(Mytilus edulis)

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Summary: The Blue Mussel (*Mytilus edulis*) is of great importance to the rocky intertidal ecosystems in which it is found across the world. It is a foundational species, and when present has great impacts on the biodiversity and productivity around it (Sorte et al 2016). Unfortunately, recent decades have seen a severe decline in the

Shannon Diversity Index, vs. the average percent cover of Blue Mussels (*M. edulis*) at those sites. Greater percent cover of mussels led to greater diversity (p = 6.13e-13 R² = 0.5341).

question, we conducted transectand-quadrat surveys of 5 different coastal sites across midcoast Maine. These sites y gtg'I kcpvøu'Ucktu'kp" J ctr uy gm'O ckpg="Rqwøu'Rqkpv'kp"J ctr uy gm'O ckpg=" Ocean Point in Boothbay Harbor, Maine; Pemaquid Point in Bristol, Maine; and Marshall Point in Port Clyde, Maine. These sites were chosen mainly due to their having the presence of both Green Crabs and

Blue Mussels and being accessible for a day of work from the Bowdoin Schiller Coastal Studies Center out of which we were based.

We found that species diversity ó as measured by the Shannon diversity index ó increased with increasing mussel cover (fig. 1, $p = 6.13e-13 R^2 = 0.5341$). Species richness also increased with increasing mussel cover, showing a trend very similar to that of species diversity (p = 4.28e-11, $R^2 = 0.472$). We were not able to ascertain to what extent this relationship is causal but will be continuing to delve deeper into the complexity of the relationship between Blue Mussels and the species that live around them during the coming semester.

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