

SEAWEED, another word for ALGAE

Sargassum is one of many sea grasses that appear in wrack. They are a brown algae that look a little like drenched feather boas. Look closely to see little balls among the leaves. These are air sacs that help the sargassum float in from the Sargasso Sea, which is far out in the Atlantic. As it floats, many sea creatures live among its leaves and air sacs. As part of the wrack, it continues to provide habitat for small creatures. Sometimes, when it washes back to sea, it gives very young sea turtles a ride.



As the waves and wind cruise over the beach, the sand is carried out to sea creating the wrack line which runs the length of the beach and marks the place where the tide reaches its highest point. When sand is blown over the wrack line by the wind, it falls out of the air and begins to accumulate around the wrack line. Sand continues to accumulate and a dune has begun to form!



Codium ends up on beaches when the swift currents that are characteristic of reefs where it grows pulls off the Codium plants once they become mature."



Gracilaria, red drift algae that resemble matted hair.

Lots of people think that algae is just stinky stuff, but really it is quite interesting. There are many types of algae that wash up, each with a different form and shape of leaf and stem. Take a close look and see how many different types of algae you can identify (or challenge your kids to do it). Algae could be pink, green, red, brown, white, or various combinations of colors. It doesn't stink when it's fresh, but laying in the sun for hours does cause it to smell a bit.



STABILIZATION

Florida's coast is a dynamic environment, meaning it changes with weather and tides. Wrack is instrumental in creating grasses and vines firmly growing in the sand which stabilizes the ground allowing a more permanent environment for wildlife.

As the waves and wind cruise over the beach, the sand is carried out to sea creating the wrack line which runs the length of the beach and marks the place where the tide reaches its highest point. When sand is blown over the wrack line by the wind, it falls out of the air and begins to accumulate around the wrack line. Sand continues to accumulate and a dune has begun to form!

Seeds entrapped in the wrack have the perfect place to germinate – moist with nutrients from the decaying wrack. Railroad vine, sea oats, cord grasses and more plants appreciate what the wrack line provides. As the plants grow, their roots keep them stabilized in the shifting sands. The continued accumulation of sand provides a more stable zone for growth. The wrack line is on its way to becoming a primary dune.

IN CONCLUSION:

The more we study beach wrack, the more we learn how important this source is to coastal ecology.

Some people don't like decaying seaweed, others don't like flies or other little critters to disturb their sun-bathing. We hope there is room for compromise to restore beach life after grooming. If the year-round, the rack were left communities of plants and animals could recover. process much



Developed by the Florida Master Naturalist Program Coastal Systems of Florida

Debbie Dixon, Instructor
Coastal Class Team Members
Deborah Reed
Robin Marshal
Susan Almario

Dan Nelson
Anne Sullivan
Terry Redman

www.FloridaMasterNaturalist.org

WRACK LINE

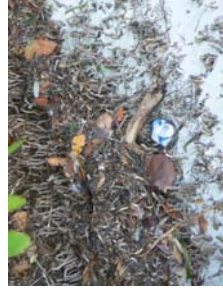
WHY IS IT IMPORTANT?
Tourists, local people and businesses rely on our west coast's clean beaches, but, it is not always in our environment's best interest to remove the "wrack" from the beaches.



WRACK-THE GOOD, THE BAD AND THE UGLY

WHAT IS WRACK?

Bones, seaweed, coral, seeds, sea grasses, egg cases, driftwood, sponges, shells, sea beans and of course – yuk –



trash can be found in the wrack line. The wrack line is defined as a line of dead or dying weeds and grasses and other debris left on the upper beach by the last high tide, between the dry sand and tidal water. The terms wrack and wreck come from the same Middle Dutch word, “wrack” which means “it is damaged” as in ship wreck or wrack and ruin.

VEGETATION STARTS HERE – As the wrack line decomposes it provides nutrients, acting as an anchor for roots and fertilizer for budding plants.

IT'S A FOOD SOURCE - The micro-organisms from healthy and decaying wrack are food for many worms, ghost crabs, sand fleas and other little creatures, which in turn are food for fish, birds and mammals.

HOME SWEET HOME - Yes, it's buggy, too. Various bugs hide in the wrack. Migrating and local birds feed on them.

OUCH – Many bones have sharp points and trash with sharp edges are washed ashore. Most beach goers do not walk in the wrack line, a good strategy protecting their bare feet.

OK, OK, IT'S A LITTLE SMELLY SOME-TIMES, aesthetically, but the cost of removing the wrack isn't worth the negative impact on the environment. The possibility of destroying wildlife nests, even destroying wildlife and vegetation is a greater cost we can't afford.

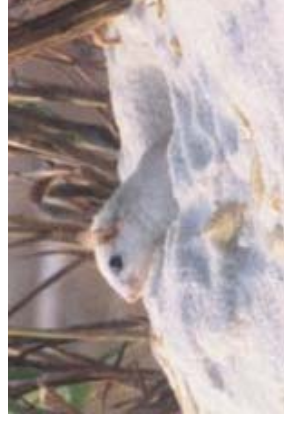
Would it not be best to leave it where nature placed it?

LIFE IN THE WRACK LINE

MAMMALS

Undisturbed beach wrack creates a rich, complex zone of life that links water and land habitats. The

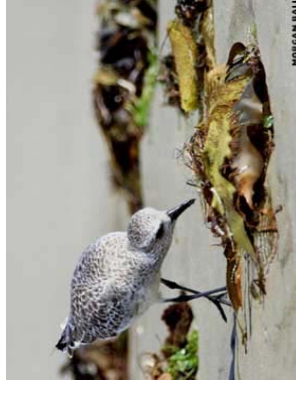
movable feast provides food and shelter for snails and crabs, which in turn are preyed upon by small mammals, which in turn provides food for larger predators. At night the wrack is visited by fox, raccoons, mice and feral cats. The Chadwick Beach cotton mouse, once found on Englewood beach has become extinct. Although this may have been caused by a number of factors, such as feral cats, the wrack is not only a food source, but also offers protection from visually oriented predators. And the unpleasant rotting smell would throw off scent hunters. Without the wrack the cupboard is bare and there's no place to hide. The simple act of leaving the wrack allows nature's dynamics to function, which are far more complex than meets the eye.



BIRDS

Here in Florida, we have an abundance of shorebirds. Unfortunately, we're losing a lot of their habitat due to beach erosion and development. Wrack provides a delightful buffet for these and our winter visitors. Some of these snowbirds, like the Red Knot and Ruddy Turnstone travel thousands of miles to either stay the colder months with us, or continue on even farther south. They find rich nutrients in the wrack such as crabs, bugs, discarded eggs. This provides them with energy for further flight or to begin preparation for nesting and raising their young right here on the beach such as our Plovers. Herons, Egrets and Gulls who will also feed at the Wrack

Buffet, helping eliminate the very things that make wrack so smelly.



FIDDLER CRABS

The small crabs you see foraging amongst the wrack are fiddler crabs. Fiddler crabs live on sandy and muddy beaches that are uncovered at low tide. Each crab lives in a hole it digs for itself. The hole can be closed with a mud cap so that when inside the crab remains hidden and protected from the incoming tide. Fiddlers play an important role in the health of the shore. Their burrowing and feeding affect aeration and the turnover of important nutrients. Each species has hairs in its mouth, whose spacing permits it to scrape microscopic diatoms off individual particles of sediment more widely spaced for sand grains, more closely for mud. This allows the crab to select the digestible parts to eat and discard the rest. as the tiny sand balls you see around their burrows.

