



Large stands of native *Spartina foliosa* are still flourishing in the North Bay.

**No Hybrids Found**  
Spot surveys and transect sampling were conducted in the North Bay, West San Pablo Bay and the Napa-Sonoma Marsh. No *S. alterniflora*/hybrids have been found in this area to date. The single *S. densiflora* plant found in Pond 2A in 2001 at Chino Slough has since been eradicated.

***S. patens* Introduction**  
Southampton Marsh: Population has spread widely within marsh since initial report, and is competing with the rare *Cordipanthus mollis* sp. mollis. The 2004 *S. patens* population estimate was 0.57 acres.



The population of *S. patens* continues to spread at Renico's Southampton Marsh, invading the habitat of the rare *Cordipanthus mollis* sp. mollis.

**Outlier Populations**  
Marin County is host to 3 out of 4 invasive *Spartina* species, including the only known population of *S. anglica*. *S. anglica* has still not been found spreading beyond Creckside Park. The northernmost population of *S. densiflora* is Blackwood Cove in Marin. In 2004 the cover of *S. densiflora* at Blackwood Park, located at the mouth of the San Rafael Canal, was estimated to be 0.12 acres. However, the majority of the *S. densiflora* population continues to be at Corte Madera Creek.

***S. densiflora* & *S. anglica* Introduction**  
Creckside Park: Site of initial introduction of *Spartina densiflora* and *S. anglica*. Plants were transplanted to site in 1976 as part of marsh restoration project. *S. densiflora* escaped Creckside Park, and has spread along entire length of Corte Madera Creek, and across the Bay to the Pt. Pinole Regional Shoreline and south to Sanchez Marsh in the Burlingame Lagoon.



In 1998 a single patch of *S. alterniflora* was identified in the native *S. foliosa* marsh at Black's Pasture in Tiburon. In 2004 the marsh, approximately 0.2 acre in total area, had been fully invaded with an estimated 0.61 acre of *S. alterniflora*/hybrids, as well as 0.01 acre of *S. densiflora*.

***S. alterniflora* hybrid Northern Limit**  
The northern limit of the *S. alterniflora*-hybrids continues to be Pt. Pinole in Contra Costa county and San Rafael in Marin county.

**San Francisco Estuary INVASIVE SPARTINA 2004 SURVEY**

**Distribution of Invasive *Spartina* Populations by Species**

<i>S. alterniflora</i> / hybrid Lab Teber*	<i>S. alterniflora</i> / hybrid Field ID	<i>S. densiflora</i>	<i>S. patens</i>	<i>S. anglica</i>
Diameter range in meters	Diameter range in meters	Diameter range in meters	Diameter range in meters	Diameter range in meters
0 - 4.5	0 - 4.5	0.01 - 1.75	0.5 - 4	0.05 - 5
4.5 - 9.5	5 - 9.5	2 - 20	5 - 19	6 - 11
10 - 65	10 - 100			

\**S. alterniflora* / hybrid verified by lab tests.

**Width of line in meters**

Seeding to 1m	Seeding to 1m
1m-3m	1-10%
3m-10m	10-30%
10m-30m	30-60%
30m+	60-90%

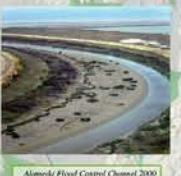
**Percent cover**

Percent cover	Percent cover
1-10%	90-100%
10-30%	
30-60%	
60-90%	
90-100%	

Legend:  
 Points represent individual *Spartina* clones or small clusters of clones.  
 Lines represent continuous linear patches of plants.  
 Areas represent areal patches of plants characterized by varying percentage of cover.

*S. alterniflora*/hybrids are encroaching to convert meadows to a cordgrass meadow at the Elsie Roemer Bird Sanctuary on Alameda Island.

**Restoration Sites Impacted**  
Alameda County hosts several of the oldest and largest *S. alterniflora* hybrid invasions in the estuary. Many restoration projects have been invaded along the Hayward Regional Shoreline, flood control channels are choked in Fremont and San Leandro, and mudflats in San Leandro Bay and Alameda Island are being replaced with meadows of *S. alterniflora*/hybrids. For example, in 2004 *S. alterniflora*/hybrid covered an estimated 18 and 25 acres of Oro Loma and Cargill Mitigation Site. 138 acres of *S. alterniflora* have invaded the Coyote Hills Slough (AFCC Federal Project) and 12 acres have invaded the mudflats of Elsie Roemer Bird Sanctuary in Alameda Island.



Alameda Flood Control Channel 2000



Alameda Flood Control Channel 2001



Alameda Flood Control Channel 2007

*S. alterniflora* hybrids are rapidly spreading within the Alameda Flood Control Channel-Federal Project increasing the risk of upland flooding.

***S. alterniflora* Introduction**  
Pond 3: Site of initial introduction of *Spartina alterniflora* into San Francisco Bay. Seed was sown as part of restoration project in early 1970s. Plants quickly became established, and began to spread along bay shores.

**Scattered Clones**  
Though *S. alterniflora* / hybrids have spread further into the South Bay than previously thought, populations are still sparse south of the Dumbarton Bridge, with only scattered individual clones found along the shoreline and in sloughs. The Santa Clara Valley Water District Invasive *Spartina* Control Program estimated a total of 3.14 acres in 2004.

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**Contributors:**  
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**Legend:**  
 County Lines, Major Highways, State Highways, Mud Flats, Deep Bay, Shallow Bay, Public, Privately Protected Land and Wildlife Refuges, Developed Land

Bay Area Open Space Council (2005) public lands layer; San Francisco Estuary Institute EquAtlas (2005) marsh and mudflat map layer; TMAC(2002) urban data.