

Figure 15. California commercial landings of California halibut (*Paralichthys californicus*), 1979–2009.

suggest other causes, such as differential warming within the SCB or coastal anthropogenic effects. The Department intends to continue annual monitoring of kelp beds statewide in 2010.

California Halibut

The California halibut (*Paralichthys californicus*) is an important and relatively shallow flatfish species to commercial and recreational fisheries in central and southern California. They are found in nearshore waters from Almejas Bay, BCM to the Quillayute River, Washington, but are most common south of Bodega Bay, California. Individual fish can grow up to 1,524 mm (5 ft) in total length (TL) and weigh as much as 32.7 kg (72 lb).

In the commercial fishery, California halibut are harvested using three primary gears: trawl, hook-and-line, and set gill net. Over the past 30 years, total annual landings of California halibut peaked at 602.4 t with a value of \$3.26 million in 1997, with a low of 176.3 t valued at \$1.84 million in 2007 (fig. 15). Total landings for 2009 were 279.7 t with an ex-vessel value of \$2.57 million. In 2009, the three principle gears comprised 99% of halibut landings. Trawl was the dominant gear used to harvest halibut in 2009, accounting for 52% of the total catch. Hook-and-line and set gill net accounted for 28% and 19%, respectively.

Over the past 30 years, bottom trawls have produced more California halibut landings than any other gear type; landings have fluctuated from a high of 331.3 t in 1997 to a low of 63.4 t in 1979 (fig. 16). At the peak of the halibut trawl fishery (1997), 112 vessels made at least one halibut landing. In the year of lowest trawl landings (1979), 58 vessels made at least one halibut landing. In 2009, a total of 37 trawl vessels landed 145.8 t of halibut compared to 40 trawl vessels that landed 93.1 t in 2008. The San Francisco port complex received a majority (58%) of the landings in 2009, followed by the Santa Barbara (32%) port complex, with Morro Bay accounting for 8% of the trawl catch. Directed trawling for halibut is by Department-issued permit only. Currently there are 48 permitted vessels, but not all actively fish. Vessels with a federal groundfish permit may take up to 150 lb of halibut incidentally while fishing for groundfish.

Gill net landings generally have declined in the past 30 years, from a high of 421.7 t in 1985 to a low of 44.1 t in 2007. A series of depth restrictions, enacted to protect sea bird and sea otter populations along the central California coast and prohibiting set net gear in 60 fm or less, greatly impacted the gill net fleet. This is evident by the lack of landings made north of Point Arguello since 2002. Statewide gill net landings increased slightly in 2009 with 40 gill net vessels landing 54.0 t in 2009

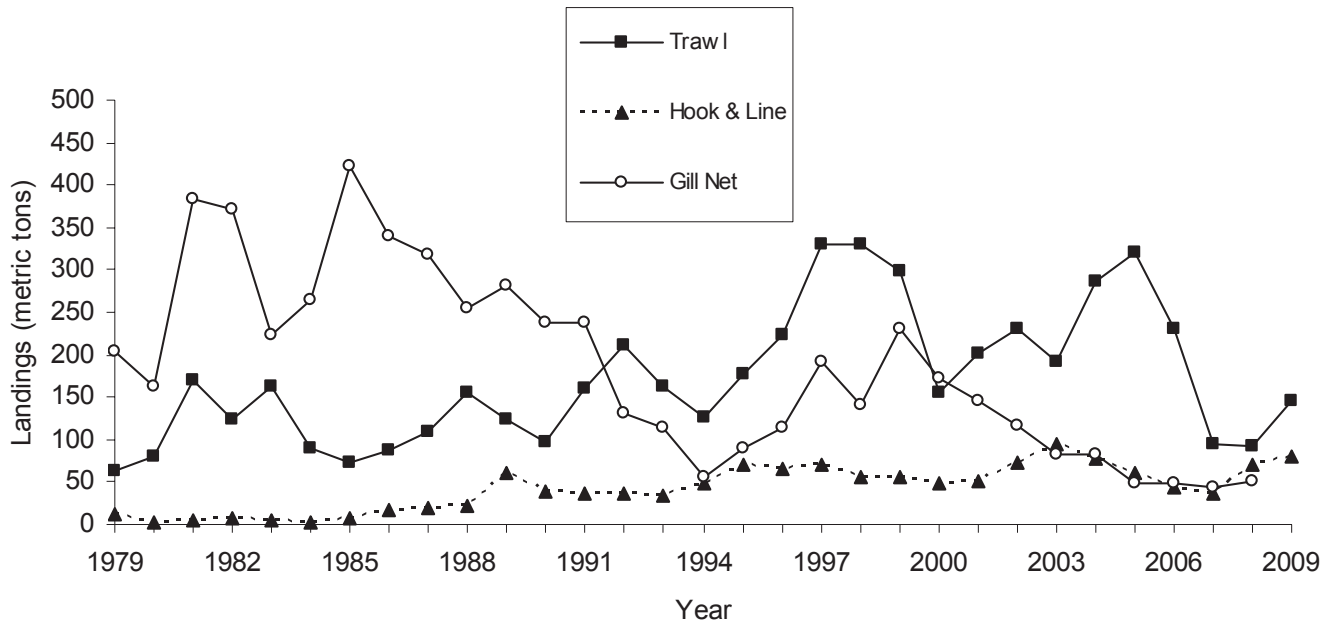


Figure 16. California commercial landings of California halibut (*Paralichthys californicus*) by gear type, 1979–2009.

compared to 42 gill net vessels landing 50.7 t in 2008. The gill net fishery now operates only in southern California, with the Santa Barbara port complex receiving 73% of 2009 landings, followed by the San Diego (14%) and Los Angeles (13%) port complexes.

Annual landings reported by the hook-and-line fleet have fluctuated over the past three decades, ranging from a high of 94.4 t in 2003 to a low of 3.3 t in 1984. From the high of 2003, landings dropped to 37.1 t in 2007, but increased to 71.0 t in 2008 and 78.8 t in 2009. This recent increase in landings can be largely attributed to an increase in effort in the San Francisco Bay fishery, possibly due to displaced salmon fishermen looking for alternate sources of income during the salmon fishery closure of 2008 and 2009. In 2009, 249 hook-and-line vessels landed 78.8 t statewide. The top two port complexes for hook-and-line landings were San Francisco (52%) and Santa Barbara (15%). The hook-and-line fishery is open access; no special permit other than a commercial fishing license is required.

Recreational anglers target California halibut from shore, private and rental skiffs, and CPFVs using hook-and-line gear. Some catch also occurs from scuba divers and free divers using spear guns or pole spears. From 1980 to 2004, the method for estimating recreational catch was the Marine Recreational Fisheries Statistical Survey (MRFSS). During this period, the highest estimated annual recreational catch was 1,062 t (337,000 fish) in 1995 and the lowest estimated annual catch was 122 t (40,000 fish) in 1984 (fig. 17). There are no MRFSS data available for 1990 through 1992. The pre-

dominant fishing mode for 1980 through 2004 was private/rental skiff, followed by CPFV. In 2004, the CRFS replaced the MRFSS. CRFS and MRFSS data and estimates are not comparable.

Preliminary data for the 2009 recreational fishery indicate that an estimated 211 t (58,000 fish) of California halibut was landed for all fishing modes statewide (fig. 18). CRFS data indicate that private and rental boats continued to be the primary mode within the recreational halibut fishery.

For both the commercial and recreational fisheries, a minimum size limit of 559 mm (22 inches) total length is required for retention. Recreational anglers are limited to five California halibut per day south of Point Sur (Monterey County) and three California halibut per day north of Point Sur.

In 2008, the Commission, at the request and with the assistance of industry, adopted regulations which defined the parameters of legal trawl gear (“light touch”) for the California Halibut Trawl Grounds (CHTG) in southern California. The CHTG is the only area within state waters in which bottom trawling is allowed; all other bottom trawling occurs in federal waters. The “light touch” trawl gear allowed within the CHTG must have a minimum cod-end mesh of 190.5 mm (7.5 inches), a headrope less than 27.4 m (90 ft) in length, webbing on any portion of the trawl less than 7 mm (0.28 in.) in diameter, any chain attached to the footrope not exceeding in diameter of the link material, trawl doors not exceeding 226 kg (500 lbs.) in weight, and no rollers or bobbins

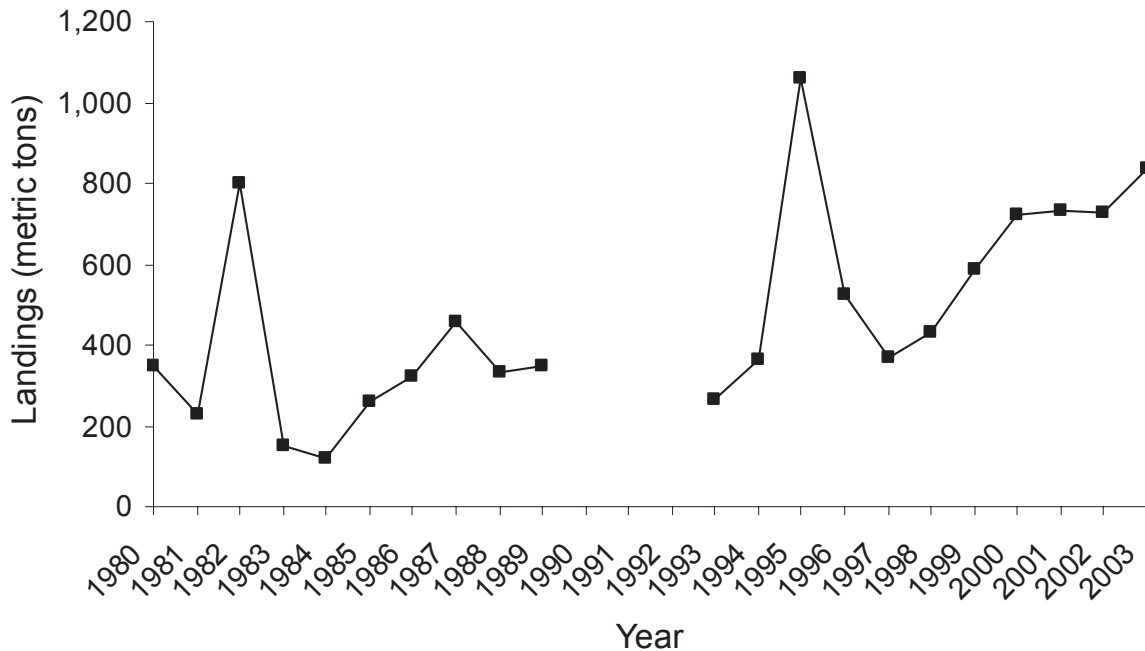


Figure 17. California recreational landing estimates of California halibut (*Paralichthys californicus*), from 1980–2003 as reported by MRFSS. No recreational data from MRFSS were available from 1990–1992.

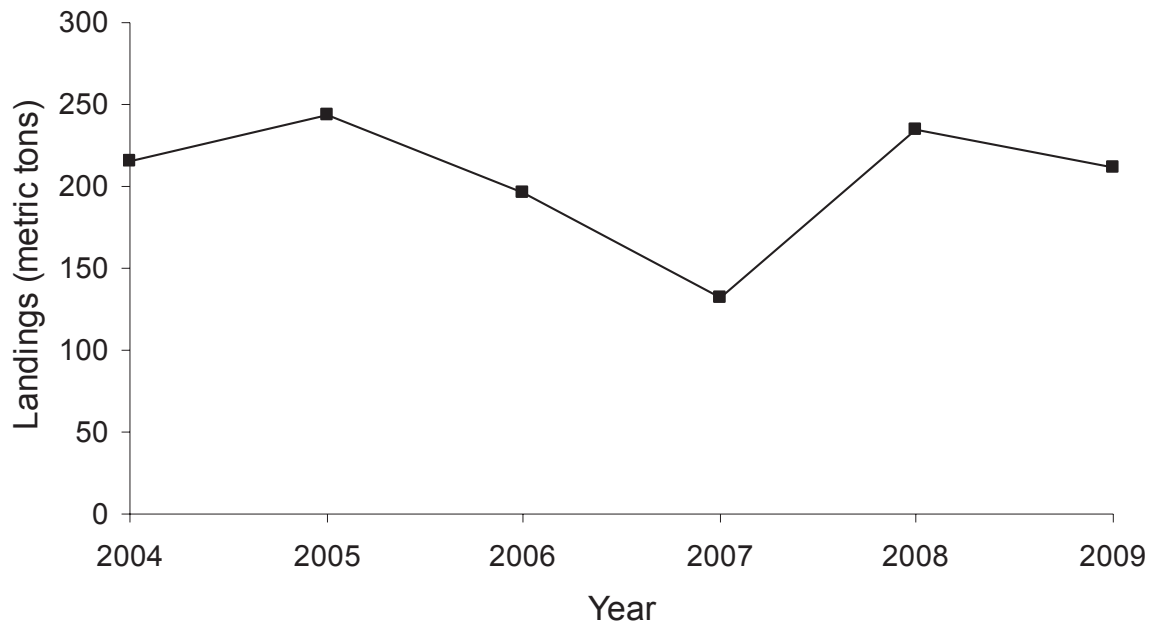


Figure 18. California recreational landing estimates of California halibut (*Paralichthys californicus*), from 2004–2009 as reported by CRFS.

In 2007, the Department began to sample the commercial fishery in central California for the first time for length, weight, age, and sex composition. The Department also resumed ongoing, but discontinuous, sampling of the southern California commercial fishery. Further more, in late 2009, the Department began an aging study for California halibut from central and southern California using cross-sectioned otoliths. The Department is

compiling this essential fish information for a statewide stock assessment of California halibut which is expected to be completed in late 2010.

Sandbasses

Barred Sand Bass. Barred sand bass (*Paralabrax nebulifer*) is a common species in the nearshore marine environment and an important part of the recreational fishery

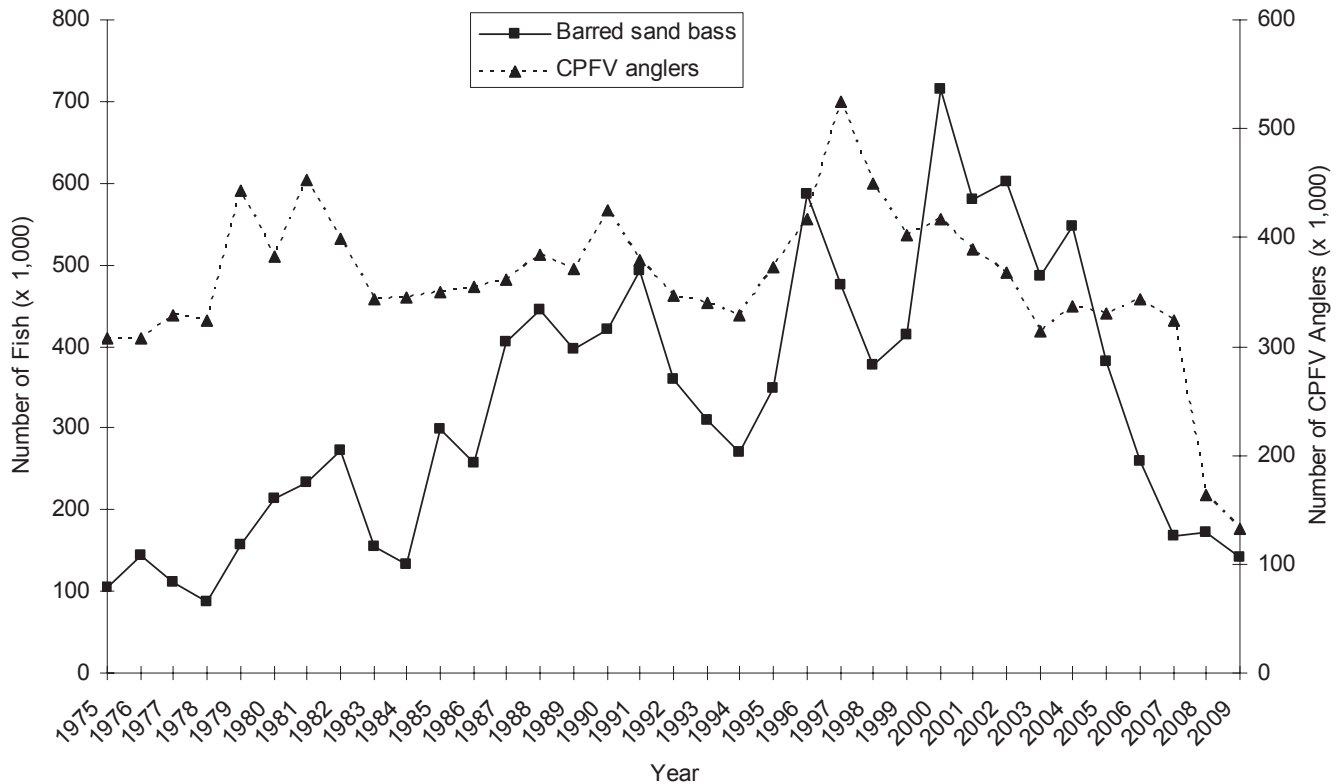


Figure 19. Number of barred sand bass (*Paralabrax nebulifer*) kept by CPFVs in thousands of fish and effort (in thousands of CPFV anglers) in southern California for trips in which barred sand bass were caught. Data are based on CPFV logbooks (1975–2009) for fish caught in U.S. waters. 2009 data are preliminary.

of southern California. Barred sand bass is a warm temperate member of the family Serranidae (sea basses) and one of three species of *Paralabrax* that occurs in southern California. Barred sand bass range from Santa Cruz, California south to Bahia Magdalena, BCM; however, their occurrence is rare north of Pt. Conception. They inhabit waters from the shallow subtidal to about 183 m (600 ft), but are most common less than 30 m (100 ft) and tend to be closely associated with sand/rock interfaces of deep reefs and artificial structures. In the summer months, barred sand bass form large breeding aggregations over specific, sandy bottom sites in depths of 15 to 30 m (~50–100 ft). Barred sand bass are oviparous batch spawners that breed from April through November, with a peak usually in July. They can grow up to 647.7 mm (25.5 in) and weigh up to 6 kg (13.2 lb).

Barred sand bass were fished commercially and recreationally until 1953 when it became illegal to commercially fish for barred sand bass, spotted sand bass (*Paralabrax maculatofasciatus*), and kelp bass (*Paralabrax clathratus*) in California due to a sharp decline in landings of these species. By the mid-1950s the recreational barred sand bass fishery gained popularity and in 1959 a 10-fish bag limit and a 30.5 cm (12 in.) TL minimum size limit were imposed on all bass species to offset declining numbers and a shrinking size composition.

The CPFV fishery responded positively to this management approach, and the landings of legal-sized kelp bass and barred sand bass began to increase substantially in the 1960s and 1970s. The minimum size limit is still in effect today, as well as the bag limit which allows a maximum of 10 barred sand bass, spotted sand bass, and/or kelp bass in combination per day for each angler.

Catch estimates for barred sand bass are available through CPFV logbooks from 1935 to the present, but barred sand bass were not differentiated from the other bass until 1975. Prior to 1975, barred sand bass were recorded in a general “rock bass” category which included kelp bass and spotted sand bass. CPFV logbook data indicate annual barred sand bass catch from 1975 to the present has fluctuated showing a steady increase starting in the mid-1980s and expanding more than five fold and peaking in 2000 with 735,690 fish kept (fig. 19). After 2000 a substantial decline in CPFV barred sand bass catch occurred with numbers going below 200,000 fish per year from 2007–2009, the lowest annual catch since 1984. A corresponding decline in number of anglers occurred in 2008–09.

In addition to CPFVs, barred sand bass are also caught from other sport fishing modes including shore (piers, jetties, and beach/bank), and private/rental boats. From 1980 to 2003, MRFSS data indicate that CPFVs com-