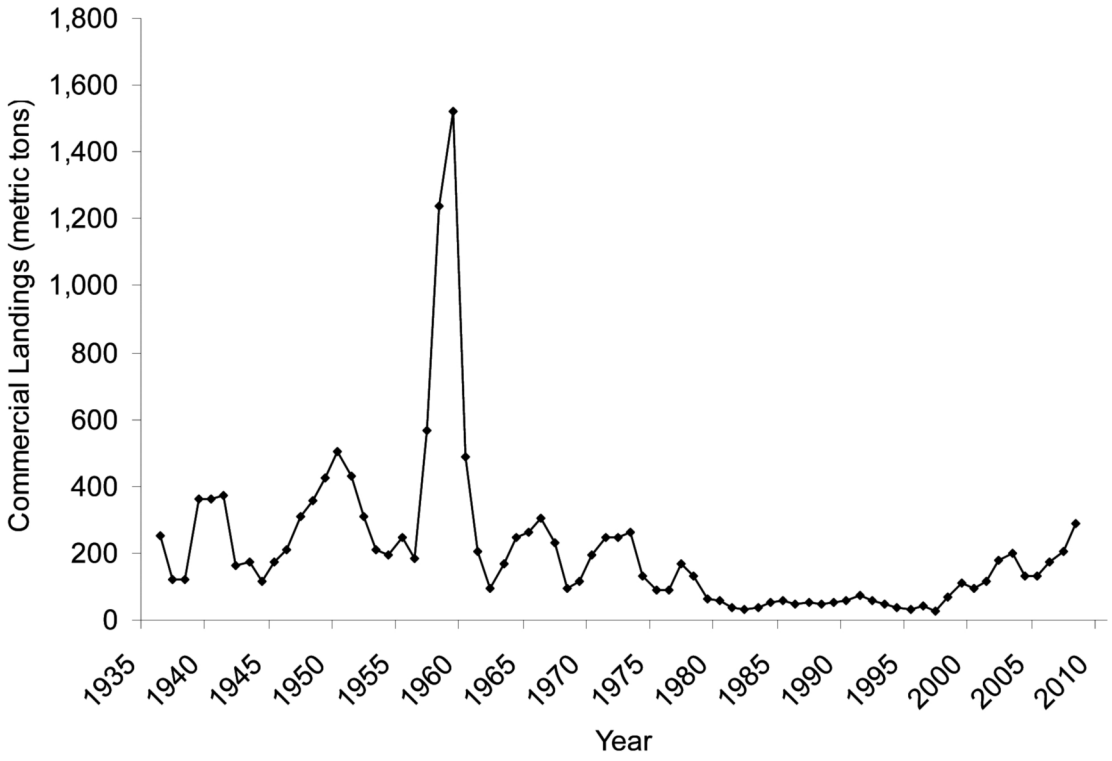

Figure 8. California commercial landing of white seabass (*Atractoscion nobilis*), 1936–2008. Note: Fish caught in US waters only (does not include fish caught in Mexico and landed in California).

conversion program went into effect in 2005, which allowed the owners of 12 former spot prawn trawl vessels to purchase Tier 3 spot prawn trap vessel permits in 2005. Tier 3 permittees have the same restrictions as Tier 1 permittees although the permits are non-transferable. Ten Tier 3 permittees remain. In 2008, the fee for the Tier 3 permit was $1,184.75, whereas, both Tier 1 and Tier 2 vessel permits were $296.

In 2008, 19 trap permittees landed spot prawn. Four of the 19 permittees fished in the vicinity of Monterey Bay, and the remaining vessels fished in southern California, frequently off one of the Channel Islands. Fifteen of the 17 Tier 1 trappers landed 87% of the catch with each vessel averaging 7.5 t. All three Tier 2 fishermen fished, and only one of the Tier 3 permittees went fishing. Most of the Tier 3 permittees have not had the funds necessary to purchase either a vessel more suitable for trapping, or the traps and associated ground tackle. A 0.023 t allowance of spot prawn while trawling for ridgeback prawn is still legal, but spot prawn may not be landed as bycatch when trawling for pink shrimp.

Almost all harvested spot prawn are sold live, with ex-vessel prices ranging from $22 to $31/kg ($10.00 to $14.00/lb). Fresh dead spot prawn generally sell for half the price of live. Most trap permittees have invested in live tanks and chillers on their vessels to keep the prawn in top condition for the live market.

The trap fishery in southern California (south of Point Arguello) is closed from 1 November to 31 January to provide protection for ovigerous females. North of Point Arguello, the spot prawn trap season is closed from 1 May to 31 July, an accommodation to prevent serious fishing gear conflicts in the Monterey Bay area.

White Seabass

The white seabass (*Atractoscion nobilis*) is the largest member of the Sciaenid family found in California waters. In addition to being a popular sport fish, white seabass are also targeted by a commercial fishery. The commercial white seabass fishery landed 291 t in 2008 (fig. 8), a 41% increase from the 2007 total of 207 t. Recreational landings decreased by 11% to 51 t in 2008 from the previous year's total of 57 t. The RecFIN estimates prior to 2004 are from a different survey and are not directly comparable to the estimates from the CRFS. However, historical trends in the recreational catch of white seabass can be determined from CPFV logbook data (fig. 9). The combined commercial and recreational catch for 2008 was 342 t.

There have been commercial and recreational fisheries for white seabass in California since the 1890s. Historically, commercial landings have fluctuated widely, including the landings of white seabass taken in Mexican waters by California commercial fishermen. Before 1982,

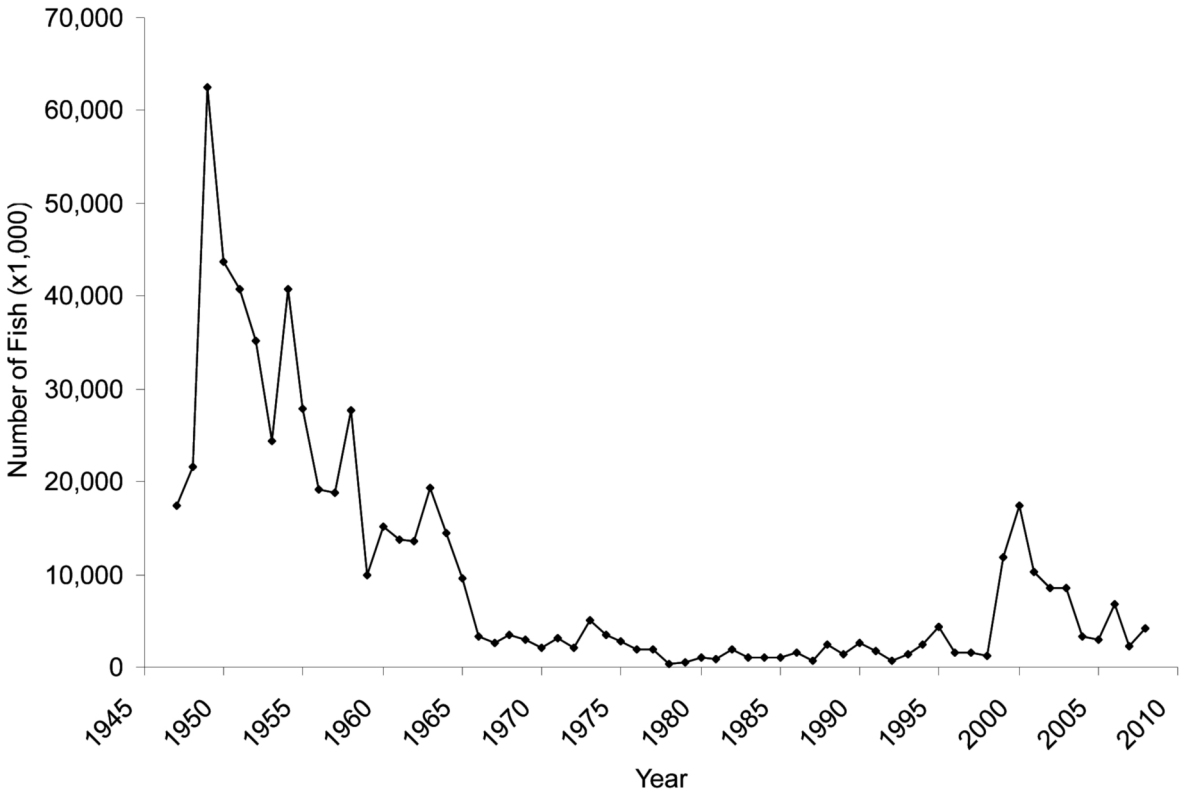

Figure 9. California recreational catch (in numbers of fish) of white seabass (*Atractoscion nobilis*) from CPFV, 1947–2008. Notes: Fish caught in US waters only (does not include fish caught in Mexico and landed in California), 1947–2008 recreational catches from Commercial Passenger Fishing Vessel (CPFV) logbook database.

the white seabass commercial take in Mexican waters comprised from 1% in 1959 to 89% in 1981 of California's white seabass annual landings (fig. 10). Since then, the Mexican government has prohibited access permits to the U.S. commercial fleet. Beginning in 1994, the use of set and drift gill nets within three nautical miles (3.5 mi) of the mainland shore from Point Arguello to the U.S.-Mexico border and in waters less than 128 m (70 fathoms) or within 0.9 nautical miles (1 mi) (whichever is less) of the Channel Islands was prohibited. In April 2002, the use of gill and trammel nets in depths of 110 m (60 fathoms) or less was prohibited from Point Reyes (approximate latitude 38.0°N) to Point Arguello (approximate latitude 34.6°N). Despite restrictions, most commercial white seabass landings are still taken with set and drift gill nets. In 2008, set and drift gill nets accounted for 98% of the commercial landings by weight and less than 1% of commercial white seabass landings were from north of Point Arguello. White seabass have a minimum legal size limit of 710 mm (28 in) TL.

The commercial fishery for white seabass is closed between Point Conception (approximate latitude 34.45°N) and the U.S.-Mexico border from 15 March to 15 June, with the exception of one fish not less than the minimum size limit may be taken, possessed, or sold by a vessel each day if taken incidental to gill and trammel net fishing operations. In 2008, the average ex-vessel value paid by dealers was $6.37/kg ($2.89/lb) and the total ex-vessel value was $1.5 million, approximately 30% more than in 2007.

The recreational fishery for white seabass occurs almost entirely (97%) south of Point Arguello (approximate latitude 34.6°N). The fishery is open all year, but the majority of the recreational take occurs between March and September. White seabass have a minimum legal size limit of 710 mm (28 in.), and the daily bag limit is three fish, except from 15 March through 15 June when the daily bag limit is one fish. Most fish are caught by hook-and-line anglers onboard CPFVs and private boats.

In 1982, the California Legislature established the Ocean Resources Enhancement and Hatchery Program (OREHP). The legislation was adopted to fund research into the artificial propagation of marine finfish species whose populations had become depleted. The ultimate goal of the legislation is to enhance populations of marine finfish species important to California for their recreational and commercial fishing value. Initially, research was focused on California halibut and white seabass; however, white seabass was eventually chosen as the primary species to focus on because of the depressed con-

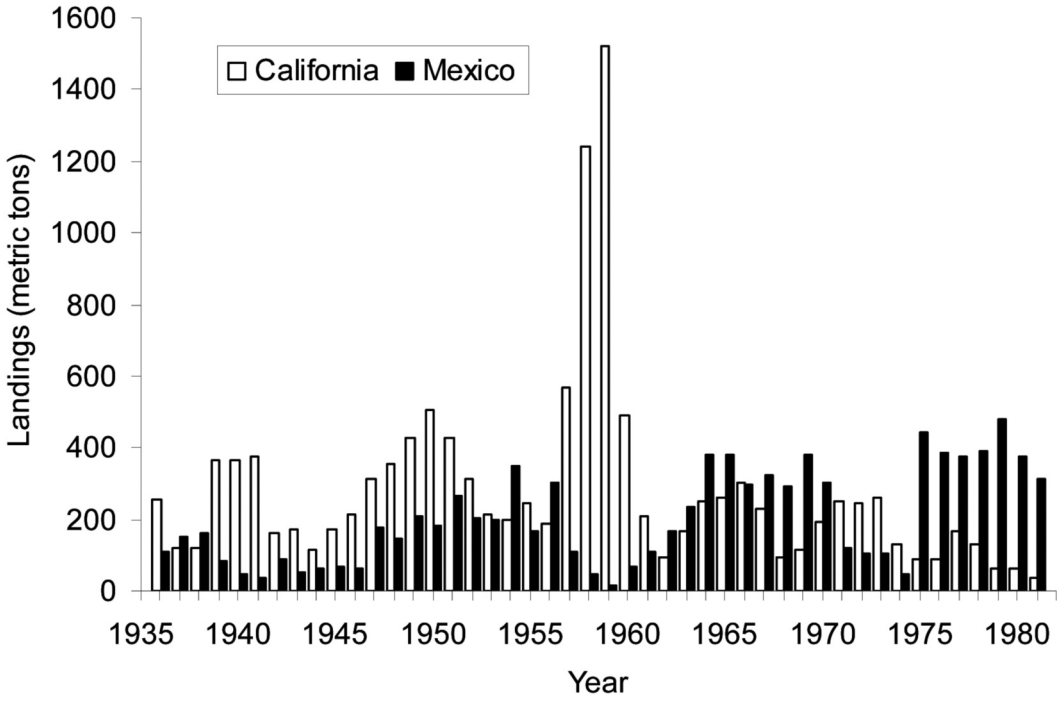

Figure 10. California and Mexico commercial landings of white seabass (*Atractoscion nobilis*), 1936–1981. Note: Fish caught in US waters only (does not include fish caught in Mexico and landed in California).

dition of the stock at the time and its higher value to recreational and commercial fishermen.

The Department manages the OREHP with the assistance of an advisory panel that consists of academic and management agency scientists, representatives of both commercial and recreational fishing groups, and the aquaculture industry. The program is funded through the sale of recreational and commercial marine enhancement stamps for all saltwater anglers south of Point Arguello. In 1995, the OREHP completed construction of the Leon Raymond Hubbard, Jr. Marine Fish Hatchery in Carlsbad, California. The primary function of the hatchery, operated by the Hubbs-Sea World Research Institute (HSWRI), is to provide juvenile white seabass, approximately 100 mm TL (3.9 in.), to growout facilities operated by volunteer fishermen. The hatchery is designed to produce 350,000 juvenile white seabass; however, the current release limit, which is imposed by the California Coastal Commission as a condition of the Coastal Development Permits for the growout facilities, is set at 125,000 fish per calendar year.

Currently, there are 13 growout facilities located in bays and marinas from Santa Barbara to San Diego in southern California. The growout facilities rear juvenile white seabass to 200 to 250 mm (7.8 to 9.8 in.) TL before releasing them at or near the growout site. In 2008, 58,484 hatchery-raised white seabass were released, approximately 29% of last year's release of 199,682 fish. This decline in production was due to disease issues within the hatchery and growout facilities. Since 1986, over 1.5 million white seabass, each implanted with a coded wire tag (CWT), have been released from the OREHP facilities.

Since the mid-to-late 1980s, the OREHP has contracted with researchers to develop juvenile and adult gill net sampling programs to assess the proportion of hatchery-raised fish to the wild population using coded wire tagged fish. Since the inception of both programs, 1,400 hatchery-raised juvenile white seabass have been recovered in the juvenile gill net studies while 125 tagged adult white seabass (legal-size) have been recovered from the recreational and commercial fisheries. The results of both the juvenile and adult sampling programs will be used in evaluating the success of the OREHP.

To manage the state's commercial and recreational fisheries for white seabass, the Commission adopted the White Seabass Fishery Management Plan (WSFMP) in 1996. To implement the WSFMP in accordance with the Marine Life Management Act adopted in 1998, the Commission adopted regulations in 2002 to establish a fishing season of 1 September through 31 August of the following year. The Commission also adopted an OY in 2002 based on an MSY proxy of the unfished biomass, and currently set at 540 t. The OY has never been reached since its implementation, but came close in the 2001–02 fishing season when it reached 530 t. In the 2007–08 fishing season, the total recreational and commercial harvest was 344 t, or 64% of the allowable catch.

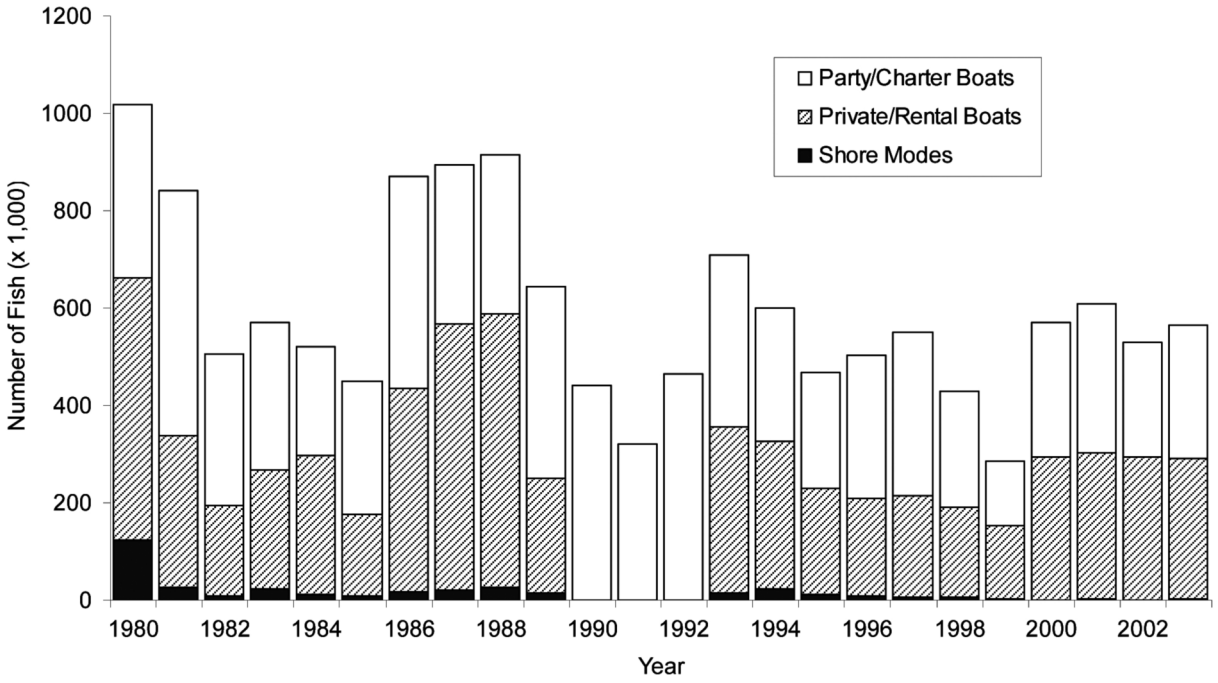

Figure 11. California recreational landings of kelp bass (*Paralabrax clathratus*) as reported in the Marine Recreational Fisheries Statistical Survey (MRFSS) by three different fishing modes, 1980–2003.

The WSFMP includes a provision for annual monitoring and assessment of the white seabass fisheries.

Kelp Bass

The kelp bass (*Paralabrax clathratus*) commonly referred to as calico bass, is one of the most popular species caught by recreational anglers in southern California. Kelp bass are found in nearshore waters and have historically ranged from the Washington/Oregon border in the north to Magdalena Bay, Baja California, Mexico in the south; however, their occurrence is rare north of Point Conception. Kelp bass live in relatively shallow water (typically less than 50 m) and tend to be associated with rocky structures and kelp. The best time of year to catch kelp bass is from May through September when the fish tend to feed more aggressively. Kelp bass are known to reach 721 mm (28.4 in) and can weigh up to 6.6 kg (14.5 lb).

In the first half of the twentieth century, kelp bass were targeted by both commercial and recreational fishermen. At that time, they were recorded on landing receipts and logbooks in a general "rock bass" category which included barred sand bass (*Paralabrax nebulifer*) and spotted sand bass (*Paralabrax maculatofasciatus*). In 1953, it became illegal to fish for kelp bass commercially in California due to a sharp decline in annual landings. Recreational anglers were still permitted to take kelp bass, but in 1959 a minimum size limit of 12 in (305 mm) TL was imposed. This minimum size limit is still in effect today, as well as a bag limit that allows a maximum of 10 kelp bass per day to be taken or possessed by each licensed angler.

The MRFSS and CRFS has collected historical size and total estimated catch data for kelp bass from the private/rental boat, beach-and-bank, and man-made structure fishing methods, and historical size data from the CPFV fishery. Total estimated catch data for CPFVs are available from CPFV logbooks. MRFSS provided data from 1980 to 2003 (fig. 11, tab.7), with the exception of 1990–92, and CRFS has provided data from 2004 to the present (fig. 12, tab. 7). Survey methods are not comparable. MRFSS data and CPFV logbook data in aggregate show an overall decline in number of fish caught by recreational anglers since 1980 when an estimated 1,019,000 kelp bass were caught. CRFS and CPFV logbook data estimated that 256,000 kelp bass were caught by recreational anglers in 2008, a decrease of 16% from 2007. Shore-based fishing modes, which include beaches, banks, and man-made structures, comprised only 4% of the recreational kelp bass catch in 2008, while CPFVs and private/rental boats comprised the remaining 96%. From 1999 to 2008 MRFSS and CRFS samplers measured over 52,000 kelp bass with an average TL of 365 mm (14.4 in.). In 2008, average TL of approximately 4,800 kelp bass measured was 366 mm (14.4 in.), slightly less than the 373 mm (14.7 in.) average TL from approximately 4,200 fish in 2007.

CPFV logbook data are available from 1935 to the present, but kelp bass were not differentiated from the other "rock basses" until 1975. CPFV logbook data in-