

See the difference yourself by
visiting these local beaches:

Groomed Ungroomed

- Carpinteria City Beach
 - East Beach
 - West Beach
 - Leadbetter Beach
- Arroyo Burro County Beach
 - Refugio State Beach
 - Gaviota State Beach

Sources

- [1] Dugan, Jenifer E. et al. The response of macro-fauna communities and shorebirds to macro-phyte wrack subsidies on exposed sandy beaches of southern California. *Estuarine, Coastal and Shell Science* 58S (2003) 133-148.
- [2] Hughes, Hal. A Feast Interrupted. <http://www.surfrider.org/makingwaves/makingwaves20-3/9.asp>.
- [3] Stauffer, Pete. Beach Grooming. http://www.surfrider.org/a-z/beach_grooming.asp.
- [4] Williams, Megan Mansell. Hopping with Life: Anatomy of a Beachwrack. *California Wild* (Winter 2005).
- [5] California Department of Fish and Game. California Wildlife Habitat Relationships System. <http://www.dfg.ca.gov/whdab/html/B151.html>.
- [6] Charters, Michael L. California Plant Names. <http://www.calflora.net/bloomingplants/beachprimrose.html>.



Jenny Dugan talks to a tractor driver on Coronado beach about their grooming schedule

Alternatives to Grooming

To help restore our beaches back to their more natural conditions, managers can practice these simple alternatives:

- **Hand grooming**, which allows for selective removal of trash and improves aesthetics while enhancing the ecological function of wrack.
- **“Zonal” grooming**, so wrack remains in some sections of the beach year-round, while other sections are groomed when necessary.
- **Education!** Teaching residents, visitors, and decision-makers about this issue and the importance of wrack to life on sandy beaches is vital.



For more information, please contact:

Katie DeLeuw
Community Environmental Council
kdeleuw@bren.ucsb.edu
(805) 863-0583 ext 116

Created by K. DeLeuw for Kelp
Wrack Workshop (2005)

Kelp Wrack and Life on Sandy Beaches



Definitions

Wrack: kelps, algae, and seagrasses brought ashore by waves and tides, usually found in the intertidal zone.

Grooming: the practice of removing wrack and seaweeds from sandy beaches. Typically involves large tractors pulling rakes and sifting machines.

Hummock: A low mound of sand formed by wind, generally associated with dune plants. Often found on beaches that are not subject to grooming practices.



Groomed beach in LA County

Why Groom?

Many southern California beaches are groomed regularly. Over 100 miles of the CA coast are groomed regularly. Grooming is conducted for the following reasons:

- To remove trash, e.g. plastics and fishing gear,
- To improve aesthetics for beachgoers and property owners, and
- To remove accumulated wrack.

On front, Isla Vista Beach just west of the Camino Majorca stairs. This wrack-covered beach supports many invertebrates, which provide prey for shorebirds.

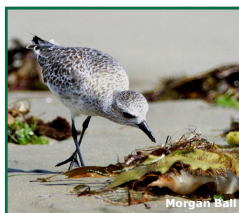
Benefits of Kelp Wrack

Organisms such as those shown below depend on kelp wrack to survive. Benefits include:

- Sheltering tiny creatures like beachhoppers that feed on the wrack and help break it down,
- Catching and holding sand to create dunes,
- Providing nutrients to dune plants,
- Serving as the basis of an intricate food web that develops in wrack piles, and
- Linking marine and terrestrial life by attracting both shorebirds and inland predators.

Wrack Communities and Population Dynamics

This Beachhopper species (*Megalorchestia corniculata*), top, is one of four local Beachhopper species! These grazers are the most abundant in wrack, breaking it down and serving as basis of the food chain. Isopods (*Alloniscus perconvexus*), bottom, also thrive in kelp wrack.



Predatory beetles (*Hadrotus crassus*), left, hunt beachhoppers and other small invertebrates. Many of these are flightless and live only on the beach.

Birds such as this Black-Bellied Plover (*Pluvialis squatarola*) are more abundant on beaches with wrack because of their feeding preferences. These plovers run a short distance, then halt abruptly and peck quickly at

the surface of the substrate to catch prey, such as flies and beachhoppers.

Marbled godwits (*Limosa fedoa*) winter on the CA coast. Their long bills allow them to probe for wrack-associated prey in shallow water and soft sand.



Groomed Beaches Exhibit

- Significantly lower diversity and abundance of wrack-associated animals,
- Lower abundance of shorebirds,
- Lower numbers of native plants,
- Loss of fine sand, and
- Loss of coastal strand habitat.

Coastal Dunes

Sand dunes are among the most dynamic and fragile natural formations in California. Wrack piles enhance the formation of hummocks and larger dunes by catching and holding windblown sand. Grooming reduces sand stability and removes the nutrient input from wrack that dune plants, such as those shown below, depend on.



Sand has accumulated around the plants on the left. These native dune plants tolerate partial burial by sand and enhance natural dune creation processes.

This beautiful beach primrose (*Camissonia cheiranthifolia*), right, is a common coastal strand plant, blooming from April to August in sand dunes along the CA coast.

