Preserving Your Beach

The Department of Environmental Resources Management sponsors beach restoration projects throughout the county. The projects include dune restoration, beach nourishment, inlet sand transfer operations and the construction of breakwaters, groins, and other erosion control structures. Project funding is obtained through county, state, federal and local governments. County funds for beach restoration and enhancement projects are primarily obtained through taxes paid by tourists on hotel and motel rooms. County staff are also available to provide technical assistance and suggestions for managing dunes on private property.

Palm Beach County
Board of County Commissioners

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Department of Environmental Resources Management

Guidelines for Beach & Dune Management

PROTECTING THE COAST
PRESERVING OUR NATURE
ENJOYING THE BENEFITS

Preserving Native Dune Plants

Dunes are important reservoirs of sand, replacing sand lost from the beach through erosion. Native dune plants are important parts of a healthy dune.

Native salt-resistant vegetation is essential to the beach and dune system as it both accumulates and stabilizes sand. Vegetation traps wind blown sand which collects around the plant and builds up the dune – a process known as "accretion". As the plants become buried, new roots develop on the recently buried stems while new stems emerge from the sand. A dense stand of sea oats and sea grapes can significantly minimize erosion during high tides and storms.

Sea oats are protected under regulations of the Florida Department of Environmental Protection (FDEP). Sea oats seed can not be collected without a permit and the plants can not be cut back or removed.

Sea grapes, which grow on the back dune and have large ping-pong paddle-shaped leaves, act as a highly efficient barrier to blowing sand and result in significant accretion of the backdune. They are also protected under FDEP regulations.

NATIVE DUNE VEGETATION SHOULD BE:

- ☑ **PROTECTED from pedestrian traffic**
- ☑ **PRUNED SPARINGLY without exposing light to the beach**
- ☑ **REPLANTED AS NEEDED to keep it healthy**

Removing Exotic Dune Plants

Invasive exotic plant species tend to overgrow native plant species and are less effective in maintaining the dune ecosystem.

The Hawaiian half-flower (*Scaevola frutescens*) is a common invasive exotic dune plant. The plant's shallow roots and fragile stems are easily destroyed in high winds or storms making it far less effective in dune stabilization than sea oats and other native species. Don't confuse this exotic with its endangered native counterpart – inkberry (*Scaevola plumieri*) – which is protected by Federal law.

Exotic Hawaiian half-flower
Note white fruit and long leaves

Endangered Native Inkberry
Note black fruit and rounded leaves

Another invasive exotic dune plant is the Australian pine. Australian pines inhibit the growth of other plants by their shading effect and the acidic nature of their needles. They eventually create a "weak spot" that makes the dune vulnerable to storm erosion. In all cases where exotics have been removed, the area should be replanted with natives typical of that portion of the dune. Where lawn grasses adjoin the dune area, a distinct buffer zone should be maintained by herbiciding, mulching, and edging to control the encroachment of these grasses into the dune.

Pruning Vegetation

Pruning dune vegetation may seem desirable to a property owner in order to provide a clear ocean view. Removing too much vegetation can hurt the fragile dune structure and impact sea turtles.

A well-developed stand of sea grapes is essential to the stability of the beach and dune, and protection of upland buildings from storm-induced erosion and blowing sand and salt spray. Sea grapes also block light from the beach where it could otherwise interfere with sea turtle nesting and disorient emerging hatchlings. For these reasons, it is recommended that property owners limit pruning to only that necessary for a view.

SEA GRAPE PRUNING GUIDELINES:

- ☑ **Do not remove more than 1/3 of the height**
- ☑ **Do not remove more than 1/3 of the leaf area**
- ☑ **Do not reduce the height to less than 6 ft.**
- ☑ **Do not expose lights to the beach**

ANY PRUNING BEYOND THIS LIMIT REQUIRES AN FDEP PERMIT

All pruning of sea grapes seaward of the Coastal Construction Control Line is subject to the permitting requirements of the FDEP. The best policy is to let a hard winter freeze and salt spray control the height of dune sea grapes naturally. Consider creating "view corridors" to reduce pruning requirements.

Beach Raking

Beach raking is the mechanized removal of seaweed and other natural materials from the beach. Removing this nutrient-rich organic layer can seriously effect the health of the beach and dune.

Seaweed is beneficial to the beach and an important component of the ecosystem. The Department of Environmental Resources Management recommends that beach raking be limited to the more heavily used beaches. Beach raking too close to the dune can destroy new seedlings establishing at the leading edge of the dune. Although seedlings in this pioneer zone often become buried by wind-blown or storm-deposited sand, they usually grow through the new sand layer and continue to stabilize the area. Beach rake operators should stay well away from the toe of the dune. Seaweed removed from the beach can be deposited in a thin layer (2-3") at the toe of the dune.

Seaweed is valuable to the dune system as a source of nutrients and a sand stabilizer.

Irrigation & Fertilization

In contrast to ornamental plants, dune vegetation is adapted to low water and nutrient requirements. Irrigation and fertilization of dune areas should be done sparingly.

Excessive watering of the dune usually results in the establishment of undesirable, invasive exotic plants. It is therefore important that all sprinklers near the dune be adjusted to avoid overspray onto the dune. New plantings may require temporary watering until the plants establish a well-developed root system.

Native dune plants require very little maintenance to remain healthy. Top left to right: dune sunflower, sea purslane, agave, beach peanut Bottom left to right: railroad vine, sea lavender

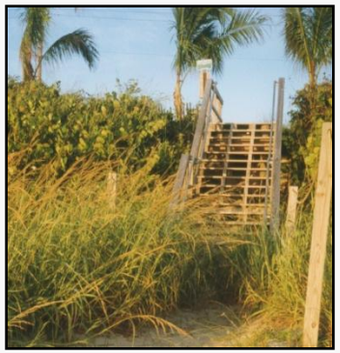
The nutrient requirements of native dune plants are generally low and fertilization can result in impacts similar to those caused by excessive watering such as promoting weeds and noxious vines. The best method to ensure an adequate nutrient supply is to leave organic material such as leaf litter and seaweed in place on the dune.

Recreational Activities

Dune plants are highly sensitive to human disturbances. Even minimal impact can cause damage and increase erosion. Recreational activities should be moved away from the dune.

To protect valuable dune plants, all recreational activities should be kept at least 10 feet away from the leading edge of the foredune. Do not walk on the dune. Use dune crossovers to access the beach. Boats, surfboards, beach chairs and cabanas should never be stored on the dune or within 10 feet of the foredune. Repeated disturbances to the dune will destroy the vegetation and weaken the dune system, leaving the beach as well as upland buildings vulnerable to storm damage.

Following storm events, the change in beach profile should be noted. Has erosion occurred, or has sand simply been pushed higher on the beach covering previously exposed vegetation? In the case of the latter, recreational activities and cabanas should be kept far enough away from this location to allow the buried vegetation to re-emerge through the sand.



Use dune crossovers when accessing the beach.