

Rockweed's Role in the Sea

By Jennifer Stevens

Walking along the shores of the Bay of Fundy offers not only the tantalizing smell of the sea but also a very intriguing and easily forgotten valuable coastal habitat. At low tide thick, matted blankets of various seaweeds are visible glistening in the sun, while the incoming tide transforms these algae masses into a flourishing undersea forest. One of the most plentiful types of these intertidal seaweeds is rockweed.

In Nova Scotia the dominant rockweed is *Ascophyllum nodosum*, or knotted wrack. It is the main brown seaweed in the intertidal zone along the Atlantic coastlines of the Maritimes. This type of rockweed can reach eight feet in length and clings to rocks with sucker-like holdfasts to avoid being washed away. It is generally darker brown at the base and a lighter olive green-brown at the tips. Specialized air-filled bladders along the shoots help to keep this macro alga floating upright as the tide rises, so that it receives sufficient sunlight.



Ascophyllum nodosum flourishes along the southwestern shore of Nova Scotia and around the mouth of the Bay of Fundy.
Images: Debbie Mackenzie www.fisherysis.com

For centuries, knotted wrack has been an important commercial seaweed in Canada. Within the Maritime Provinces, Nova Scotia produces the largest amount of rockweed and has been harvesting it for over 40 years. Although knotted wrack is well known for its value as an agricultural fertilizer, mulch, soil conditioner, and livestock feed, it is important to remember that this marine alga also plays an important role in coastal ecosystems.

New shoots grow together, forming dense rockweed beds. These provide a productive habitat for many invertebrates, fish and seabirds. The cool, damp layer of vegetation protects the intertidal organisms from drying out when the tide recedes. It also provides food and refuge for several



commercially important fish species such as pollock, herring and flounder. Sandflies, beach fleas, bacteria, and fungi also benefit; decomposing piles of knotted wrack that wash ashore and soon turn into a nutrient filled sludge. This natural fertilizer eventually washes back into the sea to feed even more marine life. Knotted wrack is a Maritime treasure not only for its source of agricultural and industrial raw materials, but because, living and dead, it is an integral component of our coastal ecosystems.

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