

Invasive Spartina: >85% Reduction in the SF Bay

Ingrid Hogle, Monitoring Program Manager
San Francisco Estuary Invasive Spartina Project – a project of the State Coastal Conservancy



Since full-scale control efforts began in 2005, the State Coastal Conservancy's San Francisco Estuary Invasive Spartina Project (ISP) has coordinated the reduction of over 85% of the cover of invasive Spartina in the Bay.

The net cover of invasive Spartina throughout the Bay has been reduced from over 800 acres in 2005 to approximately 100 acres in 2010.

As the ISP works to coordinate the "end game" of controlling the remaining invasive Spartina in the Bay, the collaboration between the ISP Monitoring Program's GPS/GIS data and the ISP Control Program's coordination and assistance with treatment activities has necessarily become crucial to project success.



Background

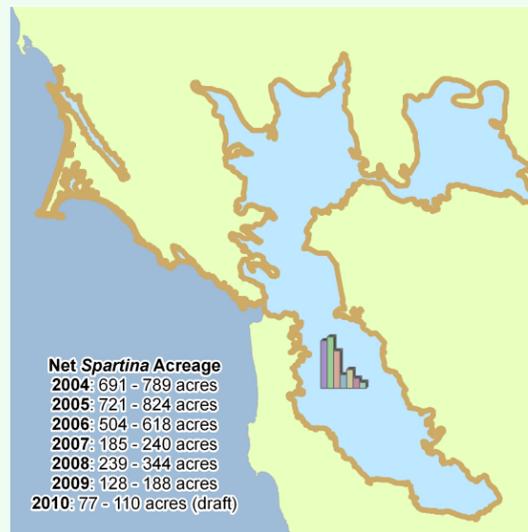
The Invasive Spartina Project was created in 2000 by the State Coastal Conservancy to coordinate regional control and monitoring of invasive cordgrass.

Spartina alterniflora was introduced to the Bay in the 1970s. Hybrids with the native *S. foliosa* were discovered in the 1990s. Hybrid vigor of *Spartina alterniflora x foliosa* cordgrass results in an invasive plant that creates dense monocultures and fills in channels.

This hybrid exists only in the San Francisco Bay. The West Coast Governor's Agreement has prioritized eradication of invasive Spartina, including hybrids and preventing further infestations.

Hybrid Spartina tends to be taller, denser, and more robust than native *S. foliosa* plants. They flower later and stay green later than the native *S. foliosa*. Morphologic characteristics of hybrids may include red stems; long, wide, stiff leaves; wide stems; and long, wide inflorescences. Invasive hybrids are highly competitive, growing in a larger tidal range than either parent species.

Reduction since 2005



Draft 2010 results show a reduction of over 85% since the height of the infestation in 2005.

Patch Level Treatment Monitoring

The ISP Control Program has successfully coordinated the efforts of many partners to achieve great reductions in the acreage of invasive Spartina remaining in the Bay.

At difficult sites, ISP biologists now accompany treatment crews, using GPS to help identify, locate and ensure the treatment of all remaining patches.

With such targeted efforts, the ISP expects to continue on a successful trajectory towards eradication.



When it was first introduced in the 1970s, Atlantic Smooth Cordgrass (*Spartina alterniflora*) could be differentiated from the California native Pacific cordgrass (*S. foliosa*) based on differences in morphology & phenology. The plants started to hybridize; in 1997, Daehler & Strong published their discovery of *S. alterniflora x foliosa* hybrids. Ayres, Strong, Zaremba and others documented the rapid spread and hybrid vigor of these hybrid plants as they began to invade the San Francisco Bay's marshes & mudflats. Early generation hybrids were relatively easy to identify, even from a distance.

As hybrids and natives continue to backcross and create "dilute" hybrids, identification becomes more difficult.

Burlingame Lagoon Spartina Photo Monitoring

