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**Elkhorn Slough, in this photo from May 2011, spreads out over thousands of acres just south of the Santa Cruz County line.**

# 12,000 years of Elkhorn Slough

Wetlands 7-21-12

**AUTHOR'S NOTE:** *To celebrate the Elkhorn Slough Foundation's 30th anniversary I'm devoting three columns to one of the West Coast's largest wetlands.*

**E**lkhorn Slough extends seven miles inland from its nexus with Monterey Bay at the mouth of the Moss Landing Harbor



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*Our Ocean  
Backyard*

where it serves both as a cradle for wildlife and a giant water filter. It also absorbed enough energy from the March 11, 2011 tsunami to spare the Moss Landing Harbor from the devastation that was visited on the Santa Cruz Harbor.

Its story starts around 12,000 years ago as the ice age was ending.

Humans inhabited the region encompassing Moss Landing, Castroville, Elkhorn and the Pajaro Valley. The region's climate was overcast, wetter and cooler thanks in part to a thawing of glaciers.

Mark Hylkema, California State Parks archaeologist, told me the beach consisted of coastal shrub and scrub sand dunes, and the biologically rich region supported mega species such as camels, giant sloths, horses, mastodons and the Columbian mammoth of which some remnants were recently uncovered near Castroville.

Monterey Bay's shoreline was 300 feet lower and three miles further offshore than today. The opening gorge of the bay's submarine canyon — now underwater — was onshore and impassable. Anyone south of it had to either try to hike through or navigate around a large coastal marsh that was located there if they wanted to travel north.

That marsh preceded today's slough, extending inland from where the Salinas River then emptied into the sea, north of where it does today. The river flowed where the Moro Cojo Slough is now, south of where the Moss Landing Power Plant sits.

Before the river ran into the sea it turned north and flowed parallel to the coastline, seasonally emptying into the bay near where the Moss Landing Harbor mouth is now. The ground was higher and the marsh drained fresh water to the ocean, as opposed to today's slough which is saltier due to the creation of the harbor's permanent opening to the sea after World War II.

From the year 9500 BC to 4000 BC sea levels rose rapidly and Hylkema noted that writings from Egypt and Mesopotamia at the time also chronicled frequent flooding events. Thirty-two mega species including the sloth and mammoth disappeared, which he speculates was the result of hunting by Ohlones who organized into distinct tribes, each with several villages. The tribes enjoyed strategic alliances and a sophisticated trade network based a currency of beads made of Olivella shells.

Besides hunting they also manipulated land, tilling irises, for example, to use the bulb for food and the leaf fiber for cords. The tribe in the Elkhorn Slough area was called Tiuvta in CalendaRuc: calen means ocean, ruc means houses. Hylkema hasn't found a translation for Tiuvta.

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Unlike later inhabitants and visitors who entered the marsh's complex maze and tall vegetation never to be seen again, the Ohlones successfully navigated it. In 1769, Spanish explorer Gaspar de Portola christened it Lake of the Cranes for its birds. A smart man, he maneuvered his team around it.\*

From 1769 to 1872 the area's economy moved primarily into cattle ranching.

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## SLOUGH

Continued from C1

Ohlones absorbed into society by becoming cowboys and intermarrying with Mexicans. The gold rush triggered what Hylkema calls the "biggest migration in the history of the planet:" 5,800 nonnative Californians grew to 10,000 in 1849, 100,000 in 1850 and 200,000 in 1851.

The area around Moss Landing also grew. For years, there was a whaling operation there. Much of the marsh was drained for cattle ranches and row crops. Roads and railroads segmented the wetland and blocked the flow of water.

Then between 1908 and 1910, the Salinas River

was diverted to where it is today. The harbor and the slough are now situated over its old river bed.

I'll discuss that diversion and the slough's subsequent history in my next column.

Elkhorn Slough Foundation Executive Director Mark Silberstein first encountered the slough on a field trip as a San Jose State student in 1968.

"We visited the tide flats at its mouth and saw strange and wonderful creatures," he told me.

"Subsequently I was on a team from Moss Landing Marine Lab to undertake the first quantitative studies of the slough, Terry Eckhardt and I were likely the first to scuba dive its length, towed by boat."

In the last 30 years, the slough has been subject to an active effort by the foundation to restore it. "I've seen a lot of changes, including the erosion of marshes along the channel, the conservation of thousands of acres in the Elkhorn watershed and the restoration of key habitats," said Silberstein. "Because of the way the community has embraced the slough, the increase in sea otters, sea lions and harbor seals has been astounding.

It's challenging to balance all the uses but overall, I see things going in a positive direction."

The story continues in two weeks.

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