

DESCRIPTION

Elkhorn Slough is a 7-mile long tidal slough and estuary on Monterey Bay in Monterey County. The community of Moss Landing, Moss Landing Harbor, and the Moss Landing Power Plant are located by the mouth of the slough.

The primary water quality concerns confronting the Elkhorn Slough Critical Coastal Area (CCA) watershed are erosion, pesticides, bacteria, and scour. The surrounding agricultural lands are a major source of eroded soils and agricultural chemicals. Soil loss from strawberry and cropped lands has resulted in sediment deposition on roads, drainage channels, and ultimately in wetland habitat in the slough area.

Existing economic and social conditions of many growers in the area have prevented effective erosion control systems from being implemented on the most erodible lands in the watershed. Publicly-sponsored soil conservation programs have also been largely ineffective in financially assisting the most limited-resource growers.

Several Moss Landing Harbor activities, including ongoing dredging, also impact the slough at its confluence with the harbor. The Harbor has over 600 vessels year-round, many with live-aboards/stay-aboards who use substandard wastewater storage and disposal systems that contaminate harbor waters. Coupled with the presence of a large dairy and dairy waste lagoons, and residential on-site septic systems, coliform levels in the lagoon are significantly affecting overall water quality in the slough.

There are two state Marine Protected Areas within the slough: Elkhorn Slough State Marine Conservation Area in the lower slough, and the larger Elkhorn Slough State Marine Reserve further inland, both administered by the California Department of Fish and Wildlife (CDFW). Chemical analysis studies conducted by the CDFW revealed increased levels of DDT, DDE, DDD, and toxaphene in tissues and eggshells of the Caspian tern. CDFW postulated that these chemicals are introduced through remobilization and transportation of sediment by heavy water flows from both the Salinas and Pajaro Rivers. These pollution sources and other water quality issues have restricted shellfish growing in the slough, and substantially reduced overall water quality for the area.

Waterbodies in this CCA that are listed as impaired on the current (2016) Clean Water Act 303(d) list are **Elkhorn Slough** (impaired by pesticides, sedimentation/siltation, total coliform bacteria, dissolved oxygen, nitrate, and pH); **Bennett Slough** (impaired by turbidity, dissolved oxygen, chlorophyll-a, and pH); **Moro Cojo Slough** (impaired by pesticides, toxicity, turbidity, sedimentation/siltation, total coliform bacteria, E. coli bacteria, nitrate, dissolved oxygen, ammonia, and pH); **Carneros Creek** (impaired by turbidity, fecal coliform bacteria, dissolved oxygen, chlorophyll-a, nitrate, ammonia, and pH); **Watsonville Creek** (impaired by E. coli bacteria, fecal coliform bacteria, dissolved oxygen, nitrate, and pH); and **Moss Landing Harbor** (impaired by toxicity, sedimentation/siltation, indicator bacteria,



Elkhorn Slough at Moss Landing

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dissolved oxygen, pH, nickel, arsenic, PCBs, and the pesticides diazinon, chlorpyrifos, dieldrin, and DDT). Potential sources of these pollutants, organized by **Source Categories**, are listed as **Agriculture** (agriculture); **Miscellaneous** (domestic animals/livestock); **Natural Sources**; and **Source Unknown**.

CRITERIA FOR CCA IDENTIFICATION

The Elkhorn Slough [Critical Coastal Area](#) (CCA) was identified in 1995 based on the criterion of a coastal watershed that flows into an impaired bay or estuary on the 1994 Clean Water Act 303(d) list (Elkhorn Slough).

This CCA also met the 2014 CCA identification criterion of a coastal watershed where a state-identified Principal Bay or Estuary is an impaired waterbody on the 2010 303(d) list (Elkhorn Slough). See California Department of Fish and Wildlife's "[California's Living Marine Resources: A Status Report](#)" (2001) and associated [map of the Principal Bays and Estuaries of California](#).

In addition, this CCA met the 2014 CCA identification criterion of a coastal watershed where an impaired waterbody on the 2010 Clean Water Act 303(d) list (Elkhorn Slough) is adjacent to a [California Marine Protected Area](#) (Elkhorn Slough State Marine Reserve, and Elkhorn Slough State Marine Conservation Area).

ADDRESSING POLLUTANTS

Section 303(d) of the federal Clean Water Act requires states to make a [list of impaired waters](#) that are not attaining water quality standards, and to develop a [Total Maximum Daily Load \(TMDL\)](#) or similar approach to account for all sources of the pollutants that caused the water to be listed as impaired. TMDLs include allocations to both point and nonpoint sources (NPS) of the listed pollutants. The current (2016) 303(d) list of impaired waterbodies includes pollutants, potential pollutant sources, and year a TMDL was approved or is expected.

To address NPS pollutants, see [California's Nonpoint Source Management Measures](#) for guidance on selecting appropriate Management Measures, which consist of a suite of plans, practices, technologies, operating methods, or other measures that may be used to control NPS pollution.

Information for this factsheet was originally compiled by members of California's Critical Coastal Areas Statewide Committee in 2006. The factsheet was revised and updated in 2019 by the California Coastal Commission's Water Quality Program staff.

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