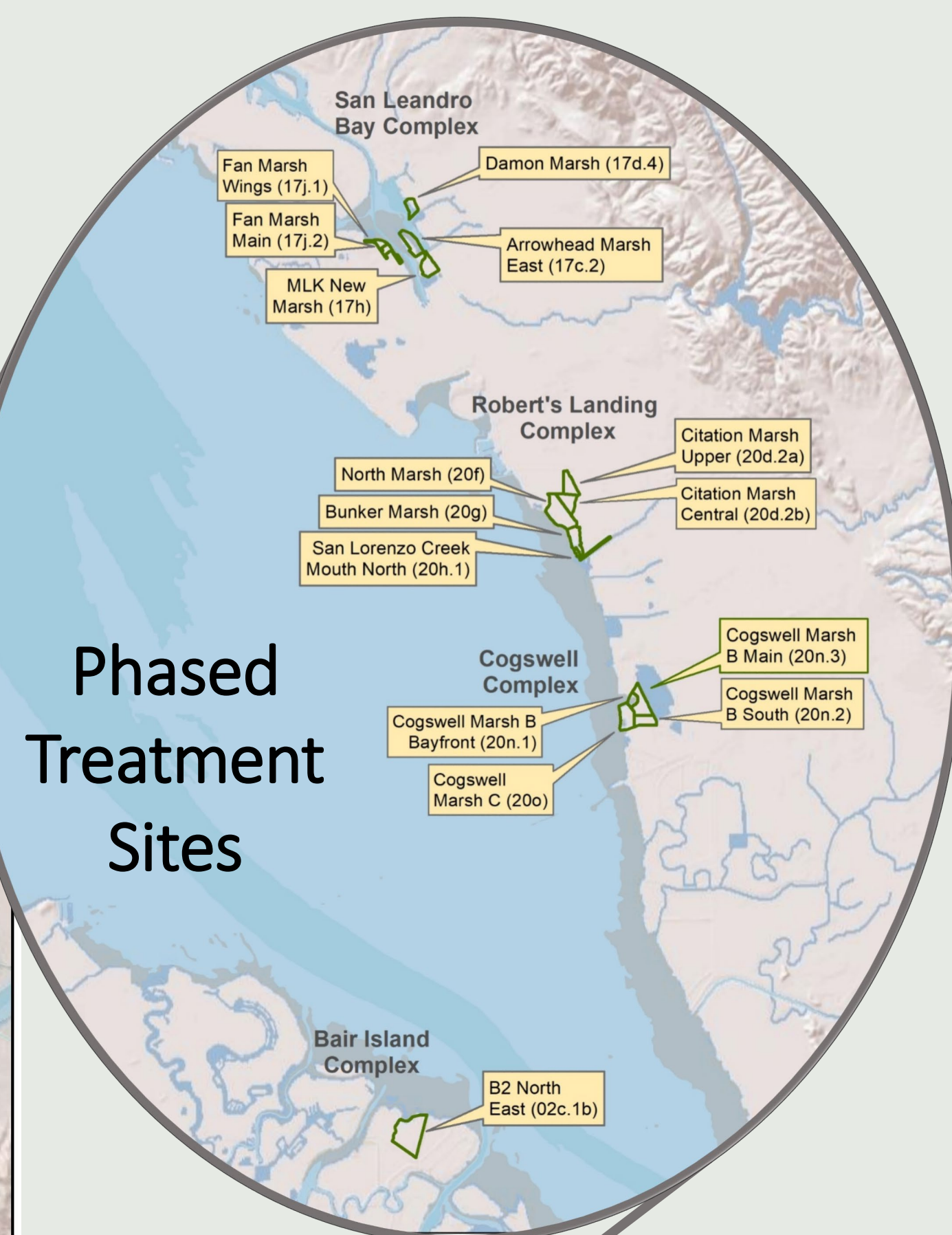
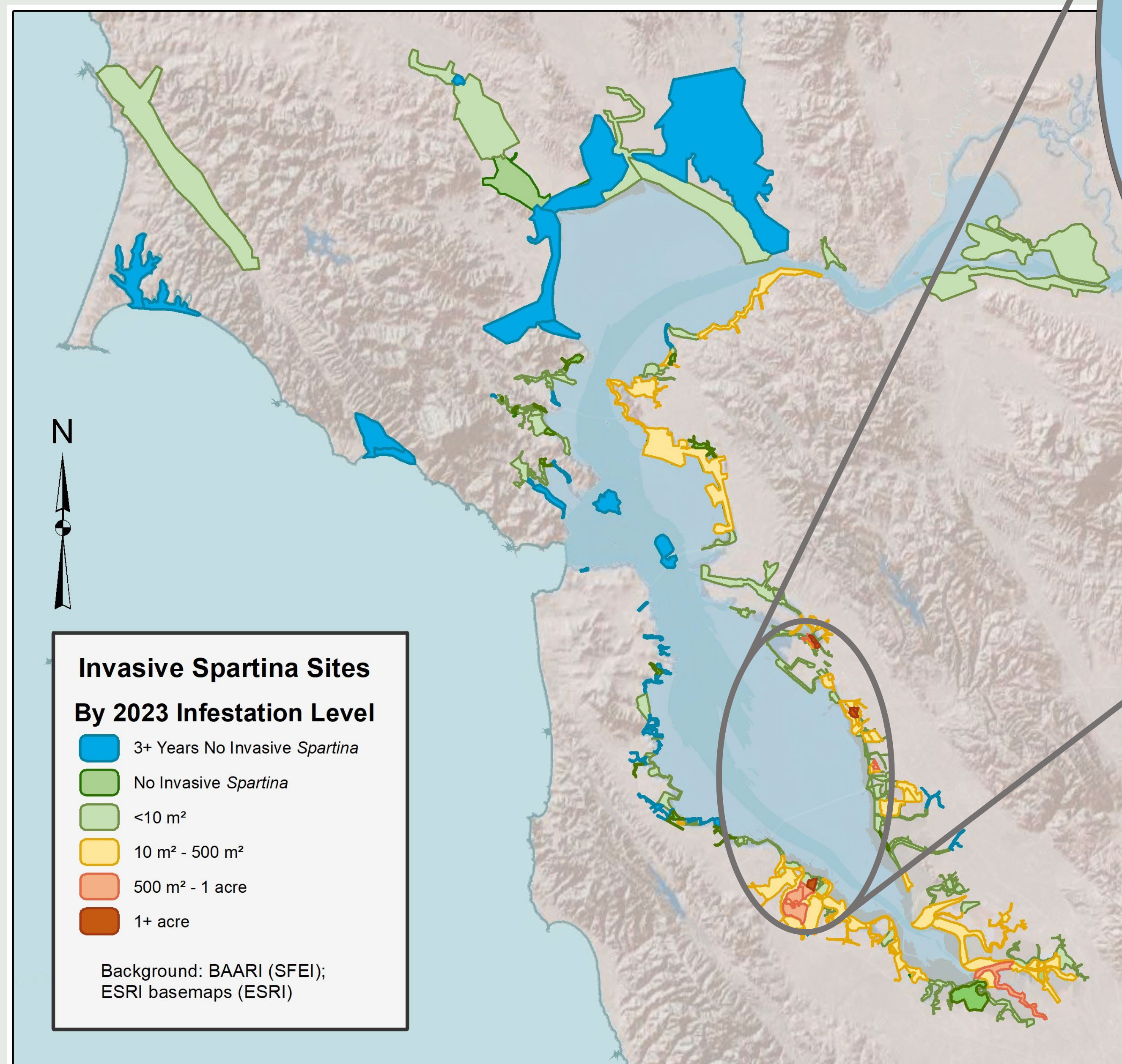


# San Francisco Estuary Invasive Spartina Project: Progress Update and Beginning Phased Treatment at the Final Sites

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## Project Overview

The San Francisco Estuary Invasive Spartina Project (ISP) was initiated in 2000 by the State Coastal Conservancy and U.S. Fish and Wildlife Service in response to the rapid spread of non-native Spartina in tidal marshes and mudflats of the San Francisco Estuary. This collaboration of many partners around the Estuary began coordinated treatment in 2005, achieving a 97% reduction of the net area of invasive Spartina by 2023 from a peak of 805 acres down to 22.8 acres.



## Phased Treatment

- Treatment has proceeded slowly at selected sites to protect the endangered California Ridgway's rail (*Rallus obsoletus obsoletus*).
- In 2018, after annual Ridgway's rail monitoring showed populations had stabilized, ISP began phasing in treatment at the 15 sites where treatment had been halted to help reduce impacts to rails.
- By 2023, hybrid *Spartina* was reduced by 85% at the nine Phase 1 sites, totaling 8.8 acres removed from the Estuary. Treatment resumed at three of the Phase 2 sites in 2023, with plans to resume treatment at the final three sites over the next several years.

Name	Year Treatment Resumed	Reduction Since Full Treatment Resumed
B2 North East		43%
Cogswell Marsh B South	2018	99%
Cogswell Marsh C		99%
Damon Marsh		99%
Fan Marsh Wings	2019	99%
San Lorenzo Creek Mouth North		99.7%
Bunker Marsh	2020	99%
Cogswell Marsh B Bayfront		97%
Citation Marsh Upper	2023	97%
Citation Marsh Central		
Cogswell Marsh B Main		
Fan Marsh Main	planned 2025	
North Marsh		
Arrowhead Marsh East	planned 2027	
MLK New Marsh		



Tall, dense monocultures of invasive *Spartina* typify sites where treatment was halted until phased treatment resumed in 2018.



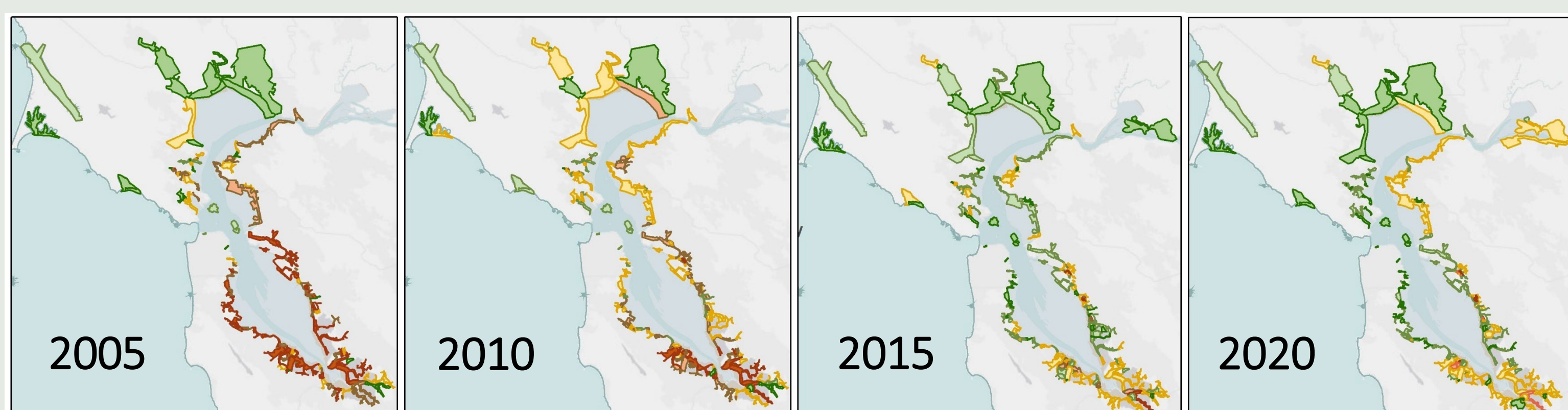
Phase 2 treatment initiation in 2023 at Cogswell Marsh B Main (left) and Fan Marsh Main (right)

## Restoration Program

- Treatment at the phased sites has been coupled with habitat enhancement in nearby and adjacent sites through the installation of native marsh plants to benefit California Ridgway's rails and other sensitive tidal marsh species.
- Since 2012, the program has installed close to 600,000 natives and constructed 82 high tide refuge islands to help provide additional habitat cover at more than 40 sites around San Francisco Bay.



Phase 1 treatment reduced hybrid *Spartina* at Cogswell Marsh B South by 99%, allowing marsh gumplant that ISP had previously installed along the channels to flourish into rail habitat



Status of invasive cordgrass (hybridized *S. alterniflora* × *foliosa*) infestation throughout San Francisco Estuary from 2005 to 2020. Legend as above except "3+ Years No Invasive *Spartina*" sites are not highlighted.

Before (below) and after (right) habitat enhancement at Cogswell Marsh C



Marsh-upland transition zone enhancements at Citation Marsh Central