

# **The Effect of Removing Rockweed from the Rocky Intertidal Zone: Four Years Later**

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This summer I examined the effect of removing *Ascophyllum nodosum* (rockweed) from the rocky intertidal zone. Rockweed harvesting is a contentious issue in Maine and the Canadian Maritimes, as it is largely unregulated and its long-term ecological impact is still understudied. In 2013 and 2014, Christine Walder ('15) did her honors paper on this project, and established 2x2 meter plots along West Beach of Kent Island where she cut rockweed fronds to 16 inches in accordance with Maine state rockweed harvesting regulations. She made 18 plots in 2014 and marked them with bright orange painted stones. The first half of my summer mainly consisted of trips to the beach where I combed through swaths of algae to find these plots armed with only a GPS and my waders.

I eventually uncovered all 18 of her plots and was thus able to start collecting data to see how the rocky intertidal communities had bounced back four years post-harvest. Every day at low tide I went out into the intertidal zone and surveyed my plots. Each survey consisted of recording algal data such as frond height and species richness, and the total number of invertebrates found in the innermost 1m<sup>2</sup> of the plots. I surveyed each plot three times over the course of the summer, for a total of 54 surveys.

I am interested in how my data compares to Christine's 2014 data. She found that the harvested plots had fewer species of animals and fewer animals overall than the controls did. Of course, she also found that after being cut, the rockweed in the experimental plots was shorter than the controls, but based off of the growth rate data she collected, she predicted that the fronds in each plot would be roughly the same height in three years. Despite the fact that all of the plots look as though the algae are the same length across treatments, preliminary data analysis suggests that the experimental plots still have shorter rockweed fronds than the uncut control plots. There are also fewer green crabs, but more amphipods and isopods in the experimental plots. Evidently the rockweed communities have yet to fully recover from the harvest, but there does not seem to be any major difference between the experimental and control plots that would suggest long-term destruction due to harvesting. Hopefully future Kent Island students will survey these same plots to determine how long it will take these plots to return to preharvest conditions.

**Faculty Mentor: Dr. Patty Jones**

**Funded by the Bowdoin Scientific Station Fellowship**