

University of Washington

Supplemental Material

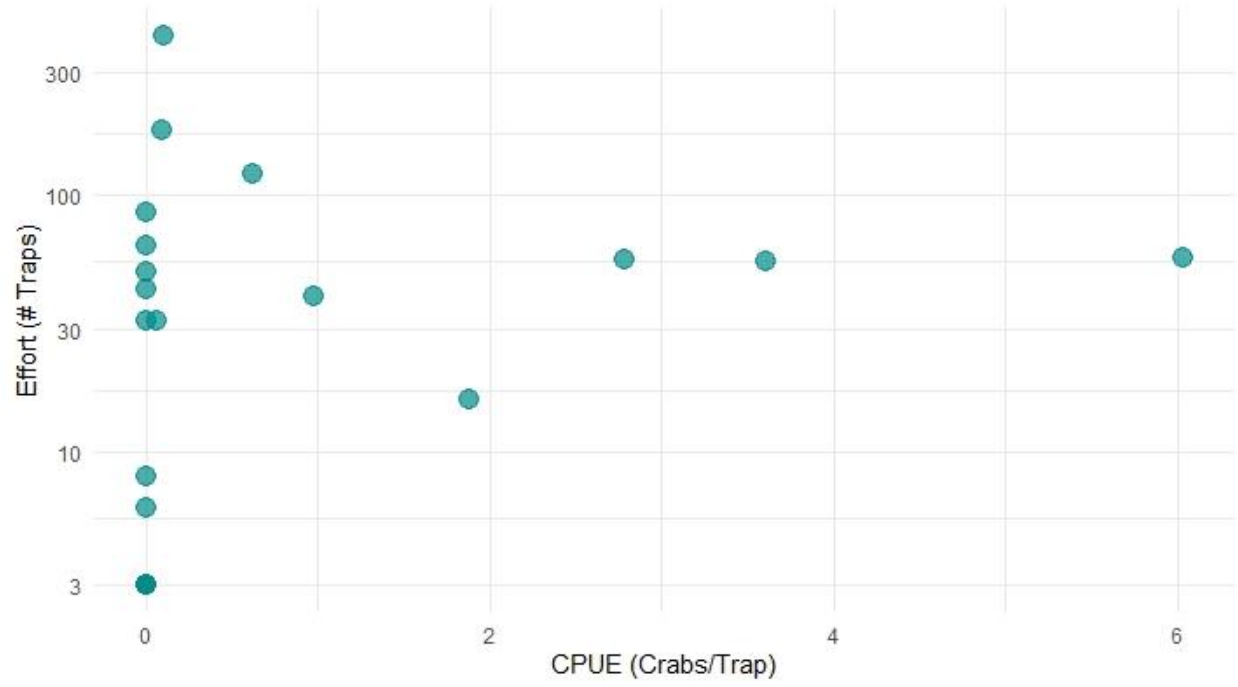
Finding the Practical Value of Environmental DNA Data: A Case Study with Invasive European
Green Crab

Abigail Keller

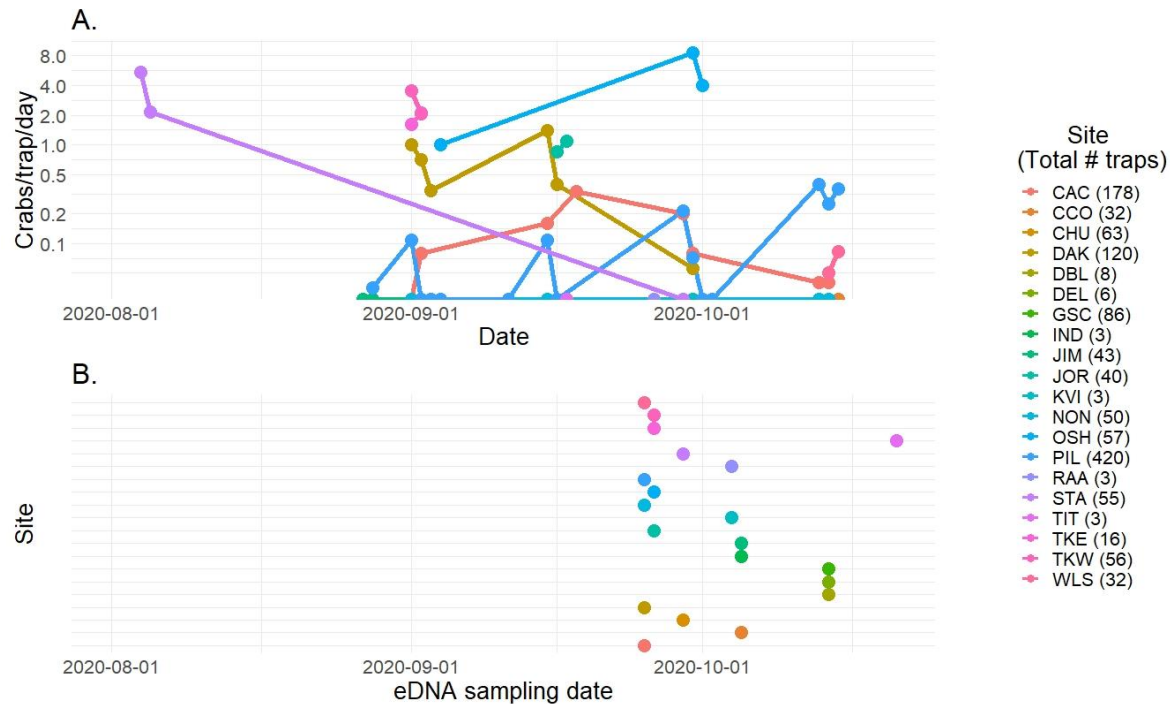
Chair of the Supervisory Committee:

Ryan Kelly

School of Marine and Environmental Affairs



Supplemental Figure 1: Depiction of trapping effort and green crab abundance from 20 sampled sites over selected sampling period.



Supplemental Figure 2: A. Number of crabs trapped per trap, per day at each of 20 sites over the designated sampling period. (Note: The 2020-09-29 date at the STA site represents only 3 traps). B. Date of eDNA sampling during sampling period.

Supplemental Table 1: Quantitative PCR (qPCR) results of sampled sites. Five water samples were collected for 20 sites with trap data, and four water samples were collected for 7 sites with pseudo-trap data (Skagit Bay region). Latitude and longitude are included for each site. DNA extracted from each water sample underwent three qPCR replicates, and the Ct is recorded for each replicate. Ct shift indicates the difference in Ct between the eDNA sample spiked with a positive control and the average of three positive controls.

Site (ID)	Region	Latitude	Longitude	Replicate 1	Replicate 2	Replicate 3	Ct Shift
Chuckanut Creek (CHU)	Bellingham Bay	48.69919	-122.49613	No Ct	No Ct	No Ct	-0.36
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
California Creek (CAC)	Drayton Harbor	48.961843	-122.49613	No Ct	No Ct	No Ct	0.05
				No Ct	37.05	No Ct	N/A
				No Ct	No Ct	No Ct	0.82
				No Ct	No Ct	No Ct	-1.31
				No Ct	No Ct	No Ct	

				No Ct	No Ct	No Ct	-0.91
Dakota Creek (DAK)	Drayton Harbor	48.97244	-122.72922	No Ct	No Ct	No Ct	1.00
				No Ct	No Ct	No Ct	1.34
				No Ct	No Ct	37.73	N/A
				No Ct	No Ct	No Ct	-0.04
				No Ct	No Ct	No Ct	-0.30
Noname Creek (NON)	Drayton Harbor	48.96821	-122.73333	No Ct	No Ct	No Ct	0.25
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
Pillars (PIL)	Drayton Harbor	48.989081	-122.754815	No Ct	No Ct	No Ct	0.24
				No Ct	No Ct	No Ct	0.21
				No Ct	No Ct	No Ct	0.70
				No Ct	No Ct	No Ct	1.27
				No Ct	No Ct	36.11	N/A
Wilseis (WLS)	Drayton Harbor	48.989081	-122.754815	No Ct	No Ct	No Ct	0.11
				No Ct	No Ct	No Ct	0.93
				No Ct	No Ct	No Ct	0.92
				No Ct	No Ct	No Ct	0.82
				No Ct	No Ct	36.28	N/A
Dungeness Base Lagoon (DBL)	Dungeness	48.14652	-123.18392	No Ct	No Ct	No Ct	-0.46
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
Dungeness East Lagoon (DEL)	Dungeness	48.176623	-123.126302	No Ct	No Ct	No Ct	1.27
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
Graveyard Spit Channel (GSC)	Dungeness	48.17371	-123.13612	No Ct	No Ct	No Ct	0.44
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
Chicken Coop Creek (CCO)	Sequim Bay	48.0261	-122.99778	No Ct	No Ct	No Ct	0.25
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
	Sequim Bay	48.02523	-122.71583	37.12	No Ct	No Ct	N/A
				No Ct	No Ct	No Ct	-0.09

Indian Island (IND)				No Ct	No Ct	No Ct	-0.24
				No Ct	No Ct	No Ct	0.35
				No Ct	No Ct	No Ct	-0.49
Jimmycom-elately Creek (JIM)	Sequim Bay	48.02326	-123.00648	No Ct	No Ct	No Ct	
				No Ct	37.46	No Ct	
				No Ct	No Ct	No Ct	-0.81
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
KVI Beach (KVI)	South Puget Sound	47.42269	-122.43114	No Ct	No Ct	No Ct	-0.30
				No Ct	No Ct	No Ct	0.60
				36.88	No Ct	No Ct	N/A
				No Ct	No Ct	No Ct	-0.52
				No Ct	No Ct	No Ct	1.64
Rabb's Lagoon (RAA)	South Puget Sound	47.39204	-122.43377	No Ct	34.56	No Ct	N/A
				No Ct	36.76	No Ct	N/A
				No Ct	No Ct	No Ct	-0.51
				No Ct	No Ct	No Ct	-1.04
				36.81	No Ct	No Ct	N/A
Titlow (TIT)	South Puget Sound	47.24875	-122.55139	No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	-0.12
				No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
John's River (JOR)	Washington Coast	46.899722	-123.996707	No Ct	No Ct	36.82	N/A
				No Ct	No Ct	No Ct	1.28
				No Ct	No Ct	No Ct	1.41
				No Ct	No Ct	No Ct	0.42
				No Ct	No Ct	No Ct	0.07
Ocean Shores (OSH)	Washington Coast	46.99838	-124.13952	36.42	34.54	34.47	
				34.33	No Ct	37.29	
				38.5	37.1	37.67	N/A
				36.25	34.16	33.64	
				34.82	34.25	34.43	
Stackpole (STA)	Washington Coast	46.59743	-124.03769	No Ct	No Ct	No Ct	
				No Ct	No Ct	No Ct	
				No Ct	37.08	No Ct	1.99
				No Ct	No Ct	No Ct	
				No Ct	No Ct	36.41	
Tokeland East (TKE)	Washington Coast	46.70789	-123.97098	36.15	35.59	No Ct	
				36.25	36.23	34.45	
				No Ct	No Ct	36.35	N/A
				35.45	35.23	34.66	
				No Ct	No Ct	35.15	

Tokeland West (TKW)	Washington Coast	46.70805	-123.97423	33.75	33.24	33.69	N/A
				32.56	33.09	32.62	
				32.56	33.42	32.49	
				33.53	33.89	30.2	
				33.83	33.82	33.53	