Beach Dune and Critical Area Restoration With Native Plants

USDA NRCS Plant Materials Center

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Every year thousands of visitors enjoy the sandy white beaches along the shoreline of the Gulf of Mexico, including John Beasley Park in Okaloosa County, FL. Prior to 1993, the dunes at Beasley Park were almost completely devoid of vegetation, and subject to severe erosion. In 1993 the PMC, working in cooperation with the Yellow River SWCD, Okaloosa County, Three Rivers RC&D Council and a host of volunteers from several different agencies began revegetating the area around the pavilion and several blowouts behind the primary dunes.

Among the species used to revegetate Beasley Park were four varieties released from the Brooksville PMC: 'Northpa' and 'Southpa' bitter panicum (*Panicum amarum*), 'Sharp' marshhay cordgrass (*Spartina patens*), and 'Flora Sun' beach sunflower (*Helianthus debilis*). Revegetation took place in stages, beginning in 1993 and ending in 1996. All species were established using transplants. Due to supplemental irrigation and fertilization, seedling survival in all plantings was over 80%.

During the past five years, Beasley Park was in the direct path of several tropical storms, Hurricane Opal in 1995, and Hurricane George in 1998. Opal's strong winds destroyed over 125 miles of primary dune system along the northwest Florida Gulf coastline. Primary and secondary dunes in Beasley Park were still intact after the storm. Marshhay cordgrass and bitter panicum had a 95% survival rate, despite extensive wind, sand and salt damage. The beach sunflowers were severely burnt by the salt water, but were able to regenerate by seed.

'Northpa' bitter panicum is performing very well in other revegetation efforts. It is being used extensively by the US Army Corp of Engineers in a 25-mile beach dune revegetation project in North Carolina. The project leader reports that it has had a 92% survival rate and is out-performing sea oats.

Though it is a coastal plant, bitter panicum also performs well on critical area sites inland. Eglin Air Force Base, in the panhandle of Florida, has been involved in the revegetation of several borrow pit sites on the Base. Erosion from these pits was causing sedimentation in the streams where the endangered Okaloosa darter is found, further threatening the existence of this species. Eglin personnel preferred to use native species, which could colonize in dry, sterile soils. Plants also had to establish rapidly, due to intense storm events. 'Northpa' and 'Southpa' were able to fit all of these requirements, and have been used very successfully to revegetate several borrow pit sites on the Base.