



Grise Fiord – Community Harbour

Environmental and Socio-Economic Existing Conditions Report

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Part 2 of 2

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Appendix A: Supporting Tables (Field Program)



Appendix A: Water Quality Field Results (ESEB Report Section 5)



Table A-1: Water Quality (General Water Chemistry (2019))

Site	Date	pH	Hardness (as CaCO ₃) - Total Calculated	Hardness (as CaCO ₃) - Dissolved	Total Organic Carbon	Total Suspended Solids	Nitrate as N	Nitrate plus nitrite as N	Nitrite as N	Ammonia as N	Filter and HNO ₃ Preservation	Sulphur - Dissolved	Sulphur - Total	Orthophosphate	Total Phosphorus
CCME (2007)		(pH units)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(none)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
		(7 - 8.7)	---	---	---	---	3.6	---	---	---	---	---	---	---	---
GF 1 DEEP	16-Aug-19	7.89	5630	5910	93 ¹	7.6	---	---	---	0.85	FIELD	919	847	0.021	0.024
GF 1 SHALLOW	16-Aug-19	7.98	4530	4510	73 ¹	6.8	---	---	---	0.85	FIELD	687	678	0.0086	0.011
GF 2 DEEP	16-Aug-19	7.99	4480	4620	75 ¹	9.2	---	---	---	1.0	FIELD	737	667	0.0085	0.011
GF 3 DEEP	16-Aug-19	7.83	5790	5950	100 ¹	12.4	---	---	---	0.58 ^{#7}	FIELD	939	872	0.024	0.027
GF 3 SHALLOW	16-Aug-19	8.00	4430	4660	70 ¹	12.4	---	---	---	0.86	FIELD	740	668	0.0075	0.011
GF 4 DEEP	16-Aug-19	4.96 ²	< 0.50	< 0.50	< 10 ¹	< 4.0	---	---	---	< 0.015	FIELD	< 20	< 20	< 0.0030	< 0.0030
GF 5 SHALLOW	16-Aug-19	7.96	4780	4970	86 ¹	6.4	---	---	---	0.70	FIELD	785	718	0.0087	0.012
GF 6 SHALLOW	16-Aug-19	8.00	4910	4940	84 ¹	5.2	---	---	---	0.83	FIELD	749	734	0.0084	0.011

Note:

1. Detection Limit raised due to sample matrix
2. parameters above applied guideline/criteria

Table A-2: Water Quality (Total Metals (2019))

Site ¹	Date	pH	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	Zirconium	
(dd-mmm-yy)		(pH units)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	
CCME Marine Water Aquatic Life (2007)		(7 - 8.7)	---	---	12.5	---	---	---	---	0.12	---	1.5	---	---	---	---	---	---	---	0.016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GF 1 D	16-Aug-19	7.89	33	< 0.50	2.85	8.1	< 1.0	< 1.0	3810	< 0.050	371	< 0.50	< 0.10	< 0.50	< 10	< 0.10	159	1140	< 0.50	< 0.0020	10.4	0.32	---	347	< 0.50	< 1000	< 0.050	---	7790	< 0.10	< 1.0	< 10	2.80	< 10	< 5.0	< 10	
GF 1 S	16-Aug-19	7.89	33	< 0.50	2.85	8.1	< 1.0	< 1.0	3810	< 0.050	371	< 0.50	< 0.10	< 0.50	< 10	< 0.10	159	1140	< 0.50	< 0.0020	10.4	0.32	---	347	< 0.50	< 1000	< 0.050	---	7790	< 0.10	< 1.0	< 10	2.80	< 10	< 5.0	< 10	
GF 2 D	16-Aug-19	7.99	47	< 0.50	2.16	9.0	< 1.0	< 1.0	3120	< 0.050	291	< 0.50	< 0.10	< 0.50	16	0.19	129	912	1.30	< 0.0020	7.7	0.53	---	272	< 0.50	< 1000	< 0.050	---	6150	< 0.10	< 1.0	< 10	2.39	< 10	< 5.0	< 10	
GF 3 D	16-Aug-19	7.83	34	< 0.50	2.63	8.6	< 1.0	< 1.0	3910	0.060	376	0.62	< 0.10	< 0.50	< 10	< 0.10	163	1180	< 0.50	< 0.0020	10.4	0.56	---	353	< 0.50	< 1000	< 0.050	---	7890	< 0.10	< 1.0	< 10	3.00	< 10	< 5.0	< 10	
GF 3 S	16-Aug-19	8.00	45	< 0.50	1.80	9.0	< 1.0	< 1.0	2990	< 0.050	287	< 0.50	< 0.10	1.00	15	0.11	128	902	1.12	< 0.0020	7.9	0.32	---	274	< 0.50	< 1000	< 0.050	---	6050	< 0.10	< 1.0	< 10	2.31	< 10	< 5.0	< 10	
GF 4 D	16-Aug-19	4.96 ¹	31	< 0.50	< 0.50	< 1.0	< 1.0	< 1.0	< 50	< 0.050	< 1.0	< 0.50	< 0.10	< 0.50	< 10	< 0.10	< 20	< 1.0	< 0.50	< 0.0020	< 1.0	< 0.20	---	< 1.0	< 0.50	< 1000	< 0.050	---	< 10	< 0.10	< 1.0	< 10	< 0.050	13	< 5.0	< 10	
GF 5 S	16-Aug-19	7.96	43	< 0.50	2.10	8.5	< 1.0	< 1.0	3280	< 0.050	313	< 0.50	< 0.10	< 0.50	48	< 0.10	136	971	1.30	< 0.0020	8.7	0.37	---	291	< 0.50	< 1000	< 0.050	---	6540	< 0.10	< 1.0	< 10	2.53	< 10	< 5.0	< 10	
GF 6 S	16-Aug-19	8.00	41	< 0.50	1.81	8.5	< 1.0	< 1.0	3310	< 0.050	316	< 0.50	< 0.10	1.66	14	0.14	139	1000	0.77	< 0.0020	8.8	0.32	---	297	< 0.50	< 1000	< 0.050	---	6700	< 0.10	< 1.0	< 10	2.54	< 10	< 5.0	< 10	

Note:

1. D= Deep and S = Shallow

2.

	parameters above applied guideline/criteria		non-detect parameters above applied guideline/criteria.		parameters at applied guideline/criteria	<div>1. Matrix Spike outside acceptance criteria due to sample matrix interference.</div> <div>2. Values exceeding Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME, 1999 and Updates, last update v7 2007) <i>Chromium</i>: Standard is for Chromium VI as it is the most conservative value</div>
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Table A-3: Water Quality (Dissolved Metals (2019))

Site	Date	pH	Aluminum	Antimony	Arsenic	Barium	Beryllium	Bismuth	Boron	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Lithium	Magnesium	Manganese	Mercury	Molybdenum	Nickel	Phosphorus	Potassium	Selenium	Silicon	Silver	Sodium	Strontium	Thallium	Tin	Titanium	Uranium	Vanadium	Zinc	Zirconium
(dd-mmm-yyyy)		(pH units)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)	(ug/L)
CCME Marine Water Aquatic Life (2007)		(7 - 8.7)	---	---	12.5	---	---	---	---	0.12	---	1.5	---	---	---	---	---	---	---	0.016	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GF 1 DEEP	16-Aug-2019	7.89	11	< 0.50	3.19	9.6	< 1.0	< 1.0	4070	< 0.050	410	< 0.50	< 0.10	< 0.50	< 10	< 0.10	169	1190	< 0.50	< 0.0020	10.8	0.28	---	357	< 0.50	< 1000	< 0.050	---	7950	< 0.10	1.7	< 10	2.93	< 10	< 5.0	< 10
GF 1 SHALLOW	16-Aug-2019	7.98	27	< 0.50	2.98	9.5	< 1.0	< 1.0	3210	< 0.050	297	0.82	0.13	0.61	< 10	0.36	132	914	2.32	< 0.0020	8.1	0.45	---	274	< 0.50	< 1000	< 0.050	---	6140	< 0.10	< 1.0	< 10	2.38	10	9.7	< 10
GF 2 DEEP	16-Aug-2019	7.99	14	< 0.50	2.63	11.8	< 1.0	< 1.0	3180	0.084	334	< 0.50	< 0.10	< 0.50	< 10	< 0.10	131	920	1.02	< 0.0020	8.5	1.00 3	---	278	< 0.50	< 1000	< 0.050	---	6250	< 0.10	< 1.0	< 10	2.37	10	< 5.0	< 10
GF 3 DEEP	16-Aug-2019	7.83	11	< 0.50	3.30	11.2	< 1.0	< 1.0	4030	0.129 ²	428	< 0.50	< 0.10	< 0.50	< 10	< 0.10	164	1180	< 0.50	< 0.0020	10.8	0.59	---	358	< 0.50	< 1000	< 0.050	---	7870	< 0.10	< 1.0	< 10	3.01	< 10	< 5.0	< 10
GF 3 SHALLOW	16-Aug-2019	8.00	13	< 0.50	2.73	12.0	< 1.0	< 1.0	3190	0.066	335	< 0.50	< 0.10	< 0.50	< 10	< 0.10	129	928	1.07	< 0.0020	8.5	0.65	---	276	< 0.50	< 1000	< 0.050	---	6230	< 0.10	< 1.0	< 10	2.40	10	< 5.0	< 10
GF 4 DEEP	16-Aug-2019	4.96 ²	18	< 0.50	1.01	< 1.0	< 1.0	< 1.0	< 50	< 0.050	< 1.0	1.09	< 0.10	1.24	16	< 0.10	< 20	< 1.0	< 0.50	< 0.0020	< 1.0	< 0.20	---	< 1.0	< 0.50	< 1000	< 0.050	---	< 10	< 0.10	1.2	< 10	< 0.050	17	< 5.0	< 10
GF 5 SHALLOW	16-Aug-2019	7.96	13	< 0.50	3.08	7.7	< 1.0	< 1.0	3450	0.085	356	< 0.50	< 0.10	< 0.50	41	< 0.10	139	992	1.20	< 0.0020	9.1	1.64 ³	---	300	< 0.50	< 1000	< 0.050	---	6630	< 0.10	< 1.0	< 10	2.54	< 10	< 5.0	< 10
GF 6 SHALLOW	16-Aug-2019	8.00	16	< 0.50	2.67	8.2	< 1.0	< 1.0	3490	< 0.050	319	0.51	< 0.10	< 0.50	< 10	< 0.10	140	1010	0.66	< 0.0020	8.9	0.48	---	301	< 0.50	< 1000	< 0.050	---	6770	< 0.10	< 1.0	< 10	2.52	10	6.0	< 10

Note:

1. D= Deep and S = Shallow

2.

parameters above applied guideline/criteria.

non-detect parameters above applied guideline/criteria.

parameters at applied guideline/criteria.

1. Matrix Spike outside acceptance criteria due to sample matrix interference.

2. Values exceeding Canadian Environmental Quality Guidelines for the Protection of Aquatic Life (CCME, 1999 and Updates, last update v7 2007) *Chromium*: Standard is for Chromium VI as it is the most conservative value

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Appendix A: Fish and Fish Habitat Field Results (ESEB Report Section 7)



Table A-4: Fish and Fish Habitat (Intertidal Survey Data 2024)

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)	
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance			
04-Sep-24															
6	96	Q1	96	GR	50	-	-	-	-	-	-	-	N	Y	
				CO	25	-	-	-	-	-	-	-			
				BO	25	-	-	-	-	-	-	-			-
		Q2	89	GR	85	-	-	-	-	-	-	-			-
				CO	15	-	-	-	-	-	-	-			-
		Q3	82	GR	20	-	-	-	-	-	-	-			-
				CO	60	-	-	-	-	-	-	-			-
				BO	20	-	-	-	-	-	-	-			-
		Q4	75	GR	50	-	-	-	-	-	-	-			-
				CO	50	-	-	-	-	-	-	-			-
		Q5	68	GR	50	-	-	-	-	-	-	-			-
				CO	50	-	-	-	-	-	-	-			-
		Q6	61	GR	85	-	-	-	-	-	-	-			-
				CO	15	-	-	-	-	-	-	-			-
		Q7	54	GR	70	-	-	-	-	-	-	-			-
				CO	20	-	-	-	-	-	-	-			-
				BO	10	-	-	-	-	-	-	-			-
		Q8	47	SA	5	-	-	-	-	-	-	-			-
				GR	25	-	-	-	-	-	-	-			-
				CO	65	-	-	-	-	-	-	-			-
				BO	5	-	-	-	-	-	-	-			-
		Q9	40	SA	5	-	-	-	-	-	-	-			-
				GR	60	-	-	-	-	-	-	-			-

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
				CO	20	-	-	-	-	-	-	-		
				BO	15	-	-	-	-	-	-	-		
		Q10	33	GR	10	-	-	-	-	-	-	-		
				CO	90	-	-	-	-	-	-	-		
		Q11	26	GR	25	-	-	-	-	-	-	-		
				CO	45	-	-	-	-	-	-	-		
				BO	30	-	-	-	-	-	-	-		
		Q12	19	GR	75	-	-	-	-	-	-	-		
				CO	25	-	-	-	-	-	-	-		
		Q13	12	GR	95	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q14	5	CO	90	-	-	-	-	-	-	-		
				BO	10	-	-	-	-	-	-	-		
		Q15	0	GR	95	-	-	-	-	-	-	-		
				CO	<5	-	-	-	-	-	-	-		
7	182	Q1	182	GR	5	-	-	-	-	-	-	-	N	N
				CO	95	-	-	-	-	-	-	-		
		Q2	170	SA	10	rockweed	50	-	-	-	-	-		
				CO	40	-	-	-	-	-	-	-		
				BO	50	-	-	-	-	-	-	-		
		Q3	155	GR	40	-	-	-	-	-	-	-		
				CO	60	-	-	-	-	-	-	-		
		Q4	143	GR	30	-	-	-	-	-	-	-		
				CO	45	-	-	-	-	-	-	-		
				BO	25	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q5	131	GR	75	-	-	-	-	-	-	-		
				CO	25	-	-	-	-	-	-	-		
		Q6	119	SA	5	-	-	-	-	-	-	-		
				GR	60	-	-	-	-	-	-	-		
				CO	35	-	-	-	-	-	-	-		
		Q7	107	GR	75	-	-	-	-	-	-	-		
				CO	25	-	-	-	-	-	-	-		
		Q8	95	GR	95	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q9	83	SA	10	rockweed	10	-	-	-	-	-		
				GR	75	-	-	-	-	-	-	-		
				CO	15	-	-	-	-	-	-	-		
		Q10	71	SA	5	-	-	-	-	-	-	-		
				GR	90	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q11	59	GR	50	-	-	-	-	-	-	-		
				CO	50	-	-	-	-	-	-	-		
		Q12	47	SA	45	-	-	-	-	-	-	-		
				GR	45	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
		Q13	35	GR	95	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q14	23	SA	5	-	-	-	-	-	-	-		
				GR	95	-	-	-	-	-	-	-		
		Q15	11	SA	10	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q16	0	GR	90	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	90	-	-	-	-	-	-	-		
8	27	Q1	0	GR	25	-	-	-	-	-	-	-	Y	Y
				BO	75	-	-	-	-	-	-	-		
		Q2	6.75	SA	25	-	-	-	-	-	-	-		
				GR	15	-	-	-	-	-	-	-		
				CO	25	-	-	-	-	-	-	-		
		Q3	13.5	BO	35	-	-	-	-	-	-	-		
				M	30	-	-	-	-	-	-	-		
				GR	25	-	-	-	-	-	-	-		
		Q4	20.25	CO	45	-	-	-	-	-	-	-		
				SA	5	-	-	-	-	-	-	-		
		Q5	27	GR	95	-	-	-	-	-	-	-		
				SA	10	-	-	-	-	-	-	-		
				GR	80	-	-	-	-	-	-	-		
9	23.5	Q1	0	CO	10	-	-	-	-	-	-	-	Y	N
				BO	50	-	-	-	-	-	-	-		
				SA	5	-	-	-	-	-	-	-		
		Q2	4.7	GR	50	-	-	-	-	-	-	-		
				CO	25	-	-	-	-	-	-	-		
				BO	20	-	-	-	-	-	-	-		
				GR	20	-	-	-	-	-	-	-		
		Q3	9.4	GR	20	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
				BO	80	-	-	-	-	-	-	-		
		Q4	14.1	CO	50	unidentified brown algae	70	-	-	-	-	-		
				BO	50	kelp blade	<5	-	-	-	-	-		
		Q5	18.8	SA	15	rockweed	5	-	-	-	-	-		
				GR	40	unidentified brown algae	5	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	35	-	-	-	-	-	-	-		
		Q6	23.5	SA	20	unidentified brown algae	20	-	-	-	-	-		
				GR	75	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
10	27.5	Q1	0	SA	99	rockweed, loose	25	-	-	-	-	-	Y	N
				GR	>1	brown filamentous algae	5	-	-	-	-	-		
		Q2	6.8	SA	90	rockweed, loose	25	-	-	-	-	-		
				GR	5	brown filamentous algae	5	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q3	13.6	SA	35	rockweed	<5	-	-	-	-	-		
				GR	50	-	-	-	-	-	-	-		
				CO	15	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q4	20.4	SA	60	-	-	-	-	-	-	-		
				GR	30	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
		Q5	26.8	M	10	brown filamentous algae	10	-	-	-	-	-		
				GR	40	-	-	-	-	-	-	-		
				CO	50	-	-	-	-	-	-	-		
11	26	Q1	0	SA	5	rockweed, loose	5	-	-	-	-	-	Y	N
				GR	60	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	25	-	-	-	-	-	-	-		
		Q2	6.5	SA	40	-	-	-	-	-	-	-		
				GR	60	-	-	-	-	-	-	-		
		Q3	13	SA	80	unidentified brown algae	<5	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	10	-	-	-	-	-	-	-		
		Q4	19.5	SA	30	-	-	-	-	-	-	-		
				GR	60	-	-	-	-	-	-	-		
				BO	10	-	-	-	-	-	-	-		
		Q5	26	SA	20	-	-	-	-	-	-	-		
				GR	20	-	-	-	-	-	-	-		
				CO	60	-	-	-	-	-	-	-		
12	22	Q1	0	GR	75	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
				BO	25	-	-	-	-	-	-	-	Y	N
		Q2	5.5	GR	20	rockweed, loose	<5	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	70	-	-	-	-	-	-	-		
		Q3	11	CO	15	-	-	-	-	-	-	-		
				BO	85	-	-	-	-	-	-	-		
		Q4	16.5	GR	5	-	-	-	-	-	-	-		
				BO	95	-	-	-	-	-	-	-		
13	23.5	Q5	22	BO	100	rockweed	90	-	-	-	-	-	Y	N
				-	-	brown filamentous algae	5	-	-	-	-	-		
		Q1	0	GR	100	rockweed	<5	-	-	-	-	-		
		Q2	4.7	SA	75	rockweed	10	-	-	-	-	-		
				GR	25	-	-	-	-	-	-	-		
		Q3	9.4	GR	100	rockweed	5	-	-	-	-	-		
		Q4	14.1	SA	85	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q5	18.8	SA	85	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q6	23.5	M	90	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
14	25	Q1	0	GR	100	-	-	-	-	-	-	-	Y	N

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q2	6.25	GR	100	rockweed	10	-	-	-	-	-		
				-	-	unidentified red tubular algae	<5	-	-	-	-	-		
				-	-	unidentified red bladed algae	5	-	-	-	-	-		
		Q3	12.5	SA	10	rockweed, loose	<5	-	-	-	-	-		
				GR	90	-	-	-	-	-	-	-		
		Q4	18.75	SA	60	-	-	-	-	-	-	-		
				GR	40	-	-	-	-	-	-	-		
		Q5	25	SA	10	-	-	-	-	-	-	-		
				GR	90	-	-	-	-	-	-	-		
15	22.5	Q1	0	GR	100	-	-	-	-	-	-	-	Y	N
		Q2	5.6	SA	95	rockweed, loose	<5	-	-	-	-	-		
				GR	5	-	-	-	-	-	-	-		
		Q3	11.2	GR	100	-	-	-	-	-	-	-		
		Q4	16.8	GR	100	-	-	-	-	-	-	-		
		Q5	22.5	GR	100	rockweed, loose	<5	-	-	-	-	-		
16	23.5	Q1	0	SA	15	rockweed, loose	5	-	-	-	-	-	Y	N
				GR	85	-	-	-	-	-	-	-		
		Q2	6.7	GR	100	rockweed, loose	10	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q3	9.4	SA	5	-	-	-	-	-	-	-		
				GR	95	-	-	-	-	-	-	-		
		Q4	14.1	SA	80	-	-	-	-	-	-	-		
				GR	20	-	-	-	-	-	-	-		
		Q5	18.8	GR	100	-	-	-	-	-	-	-		
		Q6	23.5	SA	5	rockweed	5	-	-	-	-	-		
				GR	95	-	-	-	-	-	-	-		
05-Sept-24														
5	73	Q1	73	SA	50	-	-	-	-	-	-	-	N	Y
				CO	50	-	-	-	-	-	-	-		
		Q2	64	GR	30	-	-	-	-	-	-	-		
				CO	40	-	-	-	-	-	-	-		
				BO	30	-	-	-	-	-	-	-		
		Q3	56	SA	10	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	80	-	-	-	-	-	-	-		
		Q4	48	GR	50	-	-	-	-	-	-	-		
				CO	50	-	-	-	-	-	-	-		
		Q5	40	SA	15	-	-	-	-	-	-	-		
				GR	85	-	-	-	-	-	-	-		
		Q6	32	SA	5	-	-	-	-	-	-	-		
				GR	95	-	-	-	-	-	-	-		
		Q7	24	GR	100	-	-	-	-	-	-	-		
		Q8	16	GR	50	-	-	-	-	-	-	-		
				CO	50	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q9	8	GR	100	-	-	-	-	-	-	-		
		Q10	0	GR	85	-	-	-	-	-	-	-		
				CO	15	-	-	-	-	-	-	-		
4	32.5	Q1	0	SA	10	-	-	-	-	-	-	-	Y	Y
				GR		-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q2	5.4	GR	95	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q3	10.8	GR	30	-	-	-	-	-	-	-		
				CO	70	-	-	-	-	-	-	-		
		Q4	16.2	GR	5	-	-	-	-	-	-	-		
				BO	95	-	-	-	-	-	-	-		
		Q5	21.6	SA	5	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
				BO	80	-	-	-	-	-	-	-		
		Q6	27	SA	10	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				CO	15	-	-	-	-	-	-	-		
				BO	65	-	-	-	-	-	-	-		
		Q7	32.4	GR	10	brown filamentous algae	20	-	-	-	-	-		
3	33.5	Q1	0	GR	100	-	-	-	-	-	-	-	Y	N
		Q2	6.7	SA	90	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q3	13.4	GR	70	-	-	-	-	-	-	-		
				CO	30	-	-	-	-	-	-	-		
		Q4	20.1	SA	10	-	-	-	-	-	-	-		
				GR	50	-	-	-	-	-	-	-		
				BO	40	-	-	-	-	-	-	-		
		Q5	26.8	SA	10	-	-	-	-	-	-	-		
				GR	45	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
				BO	40					-	-	-		
		Q6	33.5	SA	15	brown filamentous algae	10	-	-	-	-	-		
				GR	30	-	-	-	-	-	-	-		
				BO	55	-	-	-	-	-	-	-		
2	29	Q1	0	GR	100	-	-	-	-	-	-	-	Y	Y
		Q2	5.8	GR	95	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
		Q3	11.6	SA	5	-	-	-	-	-	-	-		
				CO	15	-	-	-	-	-	-	-		
				BO	80	-	-	-	-	-	-	-		
		Q4	17.4	SA	20	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
				BO	65	-	-	-	-	-	-	-		
		Q5	23.2	SA	5	-	-	-	-	-	-	-		
				GR	5	-	-	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q6	28.8	CO	5	-	-	-	-	-	-	-		
				BO	85	-	-	-	-	-	-	-		
				SA	5	brown filamentous algae	10	-	-	-	-	-		
				CO	5	-	-	-	-	-	-	-		
				BO	90	-	-	-	-	-	-	-		
1	31	Q1	0	GR	100	-	-	-	-	-	-	-	Y	Y
		Q2	6.2	GR	85	-	-	-	-	-	-	-		
				CO	15	-	-	-	-	-	-	-		
		Q3	12.4		10	-	-	-	-	-	-	-		
				CO	80	-	-	-	-	-	-	-		
				BO	10	-	-	-	-	-	-	-		
		Q4	18.6	SA	5	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				BO	75	-	-	-	-	-	-	-		
		Q5	24.8	SA	10	-	-	-	-	-	-	-		
				GR	30	-	-	-	-	-	-	-		
				CO	25	-	-	-	-	-	-	-		
				BO	35	-	-	-	-	-	-	-		
		Q6	31	BO	100	brown filamentous algae	5			-	-	-		

Note: SA = sand, GR = gravel, CO = cobble, BO = boulder

Table A-5: Fish and Fish Habitat (Intertidal Survey Data (2019))

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)	
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance			
17-Aug-19															
1	25	Q1	0	BO	100	-	-	-	-	-	-	-	Y	Y	
		Q2	5	BO	50	-	-	amphipod	21	count	-	-			
				CO	40	-	-	-	-	-	-	-			
				GR	10	-	-	-	-	-	-	-			
		Q3	10	BO	60	-	-	-	-	-	-	-			-
				CO	35	-	-	amphipod	3	count	-	-			
				GR	5	-	-	-	-	-	-	-			
		Q4	15	BO	5	-	-	-	-	-	-	-			-
				CO	90	-	-	-	-	-	-	-			-
				GR	5	-	-	-	-	-	-	-			-
		Q5	20	CO	80	-	-	-	-	-	-	-			-
				GR	20	-	-	-	-	-	-	-			-
		Q6	25	GR	10	-	-	-	-	-	-	-			-
				SA	90	-	-	-	-	-	-	-			-
2	25	Q1	0	CO	10	-	-	amphipod	1	count	-	-	Y	Y	
				GR	20	-	-	-	-	-	-	-			-
				SA	30	-	-	-	-	-	-	-			-
				MD	40	-	-	-	-	-	-	-			-
		Q2	5	CO	10	-	-	-	-	-	-	-			-
				GR	10	-	-	-	-	-	-	-			-
				SA	80	-	-	-	-	-	-	-			-
		Q3	10	BO	10	-	-	-	-	-	-	-			-
				CO	30	-	-	-	-	-	-	-			-

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
		Q4	15	GR	40	-	-	-	-	-	-	-		
				SA	20	-	-	-	-	-	-	-		
				BO	30	-	-	-	-	-	-	-		
				CO	30	-	-	-	-	-	-	-		
				GR	40	-	-	-	-	-	-	-		
		Q5	20	BO	40	-	-	-	-	-	-	-		
				CO	40	-	-	-	-	-	-	-		
				GR	20	-	-	-	-	-	-	-		
		Q6	25	BO	30	-	-	-	-	-	-	-		
				CO	50	-	-	-	-	-	-	-		
				GR	20	-	-	-	-	-	-	-		
3	25	Q1	0	CO	40	-	-	amphipod	28	count	-	-	Y	Y
				GR	60	-	-	-	-	-	-	-		
		Q2	5	CO	10	-	-	-	-	-	-	-		
				GR	90	-	-	-	-	-	-	-		
		Q3	10	CO	10	-	-	-	-	-	-	-		
				GR	40	-	-	-	-	-	-	-		
				SA	50	-	-	-	-	-	-	-		
		Q4	15	CO	10	-	-	-	-	-	-	-		
				GR	70	-	-	-	-	-	-	-		
				SA	20	-	-	-	-	-	-	-		
		Q5	20	CO	10	-	-	-	-	-	-	-		
				GR	90	-	-	-	-	-	-	-		
		Q6	25	GR	100	Rockweed, loose	<5 %	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance		
4	20	Q1	0	CO	10	-	-	-	-	-	-	-	Y	N
				GR	90	-	-	-	-	-	-	-		
		Q2	4	CO	10	Rockweed, loose	<5 %	-	-	-	-	-		
				GR	90	-	-	-	-	-	-	-		
		Q3	8	CO	5	-	-	-	-	-	-	-		
				GR	10	-	-	-	-	-	-	-		
				SA	85	-	-	-	-	-	-	-		
		Q4	12	BO	60	-	-	-	-	-	-	-		
				CO	10	-	-	-	-	-	-	-		
				GR	30	-	-	-	-	-	-	-		
		Q5	16	GR	70	Rockweed, loose	<5 %	-	-	-	-	-		
				SA	30	-	-	-	-	-	-	-		
5	20	Q1	0	CO	20	Rockweed, loose	<5 %	-	-	-	-	-	Y	N
				GR	80	-	-	-	-	-	-	-		
		Q2	4	CO	20	-	-	-	-	-	-	-		
				GR	70	-	-	-	-	-	-	-		
				SA	10	-	-	-	-	-	-	-		
		Q3	8	CO	10	Rockweed, loose	<5 %	-	-	-	-	-		

Transect No.	Transect Length (m)	Quadrat No.	Transect Distance (m)	Substrate		Vegetation		Invertebrate			Fish		Transect Used (Y/N)	Amphipods Present (Y/N)	
				Type	Cover	Species	Abundance	Species	Abundance	Measurement	Species	Abundance			
				GR	70	-	-	-	-	-	-	-			
				SA	10	-	-	-	-	-	-	-			
		Q4	12	CO	10	-	-	-	-	-	-	-			
				GR	85	-	-	-	-	-	-	-			
				SA	5	-	-	-	-	-	-	-			
		Q5	16	CO	5	-	-	-	-	-	-	-			-
				GR	20	-	-	-	-	-	-	-			-
				SA	75	-	-	-	-	-	-	-			-
		Q6	20	GR	100	Rockweed, loose	<5 %	-	-	-	-	-			-

Note: SA = sand, GR = gravel, CO = cobble, BO = boulder, MD = mud

Table A-6: Fish and Fish Habitat (Subtidal ROV Video Data Analysis (2024))

Survey Time	Transect No.	ROV Maximum Depth (m)	Tide Height (m)	Depth (CD, m)	Substrate		Vegetation					Invertebrates					Fish			
Start					Type	Percent Cover	Species Name		Abundance	Categorization	Confidence	Species Name		Abundance	Metric	Categorization	Species Name		Abundance	Categorization
							Common	Scientific				Common	Scientific				Common	Scientific		
03-Sep-24																				
15:16	T1	-25.1	1.64	-23.46	SA	30	Rockweed	<i>Fucus sp.</i>	5	trace	possibly	Unidentified Jelly		45	count	abundant	Sculpin	Myoxocephalus sp	4	trace
					GR	40	Unidentified algae		5	trace	possibly	Comb Jelly	<i>Mertensia ovum</i>	18	count	moderate	-	-	-	-
					CO	20	Clumped brown algae		10	trace	possibly	Brittle star	<i>Ophiocten sp.</i>	1	count	trace	-	-	-	-
					BO	10	Sugar Kelp	<i>Saccharina latissima</i>	5	trace	possibly	Helicid Pteropod	<i>Limacina helicina</i>	5	count	trace	-	-	-	-
15:31	T2	-3.0	1.48	-1.52			Branching brown algae		20	moderate	possibly						-	-	-	-
					GR	20	Rockweed	<i>Fucus sp.</i>	10	trace	possibly	Unidentified Jelly		20	count	moderate	-	-	-	-
					CO	20	Unidentified algae		30	moderate	possibly	Comb Jelly	<i>Mertensia ovum</i>	1	count	trace	-	-	-	-
					BO	60	Clumped brown algae		10	trace	possibly	-	-	-	-	-	-	-	-	-
15:41	T3	6.4	1.33	5.07			Branching brown algae		10	trace	possibly	-	-	-	-	-	-	-	-	-
					SA	10	Unidentified algae		30	moderate	possibly	Unidentified Jelly		10	count	trace	Sculpin	Myoxocephalus sp	1	trace
					GR	20	Clumped brown algae		20	moderate	possibly	Comb Jelly	<i>Mertensia ovum</i>	5	count	trace	-	-	-	-
					CO	50	Rockweed	<i>Fucus sp.</i>	10	trace	possibly	Beroe Jelly	<i>Beroe sp.</i>	1	count	trace	-	-	-	-
15:59	T4	-25	1.18	-23.82	BO	20	unidentified red algae		<5	trace	possibly						-	-	-	-
							Winged Kelp	<i>Alaria sp.</i>	<5	trace	possibly						-	-	-	-
					SA	75	Sugar Kelp	<i>Saccharina latissima</i>	20	moderate	possibly	Unidentified Jelly		15	count	trace	-	-	-	-
					GR	15	Clumped brown algae		10	moderate	possibly	Comb Jelly	<i>Mertensia ovum</i>	4	count	trace	-	-	-	-
16:14	T5	-3.2	1.03	-2.17	CO	5	Rockweed		<5	trace	possibly	Beroe Jelly	<i>Beroe sp.</i>	3	count	trace	-	-	-	-
					BO	5						Clams		<5	density	trace	-	-	-	-
					SA	90	Clumped brown algae		5	trace	possibly	Unidentified Jelly		8	count	trace	-	-	-	-
					GR	<5	Sugar kelp	<i>Saccharina latissima</i>	10	moderate	possibly	Comb Jelly	<i>Mertensia ovum</i>	1	count	trace	-	-	-	-
16:22	T6	-4	0.9	-3.10	CO	<5	Winged Kelp		10	moderate	possibly						-	-	-	-
					BO	5											-	-	-	-
					SA	75	Clumped brown algae		15	moderate	possibly	Unidentified Jelly		10	count	trace	-	-	-	-
					GR	10	Sugar kelp	<i>Saccharina latissima</i>	25	moderate	possibly	Comb Jelly	<i>Mertensia ovum</i>	2	count	trace	-	-	-	-
16:40	T7	-6.2	0.77	-5.43	CO	15	Winged Kelp	<i>Alaria sp.</i>	25	moderate	possibly						-	-	-	-
					SA	5	Sugar kelp	<i>Saccharina latissima</i>	15	moderate	possibly	Unidetfied Jelly		25	count	moderate	-	-	-	-
					GR	45	Clumped brown algae		<5	trace	possibly	Comb Jelly	<i>Mertensia ovum</i>	5	count	trace	-	-	-	-
					CO	45	Coralline algae	<i>Coralline sp.</i>	5	trace	possibly	Beroe Jelly	<i>Beroe sp.</i>	2	count	trace	-	-	-	-
17:02	T8	-3	0.67	-2.33	BO	5	Sea Collander	<i>Agarum Clathratum</i>	10	moderate	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	15	count	moderate	-	-	-	-
																	-	-	-	-
					-	-	-	-	-	-	-	Sea Star		1	count	trace	-	-	-	-
					GR	45	Clumped brown algae		15	infrequent	possibly	Comb Jelly	<i>Mertensia ovum</i>	5	count	trace	-	-	-	-
17:09	T9	-2.9	0.57	-2.33	CO	50	Sugar kelp	<i>Saccharina latissima</i>	15	infrequent	possibly	Unidetfied Jelly		15	count	moderate	-	-	-	-
					BO	5	Branching brown algae		5	trace	possibly	Beroe Jelly	<i>Beroe sp.</i>	2	count	trace	-	-	-	-
												Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	5	density	moderate	-	-	-	-
					-	-	-	-	-	-	-						-	-	-	-
17:23	T10	-2.9	0.5	-2.40	GR	15	Sugar kelp	<i>Saccharina latissima</i>	10	trace	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	5	density	trace	-	-	-	-
					CO	75	Rockweed	<i>Fucus sp</i>	10	moderate	possibly	Unidetfied Jelly		8	count	trance	-	-	-	-
					BO	10	Red algae		<5	trace	possibly	Comb Jelly	<i>Mertensia ovum</i>	2	count	trace	-	-	-	-
					-	-	Clumped brown algae		5	trace	possibly	helicid pteropod	<i>Limacina helicina</i>	2	count	trace	-	-	-	-
17:38	T11	-15.4	0.45	-14.95	-	-	Unidentified algae		20	moderate	possibly						-	-	-	-
					GR	60	Sugar kelp	<i>Saccharina latissima</i>	15	infrequent	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	10	density	Infrequent	-	-	-	-
					CO	15	Rockweed	<i>Fucus sp</i>	10	infrequent	possibly	Comb Jelly	<i>Mertensia ovum</i>	5	count	trace	-	-	-	-
					BO	5	Clumped brown algae		10	infrequent	possibly	Unidetfied Jelly		8	count	trace	-	-	-	-
17:38	T11	-15.4	0.45	-14.95			Sea Collander	<i>Agarum Clathratum</i>	15	infrequent	possibly	Helicid Pteropod	<i>Limacina helicina</i>	2	count	trace	-	-	-	-
					SA	70	Sea Collander	<i>Agarum Clathratum</i>	15	infrequent	possibly	Comb Jelly	<i>Mertensia ovum</i>	15	count	trace	-	-	-	-
					GR	20	Rockweed	<i>Fucus sp</i>	<5	trace	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	15	density	moderate	-	-	-	-
					CO	5	Branching brown algae		<5	trace	possibly	Beroe Jelly	<i>Beroe sp.</i>	6	count	trace	-	-	-	-

Survey Time	Transect No.	ROV Maximum Depth (m)	Tide Height (m)	Depth (CD, m)	Substrate		Vegetation					Invertebrates					Fish			
Start					Type	Percent Cover	Species Name		Abundance	Categorization	Confidence	Species Name		Abundance	Metric	Categorization	Species Name		Abundance	Categorization
							Common	Scientific				Common	Scientific				Common	Scientific		
					BO	5	Coralline algae	<i>Coralline sp.</i>	<5	trace	possibly	Unidetified Jelly		7	count	trace	-	-	-	-
					-	-	-	-	-	-	-	Sea Star		2	count	trace	-	-	-	-
17:48	T12	-5.3	0.45	-4.85	GR	65	Sea Collander	<i>Agarum Clathratum</i>	30	moderate	possibly	Comb Jelly	<i>Mertensia ovum</i>	13	count	trace	-	-	-	-
					CO	15	Coralline algae	<i>Coralline sp.</i>	20	moderate	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	15	density	moderate	-	-	-	-
					BO	20	-	-	-	-	possibly	Unidetified Jelly		6	count	trace	-	-	-	-
					-	-	-	-	-	-	-	Beroe Jelly	<i>Beroe sp.</i>	5	count	trace	-	-	-	-
					-	-	-	-	-	-	-	Sea Star		1	count	trace	-	-	-	-
17:57	T13	-2.9	0.42	-2.48	GR	15	Sea Collander	<i>Agarum Clathratum</i>	10	infrequent	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	10	density	moderate	-	-	-	-
					CO	80	Coralline algae	<i>Coralline sp.</i>	15	infrequent	possibly	Comb Jelly	<i>Mertensia ovum</i>	10	Count	infrequent	-	-	-	-
					BO	5	Sugar kelp	<i>Saccharina latissima</i>	10	infrequent	possibly	Double Bubble Jelly	<i>Halitholus cirratus</i>	2	Count	trace	-	-	-	-
18:04	T14	-3.7	0.41	-3.29	SA	40	Sea Collander	<i>Agarum Clathratum</i>	5	trace	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	15	density	moderate	-	-	-	-
					GR	40	Sugar kelp	<i>Saccharina latissima</i>	5	trace	possibly	Comb Jelly	<i>Mertensia ovum</i>	10	count	trace	-	-	-	-
					CO	20	-	-	-	-	-	Unidentified Jelly		17	count	infrequent	-	-	-	-
							-	-	-	-	-	Double Bubble Jelly	<i>Halitholus cirratus</i>	2	count	trace	-	-	-	-
06-Sep-24																				
12:34	T15	-8	2.56	-5.44	SA	70	Coralline algae	<i>Coralline sp.</i>	10	infrequent	possibly	Brittle star	<i>Ophiocten sp.</i>	1	count	trace	Sculpin	Myoxocephalus sp	1	trace
					CO	10	Sugar kelp	<i>Saccharina latissima</i>	5	trace	possibly	Green Sea Urchin	<i>Strongylocentrotus droebachiensis</i>	5	count	trace	-	-	-	-
					BO	20	Sea Collander	<i>Agarum Clathratum</i>	5	trace	possibly	Limpet	<i>Tectura sp.</i>	1	count	trace	-	-	-	-
12:46	T16	-3.4	2.66	-0.74			Rockweed	<i>Fucus sp</i>	5	trace	possibly	-	-	-	-	-	-	-	-	
					SA	50	Rockweed	<i>Fucus sp</i>	20	moderate	possibly	-	-	-	-	-	-	-	-	
					CO	30	Clumped brown algae		5	trace	possibly	-	-	-	-	-	-	-	-	
12:53	T17	-2.3	2.74	0.44	BO	20	Unidentified algae		10	trace	possibly	-	-	-	-	-	-	-	-	
					CO	85	Rockweed	<i>Fucus sp</i>	20	moderate	possibly	Unidentified Jelly		1	count	trace	-	-	-	-
					BO	15	Clumped brown algae		5	trace	possibly	-	-	-	-	-	-	-	-	
13:05	T18	-4	2.74	-1.26			Unidentified algae		20	moderate	possibly	-	-	-	-	-	-	-	-	
					SA	25	Rockweed	<i>Fucus sp</i>	15	infrequent	possibly	Sea Angel	<i>Clinidae sp.</i>	1	count	trace	-	-	-	-
					CO	40	Sugar kelp	<i>Saccharina latissima</i>	15	infrequent	possibly	-	-	-	-	-	-	-		
					BO	35	Unidentified algae		10	trace	possibly	-	-	-	-	-	-	-		

Note: SA = sand, GR = gravel, CO = cobble, BO = boulder

Table A-7: Fish and Fish Habitat (Subtidal ROV Video Data Analysis (2019))

Survey Time	Transect No.	ROV Depth (m)		Sounder Depth (m)	Tide Height (m)	Depth (CD, m)	Temperature (°C)	Substrate		Vegetation			Invertebrates					Fish			
		Type	Percent Cover					Species Name		Abundance	Species Name		Abundance	Metric	Categorization	Species Name		Abundance	Categorization		
								Common	Scientific		Common	Scientific				Common	Scientific				
15-Aug-19																					
11:49	T1	-0.1	-1.2	-0.5	1.8	+1.2	6.7	GR	30	filamentous green algae		80	-	-	-	-	-	-	-	-	
								CO	50	-	-	-	-	-	-	-	-	-	-		
								BO	<10	-	-	-	-	-	-	-	-	-	-		
								SA	10	-	-	-	-	-	-	-	-	-	-		
12:06	T2	-1.0	-2.2	-1.7	2.2	+0.5	6.6	GR	20	-	-	-	truncate soft shell clam	<i>Mya truncata</i>	5 to 10	density (m²)	trace	sculpin	<i>Myoxocephalus</i> sp	1	-
								CO	20	-	-	-	-	-	-	-	-	-	-	-	
								SA	40	rockweed	<i>Fucus</i> sp	10	-	-	-	-	-	-	-	-	
								S	20	thread brown algae	<i>Chordaria</i> sp (poss)	20	-	-	-	-	-	-	-	-	
12:21	T3	-1.9	2.4	-2.3	2.2	0.1	6.7	GR	20	thread brown algae (poss)	<i>Chordaria</i> sp (poss)	50	truncate soft shell clam	<i>Mya truncata</i>	<5	density (m²)	trace	-	-	-	-
								CO	10	rockweed	<i>Fucus</i> sp	10	-	-	-	-	-	-	-	-	
								SA	50	-	-	-	-	-	-	-	-	-	-	-	
								S	20	-	-	-	-	-	-	-	-	-	-	-	
12:34	T4	-0.8	-2.3	-1.6	2.2	+0.6	6.6	SA	75	Sugar Kelp	<i>Saccharina latissima</i>	20	Unidentified Jelly		15	count	trace	-	-	-	-
								GR	15	Clumped brown algae		10	Comb Jelly	<i>Mertensia ovum</i>	4	count	trace	-	-	-	-
								CO	5	Rockweed		<5	Beroe Jelly	<i>Beroe</i> sp.	3	count	trace	-	-	-	-
								BO	5	-	-	-	Clams		<5	density (m²)	trace	-	-	-	-
12:49	T5	-1.8	-2.48	-2.3	2.2	-0.1	6.6	SA	90	Clumped brown algae		5	Unidentified Jelly		8	count	trace	-	-	-	-
								GR	<5	Sugar kelp	<i>Saccharina latissima</i>	10	Comb Jelly	<i>Mertensia ovum</i>	1	count	trace	-	-	-	-
								CO	<5	Winged Kelp		10	-	-	-	-	-	-	-	-	-
								BO	5	-	-	-	-	-	-	-	-	-	-	-	
13:06	T6	-0.4	-1.3	-1.2	2.4	+1.2	6.6	CO	50	thread brown algae	<i>Chordaria</i> sp (poss)	10	-	-	-	-	-	-	-	-	
								GR	50	-	-	-	-	-	-	-	-	-	-	-	
13:12	T7	-0.1	-1.3	-1.2	2.4	+1.2	6.7	CO	50	thread brown algae	<i>Chordaria</i> sp (poss)	20	-	-	-	-	-	-	-	-	
								GR	20	rockweed	<i>Fucus</i> sp	5	-	-	-	-	-	-	-	-	
								SA	20	-	-	-	-	-	-	-	-	-	-	-	
								BO	<10	-	-	-	-	-	-	-	-	-	-	-	
17:02	T8	-0.9	-1.9	-2.1	2.4	0.3	6.5	SA	50	rockweed	<i>Fucus</i> sp	5	-	-	-	-	-	-	-	-	
								GR	30	thread brown algae	<i>Chordaria</i> sp (poss)	30	-	-	-	-	-	-	-	-	
								CO	20	-	-	-	-	-	-	-	-	-	-	-	
								BO	<10	-	-	-	-	-	-	-	-	-	-	-	
17:09	T9	-0.1	-0.9	-0.6	2.4	1.8	7.0	GR	30	thread brown algae	<i>Chordaria</i> sp (poss)	50	-	-	-	-	-	-	-	-	
								CO	50	rockweed	<i>Fucus</i> sp	5	-	-	-	-	-	-	-	-	
17:23	T10	-4.3	-5.6	-5.7	2.4	-3.3	5.0	CO	30	kelp	UNID	<5	green sea urchin	<i>Strongylocentrotus drobachiensis</i>	10	count	trace	-	-	-	-
								BO	20	winged kelp (poss)	<i>Alaria</i> sp	30	limpet	<i>Tectura</i> sp	1	count	trace	-	-	-	-
								S	20	sea colander	<i>Agarum clathratum</i>	20	brittle stars	<i>Ophiura sarsi</i>	5 to 10	density (m²)	trace to infrequent	-	-	-	-
								SA	40	rockweed	<i>Fucus</i> sp	<5	anemone	UNID	3	count	trace	-	-	-	-
										encrusting coralline algae	<i>Corallina</i> sp	20	truncate soft shell clam	<i>Mya truncata</i>	<5	density (m²)	trace				
17:38	T11	-2.9	-3.9	-4.1	2.4	-1.7	5.4	SA	50	thread brown algae	<i>Chordaria</i> sp (poss)	20	truncate soft shell clam	<i>Mya truncata</i>	<5	density (m²)	trace	-	-	-	-
								GR	30	branching brown algae	UNID	<5	-	-	-	-	-	-	-	-	
								CO	20	rockweed	<i>Fucus</i> sp	<5	-	-	-	-	-	-	-	-	
										winged kelp (poss)	<i>Alaria</i> sp	40	-	-	-	-	-	-	-	-	
17:48	T12	-1.7	-2.0	-2.4	2.0	-0.4	5.6	CO	40	rockweed	<i>Fucus</i> sp	40	-	-	-	-	-	-	-	-	
								GR	30	thread brown algae	<i>Chordaria</i> sp (poss)	40	-	-	-	-	-	-	-	-	
								SA	20	-	-	-	-	-	-	-	-	-	-	-	
								BO	30	-	-	-	-	-	-	-	-	-	-	-	
17:57	T13	-0.5	-1.4	-1.6	2.0	+0.4	6.2	GR	40	thread brown algae	<i>Chordaria</i> sp (poss)	40	truncate soft shell clam	<i>Mya truncata</i>	<5	density (m²)	trace	-	-	-	-
								CO	30	rockweed	<i>Fucus</i> sp	40	-	-	-	-	-	-	-	-	
								SA	20	-	-	-	-	-	-	-	-	-	-	-	
								BO	<10	-	-	-	-	-	-	-	-	-	-	-	

Survey Time	Transect No.	ROV Depth (m)		Sounder Depth (m)	Tide Height (m)	Depth (CD, m)	Temperature (°C)	Substrate		Vegetation			Invertebrates					Fish				
		Minimum	Maximum					Type	Percent Cover	Species Name		Abundance	Species Name		Abundance	Metric	Categorization	Species Name		Abundance	Categorization	
										Common	Scientific		Common	Scientific				Common	Scientific			
18:04	T14	-1.3	-1.8	-1.8	2.0	+0.2	6.3	CO	20	thread brown algae	<i>Chordaria sp (poss)</i>	30	truncate soft shell clam	<i>Mya truncata</i>	<5	density (m²)	trace	-	-	-	-	
								SA	60	rockweed	<i>Fucus sp</i>	15	-	-	-	-	-	-	-	-		
								GR	20	-	-	-	-	-	-	-	-	-	-	-		
12:34	T15	-1.7	-1.4	-1.8	2.0	+0.2	6.8	SA	75	thread brown algae	<i>Chordaria sp (poss)</i>	30	Pipe cleaner hydroid (poss)	<i>Lafoeina maxima</i>	10	density (m²)	trace	-	-	-	-	
								GR	15	sea collander (poss)	<i>Agarum clathratum</i>	<5	-	-	-	-	-	-	-	-		
								BO	<10	rockweed	<i>Fucus sp</i>	5	-	-	-	-	-	-	-	-		
										encrusting coralline algae	<i>Corallina sp</i>	10	-	-	-	-	-	-	-	-		
12:46	T16	-6.1	-9.4	-6.5	1.8	-4.7	5.1	SA	30	sea collander (poss)	<i>Agarum clathratum</i>	70	green sea urchin	<i>Strongylocentrotus drobachiensis</i>	10 to 15	count	infrequent	banded gunnel	<i>Pholis fasciata</i>	1	-	
								BO	50	-	-	-	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	-	-	-	-	
								CO	20	encrusting coralline algae	<i>Corallina sp</i>	20	brittle stars	<i>Ophiura sarsi</i>	5 to 10	density (m²)	trace	Shorthorn sculpin	<i>Myoxocephalus scorpius</i>	1	-	
12:53	T17	-3.9	-4.8	-4.0	1.8	-2.2	5.7	SA	50	winged kelp	<i>Alaria sp.</i>	20	green sea urchin	<i>Strongylocentrotus drobachiensis</i>	5 to 10	count	trace	Shorthorn sculpin	<i>Myoxocephalus scorpius</i>	1	-	
								CO	50	Thread brown algae	<i>Chordaria sp (poss)</i>	<5	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	Fourhorn sculpin	<i>Myoxocephalus quadricornis</i>	1	-	
										branching brown algae	<i>UNID</i>	10	-	-	-	-	-	-	-	-	-	
13:05	T18	-1.3	-2.1	-2.2	1.8	-0.4	6.3	BO	20	Thread brown algae	<i>Chordaria sp (poss)</i>	40	-	-	-	-	-	-	-	-	-	
								CO	60	rockweed	<i>Fucus sp</i>	50	-	-	-	-	-	-	-	-	-	-
								GR	20				-	-	-	-	-	-	-	-	-	-
23:17	T19	-1.3	-2.5	-2.5	2.4	-0.1	6.6	SA	40	Thread brown algae	<i>Chordaria sp (poss)</i>	30	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	-	-	-	-	
								GR	30	rockweed	<i>Fucus sp</i>	20	-	-	-	-	-	-	-	-	-	
								CO	30	-	-	-	-	-	-	-	-	-	-	-	-	
23:27	T20	-2.1	-2.8	-2.7	2.4	-0.3	7.2	SA	80	rockweed	<i>Fucus sp</i>	5	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	-	-	-	-	
								GR	<10	-	-	-	-	-	-	-	-	-	-	-	-	
								BO	<10	-	-	-	-	-	-	-	-	-	-	-	-	
23:38	T21	-2.6	-2.9	-2.8	2.4	-0.4	7.0	SA	80	Thread brown algae	<i>Chordaria sp (poss)</i>	40	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	Shorthorn sculpin	<i>Myoxocephalus scorpius</i>	1	-	
								BO	<10	rockweed	<i>Fucus sp</i>	20	-	-	-	-	-	-	-	-	-	
								CO	<10	kelp	<i>UNID</i>	5	-	-	-	-	-	-	-	-	-	
23:49	T22	-1.1	-2.7	-2.8	2.4	-0.4	6.7	SA	20	rockweed	<i>Fucus sp</i>	40	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	-	-	-	-	
								CO	60	-	-	-	-	-	-	-	-	-	-	-	-	
								BO	20	Thread brown algae	<i>Chordaria sp (poss)</i>	40	-	-	-	-	-	-	-	-	-	
23:59	T23	-1.7	-2.7	-2.9	2.4	-0.5	6.4	SA	60	Thread brown algae	<i>Chordaria sp (poss)</i>	10	-	-	-	-	-	-	-	-		
								GR	20	-	-	-	-	-	-	-	-	-	-	-	-	
								CO	20	-	-	-	-	-	-	-	-	-	-	-	-	
00:13	T24	-2.3	-2.8	-2.9	3.0	+0.1	7.0	SA	70	thread brown algae	<i>Chordaria sp (poss)</i>	15	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	-	-	-	-	
								GR	10	rockweed	<i>Fucus sp</i>	10	-	-	-	-	-	-	-	-	-	
								CO	10	-	-	-	-	-	-	-	-	-	-	-	-	
								BO	<10	-	-	-	-	-	-	-	-	-	-	-	-	
12:26	T1	-0.4	-1.7	-1.0	2.2	+1.2	6.2	CO	70	thread brown algae	<i>Chordaria sp (poss)</i>	70	-	-	-	-	-	-	-	-		
								GR	10	-	-	-	-	-	-	-	-	-	-	-	-	
								SA	20	-	-	-	-	-	-	-	-	-	-	-	-	
12:44	T2	-2.0	-3.0	-3.0	2.2	-0.8	5.7	SA	70	rockweed	<i>Fucus sp</i>	20	truncate soft shell clam	<i>Mya truncata</i>	5	density (m²)	trace	-	-	-	-	
								GR	30	thread brown algae	<i>Chordaria sp (poss)</i>	40	-	-	-	-	-	-	-	-	-	

Note: SA = sand, GR = gravel, CO = cobble, BO = boulder, S = silt

Appendix A: Terrestrial Vegetation Field Results (ESEB Report Section 8)



Table A-8: Terrestrial Vegetation (Abiotic Data Collected During Ecological Land Classification (2019))

Plot	Biome	Ecozone	Ecoregion	Community Type	Slope	Aspect	Soil Moisture Regime	Soil Nutrient Regime	Meso Slope Position	Exposure Type	Drainage	Mineral Soil Texture	Organic Soil Texture	Humus Form	Surface Shape	Coarse Fragment Content	Surficial Material
15-Aug-19																	
GD-11	Tundra	Northern Arctic	Lancaster Plateau	Upland Lichen Barren	0->5 %	Variable	Very Xeric	Very Poor	Crest, Upper Slope, Middle Slope	Wind, Frost, Cold Air Drainage	Rapidly	NA	NA	NA	Convex, Straight	>70 %	Colluvial deposits, undifferentiated
16-Aug-19																	
GD-12, GD-13	Tundra	Northern Arctic	Lancaster Plateau	Upland Dwarf Shrub	0->5 %	Variable to level	Subxeric	Poor	Upper Slope, Middle Slope	Wind, Frost, Cold Air Drainage	Moderately Well, Imperfectly	DNC	Fibric	Mor	Straight	>70 %	Colluvial deposits, undifferentiated
GD-14	Tundra	Northern Arctic	Lancaster Plateau	Wetland Graminoid-Moss Drainage	0-2 %	Mostly level	Hydric	Poor	Middle Slope, Lower Slope	Wind, Frost, Cold Air Drainage	Imperfectly, Poorly	DNC	Fibric	Mor	Concave, Straight	35-70 %	Colluvial deposits, undifferentiated
GD-15	Tundra	Northern Arctic	Lancaster Plateau	Disturbed Human-Caused	0->5 %	Mostly level though variable	Submesic	Poor	Level	Wind, Frost, Cold Air Drainage	Well	DNC	NA	NA	Straight	>70 %	Colluvial deposits, undifferentiated
GD-16	Tundra	Northern Arctic	Lancaster Plateau	Upland Graminoid Meadow	0-1 %	Level	Submesic	Poor	Level	Wind, Frost, Cold Air Drainage	Imperfectly	DNC	DNC	DNC	Straight	35-70 %	Colluvial deposits, undifferentiated
NA	Tundra	Northern Arctic	Lancaster Plateau	Coastal Shoreline and Flats	0->5 %	Westerly	Subhydric	Poor	Middle Slope	Wind, Frost, Cold Air Drainage	Moderately Well, Imperfectly	Sandy	Fibric	Mor	Straight	>70 %	Colluvial deposits, undifferentiated

Notes:

NA – means not applicable

DNC – means did not collect

Categories for abiotic conditions that were considered included the following:

- Slope: 0 %, 1 %, 2 %, 2-5 %, >5 %
- Aspect: level, mostly level, rolling, variable, northerly, southerly, easterly, westerly
- Soil Moisture Regime: very xeric, xeric, subxeric, submesic, mesic, subhygric, hygric, subhydric, hydric
- Soil Nutrient Regime: very poor, poor, medium, rich, very rich
- Meso Slope Position: crest, upper slope, middle slope, lower slope, toe, depression, level
- Exposure Type: wind, insolation, frost, cold air drainage, toxicity (atmospheric or soil), not applicable
- Drainage: very rapidly, rapidly, well, moderately well, imperfectly, poorly, very poorly
- Mineral Soil Texture: sandy, loamy, silty, clayey
- Organic Soil Texture: fibric, mesic, humic
- Humus Form: mor, moder, mull
- Surface Shape: concave, convex, straight
- Coarse Fragment Content: <20 %, 20-35 %, 35-70 %, >70 %

Table A-9: Terrestrial Vegetation (Vegetation Ground Plot Data (2019))

Plot	Community Type	Total Tree Layer %	Total Shrub Layer %	Total Forb Layer %	Total Graminoid Layer %	Total Non-vascular Layer %	Litter %	Water %	Mineral Soil %	Rock %	Species Name and Author	Common Name	Foliar Cover (%)
15-Aug-19													
GD-11	Upland Lichen Barren	0	1	3	1	15	3	0	5	80	<i>Alectoria ochroleuca</i> (Hoffm.) A. Massal.	witch's hair lichen	3
											<i>Aspicilia</i> spp.	lichen	10
											<i>Carex nardina</i> Fr.	spike sedge	1
											<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens	5
											<i>Flavocetraria cucullata</i> (Bellardi) Karnefelt & A. Thell	snow lichen	2
											<i>Salix arctica</i> Pall.	arctic willow	1
											<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage	2
16-Aug-19													
GD-12	Upland Dwarf Shrub	0	5	25	10	35	10	0	5	10	<i>Carex misandra</i> R. Br.	shortleaved sedge	10
											<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens	20
											<i>Distichium capillaceum</i> (Hedw.) Bruch & Schimp.	distichium moss	45
											<i>Polygonum viviparum</i> L.	alpine bistort	2
											<i>Salix arctica</i> Pall.	arctic willow	5
											<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage	3
GD-13		0	10	5	10	15	5	0	5	60	<i>Carex nardina</i> Fr.	spike sedge	10

Plot	Community Type	Total Tree Layer %	Total Shrub Layer %	Total Forb Layer %	Total Graminoid Layer %	Total Non-vascular Layer %	Litter %	Water %	Mineral Soil %	Rock %	Species Name and Author	Common Name	Foliar Cover (%)
	Upland Dwarf Shrub										<i>Cassiope tetragona</i> (L.) D. Don	white arctic mountain heather	10
											<i>Coelocaulon aculeatum</i> (Schreb.) Link	lichen	5
											<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens	5
											<i>Flavocetraria nivalis</i> (L.) Karnefelt & A. Thell	snow lichen	1
											<i>Luzula confusa</i> Lindeberg	northern woodrush	1
											<i>Distichium capillaceum</i> (Hedw.) Bruch & Schimp.	distichium moss	15
											<i>Pedicularis hirsuta</i> L.	hairy lousewort	1
											<i>Polygonum viviparum</i> L.	alpine bistort	1
											<i>Racomitrium lanuginosum</i> (Hedw.) Brid.	racomitrium moss	2
											<i>Salix arctica</i> Pall.	arctic willow	2
											<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage	2
GD-14	Wetland Graminoid-Moss Drainage	0	2	5	25	70	5	10	1	2	<i>Silene acaulis</i> (L.) Jacq.	moss campion	1
											<i>Carex aquatilis</i> Wahlenb.	water sedge	3
											<i>Carex membranacea</i> Hook.	fragile sedge	5
											<i>Eriophorum angustifolium</i> Honck.	tall cottongrass	10
											<i>Eriophorum scheuchzeri</i> Hoppe	white cottongrass	10
											<i>Aulacomnium turgidum</i> (Wahlenb.) Schw&agr.	turgid aulacomnium moss	40

Plot	Community Type	Total Tree Layer %	Total Shrub Layer %	Total Forb Layer %	Total Graminoid Layer %	Total Non-vascular Layer %	Litter %	Water %	Mineral Soil %	Rock %	Species Name and Author	Common Name	Foliar Cover (%)
											<i>Limprichtia revolvens</i> (Sw.) Loeske	limprichtia moss	20
											<i>Orthothecium chryseum</i> (SchwÃagr.) Schimp.	orthothecium moss	10
											<i>Polygonum viviparum</i> L.	alpine bistort	5
											<i>Salix arctica</i> Pall.	arctic willow	2
GD-15	Disturbed Human-Caused	0	0	5	1	0	0	0	5	90	<i>Cerastium arcticum</i> Lange	mouse-ear chickweed	3
											<i>Cochlearia groenlandica</i> L.	Danish scurvygrass	1
											<i>Festuca brachyphylla</i> Schult. ex Schult. & Schult. f.	alpine fescue	1
											<i>Minuartia rubella</i> (Wahlenb.) Hiern.	beautiful sandwort	1
											<i>Oxyria digyna</i> (L.) Hill	alpine mountainsorrel	2
											<i>Papaver</i> sp.	arctic poppy	1
											<i>Polygonum viviparum</i> L.	alpine bistort	1
											<i>Saxifraga cernua</i> L.	nodding saxifrage	1
											<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage	1
											<i>Silene uralensis</i> (Rupr.) Bocquet	apetalous catchfly	1
GD-16	Upland Graminoid Meadow	0	1	3	10	0	1	0	1	85	<i>Carex nardina</i> Fr.	spike sedge	10
											<i>Cerastium arcticum</i> Lange	mouse-ear chickweed	1

Plot	Community Type	Total Tree Layer %	Total Shrub Layer %	Total Forb Layer %	Total Graminoid Layer %	Total Non-vascular Layer %	Litter %	Water %	Mineral Soil %	Rock %	Species Name and Author	Common Name	Foliar Cover (%)
											<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens	1
											<i>Polygonum viviparum</i> L.	alpine bistort	1
											<i>Salix arctica</i> Pall.	arctic willow	1
											<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage	1
											<i>Silene acaulis</i> (L.) Jacq.	moss campion	2
NA	Coastal Shoreline and Flats	0	0	0	0	0	0	5	1	95	NA	NA	NA

Table A-10: Terrestrial Vegetation (Vegetation Rare Plant Survey Data (2019))

Community Type	Strata	Species Name and Authority	Common Name
16-Aug-19			
Coastal Shoreline and Flats	Graminoids	<i>Poa arctica</i> R. Br.	arctic bluegrass
Coastal Shoreline and Flats	Forbs	<i>Cochlearia groenlandica</i> L.	Danish scurvygrass
Coastal Shoreline and Flats	Forbs	<i>Cerastium arcticum</i> Lange	mouse-ear chickweed
Disturbed Human-Caused	Shrubs	<i>Salix arctica</i> Pall.	arctic willow
Disturbed Human-Caused	Shrubs	<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage
Disturbed Human-Caused	Forbs	<i>Cerastium arcticum</i> Lange	mouse-ear chickweed
Disturbed Human-Caused	Forbs	<i>Chamerion latifolium</i> (L.) Holub	dwarf fireweed
Disturbed Human-Caused	Forbs	<i>Cochlearia groenlandica</i> L.	Danish scurvygrass
Disturbed Human-Caused	Forbs	<i>Minuartia rubella</i> (Wahlenb.) Hiern.	beautiful sandwort
Disturbed Human-Caused	Forbs	<i>Oxyria digyna</i> (L.) Hill	alpine mountainsorrel
Disturbed Human-Caused	Forbs	<i>Papaver</i> sp.	arctic poppy
Disturbed Human-Caused	Forbs	<i>Parrya arctica</i> R. Br.	arctic false wallflower
Disturbed Human-Caused	Forbs	<i>Polygonum viviparum</i> L.	alpine bistort
Disturbed Human-Caused	Forbs	<i>Saxifraga cernua</i> L.	nodding saxifrage
Disturbed Human-Caused	Forbs	<i>Silene uralensis</i> (Rupr.) Bocquet	apetalous catchfly
Disturbed Human-Caused	Graminoids	<i>Festuca brachyphylla</i> Schult. ex Schult. & Schult. f.	alpine fescue
Disturbed Human-Caused	Graminoids	<i>Poa alpina</i> L.	alpine bluegrass
Upland Dwarf Shrub	Shrubs	<i>Cassiope tetragona</i> (L.) D. Don	white arctic mountain heather
Upland Dwarf Shrub	Shrubs	<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens
Upland Dwarf Shrub	Shrubs	<i>Salix arctica</i> Pall.	arctic willow
Upland Dwarf Shrub	Shrubs	<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage
Upland Dwarf Shrub	Shrubs	<i>Vaccinium uliginosum</i> L.	bog blueberry

Community Type	Strata	Species Name and Authority	Common Name
Upland Dwarf Shrub	Forbs	<i>Cerastium arcticum</i> Lange	mouse-ear chickweed
Upland Dwarf Shrub	Forbs	<i>Erysimum pallasii</i> (Pursh) Fernald	Pallas' wallflower
Upland Dwarf Shrub	Forbs	<i>Oxyria digyna</i> (L.) Hill	alpine mountainsorrel
Upland Dwarf Shrub	Forbs	<i>Papaver</i> sp.	arctic poppy
Upland Dwarf Shrub	Forbs	<i>Pedicularis hirsuta</i> L.	hairy lousewort
Upland Dwarf Shrub	Forbs	<i>Polygonum viviparum</i> L.	alpine bistort
Upland Dwarf Shrub	Forbs	<i>Saxifraga cernua</i> L.	nodding saxifrage
Upland Dwarf Shrub	Forbs	<i>Saxifraga nivalis</i> L.	alpine saxifrage
Upland Dwarf Shrub	Forbs	<i>Silene acaulis</i> (L.) Jacq.	moss campion
Upland Dwarf Shrub	Forbs	<i>Silene uralensis</i> (Rupr.) Bocquet	apetalous catchfly
Upland Dwarf Shrub	Graminoids	<i>Carex misandra</i> R. Br.	shortleaved sedge
Upland Dwarf Shrub	Graminoids	<i>Carex nardina</i> Fr.	spike sedge
Upland Dwarf Shrub	Graminoids	<i>Festuca brachyphylla</i> Schult. ex Schult. & Schult. f.	alpine fescue
Upland Dwarf Shrub	Graminoids	<i>Luzula confusa</i> Lindeberg	northern woodrush
Upland Dwarf Shrub	Graminoids	<i>Poa arctica</i> R. Br.	arctic bluegrass
Upland Dwarf Shrub	Bryophytes	<i>Distichium capillaceum</i> (Hedw.) Bruch & Schimp.	distichium moss
Upland Dwarf Shrub	Bryophytes	<i>Racomitrium lanuginosum</i> (Hedw.) Brid.	racomitrium moss
Upland Dwarf Shrub	Lichens	<i>Alectoria ochroleuca</i> (Hoffm.) A. Massal.	witch's hair lichen
Upland Dwarf Shrub	Lichens	<i>Cladonia</i> spp.	lichens
Upland Dwarf Shrub	Lichens	<i>Coelocaulon aculeatum</i> (Schreb.) Link	lichen
Upland Dwarf Shrub	Lichens	<i>Flavocetraria cucullata</i> (Bellardi) Karnefelt & A. Thell	snow lichen
Upland Dwarf Shrub	Lichens	<i>Flavocetraria nivalis</i> (L.) Karnefelt & A. Thell	snow lichen
Upland Dwarf Shrub	Lichens	<i>Lepraria neglecta</i> (Nyl.) Erichsen	dust lichen
Upland Dwarf Shrub	Lichens	<i>Melanelia septentrionalis</i> (Lyng.) Essl.	melanelia lichen
Upland Dwarf Shrub	Lichens	<i>Ochrolechia upsaliensis</i> (L.) A. Massal.	Upsala crabseye lichen

Community Type	Strata	Species Name and Authority	Common Name
Upland Dwarf Shrub	Lichens	<i>Parmelia centrifuga</i> (L.) Ach.	lichen
Upland Dwarf Shrub	Lichens	<i>Rhizocarpon</i> spp.	map lichens
Upland Dwarf Shrub	Lichens	<i>Stereocaulon alpinum</i> Laurer ex Funck	alpine snow lichen
Upland Dwarf Shrub	Lichens	<i>Thamnolia subuliformis</i> (Ehrh.) W.L. Culb.	whiteworm lichen
Upland Dwarf Shrub	Lichens	<i>Umbilicaria</i> spp.	lichens
Upland Graminoid Meadow	Shrubs	<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens
Upland Graminoid Meadow	Shrubs	<i>Salix arctica</i> Pall.	arctic willow
Upland Graminoid Meadow	Shrubs	<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage
Upland Graminoid Meadow	Forbs	<i>Cerastium arcticum</i> Lange	mouse-ear chickweed
Upland Graminoid Meadow	Forbs	<i>Polygonum viviparum</i> L.	alpine bistort
Upland Graminoid Meadow	Forbs	<i>Saxifraga cernua</i> L.	nodding saxifrage
Upland Graminoid Meadow	Forbs	<i>Silene acaulis</i> (L.) Jacq.	moss campion
Upland Graminoid Meadow	Graminoids	<i>Carex misandra</i> R. Br.	shortleaved sedge
Upland Graminoid Meadow	Graminoids	<i>Carex nardina</i> Fr.	spike sedge
Upland Graminoid Meadow	Graminoids	<i>Festuca brachyphylla</i> Schult. ex Schult. & Schult. f.	alpine fescue
Upland Graminoid Meadow	Lichens	<i>Rhizocarpon</i> spp.	map lichens
Upland Lichen Barren	Shrubs	<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens
Upland Lichen Barren	Shrubs	<i>Salix arctica</i> Pall.	arctic willow
Upland Lichen Barren	Shrubs	<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage
Upland Lichen Barren	Graminoids	<i>Carex nardina</i> Fr.	spike sedge
Upland Lichen Barren	Lichens	<i>Alectoria ochroleuca</i> (Hoffm.) A. Massal.	witch's hair lichen
Upland Lichen Barren	Lichens	<i>Aspicilia</i> spp.	lichen
Upland Lichen Barren	Lichens	<i>Collema undulatum</i> Laurer ex Flotow	undulate jelly lichen
Upland Lichen Barren	Lichens	<i>Flavocetraria cucullata</i> (Bellardi) Karnefelt & A. Thell	snow lichen
Upland Lichen Barren	Lichens	<i>Lepraria neglecta</i> (Nyl.) Erichsen	dust lichen

Community Type	Strata	Species Name and Authority	Common Name
Upland Lichen Barren	Lichens	<i>Rhizocarpon</i> spp.	map lichens
Upland Lichen Barren	Lichens	<i>Umbilicaria</i> spp.	lichens
Upland Lichen Barren	Lichens	<i>Verrucaria</i> spp.	lichens
Upland Lichen Barren	Lichens	<i>Xanthoparmelia</i> spp.	lichens
Upland Lichen Barren	Lichens	<i>Xanthoria elegans</i> (Link) Th. Fr.	elegant orange wall lichen
Wetland Graminoid-Moss Drainage	Shrubs	<i>Cassiope tetragona</i> (L.) D. Don	white arctic mountain heather
Wetland Graminoid-Moss Drainage	Shrubs	<i>Dryas integrifolia</i> Vahl	entireleaf mountain-avens
Wetland Graminoid-Moss Drainage	Shrubs	<i>Salix arctica</i> Pall.	arctic willow
Wetland Graminoid-Moss Drainage	Shrubs	<i>Saxifraga oppositifolia</i> L.	purple mountain saxifrage
Wetland Graminoid-Moss Drainage	Shrubs	<i>Vaccinium uliginosum</i> L.	bog blueberry
Wetland Graminoid-Moss Drainage	Forbs	<i>Cerastium arcticum</i> Lange	mouse-ear chickweed
Wetland Graminoid-Moss Drainage	Forbs	<i>Oxyria digyna</i> (L.) Hill	alpine mountainsorrel
Wetland Graminoid-Moss Drainage	Forbs	<i>Papaver</i> sp.	arctic poppy
Wetland Graminoid-Moss Drainage	Forbs	<i>Pedicularis capitata</i> M.F. Adams	capitate lousewort
Wetland Graminoid-Moss Drainage	Forbs	<i>Polygonum viviparum</i> L.	alpine bistort
Wetland Graminoid-Moss Drainage	Forbs	<i>Saxifraga cernua</i> L.	nodding saxifrage
Wetland Graminoid-Moss Drainage	Forbs	<i>Saxifraga nivalis</i> L.	alpine saxifrage
Wetland Graminoid-Moss Drainage	Graminoids	<i>Alopecurus magellanicus</i> Lam.	Alpine Meadow-Foxtail
Wetland Graminoid-Moss Drainage	Graminoids	<i>Arctagrostis latifolia</i> (R. Br.) Griseb.	wideleaf polargrass
Wetland Graminoid-Moss Drainage	Graminoids	<i>Carex aquatilis</i> Wahlenb.	water sedge
Wetland Graminoid-Moss Drainage	Graminoids	<i>Carex membranacea</i> Hook.	fragile sedge
Wetland Graminoid-Moss Drainage	Graminoids	<i>Carex nardina</i> Fr.	spike sedge
Wetland Graminoid-Moss Drainage	Graminoids	<i>Eriophorum angustifolium</i> Honck.	tall cottongrass
Wetland Graminoid-Moss Drainage	Graminoids	<i>Eriophorum scheuchzeri</i> Hoppe	white cottongrass
Wetland Graminoid-Moss Drainage	Graminoids	<i>Juncus albescens</i> (Lange) Fernald	northern white rush

Community Type	Strata	Species Name and Authority	Common Name
Wetland Graminoid-Moss Drainage	Graminoids	<i>Luzula confusa</i> Lindeberg	northern woodrush
Wetland Graminoid-Moss Drainage	Graminoids	<i>Poa alpina</i> L.	alpine bluegrass
Wetland Graminoid-Moss Drainage	Graminoids	<i>Poa glauca</i> Vahl	glaucous bluegrass
Wetland Graminoid-Moss Drainage	Graminoids	<i>Poa pratensis</i> L. ssp. <i>colpodea</i> (Th. Fr.) Tzvelev	Kentucky bluegrass
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Bryum pallescens</i> Schleich. ex Schwägr.	bryum moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Aulacomnium turgidum</i> (Wahlenb.) Schwägr.	turgid aulacomnium moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Bryum pallens</i> (Brid.) Sw.	bryum moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Calliergon richardsonii</i> (Mitt.) Kindb.	Richardson's calliergon moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Ditrichum flexicaule</i> (Schwägr.) Hampe	ditrichum moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Limprichtia cossonii</i> (Schimp.) L.E. Anderson, H.A. Crum & W.R. Buck	Cosson's limprichtia moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Limprichtia revolvens</i> (Sw.) Loeske	limprichtia moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Orthothecium chryseum</i> (Schwägr.) Schimp.	orthothecium moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Philonotis fontana</i> (Hedw.) Brid.	philonotis moss
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Scapania</i> sp.	liverwort
Wetland Graminoid-Moss Drainage	Bryophytes	<i>Scorpidium scorpioides</i> (Hedw.) Limpr.	scorpidium moss
Wetland Graminoid-Moss Drainage	Lichens	<i>Lepraria neglecta</i> (Nyl.) Erichsen	dust lichen
Wetland Graminoid-Moss Drainage	Lichens	<i>Rhizocarpon</i> spp.	map lichens
Wetland Graminoid-Moss Drainage	Lichens	<i>Umbilicaria</i> spp.	Lichens

Appendix A: Migratory Birds and Wildlife Field Results (ESEB Report Sections 9, 10)



Table A- 11: Wildlife and Migratory Birds (Incidental Wildlife Species Observed or Detected during Field Survey (2019))

Species Code	Species Name	Common Name	Count	Type	Easting	Northing	Coordinate System	Zone
15-Aug-2019								
CORA	<i>Corvus corax</i>	common raven	2	on shore	451939	8480300	UTM NAD83	17X
NOFU	<i>Fulmarus glacialis</i>	northern fulmar	7	on water	450325	8482507	UTM NAD83	17X
GLGU	<i>Larus hyperboreus</i>	glaucous gull	30	on water	452251	8479388	UTM NAD83	17X
GLGU	<i>Larus hyperboreus</i>	glaucous gull	32	on water	450325	8482507	UTM NAD83	17X
THGU	<i>Larus thayeri</i>	Thayer's gull	6	on water	450325	8482507	UTM NAD83	17X
THGU	<i>Larus thayeri</i>	Thayer's gull	5	on water	450325	8482507	UTM NAD83	17X
MUSK	<i>Ovibos moschatus</i>	muskox	1	scat	451101	8484143	UTM NAD83	17X
SNBU	<i>Plectrophenax nivalis</i>	snow bunting	1	flyover	448149	8485376	UTM NAD83	17X
COEI	<i>Somateria mollissima</i>	common eider	4	on water + 500 m	450325	8482507	UTM NAD83	17X
SNBU	<i>Plectrophenax nivalis</i>	snow bunting	5	foraging	451356	8480783	UTM NAD83	17X

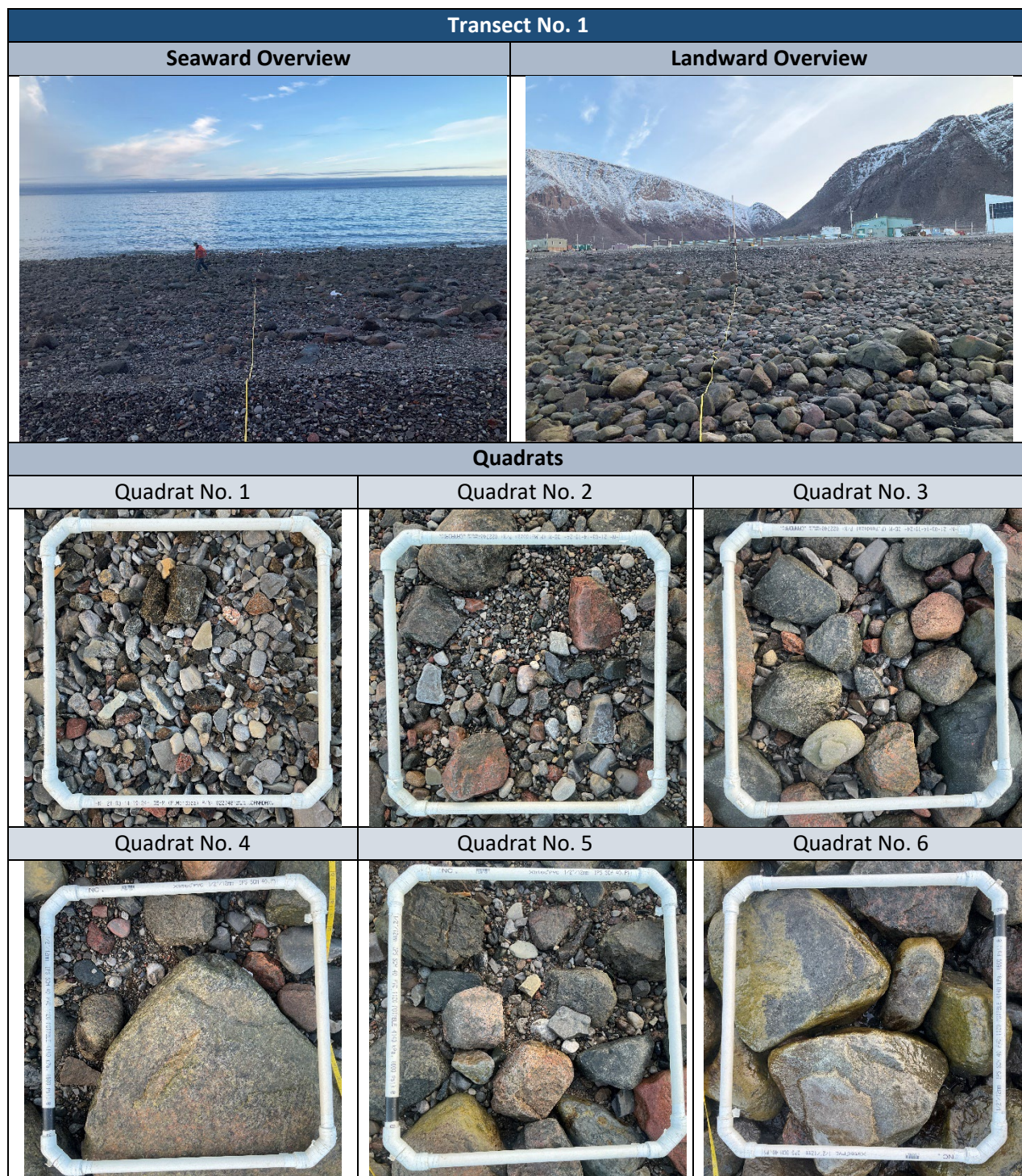
Table A- 12: Wildlife and Migratory Birds (Bird Species Observed or Detected During Field Migratory Bird Point Count Survey (2019))

Point Count Name	Time start (5 min)	Wind kmph	Cloud Cover %	Temp C	Precip mm	Species Code	Species Name	Common Name	Count	Easting	Northin g	Coordinate System	Zone
16-Aug-19													
GF-PC-11	10:00	1	0	8	0	CORA	<i>Corvus corax</i>	common raven	1	450043	8482937	UTM NAD83	10:00
GF-PC-11	10:00	1	0	8	0	GLGU	<i>Larus hyperboreus</i>	glaucous gull	21	450043	8482937	UTM NAD83	10:00
GF-PC-11	10:00	1	0	8	0	THGU	<i>Larus thayeri</i>	Thayer's gull	2	450043	8482937	UTM NAD83	10:00
GF-PC-12	11:00	1	2	10	0	CORA	<i>Corvus corax</i>	common raven	6	450298	8482511	UTM NAD83	11:00
GF-PC-12	11:00	1	2	10	0	GLGU	<i>Larus hyperboreus</i>	glaucous gull	25	450298	8482511	UTM NAD83	11:00
GF-PC-12	11:00	1	2	10	0	THGU	<i>Larus thayeri</i>	Thayer's gull	3	450298	8482511	UTM NAD83	11:00
GF-PC-13	11:30	2	1	8	0	CORA	<i>Corvus corax</i>	common raven	2	450596	8482188	UTM NAD83	11:30
GF-PC-13	11:30	2	1	8	0	GLGU	<i>Larus hyperboreus</i>	glaucous gull	2	450596	8482188	UTM NAD83	11:30
GF-PC-13	11:30	2	1	8	0	NOFU	<i>Fulmarus glacialis</i>	northern fulmar	3	450596	8482188	UTM NAD83	11:30









Appendix B: Photos (Field Program)



Photo B-1: Intertidal Transects Overview and Quadrats (2024)



Note: Quadrat photos presented HWL to LWL

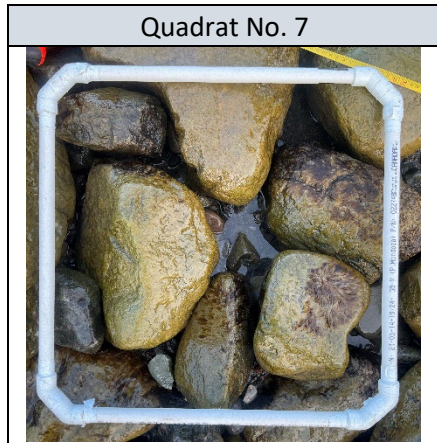
Transect No. 2		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		

Note: Quadrat photos presented HWL to LWL








Transect No. 3		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		

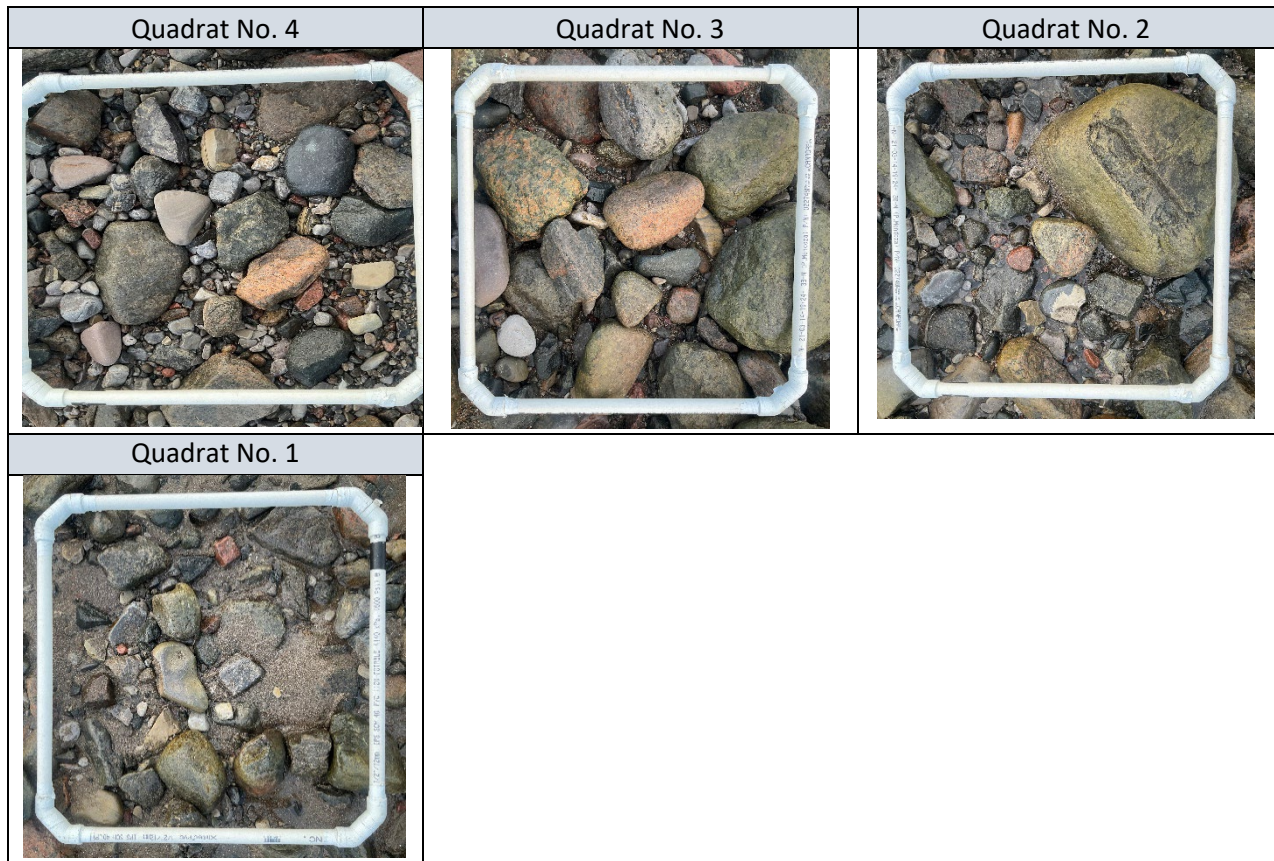
Note: Quadrat photos presented HWL to LWL

Transect No. 4		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		







Note: Quadrat photos presented HWL to LWL

Transect No. 5		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 10	Quadrat No. 9	Quadrat No. 8
		
Quadrat No. 7	Quadrat No. 6	Quadrat No. 5
	No photo	











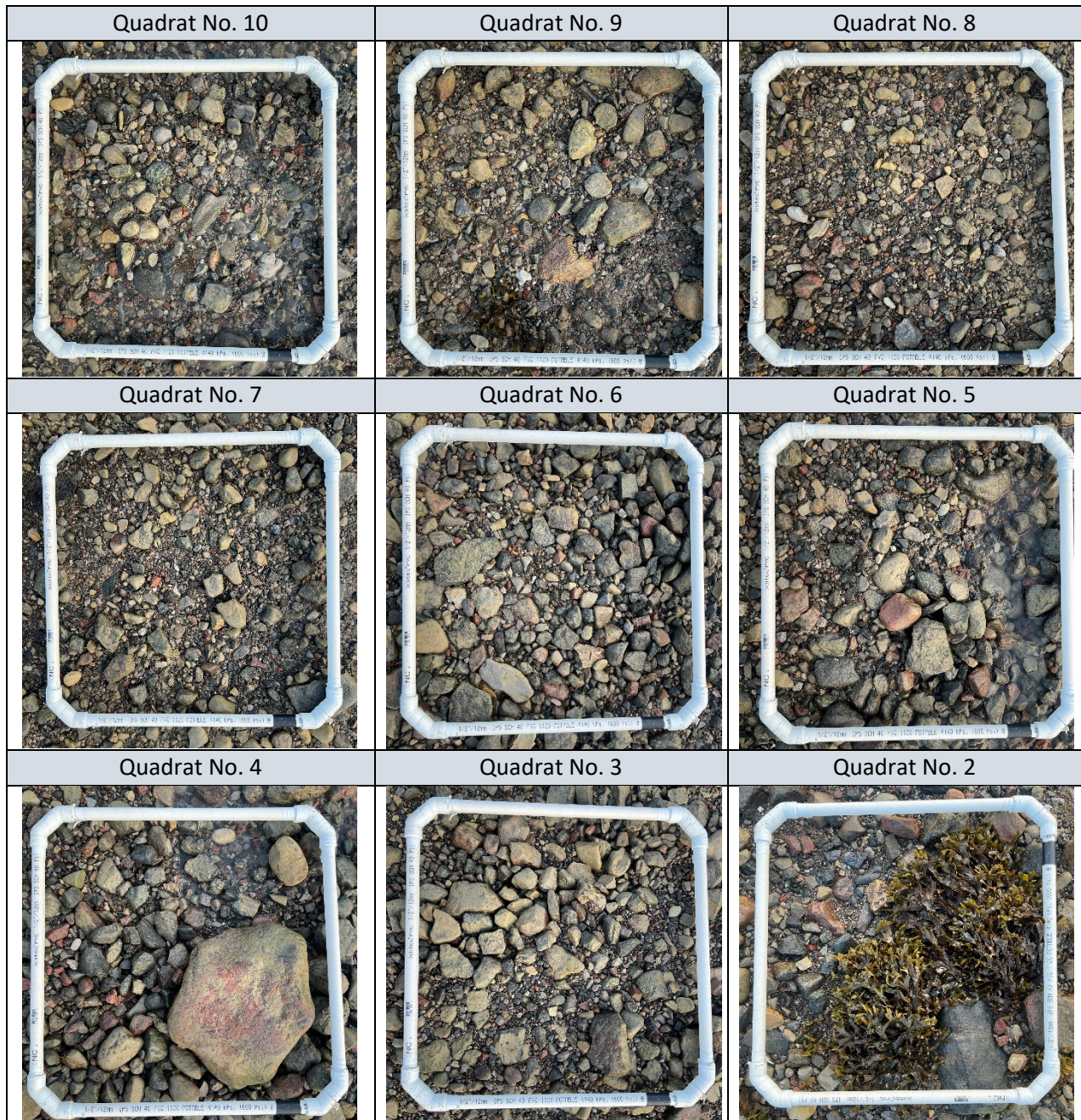
Note: Quadrat photos presented HWL to LWL

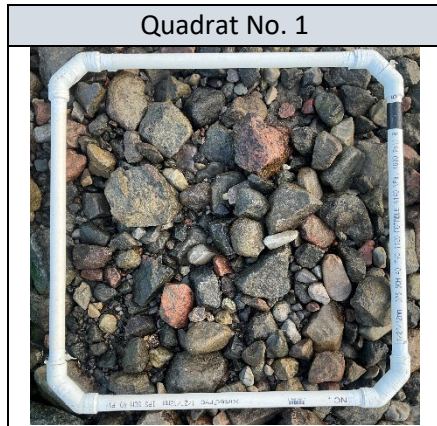
Transect No. 6		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 15	Quadrat No. 14	Quadrat No. 13
		
Quadrat No. 12	Quadrat No. 11	Quadrat No. 10
		










Note: Quadrat photos presented HWL to LWL

Transect No. 7		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 16	Quadrat No. 15	Quadrat No. 14
		
Quadrat No. 13	Quadrat No. 12	Quadrat No. 11
		












Note: Quadrat photos presented HWL to LWL

Transect No. 8		
Seaward Overview		Landward Overview
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	
		








Note: Quadrat photos presented HWL to LWL

Transect No. 9		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		








Note: Quadrat photos presented HWL to LWL

Transect No. 10		
Seaward Overview		Landward Overview
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	
		









Note: Quadrat photos presented HWL to LWL

Transect No. 11		
Seaward Overview		Landward Overview
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	
		








Note: Quadrat photos presented HWL to LWL

Transect No. 12		
Seaward Overview		Landward Overview
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	
		







Note: Quadrat photos presented HWL to LWL

Transect No. 13		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		








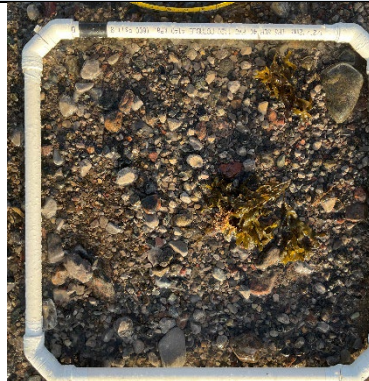
Note: Quadrat photos presented HWL to LWL

Transect No. 14		
Seaward Overview		Landward Overview
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	
		

Note: Quadrat photos presented HWL to LWL

Transect No. 15		
Seaward Overview		Landward Overview
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	
		

Note: Quadrat photos presented HWL to LWL









Transect No. 16		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		

Note: Quadrat photos presented HWL to LWL

Photo B-2: Intertidal Transects Overview and Quadrats (2019)








Note: Quadrat photos presented HWL to LWL

Transect No. 2		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		









Note: Quadrat photos presented HWL to LWL

Transect No. 3		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		

Note: Quadrat photos presented HWL to LWL

Transect No. 4		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		

Note: Quadrat photos presented HWL to LWL

Transect No. 5		
Seaward Overview	Landward Overview	
		
Quadrats		
Quadrat No. 1	Quadrat No. 2	Quadrat No. 3
		
Quadrat No. 4	Quadrat No. 5	Quadrat No. 6
		

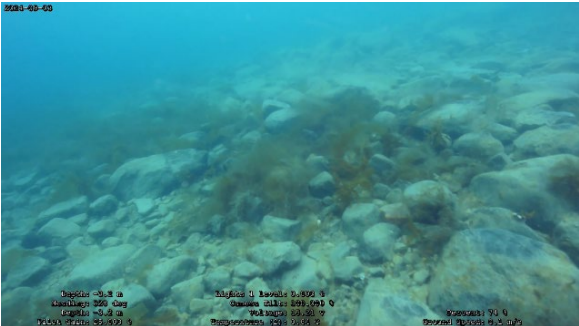
Note: Quadrat photos presented HWL to LWL

Photo B-3: Subtidal Transects Overview and Quadrats (2024)

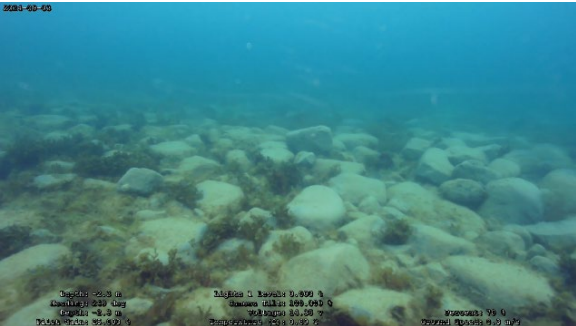
Transect 1 – Photo 1



Transect 2 – Photo 2



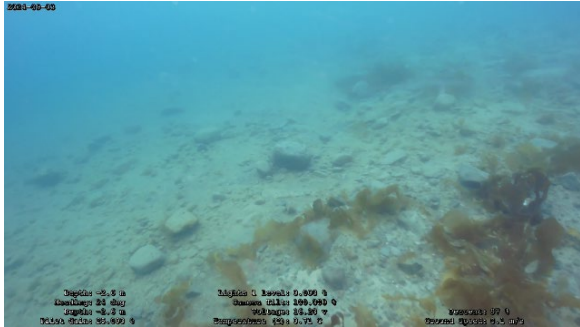
Transect 3 – Photo 3



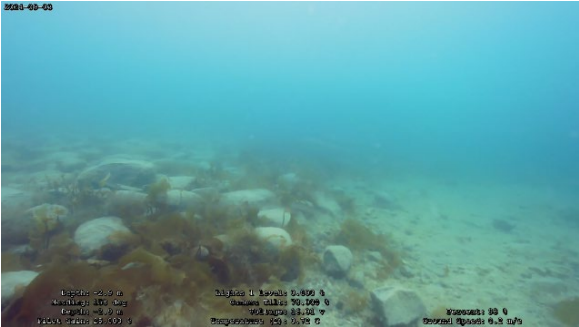
Transect 4 – Photo 4



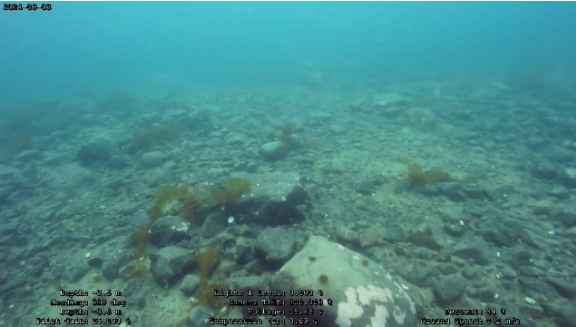
Transect 5 – Photo 5



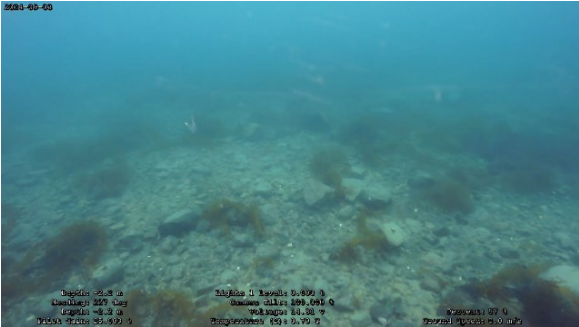
Transect 6 – Photo 6



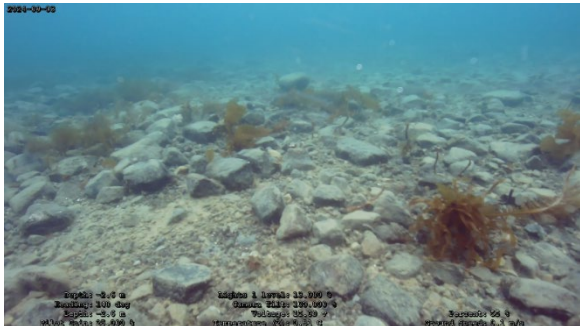
Transect 7 – Photo 7



Transect 8 – Photo 8



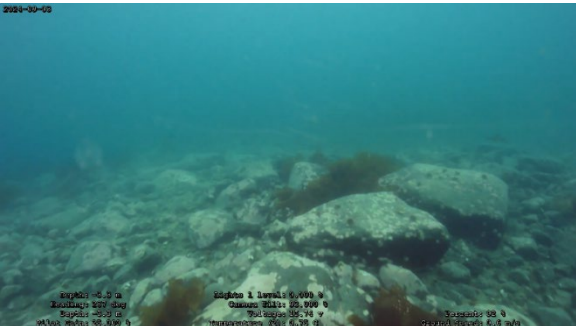
Transect 9 – Photo 9



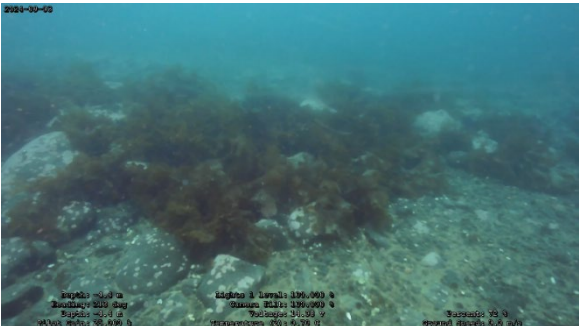
Transect 10 – Photo 10



Transect 11 – Photo 11



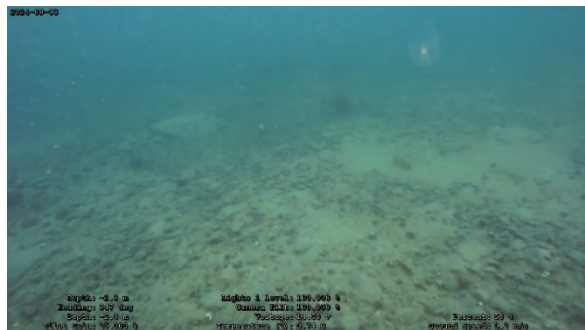
Transect 12 – Photo 12



Transect 13 – Photo 13



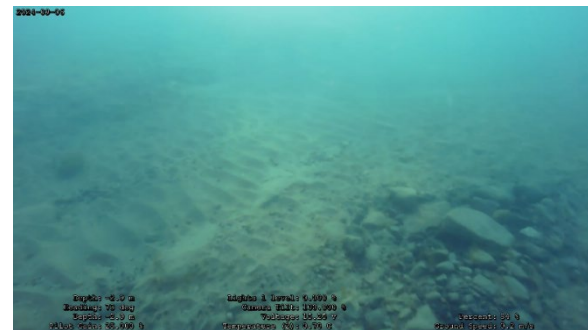
Transect 14 – Photo 14



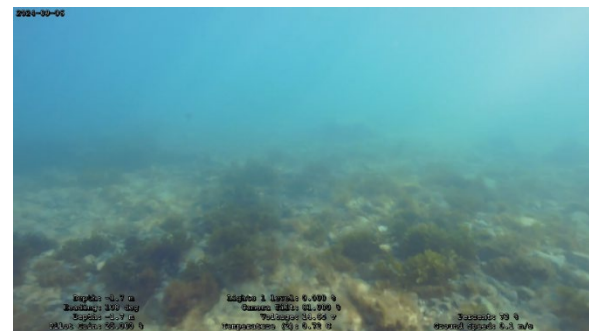
Transect 15 – Photo 15



Transect 16 – Photo 16



Transect 17 – Photo 17



Transect 18 – Photo 18

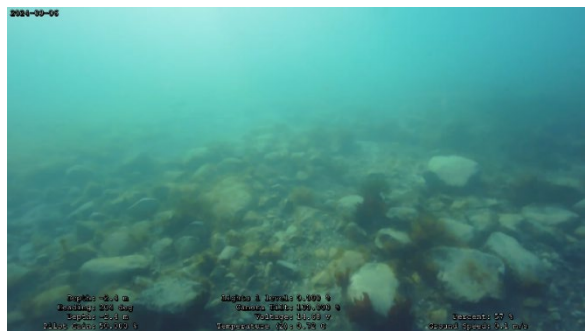
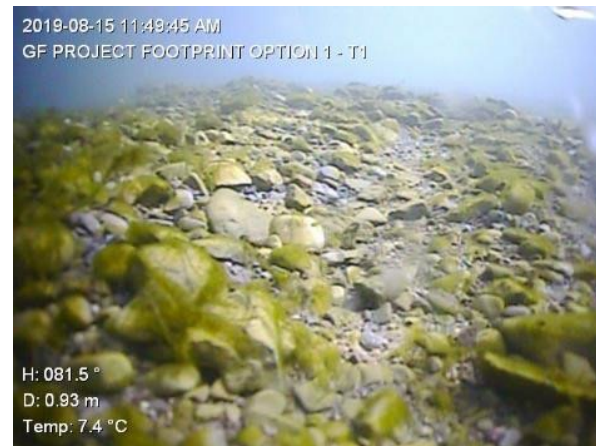


Photo B-4: Subtidal Transects Overview and Quadrats (2019)

Transect 1 – Photo 1 (filamentous green algae)



Transect 1 – Photo 2



Transect 1 – Photo 3



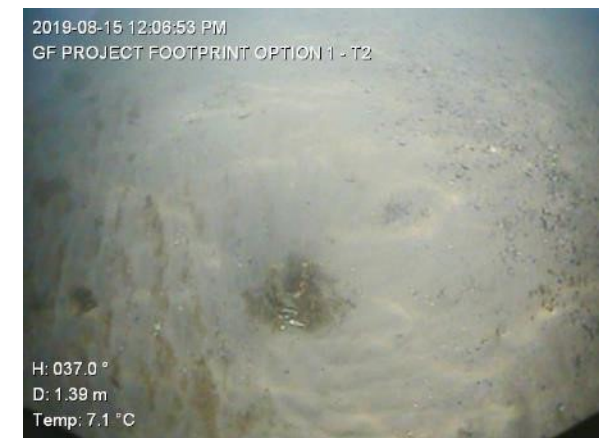
Transect 1 – Photo 4



Transect 2 – Photo 1 (Clam siphons)



Transect 2 – Photo 2



Transect 2 – Photo 3 (Rockweed)



Transect 2 – Photo 4



Transect 3 – Photo 1 (Rockweed)



Transect 3 – Photo 2 (Anthropogenic)



Transect 3 – Photo 3



Transect 3 – Photo 4



Transect 4 – Photo 1 (Rockweed)



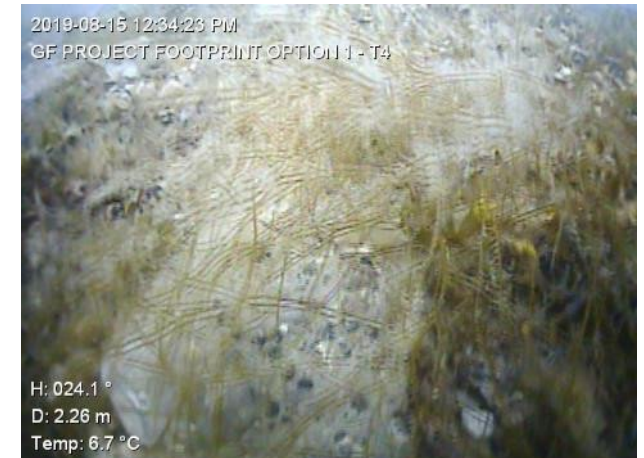
Transect 4 – Photo 2 (filamentous diatoms)



Transect 4 – Photo 3 (Kelp)



Transect 4 – Photo 4 (Branching brown algae)



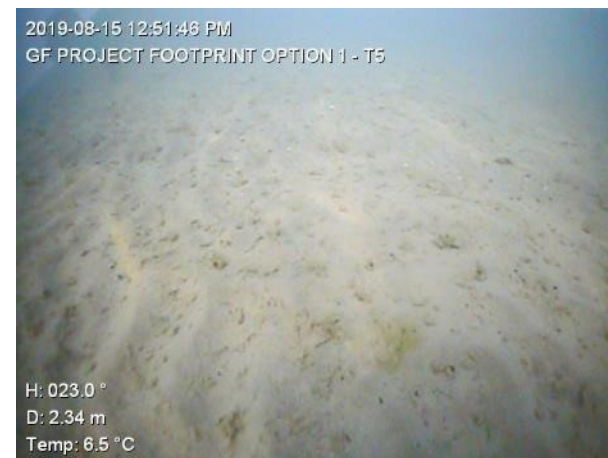
Transect 5 – Photo 1 (Rockweed)



Transect 5 – Photo 2



Transect 5 – Photo 3



Transect 5 – Photo 4



Transect 6 – Photo 1



Transect 6 – Photo 2



Transect 6 – Photo 3



Transect 7 – Photo 1



Transect 7 – Photo 2



Transect 7 – Photo 3



Transect 7 – Photo 4



Transect 8 – Photo 1



Transect 8 – Photo 2



Transect 8 – Photo 3



Transect 8 – Photo 4



Appendix C: Supporting Tables (Desktop)



Table C-1: List of Designated Areas in Nunavut

ID	Name		
1	Lower Estuary	83	De Salis Bay
8	Western Anticosti Island	84	Horton River
15	Outer Shelf Nain Bank	85	Western Banks Island
16	Outer Shelf Saglek Bank	86	Cape Bathurst / Ballie Island
45	Northern Labrador	87	Cape Bathurst Polynya
46	Nain Area	88	Darnley Bay Nearshore Migration and Feeding Corridor
52	Southwestern Hudson Bay Estuaries	159	Arctic Basin Multi-Year Pack Ice
53	Repulse Bay / Frozen Strait	160	Hopedale Saddle
54	Southampton Island	161	Lancaster Sound
55	Western Hudson Strait	162	Admiralty Inlet
56	Ungava Bay	163	Prince Leopold Island
57	Eastern Hudson Strait	164	Creswell Bay
58	James Bay	165	Bellot Strait
59	Belcher Islands	166	Cunningham Inlet
60	Norwegian Bay	167	Scott Inlet
61	Ellesmere Island Ice Shelves	168	Isabella Bay
62	Nansen-Eureka-Greely Fjord	169	Cape Searle
63	Archipelago Multi-Year Pack Ice	170	Eastern Cumberland Sound
64	Princess Maria Bay	171	Clearwater Fiord
65	Western Hudson Bay Coastline	172	Eclipse Sound / Navy Board Inlet
66	Rowley Island	173	Prince Regent Inlet
67	Igloolik Island	174	Gulf of Boothia
68	Fury and Hecla Strait	175	Peel Sound
69	Eastern Hudson Bay Coastline	176	Penny Strait
70	King William Island	177	Hatton Basin-Labrador Sea-Davis Strait
71	Diamond Jenness	178	Baffin Bay Shelf Break
72	Southern Victoria Island Coastline	179	Northern Baffin Bay
73	Lambert Channel	180	North Water Polynya
74	Viscount Melville Sound	181	Eastern Jones Sound
75	Chantrey Inlet	182	Resolute Passage
76	Bathurst Inlet	183	Cardigan Strait / Hell Gate

ID	Name		
77	Queen Maud Gulf Coastline	184	Southern Baffin Bay
78	Beaufort Shelf Break and Slope	185	Kugmallit Canyon
82	Southern Amundsen Gulf	186	Liverpool Bay

Table C-2: Species Specific observations of Benthic Amphipods in Nunavut (June 1996 to May 2001)

Latin Name	Site
Acanthonotozoma serratum	Upper Frobisher Bay
Aceroides latipes	
Ampelisca eschrichti	
Andaniella pectinate	
Anonyx debruyni	
Anonyx nugax	
Arrhinopsis longicornis	
Byplis gaimardi	
Caprella dubia	
Dulichia porrecta	
Erichthonius tolli	
Guernea nordenskioldi	
Haliragen megalops	
Haploops tubicola	
Harpinia serrata	
Hippomedon sp.	
Ischyrocerus megalops	
Melita dentata	
Metopa cariana	



Latin Name	Site
Metopa groenlandica	Upper Frobisher Bay
Monuculodes latinamus	
Monoculodes longirostris	
Monoculodes simplex	
Odius carinatus	
Orchomene groenlandica	
Orchomene minuta	
Orchomene serrata	
Paradulichia typica	
Paraleustes bicuspis	
Paroedicerus lynceus	
Phoxocephalus holbolli	
Pleustes media	
Pontoporeia affinis	
Rhachotropis inflata	
Socarnes sp.	
Syrrhoe crenulate	
Tryphosella schneideri	
Unciola leucopis	
Westwoodilla megalops	
Themisto abyssorum	Hudson Strait, Frobisher Bay
Themisto compressum	
Themisto libellula	Hudson Strait, Frobisher Bay, Coats Island
Multiple unnamed amphipod species	Lancaster Sound, Jones Sound, Arctic Bay, Scott Inlet
Calliopus laeviusculus	Belcher Island, Lower Hudson Bay

Latin Name	Site
Ischyrocerus anguipes	
Pontogeneia inermis	
Pseudalibrotus litoralis	
Caprella Spp.	
Weyprechtia pinguis,	Barrow Strait, Resolute
Onisimus litoralis	
Gammarus setosus	
<i>Onisimus</i> spp. Juveniles	
Ischyrocerus anguipes	Chesterfield Inlet, northwest of Hudson Bay
Pontogeneia inermis	
Apherusa megalops	
Weyprechtia pinguis	

Source: Devine *et al.* (2019); Estrada *et al.* (2012); Gaston and Elliott (2014); Pike and Welch (1990); Siferd *et al.* (1997); Wacasey *et al.* (1980)

Table C-3: List of Birds, their Federal and Territorial statuses, their preferred Foraging Strategy, and Potential to Nest (based on season-use) within or near the Project Study Area

Common Name	Scientific Name	COSEWIC Status	SARA Status	Territorial Status	Foraging Location	Period of Use	Nesting Resource Requirements	Nesting Likelihood
American golden plover	<i>Pluvialis dominica</i>	Not assessed	Not listed	S3	Shoreline	Breeding and Migration	Elevated on sparse, low vegetation, well-drained rocky slopes	Not Likely
American pipit	<i>Anthus rubescens</i>	Not assessed	Not listed	SU	Ground forager	Breeding and Migration	Mesic vegetation along streams, grassy meadows, and dry, dwarf shrub matts	Not Likely
Arctic tern	<i>Sterna paradisaea</i>	Not assessed	Not listed	S4	Nearshore	Breeding and Migration	Open country, close to water, no vegetation or low and sparse cover; rocky, gravelly islands, barrier beaches and spits, gravel moraines	Likely
Atlantic puffin	<i>Fratercula arctica</i>	Not assessed	Not listed	S3	Offshore	Breeding, Migration, and Overwinter	Burrows on rocky islands with short vegetation and on sea cliffs	Not Likely
Baird's sandpiper	<i>Calidris bairdii</i>	Not assessed	Not listed	S5	Shoreline	Breeding and Migration	Dry, well-drained coastal and upland exposed tundra. Beach ridges, terrace banks, bare soil with sparse vegetation	Likely
Black guillemot	<i>Cephus grylle</i>	Not assessed	Not listed	S5	Nearshore	Breeding, Migration, and Overwinter	Colonies on rocky marine coasts of off-shore islands near shallow water	Not Likely
Black-bellied plover	<i>Pluvialis squatarola</i>	Not assessed	Not listed	S3	Shoreline	Breeding and Migration	Lowlands in coastal areas and on open, dry, heath tundra, dwarf shrub meadows, and dry exposed ridges, river banks, and beaches	Low
Black-legged kittiwake	<i>Rissa tridactyla</i>	Not assessed	Not listed	S5	Nearshore	Breeding and Migration	Colonies on cliff ledges of off-shore islands or inaccessible mainland	Not Likely
Brant	<i>Branta bernicla</i>	Not assessed	Not listed	S5	Coastal flats	Breeding and Migration	Colonial near salt marshes, estuaries, and deltas	Not Likely
Buff-breasted sandpiper	<i>Tryngites subruficollis</i>	Special Concern	Special Concern	S3	Ground forager	Breeding and Migration	Dry grassy tundra, shorelines, and rarely mudflats	Low
Cackling goose	<i>Branta hutchinsii</i>	Not assessed	Not listed	S5	Ground forager	Breeding and Migration	Variety of low Arctic regions with open view and adjacent to permanent freshwater (ponds, lakes, streams, marshes, and muskeg)	Not Likely
Canada goose	<i>Branta canadensis</i>	Not assessed	Not listed	S5	Grassy flats	Breeding and Migration	Broad range of habitats but often adjacent to freshwater	Not Likely
Common eider	<i>Somateria mollissima</i>	Not assessed	Not listed	S3	Nearshore	Breeding, Migration, Overwinter	Local colonies along marine coasts, islands, and islets	Not Likely
Common loon	<i>Gavia immer</i>	Not at Risk	Not listed	S5	Marine coast	Breeding and Migration	Large lakes	Not Likely
Common raven	<i>Corvus corax</i>	Not assessed	Not listed	S5	Ground forager	Breeding and Overwinter	Habitat generalist; often on cliffs, trees, and human structures	Likely
Common redpoll	<i>Acanthis flammea</i>	Not assessed	Not listed	SU	Foliage gleaner	Breeding and Migration	Dry, rocky or damp substrates on dry heaths or rocky slopes	Not Likely
Dovekie	<i>Alle alle</i>	Not assessed	Not listed	S3	Offshore	Breeding, Migration, and Overwinter	Colonies on rocky marine coasts and cliffs	Not Likely
Glaucous gull	<i>Larus hyperboreus</i>	Not assessed	Not listed	S4	Nearshore	Breeding and Migration	Often in mixed colonies on marine and freshwater coasts, tundra, islands, cliffs, shorelines, and ice edges	Not Likely
Gyr Falcon	<i>Falco rusticolus</i>	Not at Risk	Not listed	S4	Open terrain	Breeding and Migration	Rocky outcrops, cliffs, and seacoasts	Moderate
Hoary redpoll	<i>Acanthis hornemanni</i>	Not assessed	Not listed	S3	Foliage gleaner	Breeding and Migration	Similar to common redpoll, but near dwarf or creeping shrubs	Likely
Horned lark	<i>Eremophila alpestris</i>	Not assessed	Not listed	SU	Ground forager	Breeding and Migration	Open habitat on bare ground or short grasses	Low
Iceland gull	<i>Larus glaucoides</i>	Not assessed	Not listed	S5	Nearshore	Migration	Colonies on rocky cliffs and fjords	Not Likely
Ivory gull	<i>Pagophila eburnea</i>	Endangered	Endangered	S1	Nearshore	Breeding, Migration, and Overwinter	Rocky islands and cliffs near pack ice	Not Likely

Common Name	Scientific Name	COSEWIC Status	SARA Status	Territorial Status	Foraging Location	Period of Use	Nesting Resource Requirements	Nesting Likelihood
King eider	<i>Somateria spectabilis</i>	Not assessed	Not listed	S3	Nearshore	Breeding, Migration, Overwinter	Variety of tundra habitats, but often on dry and well-drained in vegetation adjacent to freshwater	Not Likely
Lapland longspur	<i>Calcarius lapponicus</i>	Not assessed	Not listed	S5	Ground forager	Breeding and Migration	Wet, hummocky meadows; avoids rocky and bare terrain	Low
Long-tailed duck	<i>Clangula hyemalis</i>	Not assessed	Not listed	S4	Nearshore	Breeding, Migration, Overwinter	Wetlands or offshore islands with freshwater	Not Likely
Long-tailed jaeger	<i>Stercorarius longicaudus</i>	Not assessed	Not listed	S5	Offshore	Migration and Overwinter	Tundra far from sea	Not Likely
Northern fulmar	<i>Fulmarus glacialis</i>	Not assessed	Not listed	S5	Offshore	Breeding, Migration, Overwinter	Steep sea-cliffs	Not Likely
Northern wheatear	<i>Oenanthe oenanthe</i>	Not assessed	Not listed	SU	Ground forager	Breeding and Migration	Dry, elevated rubble, rocky fields, stony hilltops, and precipices of rocky coasts	Likely
Pacific loon	<i>Gavia pacifica</i>	Not assessed	Not listed	SU	Marine coast	Breeding and Migration	Freshwater lakes	Not Likely
Parasitic jaeger	<i>Stercorarius parasiticus</i>	Not assessed	Not listed	S4S5	Offshore	Migration and Overwinter	Pelagic bird that nests on low-lying marshy tundra and dry, tussock-heath	Not Likely
Pectoral sandpiper	<i>Calidris melanotos</i>	Not assessed	Not listed	S4	Shoreline	Breeding and Migration	Flat, marshy tundra dominated by sedges and grasses	Low
Peregrine falcon	<i>Falco peregrinus</i>	Not at Risk	Special Concern	S4	Open terrain	Breeding and Migration	Open landscapes with cliffs or tall human-made structures	Moderate
Pomarine jaeger	<i>Stercorarius pomarinus</i>	Not assessed	Not listed	S5	Offshore	Migration and Overwinter	Pelagic bird that nests irregularly in low-lying marshy tundra near small lakes	Not Likely
Purple sandpiper	<i>Calidris maritima</i>	Not assessed	Not listed	S3	Shoreline	Breeding and Migration	Inland on mossy tundra, heath, and moorlands but also low tundra near shores on gravel-sand beaches along rivers	Low
Red knot	<i>Calidris canutus</i>	Endangered	Endangered	S2	Shoreline	Breeding and Migration	Sparsely vegetated, dry, elevated tundra on ridges or slopes with low shrub cover	Likely
Red phalarope	<i>Phalaropus fulicarius</i>	Not assessed	Not listed	S4	Nearshore	Breeding and Migration	Coastal, poorly-drained, hummocky, level terrain on tundra dominated by sedges	Low
Red-breasted merganser	<i>Mergus serrator</i>	Not assessed	Not listed	S5	Pursuit Diver	Breeding and Migration	Coastal near fresh, brackish or saltwater wetlands in sheltered bays	Not Likely
Red-necked phalarope	<i>Phalaropus lobatus</i>	Special Concern	Special Concern	S3	Nearshore	Breeding and Migration	Mossy hummocks and sedges close to standing water	Low
Red-throated loon	<i>Gavia stellata</i>	Not assessed	Not listed	S4	Marine coast	Breeding and Migration	Wetlands and larger ponds, lakes	Not Likely
Rock ptarmigan	<i>Lagopus muta</i>	Not assessed	Not listed	S5	Ground forager	Breeding and Overwinter	Well-drained, hummocky tundra with rocky ridges; outcrops and mixed vegetation	Moderate
Ross's gull	<i>Rhodostethia rosea</i>	Threatened	Threatened	S1	Nearshore	Breeding and Migration	Moist tundra and deltas with dwarf shrubs	Not Likely
Rough-legged hawk	<i>Buteo lagopus</i>	Not at Risk	Not listed	SU	Rolling, open terrain	Breeding and Migration	Open tundra including rocky outcrops, escarpments, and cliffs	Moderate
Ruddy turnstone	<i>Arenaria interpres</i>	Not assessed	Not listed	S3	Shoreline	Breeding and Migration	Marshy slopes and flats near freshwater (marshes, streams, ponds) or tidal flats and beaches	Moderate
Sabine's gull	<i>Xema sabini</i>	Not assessed	Not listed	S4S5	Nearshore	Breeding and Migration	Moist tundra near fresh water (ponds and lakes), low-lying sea coasts and coastal islands	Not Likely
Sanderling	<i>Calidris alba</i>	Not assessed	Not listed	S3	Shoreline	Breeding and Migration	Islands, peninsulas, and coastal tundra with well-vegetated moist to well-drained slopes, ridges, and alluvial plains	Moderate

Common Name	Scientific Name	COSEWIC Status	SARA Status	Territorial Status	Foraging Location	Period of Use	Nesting Resource Requirements	Nesting Likelihood
Sandhill crane	<i>Grus canadensis</i>	Not assessed	Not listed	S5	Ground forager	Breeding and Migration	Eskers dominated by lichens	Not Likely
Snow bunting	<i>Plectrophenax nivalis</i>	Not assessed	Not listed	S3	Ground forager	Breeding and Migration	Rocky areas and boulder scree near vegetated tundra	Likely
Snow goose	<i>Chen caerulescens</i>	Not assessed	Not listed	S5	Coastal flats	Breeding and Migration	Colonial near freshwater (ponds, lakes, streams, and braided deltas) often in wet meadows but also undulating terrain, exposed slopes, or cliff edges	Not Likely
Snowy owl	<i>Bubo scandiacus</i>	Not assessed	Not listed	S4	Rolling, open terrain	Breeding and Migration	Variety of tundra environments on distinct promontories	Not Likely
Thayer's gull	<i>Larus thayeri</i>	Not assessed	Not listed	S4S5	Marine coast	Breeding and Migration	Colonies on steep cliffs	Not Likely
Thick-billed murre	<i>Uria lomvia</i>	Not assessed	Not listed	S5	Offshore	Breeding, Migration, and Overwinter	Large colonies on cliff ledges near deep, offshore waters and land fast ice	Not Likely
Tundra swan	<i>Cygnus columbianus</i>	Not assessed	Not listed	S5	Coastal flats	Migration	Tundra lakes, ponds, and coastal deltas	Not Likely
White-rumped sandpiper	<i>Calidris fuscicollis</i>	Not assessed	Not listed	S5	Shoreline	Breeding and Migration	Well-vegetated, wet-meadows and low-lying areas near water	Not Likely
Willow ptarmigan	<i>Lagopus lagopus</i>	Not assessed	Not listed	S5	Foliage gleaner	Breeding and Overwinter	Abundant shrubby vegetation, flat terrain, and moist areas	Not Likely
Yellow-billed loon	<i>Gavia adamsii</i>	Not at Risk	Not listed	S4	Marine coast	Breeding and Migration	Near water on ground, partially hidden in tundra vegetation	Not Likely

- Notes:
- Sources: (LePage *et al.*, 1998; Mallory & Fontaine, 2004; Cornell Lab of Ornithology, 2015; CESSC, 2016; Cornell Lab of Ornithology, 2019; Government of Canada, 2019q).
 - Likelihood of nesting within HRQ and Community Harbour Study Area was based upon a qualitative assessment of results of the ecological land classification and habitat assessment and potential for the habitat to provide suitable nesting requirements. Similarly, other factors such as breeding range, location of known colonies, etc. were incorporated. Likely: the Study Area is located within the breeding range and the majority of available habitat provides preferred or suitable nesting habitat; Moderate: the Study Area is located within the breeding range and some of the available habitat may provide suitable nesting habitat; Low: the Study Area is located within the breeding range and some of the available habitat may provide marginal nesting habitat; Not Likely: the Study Area is located outside of the breeding range or outside of known colonies (or the species is colonial and such a colony would likely be known to locals given its proximity to the Hamlet), and available habitat is generally not suitable for nesting.

Territorial Rank Descriptions	
SX	Presumed Extirpated
SH	Possibly Extirpated
S1	Critically Imperiled
S2	Imperiled
S3	Vulnerable
S4	Apparently Secure
S5	Secure
SU	Unrankable
SNR	Unranked
SNA	Not Applicable