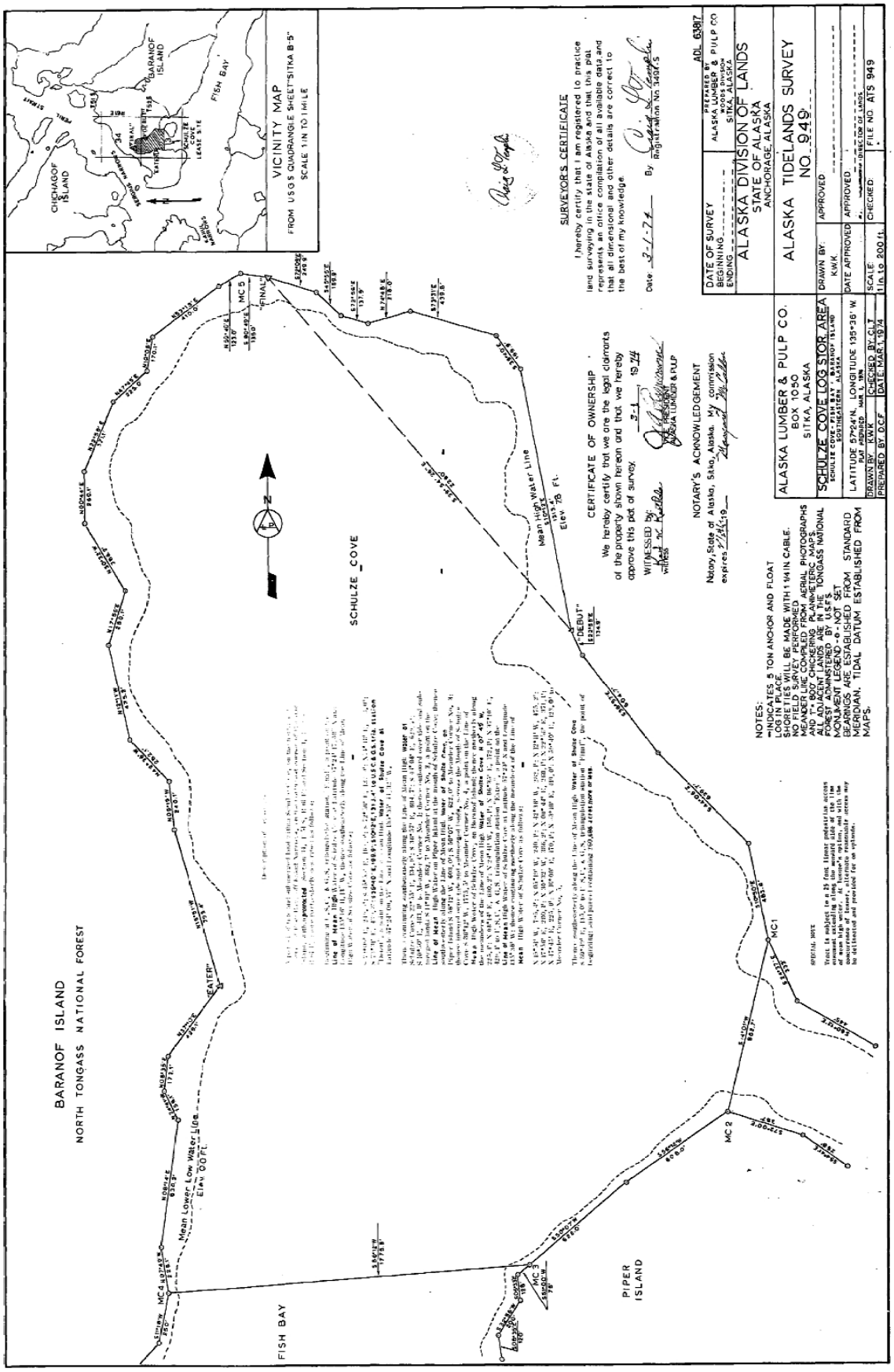


Figure 16 March 1974 Tide Lands survey of Schulze Cove

TOWNSHIP 52S RANGE 61E OF THE COPPER RIVER MERIDIAN, ALASKA

LOTS	OTHER DESCRIPTION	ACRES	KIND OF ENTRY -OR- PURPOSE OF ORDER	SERIAL FILE -OR- ORDER NUMBER	DATE OF ACTION	DATE POSTED	—REMARKS— E G DATE CLOSED, TERMINATED, REJECTED OR RESCINDED
.	MAB Tdls; Tr. 19; Other twp. T51S, R62E., CRM	3.70	F.S.A.U.	24859	7-20-64	3-26-64	Eff. 7-1-64. Term. 5 yrs. F.U.P. iss. by U.S. Forest Service Case closed.
	MAB Tdls; Tr. 18; T 51S., R 62E., CRM	6.00	do	do	do	do	do do do
	MAB Tdls. Tr. 19;	5.00	do	do	do	do	do do do
	MAB Tdls; part of Tr. 20; M.&B. Tdls. Tr. 21.	2.00	do	do	do	do	do do do
	M & B Tdls.		F.S.A.U.	25199	11-12-64	1-11-67	Other twp. 51S., R. 61E., CRM, Ext. 7-1-69, Term: 5 yrs. F.U.P. iss. by U.S. Forest Service Amend. 12-20-66 to incl. addi'l. acreage. Ext. to 11-20-71. Ext. 3-28-69,
			do	do	do	do	Term: 5 yrs. Case closed 2-13-81.
	Sec. 3		Tdls. Tdls.	169817	2-10-81	1-6-81	Ext. 11-10-80; Term: 6 years. See oth. TWP: 51S, 61E, CRM.

Figure 17 Archived ADL land use records

Tidal Graphs

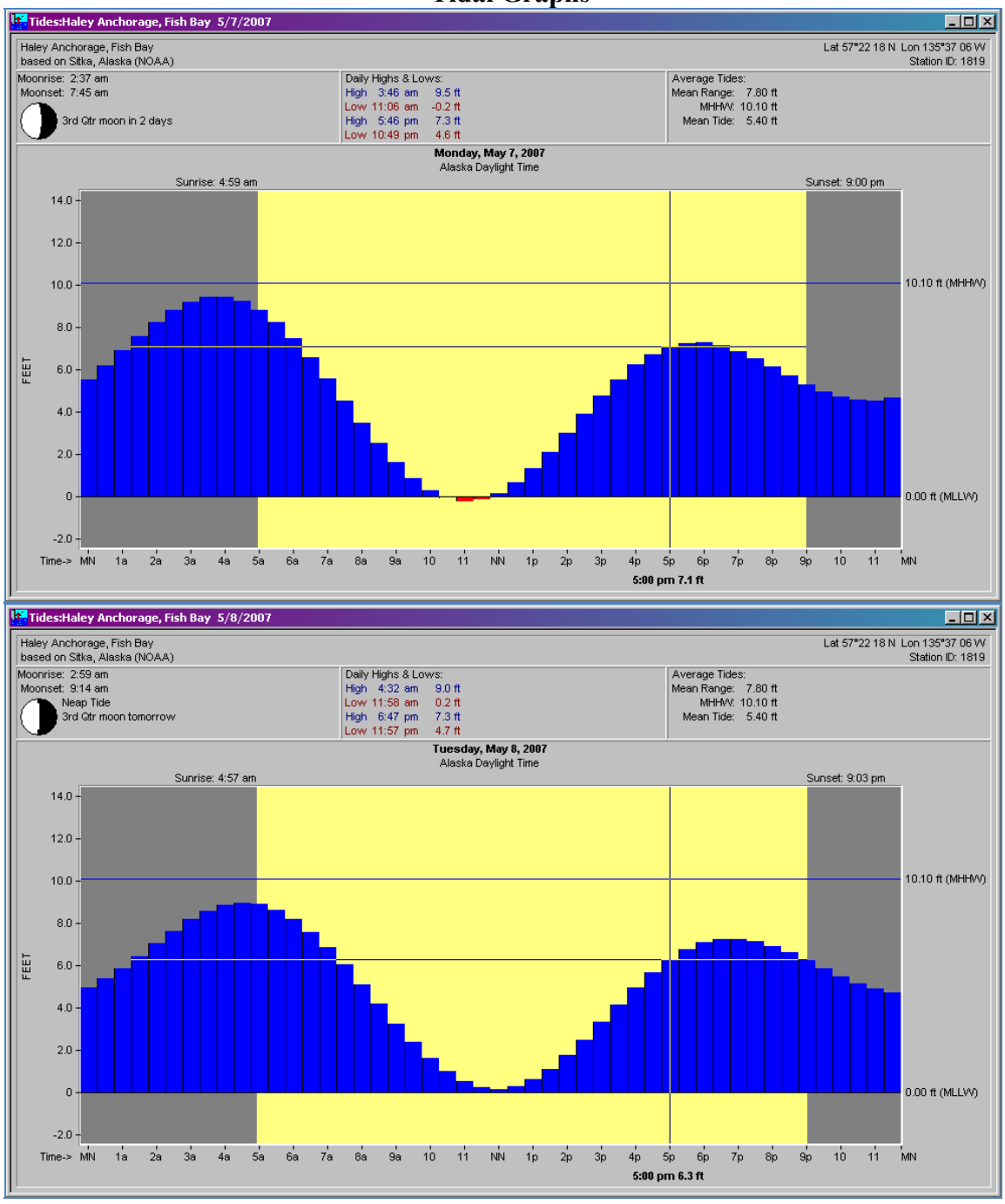


Figure 18 Tide graph for May 7 and 8, 2007

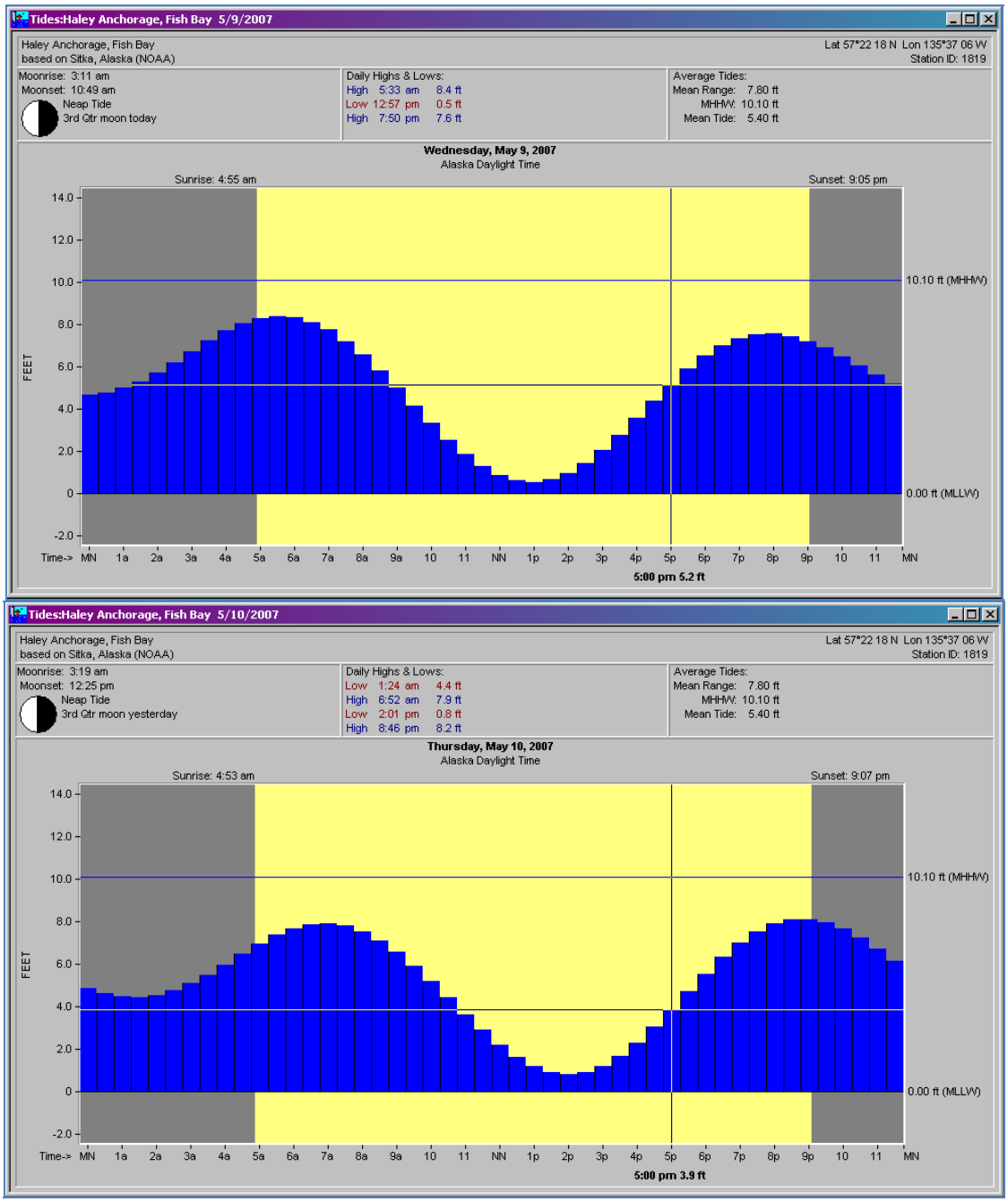
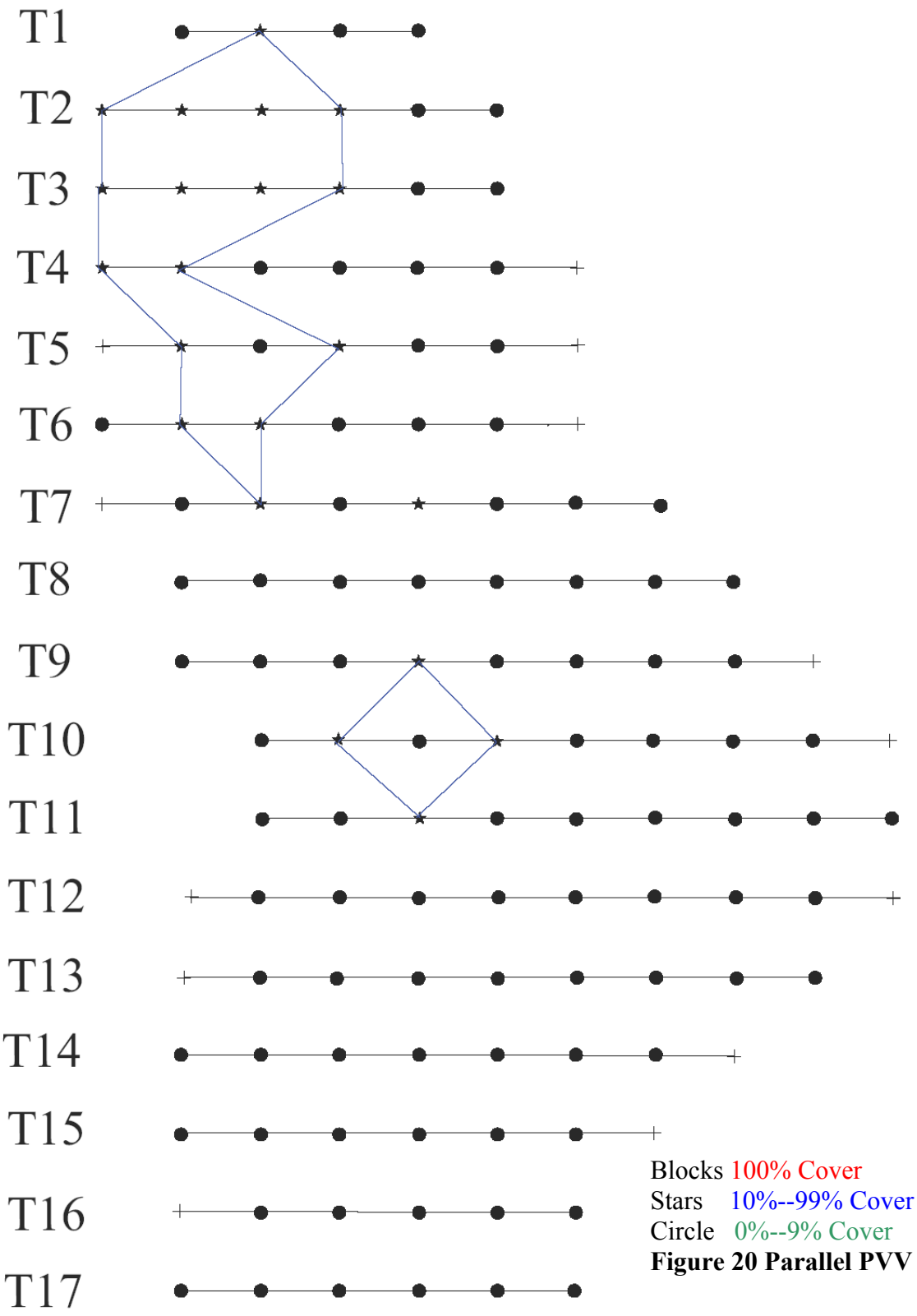


Figure 19 Tide graph for May 9 and 10, 2007

Plan View Video Calculation Diagram



Blocks 100% Cover
Stars 10%--99% Cover
Circle 0%--9% Cover

Figure 20 Parallel PVV Diagram

PVV Results

DEPTH MLLW	Transect ID	Percent of Cover by Bark Debris	Substrate Type
41	SHT1S1	0	Silt
36	SHT1S2	40	Silt
48	SHT1S3	Trace	Sand
36	SHT1S4	0	Sand
29	SHT2S5	30	Silt
40	SHT2S6	20	Silt
34	SHT2S7	10	Silt
48	SHT2S8	10	Silt
51	SHT2S9	Trace	Silt
45	SHT2S10	Trace	Silt
36	SHT3S11	50	Silt
45	SHT3S12	20	Silt
52	SHT3S13	10	Sand
53	SHT3S14	10	Silt
53	SHT3S15	0	Silt
54	SHT3S16	0	Sand
38	SHT4S17	10	Silt
42	SHT4S18	20	Silt
57	SHT4S19	Trace	Silt
58	SHT4S20	Trace	Silt
60	SHT4S21	Trace	Silt
55	SHT4S22	Trace	Silt
0	SHT4S23	N/A	N/A
0	SHT5S24	N/A	N/A
48	SHT5S25	20	Silt
61	SHT5S26	Trace	Silt
66	SHT5S27	40	Silt
69	SHT5S28	Trace	Silt
50	SHT5S29	0	Sand
0	SHT5S30	N/A	N/A
35	SHT6S31	0	Sand
48	SHT6S32	10	Silt
61	SHT6S33	10	Silt
69	SHT6S34	Trace	Silt
79	SHT6S35	Trace	Silt
34	SHT6S36	0	Sand
0	SHT6S37	N/A	N/A
0	SHT7S38	N/A	N/A
55	SHT7S39	Trace	Silt

DEPTH MLLW	Transect ID	Percent of Cover by Bark Debris	Substrate Type
61	SHT7S40	10	Silt
72	SHT7S41	Trace	Silt
78	SHT7S42	20	Silt
76	SHT7S43	0	Sand
55	SHT7S44	0	Sand
34	SHT7S45	Trace	Sand
43	SHT8S46	Trace	Rock, Gravel
68	SHT8S47	Trace	Silt
70	SHT8S48	Trace	Silt
80	SHT8S49	Trace	Silt
76	SHT8S50	0	Silt
80	SHT8S51	0	Silt
64	SHT8S52	0	Sand
39	SHT8S53	0	Sand
24	SHT9S54	0	Sand
71	SHT9S55	Trace	Silt
78	SHT9S56	0	Silt
78	SHT9S57	10	Silt
87	SHT9S58	0	Silt
81	SHT9S59	0	Silt
90	SHT9S60	0	Silt
68	SHT9S61	Trace	Silt
44	SHT9S62	0	Sand
0	SHT9S63	N/A	N/A
72	SHT10S64	0	Silt
82	SHT10S65	10	Silt
91	SHT10S66	Trace	Silt
85	SHT10S67	10	Silt
89	SHT10S68	0	Silt
85	SHT10S69	0	Silt
88	SHT10S70	0	Silt
72	SHT10S71	0	Sand
0	SHT10S72	N/A	N/A
40	SHT11S73	0	Sand
94	SHT11S74	Trace	Silt
88	SHT11S75	10	Silt
96	SHT11S76	Trace	Silt
92	SHT11S77	0	Silt
96	SHT11S78	0	Silt
87	SHT11S79	Trace	Silt
69	SHT11S80	0	Gravel, Rock

DEPTH MLLW	Transect ID	Percent of Cover by Bark Debris	Substrate Type
35	SHT11S81	0	Sand
0	SHT12S82	N/A	N/A
33	SHT12S83	0	Sand
98	SHT12S84	Trace	Silt
97	SHT12S85	Trace	Silt
96	SHT12S86	0	Silt
96	SHT12S87	0	Silt
95	SHT12S88	0	Silt
91	SHT12S89	0	Silt
74	SHT12S90	0	Sand
0	SHT12S91	N/A	N/A
0	SHT13S92	N/A	N/A
79	SHT13S93	0	Sand
100	SHT13S94	0	Silt
105	SHT13S95	0	Silt
104	SHT13S96	0	Silt
106	SHT13S97	Trace	Silt
101	SHT13S98	0	Sand
97	SHT13S99	0	Sand
13	SHT13S100	0	Sand
28	SHT14S101	0	Sand
65	SHT14S102	0	Sand
113	SHT14S103	0	Silt
114	SHT14S104	0	Silt
115	SHT14S105	0	Silt
109	SHT14S106	0	Silt
82	SHT14S107	0	Sand
0	SHT14S108	N/A	N/A
20	SHT15S109	0	Sand
107	SHT15S110	0	Silt
119	SHT15S111	0	Silt
126	SHT15S112	0	Silt
120	SHT15S113	0	Silt
50	SHT15S114	0	Sand
0	SHT15S115	N/A	N/A
0	SHT16S116	N/A	N/A
110	SHT16S117	0	Silt
131	SHT16S118	0	Silt
143	SHT16S119	0	Silt
126	SHT16S120	0	Sand
35	SHT16S121	0	Sand
56	SHT17S122	0	Sand

DEPTH MLLW	Transect ID	Percent of Cover by Bark Debris	Substrate Type
113	SHT17S123	0	Sand
140	SHT17S124	0	Sand
175	SHT17S125	0	Silt
108	SHT17S126	0	Sand
17	SHT17S127	0	Gravel
92	SHR1	0	Sand
110	SHR2	0	Sand

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
41	SHT1S1	57º 24.210′ N	135º 36.368′ W	PROPOSED
		57º 24.201′ N	135º 36.363′ W	PRIMARY SPI, PUC
		57º 24.199′ N	135º 36.368′ W	REPLICATE SPI, PUC
		57º 24.196′ N	135º 36.364′ W	PVV
36	SHT1S2	57º 24.210′ N	135º 36.275′ W	PROPOSED
		57º 24.211 N	135º 36.267′ W	PRIMARY SPI, PUC
		57º 24.215′ N	135º 36.266′ W	REPLICATE SPI, PUC
		57º 24.209′ N	135º 36.271′ W	PVV
48	SHT1S3	57º 24.210′ N	135º 36.179′ W	PROPOSED
		57º 24.208′ N	135º 36.165′ W	PRIMARY SPI, PUC
		57º 24.212′ N	135º 36.163′ W	REPLICATE SPI, PUC
		57º 24.210′ N	135º 36.175′ W	PVV
36	SHT1S4	57º 24.209′ N	135º 36.091′ W	PROPOSED
		57º 24.210′ N	135º 36.095′ W	PRIMARY SPI, PUC
		57º 24.209′ N	135º 36.103′ W	REPLICATE SPI, PUC
		57º 24.211′ N	135º 36.087′ W	PVV
29	SHT2S5	57º 24.159′ N	135º 36.455′ W	PROPOSED
		57º 24.159′ N	135º 36.453′ W	PRIMARY SPI, PUC
		57º 24.161′ N	135º 36.447′ W	REPLICATE SPI, PUC
		57º 24.156′ N	135º 36.455′ W	PVV
40	SHT2S6	57º 24.160′ N	135º 36.366′ W	PROPOSED
		57º 24.164′ N	135º 36.359′ W	PRIMARY SPI, PUC
		57º 24.160′ N	135º 36.352′ W	REPLICATE SPI, PUC
		57º 24.165′ N	135º 36.363′ W	PVV
34	SHT2S7	57º 24.159′ N	135º 36.273′ W	PROPOSED
		57º 24.156′ N	135º 36.252′ W	PRIMARY SPI, PUC
		57º 24.162′ N	135º 36.256′ W	REPLICATE SPI, PUC
		57º 24.156′ N	135º 36.262′ W	PVV
48	SHT2S8	57º 24.159′ N	135º 36.182′ W	PROPOSED
		57º 24.152′ N	135º 36.173′ W	PRIMARY SPI, PUC
		57º 24.156′ N	135º 36.166′ W	REPLICATE SPI, PUC
		57º 24.155′ N	135º 36.175′ W	PVV
51	SHT2S9	57º 24.159′ N	135º 36.159′ W	PROPOSED
		57º 24.157′ N	135º 36.087′ W	PRIMARY SPI, PUC
		57º 24.160′ N	135º 36.081′ W	REPLICATE SPI, PUC
		57º 24.160′ N	135º 36.088′ W	PVV
45	SHT2S10	57º 24.159′ N	135º 35.996′ W	PROPOSED
		57º 24.165′ N	135º 35.992′ W	PRIMARY SPI, PUC
		57º 24.162′ N	135º 35.993′ W	REPLICATE SPI, PUC
		57º 24.163′ N	135º 35.999′ W	PVV

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
36	SHT3S11	57º 24.112′ N	135º 36.457′ W	PROPOSED
		57º 24.114′ N	135º 36.451′ W	PRIMARY SPI, PUC
		57º 24.114′ N	135º 36.463′ W	REPLICATE SPI, PUC
		57º 24.110′ N	135º 36.441′ W	PVV
45	SHT3S12	57º 24.112′ N	135º 36.366′ W	PROPOSED
		57º 24.112′ N	135º 36.359′ W	PRIMARY SPI, PUC
		57º 24.117′ N	135º 36.359′ W	REPLICATE SPI, PUC
		57º 24.113′ N	135º 36.365′ W	PVV
52	SHT3S13	57º 24.111′ N	135º 36.274′ W	PROPOSED
		57º 24.114′ N	135º 36.283′ W	PRIMARY SPI, PUC
		57º 24.105′ N	135º 36.280′ W	REPLICATE SPI, PUC
		57º 24.107′ N	135º 36.293′ W	PVV
53	SHT3S14	57º 24.112′ N	135º 36.185′ W	PROPOSED
		57º 24.117′ N	135º 36.169′ W	PRIMARY SPI, PUC
		57º 24.114′ N	135º 36.161′ W	REPLICATE SPI, PUC
		57º 24.114′ N	135º 36.174′ W	PVV
53	SHT3S15	57º 24.112′ N	135º 36.091′ W	PROPOSED
		57º 24.110′ N	135º 36.090′ W	PRIMARY SPI, PUC
		57º 24.109′ N	135º 36.103′ W	REPLICATE SPI, PUC
		57º 24.110′ N	135º 36.094′ W	PVV
54	SHT3S16	57º 24.112′ N	135º 35.998′ W	PROPOSED
		57º 24.112′ N	135º 35.991′ W	PRIMARY SPI, PUC
		57º 24.116′ N	135º 35.990′ W	REPLICATE SPI, PUC
		57º 24.116′ N	135º 35.997′ W	PVV
38	SHT4S17	57º 24.061′ N	135º 36.457′ W	PROPOSED
		57º 24.064′ N	135º 36.442′ W	PRIMARY SPI, PUC
		57º 24.061′ N	135º 36.437′ W	REPLICATE SPI, PUC
		57º 24.058′ N	135º 36.450′ W	PVV
		57º 24.061′ N	135º 36.458′ W	PRIMARY BTA
		57º 24.060′ N	135º 36.454′ W	REPLICATE BTA
42	SHT4S18	57º 24.062′ N	135º 36.367′ W	PROPOSED
		57º 24.064′ N	135º 36.361′ W	PRIMARY SPI, PUC
		57º 24.062′ N	135º 36.354′ W	REPLICATE SPI, PUC
		57º 24.059′ N	135º 36.355′ W	PVV
57	SHT4S19	57º 24.062′ N	135º 36.274′ W	PROPOSED
		57º 24.069′ N	135º 36.274′ W	PRIMARY SPI, PUC
		57º 24.068 N	135º 36.266′ W	REPLICATE SPI, PUC
		57º 24.064′ N	135º 36.276′ W	PVV
58	SHT4S20	57º 24.062′ N	135º 36.182′ W	PROPOSED
		57º 24.066′ N	135º 36.186′ W	PRIMARY SPI, PUC
		57º 24.064′ N	135º 36.180′ W	REPLICATE SPI, PUC
		57º 24.059′ N	135º 36.186′ W	PVV

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
60	SHT4S21	57º 24.061´ N	135º 36.091´ W	PROPOSED
		57º 24.059´ N	135º 36.078´ W	PRIMARY SPI, PUC
		57º 24.066´ N	135º 36.076´ W	REPLICATE SPI, PUC
		57º 24.055´ N	135º 36.084´ W	PVV
55	SHT4S22	57º 24.062´ N	135º 35.999´ W	PROPOSED
		57º 24.065´ N	135º 35.991´ W	PRIMARY SPI, PUC
		57º 24.064´ N	135º 36.006´ W	REPLICATE SPI, PUC
		57º 24.069´ N	135º 35.999´ W	PVV
0	SHT4S23	57º 24.063´ N	135º 35.908´ W	PROPOSED[3]
0	SHT5S24	57º 24.013´ N	135º 36.459´ W	PROPOSED[4]
48	SHT5S25	57º 24.013´ N	135º 36.366´ W	PROPOSED
		57º 24.013´ N	135º 36.358´ W	PRIMARY SPI, PUC
		57º 24.010´ N	135º 36.354´ W	REPLICATE SPI, PUC
		57º 24.012´ N	135º 36.364´ W	PVV
61	SHT5S26	57º 24.013´ N	135º 36.273´ W	PROPOSED
		57º 24.010´ N	135º 36.260´ W	PRIMARY SPI, PUC
		57º 24.015´ N	135º 36.266´ W	REPLICATE SPI, PUC
		57º 24.003´ N	135º 36.260´ W	PVV
		57º 24.011´ N	135º 36.270´ W	PRIMARY BTA
		57º 24.012´ N	135º 36.274´ W	REPLICATE BTA
66	SHT5S27	57º 24.013´ N	135º 36.185´ W	PROPOSED
		57º 24.013´ N	135º 36.179´ W	PRIMARY SPI, PUC
		57º 24.012´ N	135º 36.173´ W	REPLICATE SPI, PUC
		57º 24.014´ N	135º 36.181´ W	PVV
69	SHT5S28	57º 24.013´ N	135º 36.090´ W	PROPOSED
		57º 24.018´ N	135º 36.080´ W	PRIMARY SPI, PUC
		57º 24.019´ N	135º 36.096´ W	REPLICATE SPI, PUC
		57º 24.025´ N	135º 36.090´ W	PVV
50	SHT5S29	57º 24.013´ N	135º 35.998´ W	PROPOSED
		57º 24.003´ N	135º 36.004´ W	PRIMARY SPI, PUC
		57º 24.002´ N	135º 35.998´ W	REPLICATE SPI, PUC
		57º 24.003´ N	135º 36.015´ W	PVV
0	SHT5S30	57º 24.014´ N	135º 35.908´ W	PROPOSED[5]
35	SHT6S31	57º 23.963´ N	135º 36.457´ W	PROPOSED
		57º 23.958´ N	135º 36.466´ W	PRIMARY SPI, PUC
		57º 23.961´ N	135º 36.449´ W	REPLICATE SPI, PUC
		57º 23.952´ N	135º 36.466´ W	PVV

[3] Sample Point was to shallow to observe.
[4] Sample Point was to shallow to observe.
[5] Sample Point was to shallow to observe.

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
48	SHT6S32	57º 23.963´ N	135º 36.366´ W	PROPOSED
		57º 23.948´ N	135º 36.362´ W	PRIMARY SPI, PUC
		57º 23.959´ N	135º 36.352´ W	REPLICATE SPI, PUC
		57º 23.945´ N	135º 36.350´ W	PVV
61	SHT6S33	57º 23.964´ N	135º 36.273´ W	PROPOSED
		57º 23.968´ N	135º 36.272´ W	PRIMARY SPI, PUC
		57º 23.963´ N	135º 36.269´ W	REPLICATE SPI, PUC
		57º 23.965´ N	135º 36.276´ W	PVV
69	SHT6S34	57º 23.963´ N	135º 36.184´ W	PROPOSED
		57º 23.965´ N	135º 36.181´ W	PRIMARY SPI, PUC
		57º 23.968´ N	135º 36.170´ W	REPLICATE SPI, PUC
		57º 23.960´ N	135º 36.180´ W	PVV
79	SHT6S35	57º 23.964´ N	135º 36.091´ W	PROPOSED
		57º 23.963´ N	135º 36.087´ W	PRIMARY SPI, PUC
		57º 23.965´ N	135º 36.089´ W	REPLICATE SPI, PUC
		57º 23.960´ N	135º 36.090´ W	PVV
34	SHT6S36	57º 23.963´ N	135º 35.998´ W	PROPOSED
		57º 23.955´ N	135º 35.998´ W	PRIMARY SPI, PUC
		57º 23.957´ N	135º 35.994´ W	REPLICATE SPI, PUC
		57º 23.951´ N	135º 36.002´ W	PVV
0	SHT6S37	57º 23.962´ N	135º 35.908´ W	PROPOSED[6]
0	SHT7S38	57º 23.914´ N	135º 36.458´ W	PROPOSED[7]
55	SHT7S39	57º 23.916´ N	135º 36.367´ W	PROPOSED
		57º 23.918´ N	135º 36.365´ W	PRIMARY SPI, PUC
		57º 23.916´ N	135º 36.361´ W	REPLICATE SPI, PUC
		57º 23.915´ N	135º 36.367´ W	PVV
61	SHT7S40	57º 23.915´ N	135º 36.273´ W	PROPOSED
		57º 23.907´ N	135º 36.253´ W	PRIMARY SPI, PUC
		57º 23.912´ N	135º 36.263´ W	REPLICATE SPI, PUC
		57º 23.900´ N	135º 36.252´ W	PVV
72	SHT7S41	57º 23.916´ N	135º 36.184´ W	PROPOSED
		57º 23.915´ N	135º 36.176´ W	PRIMARY SPI, PUC
		57º 23.919´ N	135º 36.182´ W	REPLICATE SPI, PUC
		57º 23.911´ N	135º 36.173´ W	PVV
		57º 23.915´ N	135º 36.181´ W	PRIMARY BTA
		57º 23.913´ N	135º 36.184´ W	REPLICATE BTA
78	SHT7S42	57º 23.915´ N	135º 36.091´ W	PROPOSED
		57º 23.917´ N	135º 36.076´ W	PRIMARY SPI, PUC
		57º 23.922´ N	135º 36.091´ W	REPLICATE SPI, PUC
		57º 23.919´ N	135º 36.059´ W	PVV

[6] Sample Point was to shallow to observe.
[7] Sample Point was to shallow to observe.

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
76	SHT7S43	57º 23.915′ N	135º 35.998′ W	PROPOSED
		57º 23.918′ N	135º 36.004′ W	PRIMARY SPI, PUC
		57º 23.920′ N	135º 35.995′ W	REPLICATE SPI, PUC
		57º 23.917′ N	135º 35.999′ W	PVV
55	SHT7S44	57º 23.915′ N	135º 35.907′ W	PROPOSED
		57º 23.919′ N	135º 35.910′ W	PRIMARY SPI, PUC
		57º 23.912′ N	135º 35.914′ W	REPLICATE SPI, PUC
		57º 23.916′ N	135º 35.897′ W	PVV
34	SHT7S45	57º 23.915′ N	135º 35.816′ W	PROPOSED
		57º 23.908′ N	135º 35.826′ W	PRIMARY SPI, PUC
		57º 23.908′ N	135º 35.822′ W	REPLICATE SPI, PUC
		57º 23.902′ N	135º 35.831′ W	PVV
43	SHT8S46	57º 23.866′ N	135º 36.367′ W	PROPOSED
		57º 23.862′ N	135º 36.358′ W	PRIMARY SPI, PUC
		57º 23.867′ N	135º 36.365′ W	REPLICATE SPI, PUC
		57º 23.857′ N	135º 36.369′ W	PVV
68	SHT8S47	57º 23.866′ N	135º 36.273′ W	PROPOSED
		57º 23.865′ N	135º 36.271′ W	PRIMARY SPI, PUC
		57º 23.866′ N	135º 36.270′ W	REPLICATE SPI, PUC
		57º 23.865′ N	135º 36.274′ W	PVV
70	SHT8S48	57º 23.866′ N	135º 36.184′ W	PROPOSED
		57º 23.858′ N	135º 36.198′ W	PRIMARY SPI, PUC
		57º 23.863′ N	135º 36.190′ W	REPLICATE SPI, PUC
		57º 23.868′ N	135º 36.197′ W	PVV
80	SHT8S49	57º 23.866′ N	135º 36.091′ W	PROPOSED
		57º 23.864′ N	135º 36.090′ W	PRIMARY SPI, PUC
		57º 23.868′ N	135º 36.097′ W	REPLICATE SPI, PUC
		57º 23.862′ N	135º 36.086′ W	PVV
76	SHT8S50	57º 23.866′ N	135º 35.998′ W	PROPOSED
		57º 23.862′ N	135º 35.993′ W	PRIMARY SPI, PUC
		57º 23.861′ N	135º 35.986′ W	REPLICATE SPI, PUC
		57º 23.856′ N	135º 35.992′ W	PVV
80	SHT8S51	57º 23.866′ N	135º 35.908′ W	PROPOSED
		57º 23.867′ N	135º 35.899′ W	PRIMARY SPI, PUC
		57º 23.869′ N	135º 35.904′ W	REPLICATE SPI, PUC
		57º 23.863′ N	135º 35.904′ W	PVV
64	SHT8S52	57º 23.866′ N	135º 35.817′ W	PROPOSED
		57º 23.868′ N	135º 35.812′ W	PRIMARY SPI, PUC
		57º 23.874′ N	135º 35.820′ W	REPLICATE SPI, PUC
		57º 23.869′ N	135º 35.822′ W	PVV

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
39	SHT8S53	57º 23.865′ N	135º 35.725′ W	PROPOSED
		57º 23.859′ N	135º 35.722′ W	PRIMARY SPI, PUC
		57º 23.859′ N	135º 35.718′ W	REPLICATE SPI, PUC
		57º 23.862′ N	135º 35.726′ W	PVV
24	SHT9S54	57º 23.817′ N	135º 36.367′ W	PROPOSED
		57º 23.812′ N	135º 36.354′ W	PRIMARY SPI, PUC
		57º 23.816′ N	135º 36.352′ W	REPLICATE SPI, PUC
		57º 23.807′ N	135º 36.364′ W	PVV
71	SHT9S55	57º 23.817′ N	135º 36.274′ W	PROPOSED
		57º 23.802′ N	135º 36.278′ W	PRIMARY SPI, PUC
		57º 23.812′ N	135º 36.282′ W	REPLICATE SPI, PUC
		57º 23.791′ N	135º 36.280′ W	PVV
78	SHT9S56	57º 23.817′ N	135º 36.183′ W	PROPOSED
		57º 23.816′ N	135º 36.173′ W	PRIMARY SPI, PUC
		57º 23.820′ N	135º 36.179′ W	REPLICATE SPI, PUC
		57º 23.811′ N	135º 36.172′ W	PVV
		57º 23.813′ N	135º 36.198′ W	PRIMARY BTA
		57º 23.816′ N	135º 36.186′ W	REPLICATE BTA
78	SHT9S57	57º 23.817′ N	135º 36.091′ W	PROPOSED
		57º 23.825′ N	135º 36.091′ W	PRIMARY SPI, PUC
		57º 23.820′ N	135º 36.081′ W	REPLICATE SPI, PUC
		57º 23.826′ N	135º 36.081′ W	PVV
87	SHT9S58	57º 23.816′ N	135º 35.999′ W	PROPOSED
		57º 23.820′ N	135º 35.999′ W	PRIMARY SPI, PUC
		57º 23.818′ N	135º 36.04′ W	REPLICATE SPI, PUC
		57º 23.821′ N	135º 35.991′ W	PVV
81	SHT9S59	57º 23.817′ N	135º 35.907′ W	PROPOSED
		57º 23.820′ N	135º 35.912′ W	PRIMARY SPI, PUC
		57º 23.820′ N	135º 35.902′ W	REPLICATE SPI, PUC
		57º 23.824′ N	135º 35.902′ W	PVV
90	SHT9S60	57º 23.817′ N	135º 35.814′ W	PROPOSED
		57º 23.816′ N	135º 35.810′ W	PRIMARY SPI, PUC
		57º 23.821′ N	135º 35.808′ W	REPLICATE SPI, PUC
		57º 23.813′ N	135º 35.812′ W	PVV
68	SHT9S61	57º 23.816′ N	135º 35.725′ W	PROPOSED
		57º 23.807′ N	135º 35.735′ W	PRIMARY SPI, PUC
		57º 23.815′ N	135º 35.735′ W	REPLICATE SPI, PUC
		57º 23.800′ N	135º 35.751′ W	PVV
44	SHT9S62	57º 23.817′ N	135º 35.633′ W	PROPOSED
		57º 23.818′ N	135º 35.629′ W	PRIMARY SPI, PUC
		57º 23.816′ N	135º 35.627′ W	REPLICATE SPI, PUC
		57º 23.819′ N	135º 35.634′ W	PVV

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
0	SHT9S63	57º 23.816´ N	135º 35.541´ W	PROPOSED[8]
72	SHT10S64	57º 23.766´ N	135º 36.273´ W	PROPOSED
		57º 23.766´ N	135º 36.263´ W	PRIMARY SPI, PUC
		57º 23.765´ N	135º 36.256´ W	REPLICATE SPI, PUC
		57º 23.768´ N	135º 36.270´ W	PVV
82	SHT10S65	57º 23.767´ N	135º 36.184´ W	PROPOSED
		57º 23.764´ N	135º 36.173´ W	PRIMARY SPI, PUC
		57º 23.769´ N	135º 36.177´ W	REPLICATE SPI, PUC
		57º 23.766´ N	135º 36.182´ W	PVV
		57º 23.764´ N	135º 36.192´ W	PRIMARY BTA
		57º 23.767´ N	135º 36.190´ W	REPLICATE BTA
91	SHT10S66	57º 23.766´ N	135º 36.090´ W	PROPOSED
		57º 23.769´ N	135º 36.086´ W	PRIMARY SPI, PUC
		57º 23.766´ N	135º 36.082´ W	REPLICATE SPI, PUC
		57º 23.769´ N	135º 36.088´ W	PVV
85	SHT10S67	57º 23.766´ N	135º 35.999´ W	PROPOSED
		57º 23.768´ N	135º 35.997´ W	PRIMARY SPI, PUC
		57º 23.768´ N	135º 35.988´ W	REPLICATE SPI, PUC
		57º 23.763´ N	135º 35.992´ W	PVV
89	SHT10S68	57º 23.766´ N	135º 35.907´ W	PROPOSED
		57º 23.766´ N	135º 35.905´ W	PRIMARY SPI, PUC
		57º 23.769´ N	135º 35.901´ W	REPLICATE SPI, PUC
		57º 23.763´ N	135º 35.907´ W	PVV
85	SHT10S69	57º 23.765´ N	135º 35.815´ W	PROPOSED
		57º 23.769´ N	135º 35.817´ W	PRIMARY SPI, PUC
		57º 23.765´ N	135º 35.813´ W	REPLICATE SPI, PUC
		57º 23.762´ N	135º 35.822´ W	PVV
88	SHT10S70	57º 23.765´ N	135º 35.725´ W	PROPOSED
		57º 23.766´ N	135º 35.720´ W	PRIMARY SPI, PUC
		57º 23.769´ N	135º 35.718´ W	REPLICATE SPI, PUC
		57º 23.769´ N	135º 35.723´ W	PVV
72	SHT10S71	57º 23.766´ N	135º 35.634´ W	PROPOSED
		57º 23.770´ N	135º 35.640´ W	PRIMARY SPI, PUC
		57º 23.772´ N	135º 35.638´ W	REPLICATE SPI, PUC
		57º 23.771´ N	135º 35.648´ W	PVV
0	SHT10S72	57º 23.766´ N	135º 35.544´ W	PROPOSED[9]

[8] Sample Point was to shallow to observe.
[9] Sample Point was to shallow to observe.

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
40	SHT11S73	57º 23.715′ N	135º 36.274′ W	PROPOSED
		57º 23.714′ N	135º 36.264′ W	PRIMARY SPI, PUC
		57º 23.719′ N	135º 36.261′ W	REPLICATE SPI, PUC
		57º 23.715′ N	135º 36.269′ W	PVV
94	SHT11S74	57º 23.716′ N	135º 36.183′ W	PROPOSED
		57º 23.716′ N	135º 36.181′ W	PRIMARY SPI, PUC
		57º 23.719′ N	135º 36.179′ W	REPLICATE SPI, PUC
		57º 23.714′ N	135º 36.184′ W	PVV
88	SHT11S75	57º 23.717′ N	135º 36.090′ W	PROPOSED
		57º 23.718′ N	135º 36.082′ W	PRIMARY SPI, PUC
		57º 23.726′ N	135º 36.082′ W	REPLICATE SPI, PUC
		57º 23.712′ N	135º 36.082′ W	PVV
96	SHT11S76	57º 23.716′ N	135º 35.999′ W	PROPOSED
		57º 23.716′ N	135º 35.989′ W	PRIMARY SPI, PUC
		57º 23.716′ N	135º 35.983′ W	REPLICATE SPI, PUC
		57º 23.716′ N	135º 35.994′ W	PVV
92	SHT11S77	57º 23.716′ N	135º 35.907′ W	PROPOSED
		57º 23.717′ N	135º 35.899′ W	PRIMARY SPI, PUC
		57º 23.722′ N	135º 35.899′ W	REPLICATE SPI, PUC
		57º 23.712′ N	135º 35.904′ W	PVV
96	SHT11S78	57º 23.716′ N	135º 35.815′ W	PROPOSED
		57º 23.721′ N	135º 35.819′ W	PRIMARY SPI, PUC
		57º 23.723′ N	135º 35.814′ W	REPLICATE SPI, PUC
		57º 23.716′ N	135º 35.825′ W	PVV
87	SHT11S79	57º 23.716′ N	135º 35.725′ W	PROPOSED
		57º 23.719′ N	135º 35.732′ W	PRIMARY SPI, PUC
		57º 23.719′ N	135º 35.720′ W	REPLICATE SPI, PUC
		57º 23.712′ N	135º 35.738′ W	PVV
69	SHT11S80	57º 23.716′ N	135º 35.634′ W	PROPOSED
		57º 23.720′ N	135º 35.636′ W	PRIMARY SPI, PUC
		57º 23.723′ N	135º 35.627′ W	REPLICATE SPI, PUC
		57º 23.716′ N	135º 35.640′ W	PVV
35	SHT11S81	57º 23.716′ N	135º 35.543′ W	PROPOSED
		57º 23.717′ N	135º 35.592′ W	PRIMARY SPI, PUC
		57º 23.717′ N	135º 35.589′ W	REPLICATE SPI, PUC
		57º 23.716′ N	135º 35.595′ W	PVV
0	SHT12S82	57º 23.666′ N	135º 36.367′ W	PROPOSED[10]
33	SHT12S83	57º 23.666′ N	135º 36.275′ W	PROPOSED
		57º 23.671′ N	135º 36.266′ W	PRIMARY SPI, PUC
		57º 23.671′ N	135º 36.258′ W	REPLICATE SPI, PUC
		57º 23.673′ N	135º 36.268′ W	PVV

[10] Sample Point was to shallow to observe.

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
98	SHT12S84	57º 23.666´ N	135º 36.183´ W	PROPOSED
		57º 23.675´ N	135º 36.172´ W	PRIMARY SPI, PUC
		57º 23.668´ N	135º 36.175´ W	REPLICATE SPI, PUC
		57º 23.676´ N	135º 36.178´ W	PVV
97	SHT12S85	57º 23.666´ N	135º 36.091´ W	PROPOSED
		57º 23.661´ N	135º 36.084´ W	PRIMARY SPI, PUC
		57º 23.666´ N	135º 36.082´ W	REPLICATE SPI, PUC
		57º 23.656´ N	135º 36.089´ W	PVV
96	SHT12S86	57º 23.666´ N	135º 35.999´ W	PROPOSED
		57º 23.674´ N	135º 35.999´ W	PRIMARY SPI, PUC
		57º 23.670´ N	135º 35.993´ W	REPLICATE SPI, PUC
		57º 23.678´ N	135º 36.004´ W	PVV
96	SHT12S87	57º 23.666´ N	135º 35.907´ W	PROPOSED
		57º 23.668´ N	135º 35.897´ W	PRIMARY SPI, PUC
		57º 23.668´ N	135º 35.888´ W	REPLICATE SPI, PUC
		57º 23.663´ N	135º 35.891´ W	PVV
95	SHT12S88	57º 23.667´ N	135º 35.815´ W	PROPOSED
		57º 23.673´ N	135º 35.819´ W	PRIMARY SPI, PUC
		57º 23.672´ N	135º 35.809´ W	REPLICATE SPI, PUC
		57º 23.667´ N	135º 35.825´ W	PVV
91	SHT12S89	57º 23.666´ N	135º 35.725´ W	PROPOSED
		57º 23.668´ N	135º 35.718´ W	PRIMARY SPI, PUC
		57º 23.663´ N	135º 35.711´ W	REPLICATE SPI, PUC
		57º 23.667´ N	135º 35.728´ W	PVV
74	SHT12S90	57º 23.666´ N	135º 35.635´ W	PROPOSED
		57º 23.667´ N	135º 35.631´ W	PRIMARY SPI, PUC
		57º 23.668´ N	135º 35.629´ W	REPLICATE SPI, PUC
		57º 23.664´ N	135º 35.631´ W	PVV
0	SHT12S91	57º 23.666´ N	135º 35.544´ W	PROPOSED[11]
0	SHT13S92	57º 23.620´ N	135º 36.366´ W	PROPOSED[12]
79	SHT13S93	57º 23.619´ N	135º 36.274´ W	PROPOSED
		57º 23.619´ N	135º 36.265´ W	PRIMARY SPI, PUC
		57º 23.619´ N	135º 36.260´ W	REPLICATE SPI, PUC
		57º 23.618´ N	135º 36.271´ W	PVV
100	SHT13S94	57º 23.618´ N	135º 36.184´ W	PROPOSED
		57º 23.622´ N	135º 36.175´ W	PRIMARY SPI, PUC
		57º 23.618´ N	135º 36.167´ W	REPLICATE SPI, PUC
		57º 23.624´ N	135º 36.178´ W	PVV

[11] Sample Point was to shallow to observe.
[12] Sample Point was to shallow to observe.

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
105	SHT13S95	57º 23.618′ N	135º 36.091′ W	PROPOSED
		57º 23.622′ N	135º 36.083′ W	PRIMARY SPI, PUC
		57º 23.619′ N	135º 36.079′ W	REPLICATE SPI, PUC
		57º 23.623′ N	135º 36.090′ W	PVV
104	SHT13S96	57º 23.618′ N	135º 35.998′ W	PROPOSED
		57º 23.623′ N	135º 36.001′ W	PRIMARY SPI, PUC
		57º 23.625′ N	135º 35.995′ W	REPLICATE SPI, PUC
		57º 23.617′ N	135º 36.006′ W	PVV
106	SHT13S97	57º 23.619′ N	135º 35.907′ W	PROPOSED
		57º 23.627′ N	135º 35.900′ W	PRIMARY SPI, PUC
		57º 23.620′ N	135º 35.895′ W	REPLICATE SPI, PUC
		57º 23.624′ N	135º 35.907′ W	PVV
101	SHT13S98	57º 23.620′ N	135º 35.814′ W	PROPOSED
		57º 23.623′ N	135º 35.816′ W	PRIMARY SPI, PUC
		57º 23.621′ N	135º 35.811′ W	REPLICATE SPI, PUC
		57º 23.618′ N	135º 35.825′ W	PVV
97	SHT13S99	57º 23.618′ N	135º 35.725′ W	PROPOSED
		57º 23.621′ N	135º 35.729′ W	PRIMARY SPI, PUC
		57º 23.625′ N	135º 35.726′ W	REPLICATE SPI, PUC
		57º 23.620′ N	135º 35.738′ W	PVV
13	SHT13S100	57º 23.617′ N	135º 35.634′ W	PROPOSED
		57º 23.620′ N	135º 35.626′ W	PRIMARY SPI, PUC
		57º 23.624′ N	135º 35.631′ W	REPLICATE SPI, PUC
		57º 23.617′ N	135º 35.631′ W	PVV
28	SHT14S101	57º 23.569′ N	135º 36.366′ W	PROPOSED
		57º 23.564′ N	135º 36.331′ W	PRIMARY SPI, PUC
		57º 23.566′ N	135º 36.328′ W	REPLICATE SPI, PUC
		57º 23.559′ N	135º 36.331′ W	PVV
65	SHT14S102	57º 23.568′ N	135º 36.274′ W	PROPOSED
		57º 23.569′ N	135º 36.269′ W	PRIMARY SPI, PUC
		57º 23.566′ N	135º 36.260′ W	REPLICATE SPI, PUC
		57º 23.567′ N	135º 36.274′ W	PVV
113	SHT14S103	57º 23.567′ N	135º 36.181′ W	PROPOSED
		57º 23.567′ N	135º 36.174′ W	PRIMARY SPI, PUC
		57º 23.566′ N	135º 36.170′ W	REPLICATE SPI, PUC
		57º 23.561′ N	135º 36.178′ W	PVV
		57º 23.561′ N	135º 36.183′ W	PRIMARY BTA
		57º 23.563′ N	135º 36.182′ W	REPLICATE BTA
114	SHT14S104	57º 23.569′ N	135º 36.091′ W	PROPOSED
		57º 23.569′ N	135º 36.082′ W	PRIMARY SPI, PUC
		57º 23.565′ N	135º 36.079′ W	REPLICATE SPI, PUC
		57º 23.564′ N	135º 36.087′ W	PVV

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
115	SHT14S105	57º 23.569´ N	135º 35.998´ W	PROPOSED
		57º 23.570´ N	135º 35.992´ W	PRIMARY SPI, PUC
		57º 23.573´ N	135º 35.992´ W	REPLICATE SPI, PUC
		57º 23.568´ N	135º 35.000´ W	PVV
109	SHT14S106	57º 23.567´ N	135º 35.907´ W	PROPOSED
		57º 23.568´ N	135º 35.899´ W	PRIMARY SPI, PUC
		57º 23.572´ N	135º 35.891´ W	REPLICATE SPI, PUC
		57º 23.565´ N	135º 35.903´ W	PVV
82	SHT14S107	57º 23.568´ N	135º 35.816´ W	PROPOSED
		57º 23.563´ N	135º 35.825´ W	PRIMARY SPI, PUC
		57º 23.565´ N	135º 35.826´ W	REPLICATE SPI, PUC
		57º 23.559´ N	135º 35.820´ W	PVV
0	SHT14S108	57º 23.568´ N	135º 35.722´ W	PROPOSED[13]
20	SHT15S109	57º 23.519´ N	135º 36.365´ W	PROPOSED
		57º 23.524´ N	135º 36.357´ W	PRIMARY SPI, PUC
		57º 23.525´ N	135º 36.357´ W	REPLICATE SPI, PUC
		57º 23.524´ N	135º 36.356´ W	PVV
107	SHT15S110	57º 23.518´ N	135º 36.273´ W	PROPOSED
		57º 23.515´ N	135º 36.267´ W	PRIMARY SPI, PUC
		57º 23.517´ N	135º 36.267´ W	REPLICATE SPI, PUC
		57º 23.511´ N	135º 36.270´ W	PVV
119	SHT15S111	57º 23.519´ N	135º 36.182´ W	PROPOSED
		57º 23.522´ N	135º 36.180´ W	PRIMARY SPI, PUC
		57º 23.519´ N	135º 36.178´ W	REPLICATE SPI, PUC
		57º 23.523´ N	135º 36.182´ W	PVV
126	SHT15S112	57º 23.519´ N	135º 36.091´ W	PROPOSED
		57º 23.520´ N	135º 36.078´ W	PRIMARY SPI, PUC
		57º 23.518´ N	135º 36.077´ W	REPLICATE SPI, PUC
		57º 23.518´ N	135º 36.080´ W	PVV
120	SHT15S113	57º 23.519´ N	135º 35.998´ W	PROPOSED
		57º 23.522´ N	135º 35.994´ W	PRIMARY SPI, PUC
		57º 23.521´ N	135º 35.990´ W	REPLICATE SPI, PUC
		57º 23.520´ N	135º 35.996´ W	PVV
50	SHT15S114	57º 23.518´ N	135º 35.908´ W	PROPOSED
		57º 23.517´ N	135º 35.903´ W	PRIMARY SPI, PUC
		57º 23.520´ N	135º 35.905´ W	REPLICATE SPI, PUC
		57º 23.513´ N	135º 35.907´ W	PVV
0	SHT15S115	57º 23.518´ N	135º 35.818´ W	PROPOSED[14]
0	SHT16S116	57º 23.469´ N	135º 36.365´ W	PROPOSED[15]

[13] Sample Point was to shallow to observe.
[14] Sample Point was to shallow to observe.
[15] Sample Point was to shallow to observe.

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
110	SHT16S117	57º 23.470′ N	135º 36.273′ W	PROPOSED
		57º 23.467′ N	135º 36.268′ W	PRIMARY SPI, PUC
		57º 23.470′ N	135º 36.265′ W	REPLICATE SPI, PUC
		57º 23.472′ N	135º 36.272′ W	PVV
131	SHT16S118	57º 23.470′ N	135º 36.183′ W	PROPOSED
		57º 23.465′ N	135º 36.173′ W	PRIMARY SPI, PUC
		57º 23.469′ N	135º 36.178′ W	REPLICATE SPI, PUC
		57º 23.462′ N	135º 36.169′ W	PVV
143	SHT16S119	57º 23.470′ N	135º 36.091′ W	PROPOSED
		57º 23.476′ N	135º 36.088′ W	PRIMARY SPI, PUC
		57º 23.475′ N	135º 36.083′ W	REPLICATE SPI, PUC
		57º 23.477′ N	135º 36.092′ W	PVV
126	SHT16S120	57º 23.470′ N	135º 35.998′ W	PROPOSED
		57º 23.472′ N	135º 35.985′ W	PRIMARY SPI, PUC
		57º 23.467′ N	135º 35.980′ W	REPLICATE SPI, PUC
		57º 23.466′ N	135º 35.989′ W	PVV
35	SHT16S121	57º 23.470′ N	135º 35.910′ W	PROPOSED
		57º 23.465′ N	135º 35.915′ W	PRIMARY SPI, PUC
		57º 23.466′ N	135º 35.909′ W	REPLICATE SPI, PUC
		57º 23.460′ N	135º 35.923′ W	PVV
56	SHT17S122	57º 23.421′ N	135º 36.366′ W	PROPOSED
		57º 23.424′ N	135º 36.363′ W	PRIMARY SPI, PUC
		57º 23.422′ N	135º 36.359′ W	REPLICATE SPI, PUC
		57º 23.420′ N	135º 36.368′ W	PVV
113	SHT17S123	57º 23.420′ N	135º 36.273′ W	PROPOSED
		57º 23.414′ N	135º 36.255′ W	PRIMARY SPI, PUC
		57º 23.415′ N	135º 36.255′ W	REPLICATE SPI, PUC
		57º 23.414′ N	135º 36.254′ W	PVV
140	SHT17S124	57º 23.420′ N	135º 36.183′ W	PROPOSED
		57º 23.422′ N	135º 36.181′ W	PRIMARY SPI, PUC
		57º 23.423′ N	135º 36.189′ W	REPLICATE SPI, PUC
		57º 23.424′ N	135º 36.183′ W	PVV
175	SHT17S125	57º 23.421′ N	135º 36.091′ W	PROPOSED
		57º 23.425′ N	135º 36.082′ W	PRIMARY SPI, PUC
		57º 23.425′ N	135º 36.085′ W	REPLICATE SPI, PUC
		57º 23.428′ N	135º 36.079′ W	PVV
108	SHT17S126	57º 23.420′ N	135º 35.998′ W	PROPOSED
		57º 23.433′ N	135º 35.000′ W	PRIMARY SPI, PUC
		57º 23.432′ N	135º 36.000′ W	REPLICATE SPI, PUC
		57º 23.430′ N	135º 36.000′ W	PVV

-TABLE 1. SCHULZE COVE SAMPLING LOCATION COORDINATES [a]				
DEPTH MLLW	Transect ID	Latitude	Longitude	Comments
17	SHT17S127	57º 23.420′ N	135º 35.908′ W	PROPOSED
		57º 23.421′ N	135º 35.910′ W	PRIMARY SPI, PUC
		57º 23.422′ N	135º 35.910′ W	REPLICATE SPI, PUC
		57º 23.422′ N	135º 35.915′ W	PVV
92	SHR1	57º 22.384′ N	135º 31.542′ W	PROPOSED
		57º 22.381′ N	135º 31.469′ W	PRIMARY SPI, PUC
		57º 22.398 ′ N	135º 31.475′ W	REPLICATE SPI, PUC
		57º 22.385′ N	135º 31.491′ W	PVV
		57º 22.380′ N	135º 31.513′ W	PRIMARY BTA
		57º 22.380′ N	135º 31.539′ W	REPLICATE BTA
110	SHR2	57º 21.792′ N	135º 29.901′ W	PROPOSED
		57º 21.797′ N	135º 29.954′ W	PRIMARY SPI, PUC
		57º 21.810′ N	135º 29.911′ W	REPLICATE SPI, PUC
		57º 21.788′ N	135º 29.911′ W	PVV
		57º 21.798′ N	135º 29.897′ W	PRIMARY BTA
		57º 21.803′ N	135º 29.892′ W	REPLICATE BTA

Abundance Tables

Scientific Name	Common Name	Abundance
Plants		
Ulva / Monstroma spp.	Sea lettuce	C
Lithothamnion spp.	Crustose red algae	L
Agarum clathratum	Sieve Kelp	L
Laminaria saccharina	Suger kelp	L
Zostera marina	Eel Grass	L
Invertebrates		
Mediaster aequalis	Red star	L
Luidia foliolata	Sand star	L
Pycnopodia helianthoides	Sunflower star	L
Pisaster ochraceus	Ochre star	L
Pododesmus macrochisma	Jingle	L
Cucumaria miniata	Orange sea cucumber	L
Dermasterias imbricata	Leather star	L
Solaster sp.	Sun star	L
Ophiuroidea spp.	Brittle star	L
Chionoecetes bairdi	Tanner crab	L
Cancer products	Red rock crab	L
Pandalus spp.	Shrimp	A
Pagurus spp.	Hermit crab	C
Bankia setacea	Shipworm	L
Protothaca staminea	Littleneck clam	C
Beggiatoa sp.	Bacteria	A
Polyplacophora spp.	Chiton	L
Unidentified Benthic Infauna	Benthic Infauna	L
Metridium senile	Anemone	L
Parastichopus californicus	Sea cucumber	L
Invertebrates		
Cottidae spp.	Sculpin	L
Hexagrammos decagrammus	Kelp greenling	L