

decline between June 1993 and April 1995 but increase in September 1995.

Additional information on contamination of the estuary's food web will be obtained in 1997 through RMP sampling of contamination in fish tissue. Species commonly caught and consumed that are known to accumulate contaminants are being targeted for sampling, including jacksmelt, white croaker, shiner surfperch, California halibut, striped bass, leopard shark, and white sturgeon.

Acknowledgments

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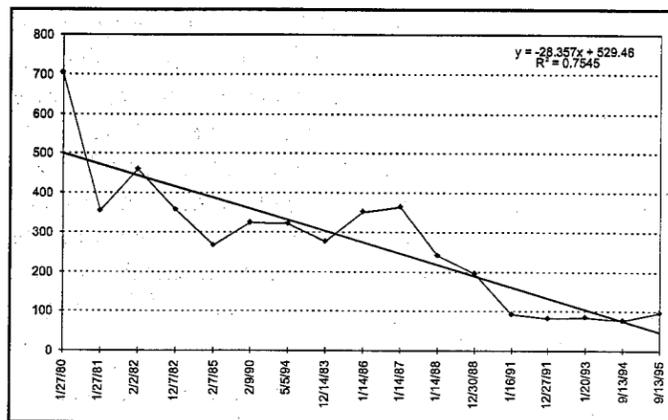


Figure 6
CIS-CHLORDANE CONCENTRATIONS IN MUSSELS AT PINOLE POINT USING RMP AND STATE MUSSEL WATCH DATA (ng/g lipid)

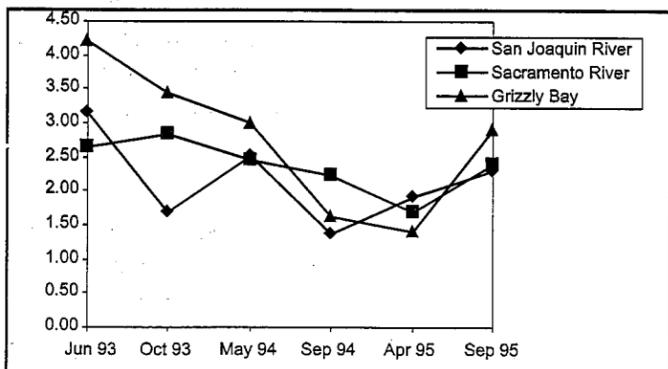


Figure 7
SELENIUM CONCENTRATIONS IN CORBICULA IN THE NORTHERN ESTUARY (µg/g dry weight)

Suisun Marsh Fish Trends

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In 1996, the UC-Davis team conducted 252 otter trawls at twenty-one sites and 84 beach seine hauls at two sites in Suisun Marsh using methods described in Meng *et al* (1994). We conducted an additional 40 trawls during a short-term study designed to examine the effects of day versus night trawling. This report summarizes results of the studies on Suisun Marsh fish sampling for fiscal years 1996 and 1997 funded under DWR contracts B-59998 and B-80900.

During our 1996 sampling we collected over 8,000 fish, averaging 15 fish per trawl and 52 fish per seine haul. Catches of native fishes declined 51%, and exotics declined 19% from 1995, when both groups increased more than twofold (Figure 1). The 12 delta smelt we caught this year were a slight improvement over the 2 from last year, but longfin smelt catches fell from 82 in 1995 to 8 in 1996 (Figure 2). Despite a decline from last year (Figure 3), striped bass young-of-the-year outnumbered every other species by at least two to one. Striped bass adults continued their long-term decline. We caught far less splittail young-of-the-year in 1996 than in 1995 (Figure 4), probably because the rains of 1996 came too late to favor splittail spawning. The 1995 splittail cohort seems to be doing well, though; we caught more splittail "adults" in 1996 than in any year since 1987. Tule perch catches, which have been very low for the past 8 years, hit an all-time low for the second year in a row. Nearly half of the fish collected in our beach seines were inland silversides.

Chinese mitten crabs reached Suisun Marsh in February, and we caught four of them in 1996 (see Kathy Hieb's report in this issue for details on the crab invasion). In April we caught a green sturgeon for the first time in the 18-year history of our Suisun Marsh trawling.

Our day versus night trawling study, conducted during two day/night sessions, showed no significant differences in number of fish per trawl or number of species per trawl. However, some of the more pelagic species appeared to be more susceptible to capture at night. We caught 18 delta smelt during our 20 nighttime trawls and none during the day. Similarly, we collected 32 Pacific herring at night and none during the day. Of the two most common species collected in this study, threadfin shad appeared significantly more often at night ($p=0.003$), while striped bass did not ($p=0.257$).

Literature Cited

Meng, L., P. B. Moyle, and B. Herbold. 1994. Changes in abundance and distribution of native and introduced fishes of Suisun Marsh. *Transactions of the American Fisheries Society* 123:498-507.

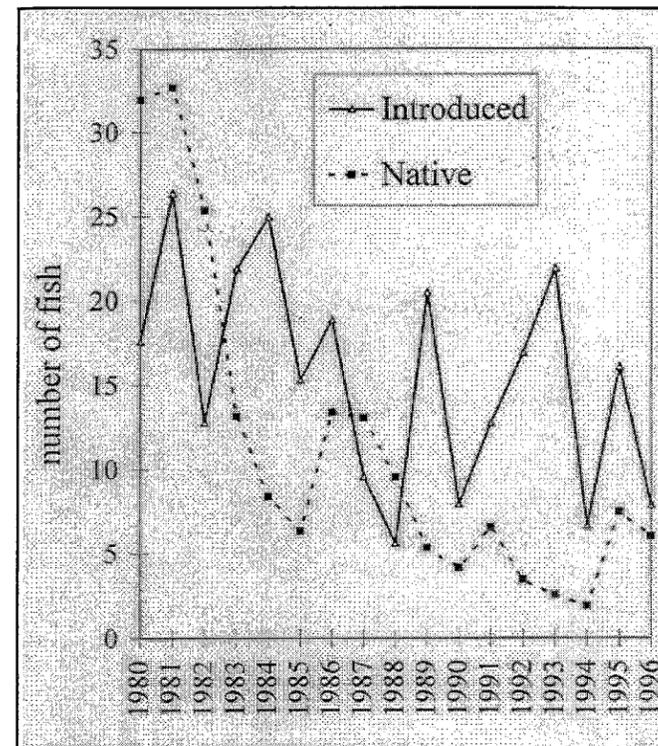


Figure 1
MEAN CATCH PER TRAWL OF NATIVE AND INTRODUCED FISHES IN SUISUN MARSH

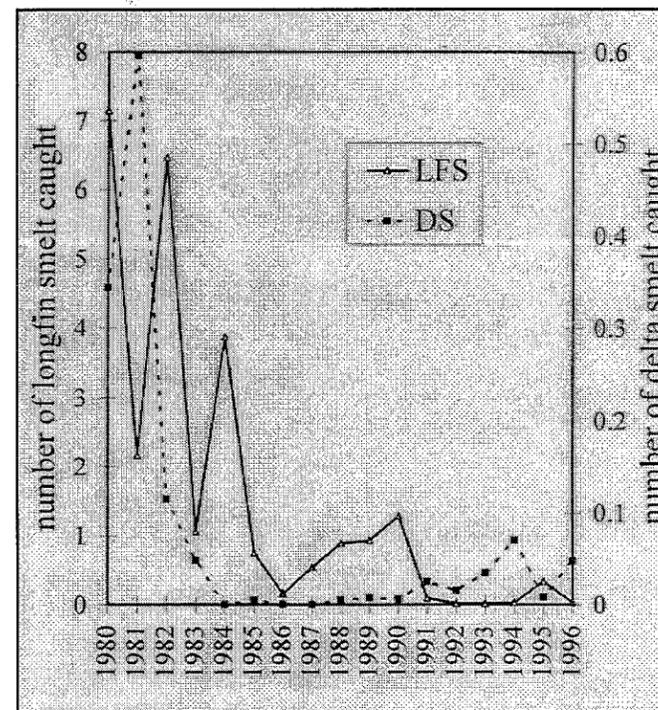


Figure 2
MEAN CATCH PER TRAWL OF LONGFIN SMELT AND DELTA SMELT

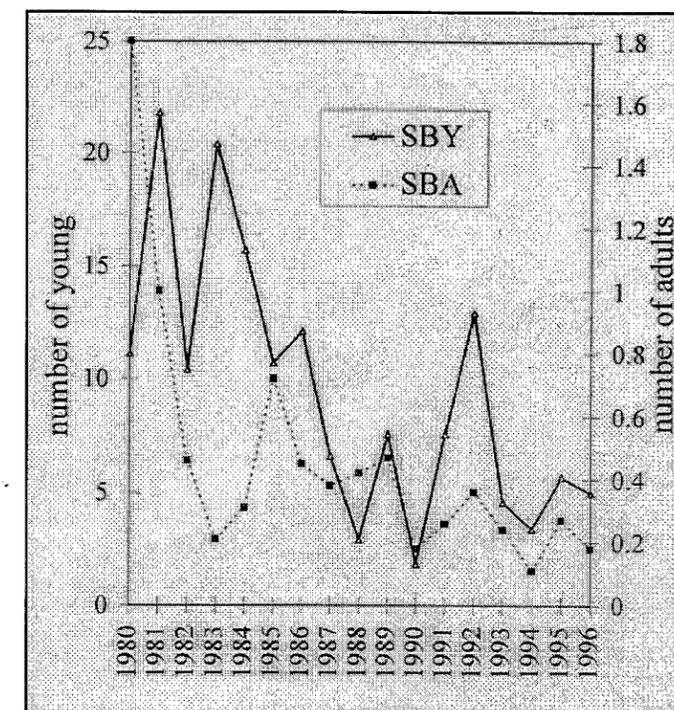


Figure 3
MEAN CATCH PER TRAWL OF YOUNG AND ADULT STRIPED BASS

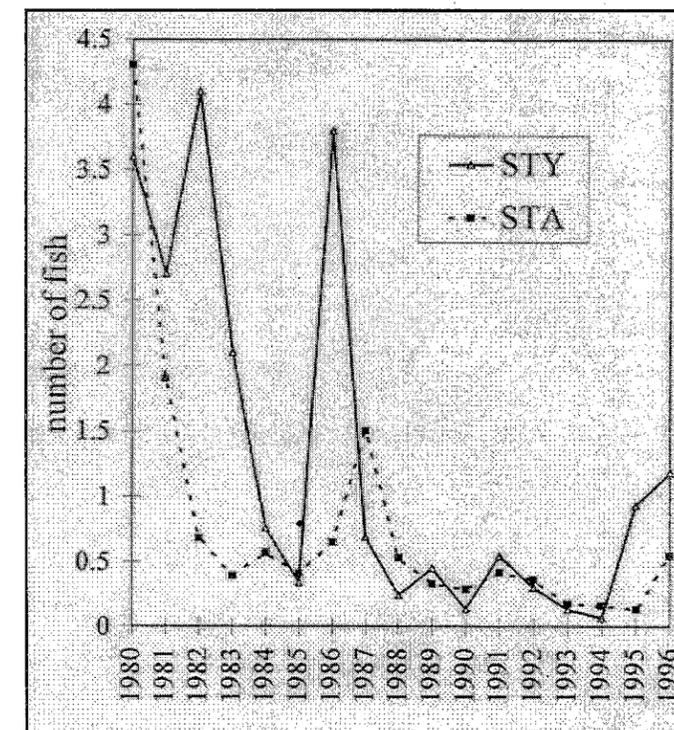


Figure 4
MEAN CATCH PER TRAWL OF YOUNG AND ADULT SPLITTAIL