

SEA OATS

Uniola paniculata (L.)

UNPA

Contributed by: USDA, NRCS Golden Meadow Plant Materials Center



Caminada sea oats, Fourchon Beach, Louisiana.
Gary Fine, USDA-NRCS, 2000

Uses

Sea oats is exceptionally tolerant of harsh conditions associated with coastal beach environments such as salt spray, short inundation of saltwater from storm surges, strong winds, xeric soil conditions, and rapid sand accretion. It is considered an excellent pioneering species because its ability to rapidly establish and colonize on foredunes and dune crests, and a climax species because of its ability to persist in these extreme coastal beach conditions.

The attributes found in sea oats makes this species and excellent dune builder and sand stabilizer. Sea oats is an excellent conservation plant for dune building, dune enhancement, and sand stabilization on coastal beaches and barrier islands of the Atlantic, and Gulf of Mexico.

Status

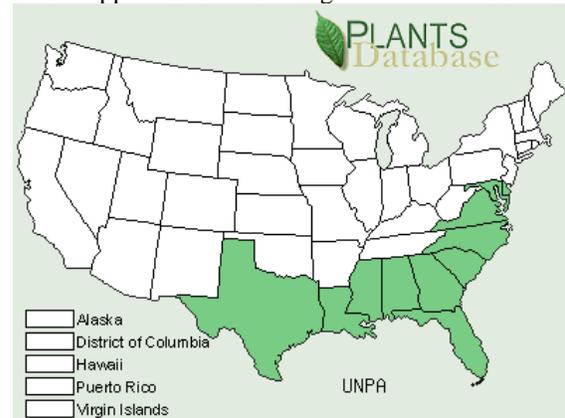
This species is ranked on the Rare, Threatened, and Endangered Species state heritage conservation lists in Louisiana as a S2 - imperiled because of rarity (6 to 20 known extant populations) or because of some factors making it very vulnerable to extirpation, and a global ranking as a G5 - demonstrably secure globally although it may be quite rare in parts of its range, especially at the periphery (1000 + known extant populations).

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

General: Sea oats is a native, warm-season, semitropical, rhizomatous perennial, C4 grass dominating many beach and dune environments. Culms are stout, erect 1-2 meters tall, nodes and internodes glabrous. Leaves are both basal and cauline with blades elongate to 60 cm long and 1.2 cm wide, both surfaces glabrous. The inflorescence is a large open panicle 8-15 cm long with flat yellowish spikelets, 10-20 flowered. Seed heads become a yellow-brown, straw color in late summer and into the fall.

Distribution: Sea oats occurs along the U.S. coast and barrier islands from Virginia through Florida, the Gulf coast, and south to Mexico. However, it is essentially non-existent in Louisiana west of the Mississippi River delta through northeastern Texas.



For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

United States Department of Agriculture-Natural Resources Conservation Service

Plant Materials <<http://plant-materials.nrcs.usda.gov/>>

Plant Fact Sheet/Guide Coordination Page <<http://plant-materials.nrcs.usda.gov/intranet/pfs.html>>

National Plant Data Center <<http://npdc.usda.gov>>

Habitat: Sea oats is typically found on loose sands of upper beaches, and the more exposed and accreting areas of dunes such as foredunes and dune crests. It is one of the few species that are able to establish and grow in this dynamic beach zone. Sea oats thrives and is actually stimulated where sand is actively accumulating. It is highly tolerant of xeric conditions, but sea oats does not tolerate waterlogging of roots, which will stress or kill plants within a few days. There are also beneficial microorganisms associated with the roots of sea oats. Vesicular-arbuscular mycorrhizal fungi is reported to increase the surface area of roots facilitating nutrient absorption and improving nutrition of sea oats communities.



Gary Fine, NRCS, 2000

Adaptation

Sea oats is an excellent pioneering species on upper beaches, foredunes, and dune crests, where loose sands accumulate. It is tolerant of salt spray, short periods of inundation by saltwater, rapid sand burial, and it is very drought tolerant. The extensive system of rhizomes and roots binds and holds blowing sands.

Establishment

Sea oats are generally established using vegetative propagules. Freshly dug bareroot plant divisions can be used effectively. Although, container grown plant materials have been proven to be more reliable in establishing stands. Propagation methods from plant division to micropropagation techniques are used.

Generally, no site preparation is needed when planting vegetative plant materials. Beach plantings are established by planting propagules on 2 to 5 feet centers. Spacing is dependent on site conditions, erosion potential, and desired outcome of the planting. Sea oats is relatively slow to establish, so planting faster growing companion species such as

bitter panicum or other desirable pioneering species is recommended.

Generally, container grown plant materials can be planted year around, however, better results are achieved by planting mid-winter to early spring. Bareroot propagules should be planted November through March. Though sea oats are drought tolerant always consider site moisture conditions before planting. Since sea oats growing season varies considerably by geographic location, consult with local professionals when planning sea oats plantings.

Management

Restrict traffic during establishment.

Sea oats can be effectively established and grow on low fertility soils without fertilization, however, if fertilization is desired for establishment purposes, apply 3.5-4.5 actual N per and 1.0- 1.5 pounds actual P per 1,000 square feet. Or place a slow release tablet with each plant when planting.

Pests and Potential Problems

There are no know serious pests associated with sea oats.



Mixed Sea Oats and Bitter Panicum Planting Holly Beach, Louisiana. Gary Fine USDA NRCS

Environmental Concerns

There are no environmental concerns associated with sea oats. It is highly desirable and beneficial native species.

Cultivars, Improved, and Selected Materials (and area of origin)

Caminada germplasm sea oats is a pre-verietal release from the USDA, NRCS Golden Meadow Plant Materials Center, Galliano, Louisiana.

Commercial varieties of sea oats are available from local nurseries. Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under "United States Government". The Natural Resources Conservation Service will be listed under the subheading "Department of Agriculture."



Original Caminada sea oats source, Fourchon Beach, Louisiana. Gary Fine, NRCS, 1999

Prepared By

Gary Fine, NRCS ACES Project
Thibodaux, Louisiana

Species Coordinator

Morris Houck
USDA, NRCS Plant Materials Specialists
Alexandria, Louisiana

Edited: Richard H. Neill
USDA, NRCS LAPMC
Galliano, LA

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site <<http://plants.usda.gov>> or the Plant Materials Program Web site <<http://Plant-Materials.nrcs.usda.gov>>

References

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