

## BENTHIC–PELAGIC LINKS ALONG THE ATLANTIC CANADIAN COAST

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Benthic rocky intertidal species are irregularly distributed along marine coastlines. Nearshore pelagic conditions often explain such variation, but such studies have overwhelmingly been done on eastern ocean boundary coasts. We investigated the Atlantic coast of Nova Scotia, a western ocean boundary coast. We studied wave-exposed, rocky intertidal habitats spanning 415 km of coastline. The spring recruitment of barnacles and mussels (the two main filter-feeders) varied irregularly along the coast. Coastal phytoplankton, particulate organic carbon, and sea surface temperature explained, to varying degrees, the geographic structure of recruitment. In turn, the summer abundance of barnacles and mussels was positively related to their spring recruitment. Ultimately, predator (dogwhelk) abundance was positively related to the recruitment and/or abundance of barnacles and mussels (the main prey of dogwhelks). Overall, these data support the occurrence of benthic–pelagic coupling and bottom-up forcing on this western ocean boundary coast.



Photo 1: Barnacles and mussels from a rocky intertidal habitat on the open Atlantic coast of Nova Scotia, Canada. Photo credit: Ricardo A. Scrosati.



Photo 2: Rocky habitats on the open Atlantic coast of Nova Scotia, Canada. Photo credit: Ricardo A. Scrosati.

These photographs illustrate the article “Benthic-pelagic coupling and bottom-up forcing in rocky intertidal communities along the Atlantic Canadian coast” by R. A. Scrosati and J. A. Ellrich, published in *Ecosphere*. <https://doi.org/10.1002/ecs2.2229>