FOUNDATION'S 30TH ANNIVERSARY

Elkhorn Slough in the 1900s

Wetlands

8.4.12

EDITOR'S NOTE: *This is the second in a three-column series in tribute to the Elkhorn Slough Foundation's 30th anniversary.*

A tidal marsh exposed year-round to the ocean, Elkhorn Slough is saltier today than it was before construction of the Moss Landing Harbor in 1946 created a permanent opening for bay waters to flow into it. The diversion of the Salinas River in 1910, which had met the sea where the harbor mouth is today, reduced the amount of fresh water it had contributed to the marsh.

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Our Ocean Backyard

The slough offers all the benefits wetlands provide — it absorbs energy from natural disasters such as storms and tsunamis, serves as a water filter and is a cradle and smorgasbord for wildlife. Moss Landing Harbor was spared the damage that the March 1, 2011 tsunami caused the Santa Cruz Harbor, because its waves penetrated through the harbor mouth into the seven mile long slough behind it where their power was diminished. It is a habitat for birds, marine mammals and smaller creatures you find only if you dare meander with your kayak up those channels in the mud flats.

While it's probably less environmentally productive than it was over the bulk of its 12,000-year history since the end of the ice age, it's more so than any time over the past 150 years. It's been brought to its current state thanks to a lot of hard work, time and treasure that's resulted in the preservation of more than 5,000 acres of lowlands for the wetland itself, as well as protection of uplands that feed the slough with fresh water but can also send erosion and pollution into it without proper management.

Historically, wetlands in the region were quite productive. In a paper published in 2005 about the evolution of the slough, Elkhorn Slough Stewardship Coordinator Andrea Woolfolk wrote, "the lower ends of these wetlands (around modern day Moss Landing) appear to have been dominated for thousands of years by tidally influenced salt marshes and mudflats along main channels and tidal creeks; while their upper margins have harbored brackish or freshwater marshes. These habitats, in turn, have supported a rich mix of plants, invertebrates, fishes, birds, and perhaps, marine mammals."

As ice age glaciers receded 12,000 years ago, Monterey Bay's shoreline was 300 feet lower and 3 miles further offshore and giant sloths and Columbian mammoths roamed the area, hunted by paleo humans.

The region was occupied by the Ohlones, and then the Spanish came, followed by Mexicans, whose government divided the area into land grants in the 1800s. The 1849 gold rush brought a population explosion to the Monterey Bay region.

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Much of the freshwater marsh at Elkhorn was drained for cattle ranches and row crops, and the subsequent addition of roads and railroads served to segment the wetland, segmenting it and blocking the flow of water.

In 1872 a railroad was constructed over slough lands, limiting the flow of water. Three years later, just south of today's Moss Landing Power Plant site, a 5-foot levee was constructed to restrict tidal flow to about 120 acres inland.

Dikes and channels were built and marsh land was given over the farming and dairies, activities that coexisted along side a whaling operation and salt extraction in the early 1900s.

The Salinas River had emptied to the bay approximately where the Moss Landing Harbor mouth is today. Some say that the 1906 earthquake changed its course while others argue that farmers diverted it around 1910 to its present nexus with Monterey Bay, further south near Marina.

The middle of the century saw construction of the Kaiser Refractory that pulled magnesium from the ocean to build products for World War II and later bricks; as well as the harbor, and the Moss Landing Power Plant. By the mid-1950s, the original 4,000 acres of marshlands had been reduced to about 2,500.

The first try at conservation was in the early 1960s when The Nature Conservancy purchased 60 acres of land. One of the earliest restoration efforts was undertaken by the California Department of Fish and Game which bought 1,000 acres in 1980. The dried lands had subsided below the level of the natural marsh, so engineers devised a series of islands and channels. In 1983, they broke the dikes to restore tidal action, and more than 400 acres of marsh were reconnected to the main channel.

In 1982, the Elkhorn Slough National Estuarine Research Reserve's Advisory Committee started the Elkhorn Slough Foundation. Mark Silberstein was hired as executive director and it began work with funding from the National Oceanic and Atmospheric Administration and in 1986 it received its first gift of property, consisting of 15 acres on Moro Cojo Slough.

Today, Elkhorn Slough hosts pickleweed, eelgrass, oysters, gaper clams, and longjaw mudsuckers year round. Seasonal visitors include migratory shorebirds, sea otters, sharks and rays. Three hundred and forty types of birds and more than 100 fish species can be found there. In my next column I'll discuss how some families have helped restore the slough.

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