



State of Washington  
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: PO Box 43200, Olympia, WA 98504-3200 · 360 902-2200 · TDD 360 902-2207  
Main Office Location: Natural Resources Building, 1111 Washington Street, Olympia, WA

To: Chelsea Morris (ECY-SAM Representative)  
From: Danielle Nordstrom (WDFW Representative)  
Subject: Deliverable 2b for IAA C2100086

As per the interagency agreement (IAA) No. C2100086, deliverable 2b is complete. Attached you will find the map of confirmed 2023-2024 SAM Mussel Monitoring survey sites and a list (Excel file) of site names and coordinates for confirmed and rejected sites. WDFW field staff conducted an evaluation of 49 sites and confirmed 33 sites with suitable locations to anchor a mussel cage. Original target coordinates were evaluated and, in some cases, adjusted within the limits of the nearshore beach segment length in order to optimize cage placement for better anchorage, safer access for volunteers, and to accommodate site access permissions. Sixteen sites were rejected, including five new sites in the 0-10% impervious surface stratum, six in the 10-20%, four in the 20 – 40%, and one in the 40 – 100%. Sites were rejected for inability to gain site access permission, presence of dangerous sampling conditions, or high energy conditions at the site risking loss of cage during winter storms. Please see attached site list for details on each site evaluated.

Thank you,

Danielle Nordstrom

Fish and Wildlife Biologist

Washington Department of Fish and Wildlife

Danielle.Nordstrom@dfw.wa.gov

Attachments:

SAM2023-24Mussels\_Deliverable2B\_SiteList.xlsx

SAM2023-24Mussels\_Deliverable2B\_MapConfirmedSites.jpg



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Main Office Location: Natural Resources Building, 1111 Washington Street, Olympia, WA

To: Chelsea Morris (ECY-SAM Representative)  
From: Danielle Nordstrom (WDFW Representative)  
Subject: Deliverable 2b for IAA C2100086, Version 2

As per the interagency agreement (IAA) No. C2100086, deliverable 2b is complete. Attached you will find the map of confirmed 2023-2024 SAM Mussel Monitoring survey sites and a list (Excel file) of site names and coordinates for confirmed and rejected sites. WDFW field staff conducted an evaluation of 49 sites and confirmed 35 sites with suitable locations to anchor a mussel cage. Original target coordinates were evaluated and, in some cases, adjusted within the limits of the nearshore beach segment length in order to optimize cage placement for better anchorage, safer access for volunteers, and to accommodate site access permissions. Fourteen sites were rejected, including five new sites in the 0-10% impervious surface stratum, five in the 10-20%, three in the 20 – 40%, and one in the 40 – 100%. Sites were rejected for inability to gain site access permission, presence of dangerous sampling conditions, or high energy conditions at the site risking loss of cage during winter storms. Due to last minute permissions being gained, WDFW confirmed two additional locations that were over and above the agreed upon 33 sites. These two sites, one within the 10-20% stratum, and one within the 20-40% stratum, will be used and the alternates within their stratum will be utilized in the event that a cage is lost. Please see attached site list for details on each site evaluated.

Thank you,

Danielle Nordstrom

Fish and Wildlife Biologist

Washington Department of Fish and Wildlife

Danielle.Nordstrom@dfw.wa.gov

Attachments:

SAM2023-24Mussels\_Deliverable2B\_SiteList\_V2.xlsx

SAM2023-24Mussels\_Deliverable2B\_MapConfirmedSites\_V2.pdf

SITE_ID	SITE_ID_2	SITE_NAME	COUNTY	CITY_NM	Target LAT_DD	Target LON_DD	New LAT	New LON	Stratum	Evaluated (Y/N)	Site Comments	Confirmed_Rejected
ShorelineWA-5471	SAM-1045	Paradise Bay	Jefferson	Port Ludlow	47.91769662	-122.7035644			New_[0,10]	Y	Too muddy, unsafe	Rejected
ShorelineWA-5861	SAM-1046	Burton, Vashon	King	Vashon Island	47.39477362	-122.4538865	47.394985	-122.453278	New_[0,10]	Y	New coordinates for access permission	Confirmed
ShorelineWA-5761	SAM-1047	Swin Channel	Skagit	Mt. Vernon	48.44752838	-122.5100739			New_[0,10]	Y	Could not obtain access	Rejected
ShorelineWA-0412	SAM-1048	Perserverance Point	San Juan	Orcas	48.60677107	-122.9778643			New_[0,10]	Y	Could not obtain access within 400m	Rejected
ShorelineWA-1814	SAM-1049	Squamish Harbor	Jefferson	Port Ludlow	47.84649103	-122.6851045			New_[0,10]	Y		Confirmed
ShorelineWA-1850	SAM-1050	Blaisdell Ln	Kitsap	Port Orchard	47.56941768	-122.5844414	47.570419	-122.583621	New_[0,10]	Y	New coordinates for access permission	Confirmed
ShorelineWA-3803	SAM-1051	Livingston Bay	Island	Camano	48.22564545	-122.4521585			New_[0,10]	Y		Confirmed
ShorelineWA-3356	SAM-1052	S East Sound	San Juan	Orcas	48.62827731	-122.8790502			New_[0,10]	Y	Cannot gain access	Rejected
ShorelineWA-3039	SAM-1053	Dewatto Bay	Mason	Tahuya	47.45362788	-123.0513843			New_[0,10]	Y		Confirmed
ShorelineWA-0682	SAM-1114	Command Point	Kitsap	Olalla	47.45472168	-122.5326764			Alt-New_[0,10]#1	Y	Cannot gain access	Rejected
ShorelineWA-0204	SAM-1116	Woodside Farm	San Juan	Orcas	48.61389949	-122.8068101	48.61271	-122.805603	Alt-New_[0,10]#2	Y	New coordinates for access permission	Confirmed
ShorelineWA-5964	SAM-1117	N Shore Belfair	Mason	Belfair	47.40231088	-122.9509541	47.402693	-122.949881	Alt-New_[0,10]#3	Y	New coordinates for access permission and sa	Confirmed
ShorelineWA-2266, SPS_MB	SAM-1118	Minter Bay	Pierce	Gig Harbor	47.36254427	-122.6941664			Alt-New_[0,10] #4	Y		Confirmed
ShorelineWA-3304	SAM-1119	Fishing Bay E (Indralaya)	San Juan	Orcas	48.68263338	-122.9170069	48.683763	-122.919635	Alt-New_[0,10] #5	Y	New coordinates for sheltered location and er	Confirmed
ShorelineWA-3770	SAM-1319	Rolling Bay	Kitsap	Bainbridge	47.67039507	-122.5086222			New_(10,20)	Y	High bank area, no access	Rejected
ShorelineWA-4195	SAM-1320	Lemolo Shore Dr	Kitsap	Poulsbo	47.70775939	-122.6084161	47.706457	-122.606489	New_(10,20)	Y	New coordinates for access permission	Confirmed
ShorelineWA-1195	SAM-1321	Blowers Bluff	Island	Oak Harbor	48.24817986	-122.6553621			New_(10,20)	Y	High bank area, no access	Rejected
ShorelineWA-4907	SAM-1322	Nisqually Head	Thurston	Olympia	47.10239141	-122.7313137	47.101242	-122.727109	New_(10,20)	Y	New coordinates for shorter walk due to exte	Confirmed
ShorelineWA-3134	SAM-1323	The Highlands	King	Shoreline	47.73764311	-122.3758372			New_(10,20)	Y	2 mile hike to beach, then 2 mile hike to site -	Rejected
ShorelineWA-2662	SAM-1324	Driftwood Key Club	Kitsap	Hansville	47.90762883	-122.589414			New_(10,20)	Y		Confirmed
ShorelineWA-2300	SAM-1325	Birch Bay South	Whatcom	Blaine	48.90521125	-122.7689005			New_(10,20)	Y		Confirmed
ShorelineWA-5323	SAM-1326	Pt Defiance West	Pierce	Tacoma	47.3147915	-122.5463172			New_(10,20)	Y	No access unless by boat, sloughing cliff	Rejected
ShorelineWA-2966	SAM-1327	King Spit, Bangor	Kitsap	Silverdale	47.71869241	-122.7483058			New_(10,20)	Y		Confirmed
ShorelineWA-5648	SAM-1388	Foulweather Bluff	Kitsap	Hansville	47.92045343	-122.5965218			Alt-New_(10,20)#1	Y		Confirmed
ShorelineWA-2812	SAM-1389	Birch Bay Mid	Whatcom	Blaine	48.92083408	-122.745507	48.920117	-122.750226	Alt-New_(10,20)#2	Y	New coordinates avoid sinking mud	Confirmed
ShorelineWA-2337	SAM-1390	Pt Defiance West #2	Pierce	Tacoma	47.30675707	-122.5376787			Alt-New_(10,20)#3	Y	High bank area, no access	Rejected
ShorelineWA-3990	SAM-1391	Sealion Rd, Bangor	Kitsap	Silverdale	47.72351223	-122.7447727			Alt-New_(10,20)#4	Y	Obtained access late October	Confirmed
ShorelineWA-4799	SAM-1392	Roche Harbor	San Juan	Friday Harbor	48.60973732	-123.1509472	48.61124	-123.151088	Alt-New_(10,20)#5	Y	New coordinates avoid boats within 100m	Confirmed
ShorelineWA-5774, NPS_CPAR4	SAM-1393	Cherry Point Aq Res	Whatcom	Bellingham	48.81961529	-122.7093733			Alt-New_(10,20)#6	Y		Confirmed
ShorelineWA-0517	SAM-1593	Poverty Bay S	King	Federal Way	47.33703484	-122.3575065	47.337058	-122.357321	New_(20,40)	Y	New coordinates for access permission	Confirmed
ShorelineWA-0052	SAM-1594	Ediz Hook	Clallam	Port Angeles	48.14172628	-123.4099875			New_(20,40)	Y	Cage near there lost in 2016, very high energy	Rejected
ShorelineWA-1334	SAM-1595	Irondale Beach	Jefferson	Irondale	48.04089184	-122.765634			New_(20,40)	Y		Confirmed
ShorelineWA-3194	SAM-1596	Orchard Point	Kitsap	Port Orchard	47.567238	-122.5369877			New_(20,40)	Y	Obtained access late October	Confirmed
ShorelineWA-3873	SAM-1597	Narrows Airport	Pierce	Tacoma	47.26013785	-122.5724969	47.261389	-122.57035	New_(20,40)	Y	New coordinates for shorter walk and to avoi	Confirmed
ShorelineWA-1340	SAM-1598	WA Harbor	Clallam	Sequim	48.08489721	-123.050925			New_(20,40)	Y	Could not obtain access	Rejected
ShorelineWA-2862	SAM-1599	Big Gulch S.	Snohomish	Mukilteo	47.90011344	-122.3263783	47.903636	-122.325222	New_(20,40)	Y	New coordinates for access permission and sr	Confirmed
ShorelineWA-1626	SAM-1600	Oyster Bay W	Kitsap	Bremerton	47.5742219	-122.6801428	47.57387	-122.680456	New_(20,40)	Y	New coordinates for access permission	Confirmed
ShorelineWA-2465	SAM-1601	N of Browns Point	Pierce	Tacoma	47.3065036	-122.4384802	47.306369	-122.44262	New_(20,40)	Y	New coordinates for permission and ease of a	Confirmed
ShorelineWA-5694	SAM-1662	WA Harbor 2	Clallam	Sequim	48.08295966	-123.0533168			Alt-New_(20,40)#1	Y	Could not obtain access	Rejected
ShorelineWA-1009	SAM-1665	Dash Point Beach	King	Federal Way	47.32024283	-122.4143828			Alt-New_(20,40)#2	Y		Confirmed
ShorelineWA-3559	SAM-1666	Forbes Point	Island	Oak Harbor	48.27002736	-122.6240015			Alt-New_(20,40) #3	Y		Confirmed
ShorelineWA-0750	SAM-1667	Shell Creek	Snohomish	Edmonds	47.82323063	-122.3720255	47.820509	-122.37525	Alt-New_(20,40) #4	Y	New coordinates to avoid crossing railroad tr	Confirmed
ShorelineWA-2563	SAM-1865	Shorewood Ln	King	Burien	47.49161175	-122.3671537	47.491513	-122.366945	New_(40,100)	Y	New coordinates for access permission	Confirmed
ShorelineWA-1214	SAM-1866	Carkeek Park S.	King	Silverdale	47.70828782	-122.3806152			New_(40,100)	Y		Confirmed
ShorelineWA-0581	SAM-1867	Blair WW mid	Pierce	Tacoma	47.26798093	-122.3942337	47.267678	-122.393922	New_(40,100)	Y	New coordinates for safer deployment	Confirmed
ShorelineWA-5566	SAM-1868	Terminal 18 Park	King	Seattle	47.57311342	-122.3547871			New_(40,100)	Y		Confirmed
ShorelineWA-1767, WB_OH	SAM-1869	Windjammer	Island	Oak Harbor	48.28306374	-122.6571571	48.281112	-122.659669	New_(40,100)	Y	New coordinates for sturdier substrate	Confirmed
ShorelineWA-3934	SAM-1870	Everett Marina	Snohomish	Everett	48.00327895	-122.2201523			New_(40,100)	Y	Inside a marina, not eligible for SAM	Rejected
ShorelineWA-1283	SAM-1912	DU West Waterway	King	Seattle	47.58181451	-122.3578812	47.581372	-122.357984	Alt-New_(40,100)#1	Y	New coordinates for safer deployment	Confirmed
	WB_PCR	Penn Cove Reference	Island	Coupeville	48.21423	-122.718972						Confirmed
	HC_HO	Hood Canal Holly	Kitsap	Holly	47.5706	-122.9717						Confirmed
	HC_BS	Broad Spit	Kitsap	Quilcene Bay	47.80934	-122.81556						Confirmed
Alternates evaluated but not needed												
ShorelineWA-2376	SAM-1120	Bell Point Trail	San Juan	Friday Harbor	48.59218558	-123.156898			Alt-New_[0,10] #6	Y		Confirmed
ShorelineWA-0138	SAM-1913	Old Mill Park	Kitsap	Silverdale	47.64881583	-122.690514			Alt-New_[40,100]#2	Y		Confirmed

