



Rocky Intertidal Community

Barnacle Recruitment



(© J. Long)

Scientists from the Northeast Temperate Network have established barnacle recruitment plots like this one (above) in Boston Harbor Islands and at Acadia National Park to monitor the health of the rocky intertidal zone community. Each March, these 25x25 cm plots are scraped clean. Barnacles that recolonize the bare rock throughout the summer are periodically counted. Barnacle recruitment in 2008 was unusually low at Boston Harbor Islands, as all the bare rock in this plot from July 2008 illustrates, with an average of less than 100 barnacles in a plot. Early results from 2009 suggest that barnacles have rebounded (see reverse). Many factors influence how many barnacle larvae return from the sea to the rocky intertidal zone for the adult phase of their life cycle.

Scientists monitor barnacle recruitment, populations of other plant and animal species, and environmental conditions in the rocky intertidal zone in order to better understand the role of climate change, water quality, predator-prey relationships, plankton productivity, and density-dependence on barnacle populations and the overall health on this unique and valuable community.

Continued »



The same barnacle plot at Boston Harbor Islands in 2009. Although taken only in May, this image illustrates how already there are more barnacles returning to the rocky intertidal zone in 2009 compared to 2008 (© J. Long). Barnacles are an important component of intertidal and near-shore ocean ecosystems. For example, barnacles play a pivotal role in intertidal and ocean food webs as prey items for carnivorous invertebrates like crabs and dogwhelks, and as consumers of plankton as both ocean dwelling larvae and intertidally anchored adults.

What do we want to understand?

1. What are the major stressors impacting the rocky intertidal zone and how are plant and animal species affected by them?
2. What are the seasonal and long-term trends in the number and distribution of plants and animals in the intertidal zone, and what can this tell us about changes in the environment or climate?
3. Are there differences between the rocky intertidal zone community at Boston Harbor Islands, in Massachusetts, and those further north along the coast at Acadia National Park in Maine?

More Information

Jeremy Long
Lead Scientist

Phone/Email
781-581-7370
j.long@neu.edu

Links & Resources

Northeast Temperate Network: www.science.nature.nps.gov/im/units/netn/
Boston Harbor Islands: www.nps.gov/boha/naturescience/intertidal.htm
Acadia National Park: www.nps.gov/acad/naturescience/intertidal.htm