

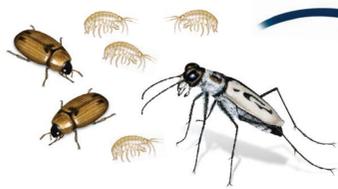
Beach Wrack Life



1 A major component of wrack is *Sargassum* algae. This seaweed floats at sea and is part of a diverse assemblage of marine life adrift on the ocean's surface.

2 Currents transport *Sargassum* and other floating material, and onshore winds push it onto beaches. Storms can create rough surf that also brings sunken items ashore.

3 As wrack ages, it provides for the growth of fungi and other organisms.



4 Beetles, beach-hoppers, ghost crabs, and other small animals feed on the fungi growing in the wrack, as well as on the marine creatures that wash ashore after living lives at sea.

5 The smaller animals in the wrack provide food for shorebirds, which rely on this sustenance to fuel their long distance migrations.



Left to right, piping plover, ruddy turnstone, and red knot



6 Clumps of old wrack provide wind shadows that begin to collect wind-blown sand and tumbling plant seeds on the upper beach.



7 Sprouting plants grow more quickly through their vulnerable period thanks to nutrients provided by the decaying wrack.



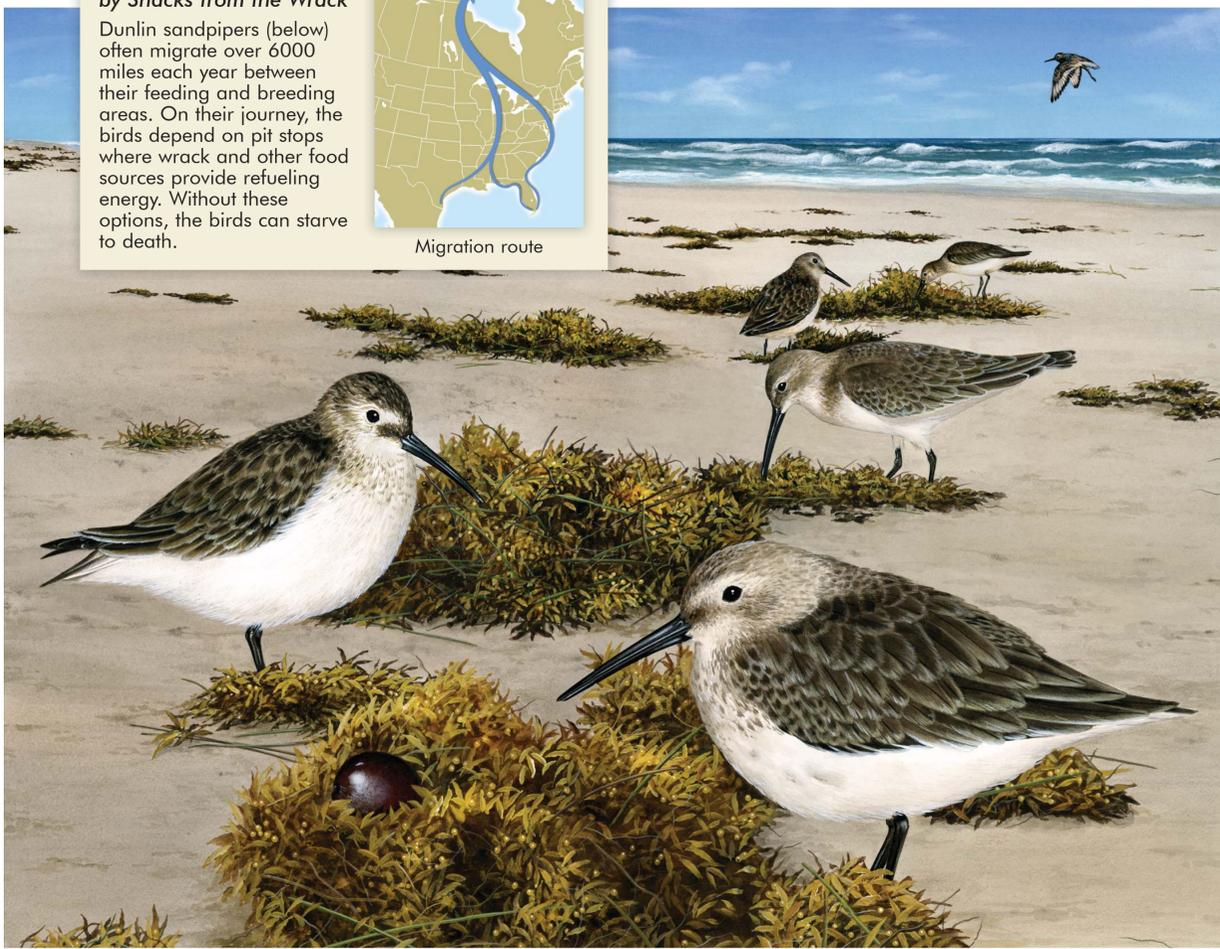
8 Although most wrack clumps and the plants they foster disappear with time, some clumps grow into low dunes out on the upper beach. If left undisturbed, these small dunes can grow into substantial mounds capable of protecting upland property from storm erosion.

The Dunlin's Journey A Mega-marathon Fueled by Snacks from the Wrack

Dunlin sandpipers (below) often migrate over 6000 miles each year between their feeding and breeding areas. On their journey, the birds depend on pit stops where wrack and other food sources provide refueling energy. Without these options, the birds can starve to death.



Migration route



Threats to the Wrack Community

Some of our efforts to "clean" the beach include the mechanized removal of wrack from the beach. Unfortunately, the barren shores left by beach cleaning and grooming machines are not hospitable to beach life. Without wrack, some of the most interesting attributes of a beach are also absent.



Did You Know?

Picking up trash almost doubles the calories you burn walking down the beach. As you stoop, you'll discover treasures; common in wrack are more than 300 kinds of sea shells and 60 kinds of sea beans. Other gleaners of wrack include rare piping plovers, which are currently threatened with extinction.

The Wrack COMMUNITY

The wrack is stuff cast ashore by the sea. Much of this once grew in the sea, like seaweeds and seagrasses. These marine castaways foster protective dunes and allow assembly of a unique natural community that brings life to the beach.

Base of the Wrack Community

Most energy for the wrack community comes from a variety of marine plants. In their death, these plants form the base of a widely influential food web.



Manatee and shoal grass



Turtle grass



Brown algae



Red algae



Marsh grasses



Woody materials

What's in the Wrack?

Hidden in the wrack are many items that take part in the wrack community and that have their own interesting stories to tell. Sea beans drift from the tropics, dune plant seeds give rise to future beach plants, and sea shells along with other invertebrate skeletons reveal former lives lived at sea. Human influence is also seen in the form of seaglass shards polished by the sea, and in bits of plastic from marine litter.



Sea beans



Dune plant seeds



Mollusk shells



Marine invertebrates



Soft corals



Hard coral and sponge fragments



Seaglass



Plastic bits and shards



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