

# ABUNDANT EELGRASS

*Eelgrass is a flowering plant that serves many important functions in the Morro Bay estuary including improving water quality, reducing erosion, sequestering carbon, and providing habitat for wildlife. Since 2007, Morro Bay's eelgrass experienced a precipitous decline. In the last few years, eelgrass has returned throughout the bay, with the 2021 map indicating 500 acres.*

## HOW YOU CAN HELP

Be careful when boating through the bay's shallow waters or launching watercraft from the estuary shoreline. Fragile beds of eelgrass can grow in these areas, and frequent trampling can impact its growth.

## LEARN MORE



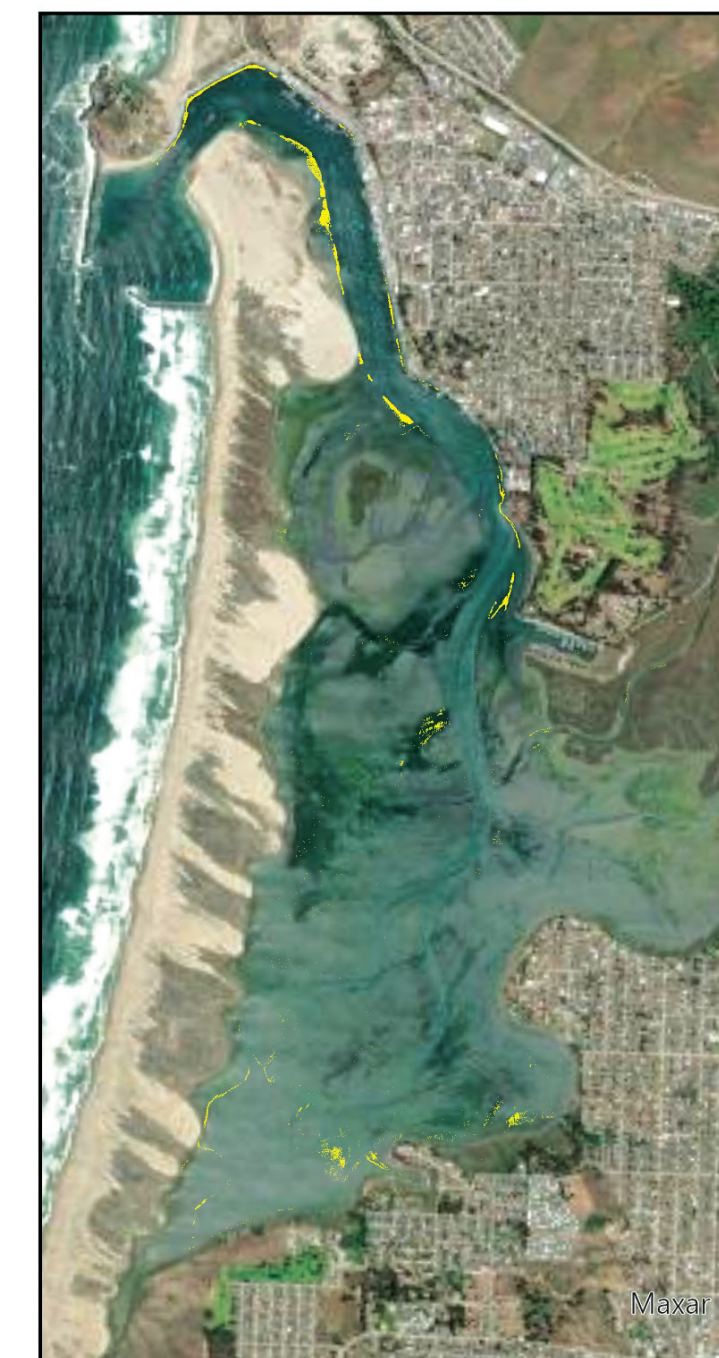
STATE OF THE BAY

## EELGRASS ACREAGE: 2007, 2017, AND 2021

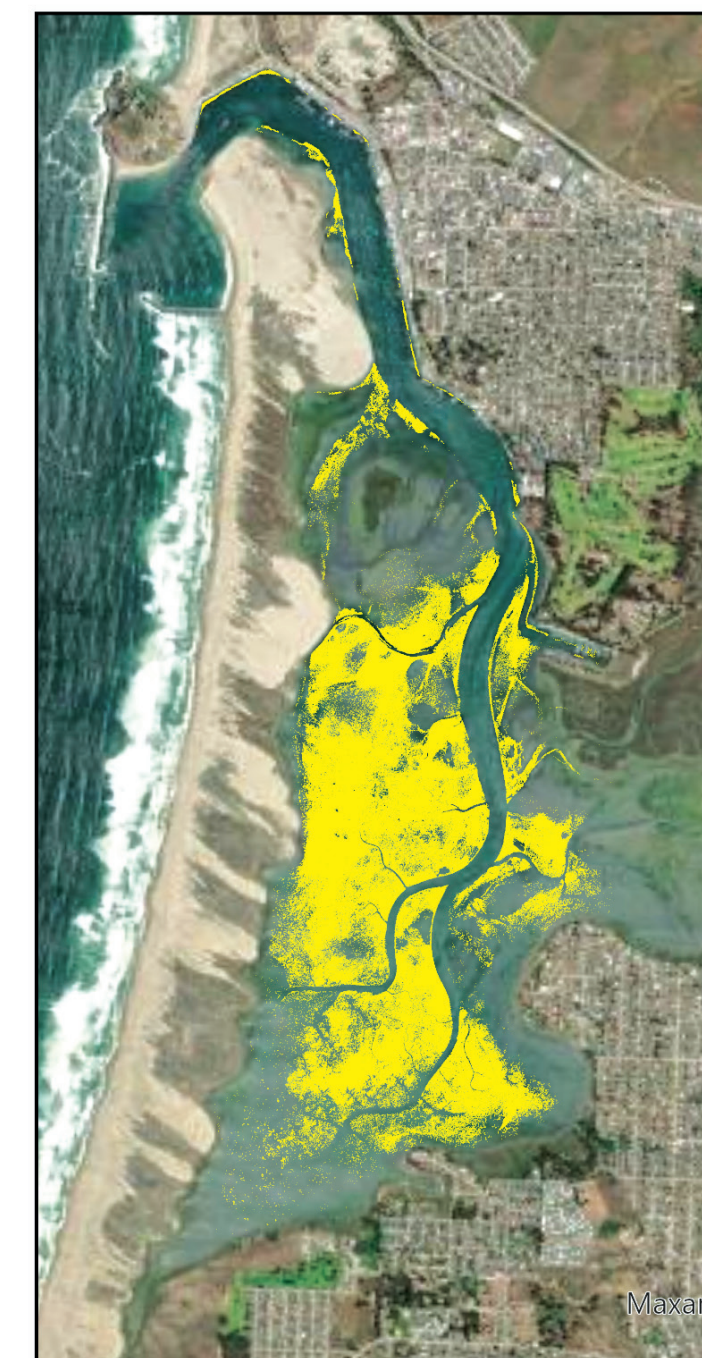
Eelgrass acreage (represented in yellow) declined from 2007 when 344 acres were mapped. In 2017, small patches of eelgrass appeared in the mid and back bay, which were the areas with the most eelgrass loss. Acreage has been increasing since 2017, with the 2021 map indicating 500 acres. Although some changes in the mapping methods occurred over time, the strong eelgrass recovery is welcome news to the Estuary Program and the community.



Fall 2007 (344 acres)



Fall 2017 (13 acres)



Fall 2021 (500 acres)

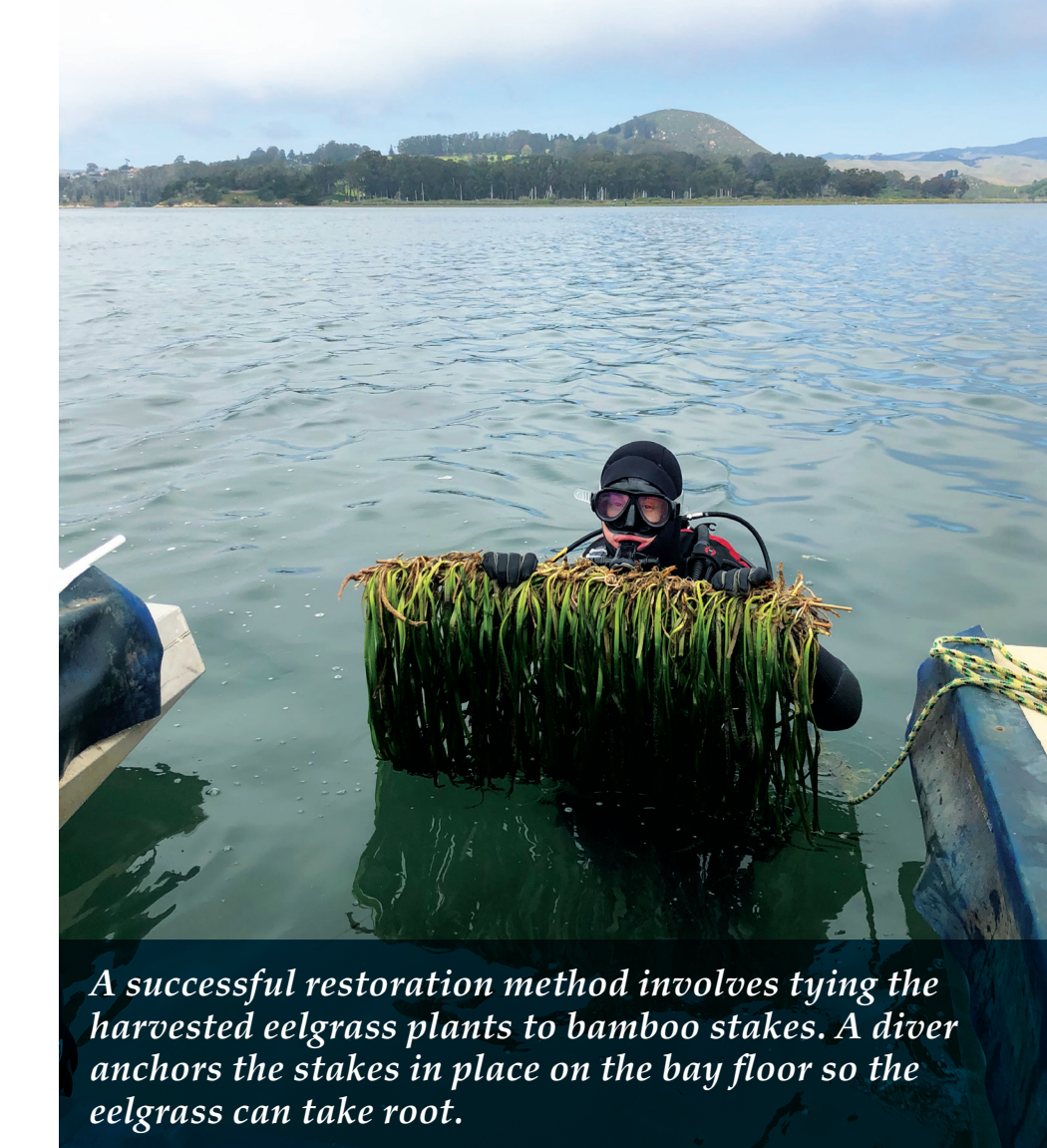
 Eelgrass Extent



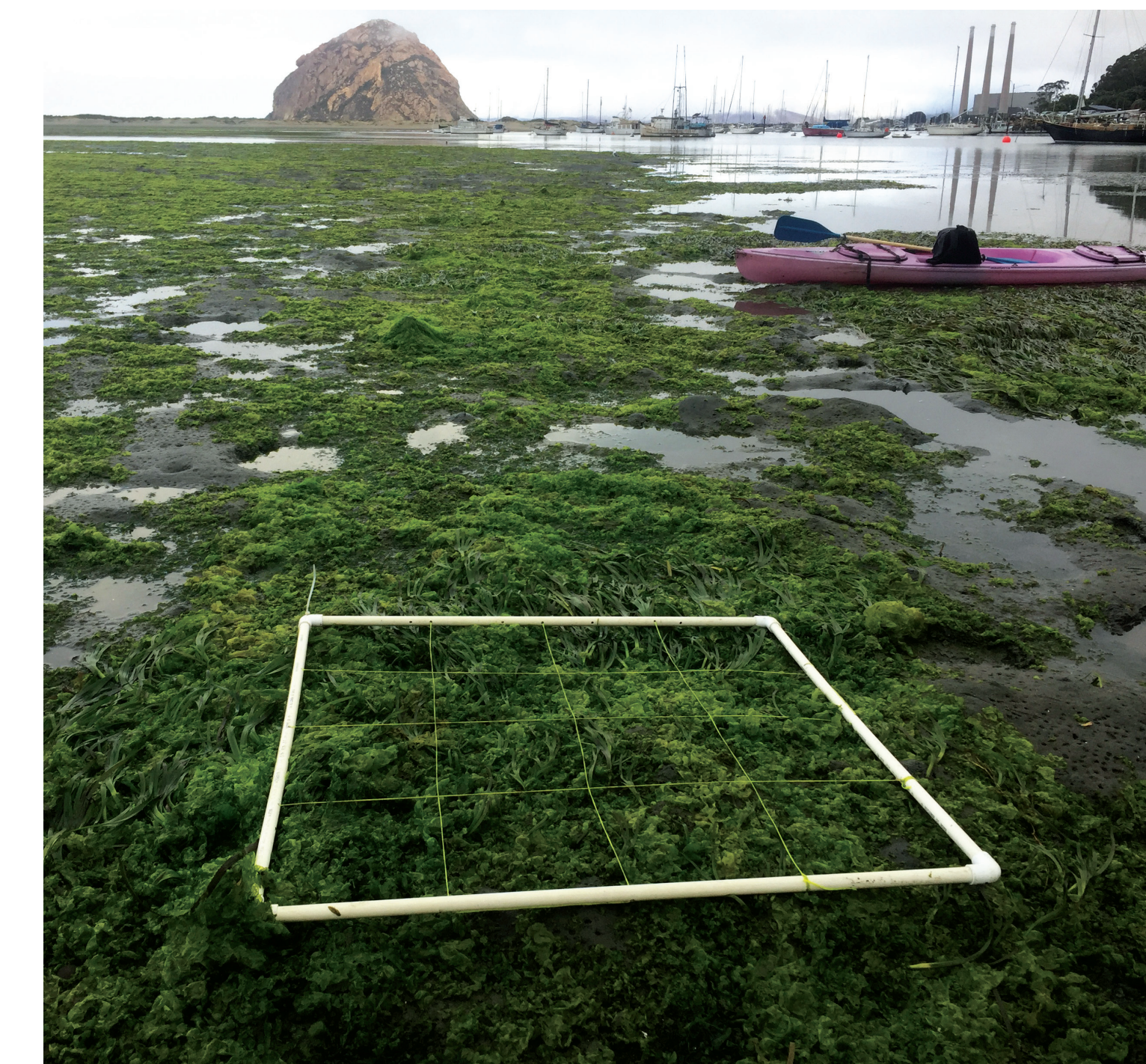
 **MORRO BAY**  
NATIONAL ESTUARY PROGRAM

## EELGRASS RESTORATION

The Estuary Program led restoration efforts from 2017 to 2021 with partners including Cal Poly, Tenera Environmental, Inc., and many volunteers. Over the last five years, nearly 15,000 plants were harvested from healthy eelgrass beds and transplanted at 39 sites in both intertidal and subtidal areas. This photo shows a Tenera diver preparing to install eelgrass plants tied to bamboo stakes, a successful method of transplanting eelgrass. With 500 acres of eelgrass mapped in 2021, the Estuary Program has ended restoration efforts and will continue to monitor the health of existing eelgrass beds and track large-scale changes in acreage over time.



*A successful restoration method involves tying the harvested eelgrass plants to bamboo stakes. A diver anchors the stakes in place on the bay floor so the eelgrass can take root.*



## MACROALGAE IMPACTS ON EELGRASS

Macroalgae can play a beneficial role in an estuary, providing food, habitat, and nutrient cycling in the bay. However, excess macroalgae can have negative impacts like blocking out the sunlight that eelgrass plants need to grow. The amount of macroalgae in Morro Bay can fluctuate greatly from year to year. We have observed a recent increase in macroalgae, and eelgrass monitoring efforts indicate areas where macroalgae outcompeted eelgrass, as pictured above. We will continue to monitor macroalgae, its impacts on eelgrass, and how issues such as elevated nutrients affect both species.

## EELGRASS RESEARCH

To better understand the conditions that influence eelgrass health, the Estuary Program partnered with Cal Poly on a Restore America's Estuaries Coastal Watershed Grant. The multi-year project focused on eelgrass mapping and monitoring, restoration, bay elevation-change tracking, and water quality. These photos show the work of Dr. Ryan Walter of the Physics Department and Dr. Emily Bockmon of the Chemistry Department along with their students.



Dr. Walter deployed sensors to measure water quality parameters such as temperature and salinity. Measurements were collected at high tide and low tide in July and December 2021.



Dr. Bockmon's students collected water samples monthly from six bay-shoreline sites for analysis of nutrients and carbonate chemistry.



Senior Research Scientist Ian Robbins dives to conduct maintenance on a continuous monitoring sensor station at the north T-pier. A second set of sensors in the back bay allows comparison between front and back bay water quality conditions.



**MORRO BAY**  
NATIONAL ESTUARY PROGRAM

MBNEP.ORG  
BLOG f t i