Table S1. Count of plots for abiotic and community measures split by site, sea anemone species, and habitat type. *N/A* indicates no plots within group.

Site	**Corona del Mar**				**Coal Oil Point**								**Rancho Marino Reserve**							
Anemone species	***A. elegantissima***				***A. elegantissima***				***A. sola***				***A. elegantissima***				***A. sola***			
Observational plots	**Anemone**		**Rock**		**Anemone**		**Rock**		**Anemone**		**Rock**		**Anemone**		**Rock**		**Anemone**		**Rock**	
Temperature loggers	2		2		*N/A*		*N/A*		*N/A*		*N/A*		2		2		2		2	
Desiccation (chipboard)	*N/A*		*N/A*		*N/A*		*N/A*		*N/A*		*N/A*		10		10		10		10	
Community plots	19		19		16		16		20		20		22		22		21		21	
Experimental plots	**Ctrl**	**Rem**	**Ctrl**	**Add**	**Ctrl**	**Rem**	**Ctrl**	**Add**	**Ctrl**	**Rem**	**Ctrl**	**Add**	**Ctrl**	**Rem**	**Ctrl**	**Add**	**Ctrl**	**Rem**	**Ctrl**	**Add**
Community plots	7	11	7	3	7	8	7	3	8	7	*N/A*	*N/A*	10	12	10	6	10	11	10	3

Table S2. One-sample two-sided t-test results for Figure 5. Values were compared against 0 (no preference). Sample sizes are listed (plot pairs). Species without p-values were constant, no variation in preference where 100% were found in sea anemone habitat.

Species	**n**	***t*-value**	***p*-value**	**comment**
Lottia austrodigitalis	28	-3.16	**0.004**	
Lottia scabra	57	-3.29	**0.002**	
Littorina spp.	125	0.29	0.768	
Lottia limatula	24	1.99	0.059	
Lottia strigatella	132	6.08	**< 0.001**	
Nuttallina californica	17	2.5	**0.024**	
Tegula funebralis	73	10.38	**< 0.001**	
Lepidozona spp.	49	33.59	**< 0.001**	
Epitonium tinctum	66	131	**< 0.001**	
Mopalia muscosa	23	NA	NA	Constant, no variation in preference
Acanthinucella punctulata	11	NA	NA	Constant, no variation in preference

Figure S1. A photo taken at CDM several hours after exposure at low tide illustrating the slow release of water from sea anemones. The *A. elegantissima* colonies present in this image were on a steep rock face (approximately 60°). The dark areas surrounding and below the colonies were produced by the release of water.

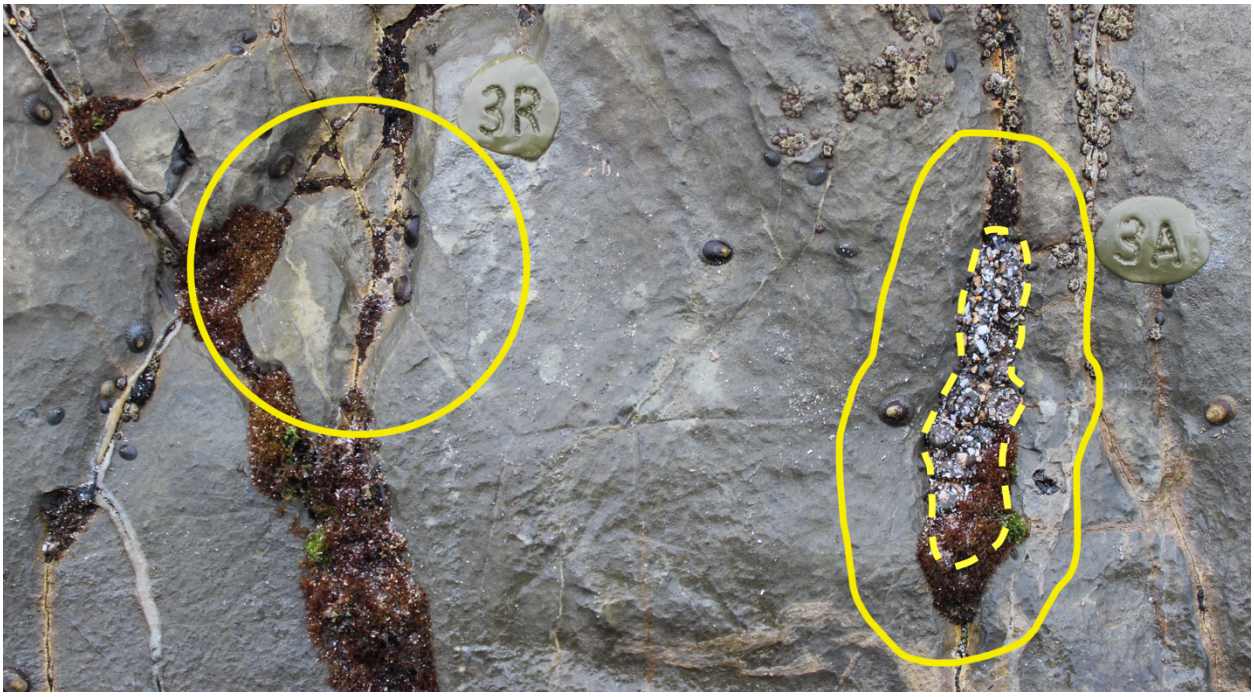

Figure S2. An illustration of a representative plot pair, adjacent rock left (3R) and sea anemone right (3A). The adjacent rock plot was a fixed area (81 cm^2) within the solid yellow line while the sea anemone plot was a 5 cm band surrounding the sea anemone (*A. sola*) or sea anemone colony (*A. elegantissima*). Here, the dashed yellow line outlines the colony, and the area between the dashed yellow line and solid yellow line represents the plot area.

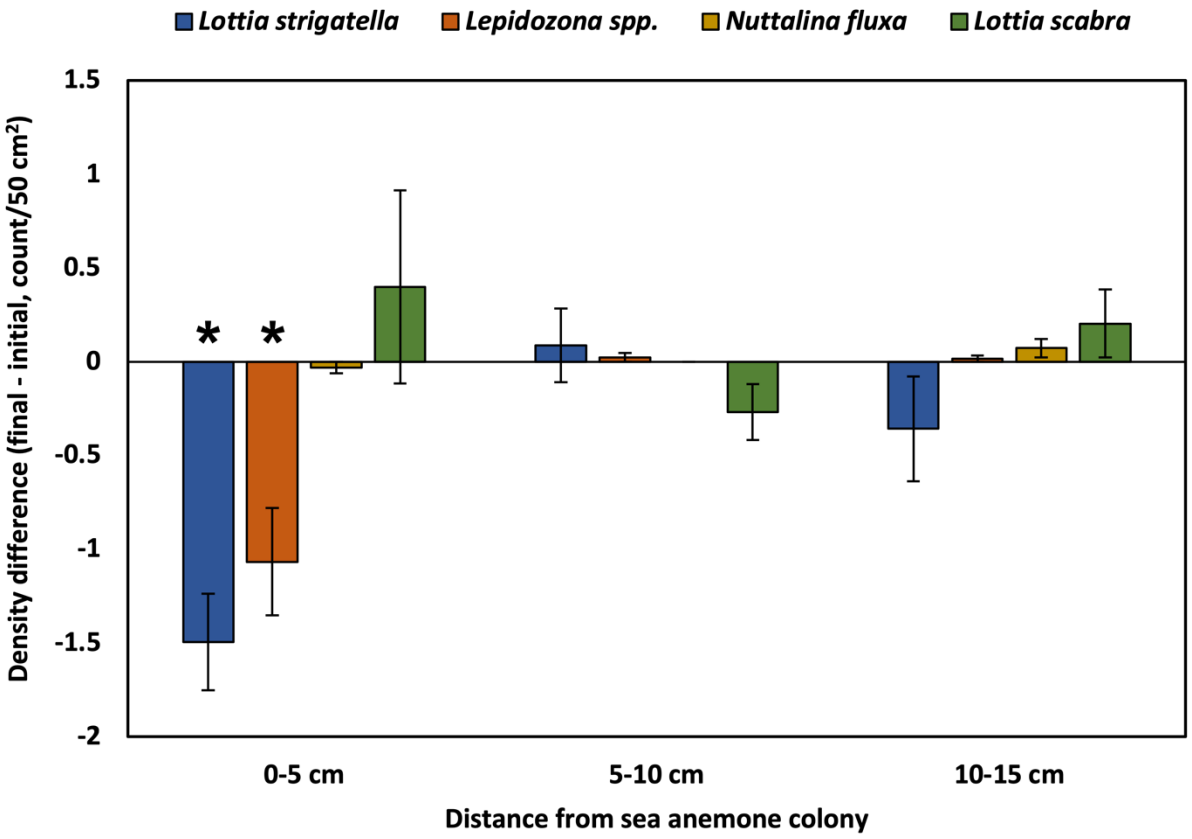

Figure S3. The difference in density after sea anemone removal of four mobile invertebrate species surveyed in three distinct bands extending away from sea anemone (*A. elegantissima*) habitat. All data were collected from Point Fermin, California in May (initial) and June (final) of 2018, n = 12 plots surveyed. Asterisks indicate significant differences ($P < 0.05$) as compared to zero (no change) with a one sample t-test.

Figure S4. A sea anemone (*A. sola*) addition treatment at Coal Oil Point immediately after manipulation and before removal of the nylon mesh. The sea anemone is held against the substrate (center) under nylon mesh secured with stainless steel screws at four corners. Mesh and screws were removed approximately 48 hours after deployment.

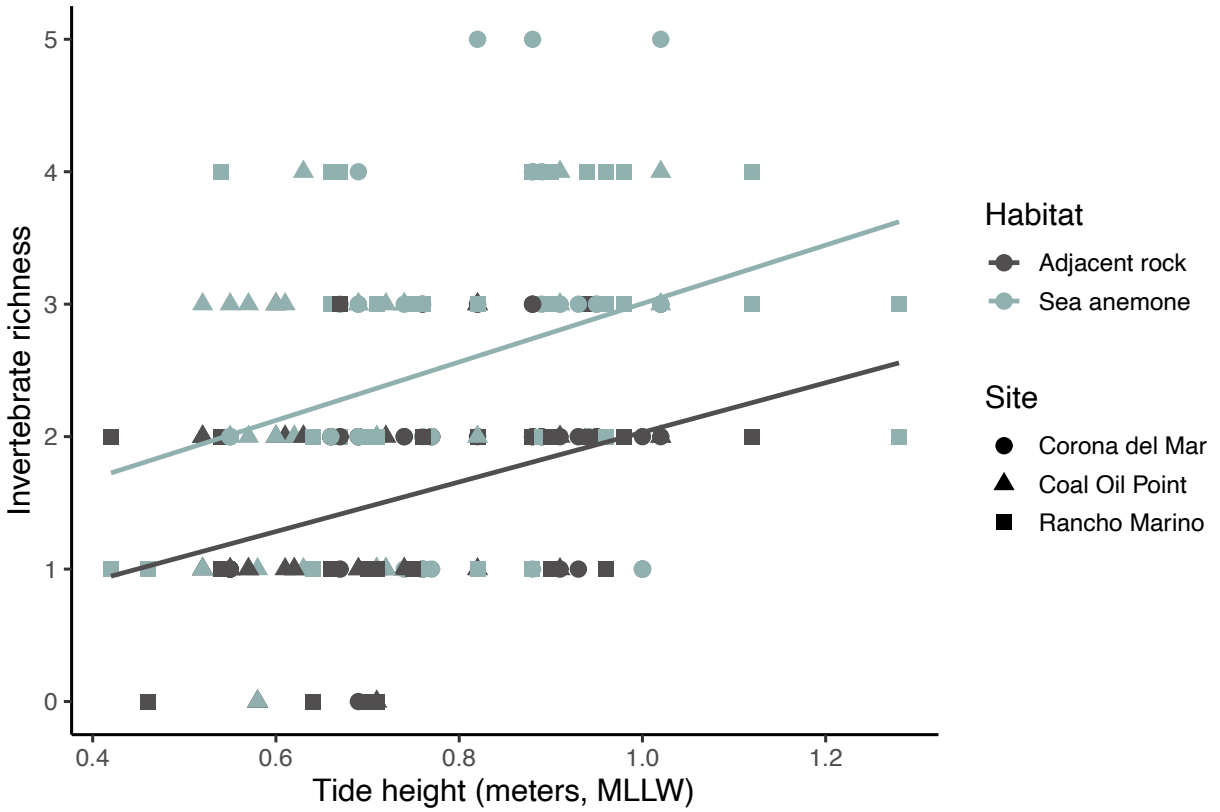

Figure S5. Invertebrate richness compared to tide height for both habitats and three sites taken during the observational period. Linear trendlines are separated by habitat.