

and lengths of harvested fish suggest kelp bass and barred sand bass population recruitment was very poor from 1998 to 2003. This resulted in poor fishery recruitment and dramatic declines in catch-per-unit-effort (CPUE) in the mid-to-late 2000s. The basses have historically responded to changes in oceanographic regimes, generally having higher abundances during warm water regimes and lower abundances during cool water regimes. Nevertheless, despite advances in fish-finding technology and navigational systems, CPUE never reached historic levels during the last warm water regime, indicating declining abundances. Additionally, the basses, primarily barred sand bass, are especially vulnerable to harvest impacts because they form spawning aggregations that are targeted by fishermen. Sustained fishing of spawning aggregations has resulted in the extirpation of many fisheries world wide. The continued take at current harvest levels could have consequences for the sustainability of the fishery given there are no indications the bass populations will recover during the current cool water regime.

The Department is proposing three regulatory options that are intended to work together to favor increases in all three bass populations by reducing catch. The options include an increase in the minimum size limit, a reduction in the bag limit, and a spawning season closure for barred sand bass. Proposed changes to the minimum fillet length and alternate length are also included to correspond with the proposed regulatory changes in minimum total fish length. Each proposed option includes a range of options yielding different reductions in catch depending on the species. Options can be implemented independently or concurrently. Additive reductions in catch across options cannot be assumed. For example, bag limit catch reduction analyses cannot differentiate fish by size; therefore, it is impossible to determine net reductions in catch for both minimum size and bag limit options combined.

Option 1: Minimum size limit (Sub-options: 12-15 inches)

Current bass (kelp bass, barred sand bass, and spotted sand bass) regulations specify a minimum size of 12 inches total length, and 8.5 inches alternate length. The proposed regulation would increase the minimum size limit for bass to either 13, 14, or 15 inches total length; the corresponding alternate lengths would be 9.25, 10, or 10.75 inches, respectively. Based on length frequency analyses from examined catch available from the Recreational Fisheries Information Network (RecFIN) website (www.recfin.org), for all fishing modes in southern California from 2004-2011, proposed minimum size limits ranging from 13 to 15 inches will reduce catches by 11.4 - 51.5 percent, 21.6 - 63.6 percent, and 43.0 – 82.3 percent for barred sand bass, kelp bass, and spotted sand bass, respectively (Figure 1). Current regulations also specify a minimum fillet length size of 6.5 inches that corresponds to the 12 inch total length. The proposed minimum size increase to 13, 14, or 15 inches total length would result in a corresponding adjustment in fillet lengths to 7, 7.5, or 8 inches, respectively.

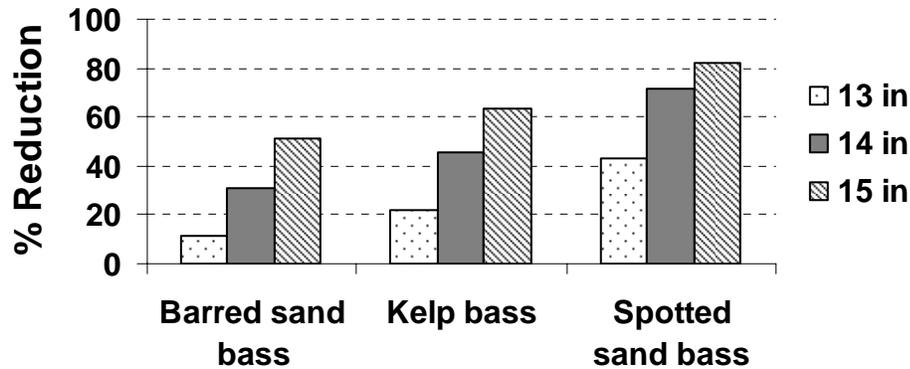


Figure 1. Percent reduction in harvested catch (all fishing modes) under various proposed minimum size limits (Option 1) from 2004-2011. *Data source: California Recreational Fisheries Survey, RecFIN*

Pros

- Undersized fish that are released may be afforded at least one additional year of spawning for every one inch increase in the size limit; this should result in more recruits to the fishery in the long-term.
- A minimum size limit yields a greater percent in catch reduction than a reduced bag limit under some options.
- Estimated to have the lowest economic impact on Commercial Passenger Fishing Vessels (CPFV).
- Provides substantial reductions in catch for spotted sand bass and kelp bass under all options.
- Anticipated to result in larger fish being caught in one to two seasons.

Cons

- There will be increased mortality due to the release of more undersized fish. Barred sand bass, in particular, will be more likely to suffer post-release mortality than the other two species due to barotrauma.
- Provides only modest reductions in catch for barred sand bass.
- Will impact shore fishermen to a greater degree than those fishing from boats since shore fishermen tend to catch smaller bass.

Past regulation was adopted to include ocean whitefish with the basses regarding minimum fillet lengths because ocean whitefish fillets with a one inch square patch of skin cannot be easily distinguished from bass fillets. With this current option, the Department recommends that ocean whitefish not be grouped with the basses, and ocean whitefish fillets retain the six and one half inches minimum length, and a new requirement be added that the entire skin remains attached.

Option 2: Bag limit (Sub-options: 10 to 0 fish)

Current regulations specify a limit of 10 fish (bass) in any combination of species. The proposed regulation would retain the 10 fish upper limit in aggregate stipulation, but provide for a reduction in the individual species limit (currently 10). Depending upon the individual species limit, the upper limit in aggregate could change to less than 10. Based on analyses of harvested fish from all fishing modes in southern California from 2004-2011 (RecFIN), proposed bag limits ranging from 9 to 1 fish will reduce catches by 1.3 – 61.6 percent, 1.1 – 53.3 percent, and 0.1 – 30.9 percent for barred sand bass, kelp bass, and spotted sand bass, respectively (Figure 2).

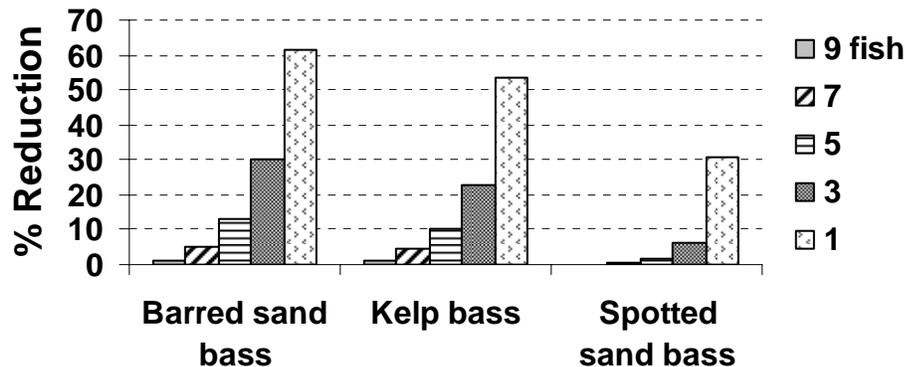


Figure 2. Percent reduction in harvested catch (all fishing modes) under various proposed bag limits (Option 2) from 2004-2011. *Data source: California Recreational Fisheries Survey, RecFIN*

Pros

- Provides modest to substantial reductions in catch for kelp bass and barred sand bass under proposed bag limits of five fish or fewer.
- The realized impact of a proposed bag limit of five fish or fewer on the average bass fishermen may be small given the vast majority of anglers currently retain five fish or fewer.

Cons

- Provides minimal reductions in catch for kelp bass and barred sand bass under proposed bag limits of 9 to 6 fish.
- A proposed bag limit of three fish or fewer could negatively impact the CPFV fleet if it leads to decreased patronage.
- A zero bag limit is expected to negatively impact the CPFV fleet as many scheduled trips specifically target kelp bass and barred sand bass.
- Provides minimal reductions in catch for spotted sand bass under all proposed bag limits (94 percent are released in this fishery).

- Realized reductions in catch under all proposed bag limits for kelp bass and barred sand bass could be lower. Boat limits, in effect, allow anglers to share catch. This practice extends fishing trips until fish are distributed equally among all the bags on the boat. Spotted sand bass are not targeted by CPFVs and so are not expected to be impacted by the indirect effect of boat limits under this option.
- Under the more restrictive sub-options (three fish or fewer), fishing pressure may be re-directed to other nearshore marine finfish.

Option 3: Barred sand bass spawning season closure, June-August (Sub-options: 1 week – 3 months)

Analyses of CPFV catch records from 2004-2011 indicate most barred sand bass are caught during the peak spawning season from June through August. Barred sand bass form aggregations when spawning and tagging data indicate that barred sand bass may remain on the spawning grounds for 7-35 days, with most fish spending about two weeks in these areas. Acoustic telemetry data in recent years suggest spawning-related activity is highest in the third and fourth weeks in July. The percent reduction in annual harvest of barred sand bass by the CPFV fleet over one week intervals from June to August ranges from 1.3-16.3 percent (Figure 3).

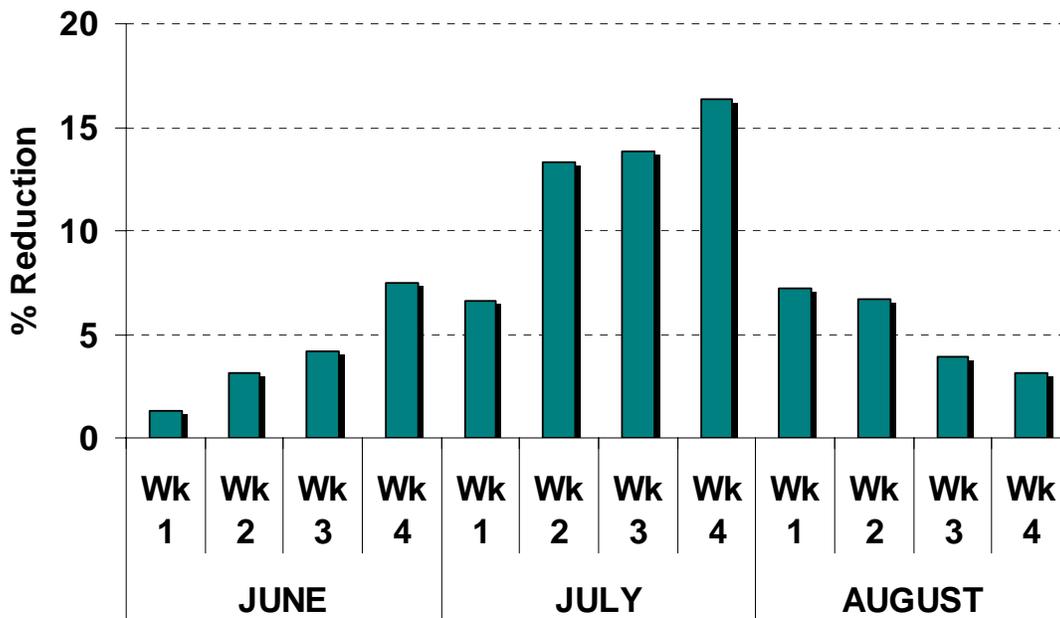


Figure 3. Estimated reduction in catch based on average annual harvested barred sand bass catch by Commercial Passenger Fishing Vessels (CPFVs) over various one week intervals during peak spawning season (2004-2011). *Data source: California Department of Fish and Game CPFV logbooks*

Pros

- Provides the greatest potential reductions in catch for barred

sand bass compared to the other options.

- Partial season closures of 1 week to 1 month, specifically during July, could provide substantial reductions in catch while still affording barred sand bass fishing opportunities for a majority of the fishing season.
- Provides for uninterrupted spawning activity for at least one week during spawning season and may increase overall spawning output by providing additional spawning events for individual fish.

Cons

- Could possibly impact the CPFV fleet as specific trips are dedicated at this time of year to fishing for barred sand bass.
- Provides only minimal reductions in catch under one week intervals during the first three weeks in June and all weeks in August.
- Percent reduction in catch may be overestimated if a high proportion of fish remain on spawning grounds after closure ends and end up getting caught.
- Closing barred sand bass fishing for any length of time during their spawning season will likely re-direct fishing effort to other nearshore marine finfish including kelp bass and spotted sand bass.

- (b) Statement of Specific Purpose of Regulation Change and Factual Basis for Determining that Regulation Change is Reasonably Necessary:

Rationale

Analyses of a variety of data sources indicate the recreational fisheries for kelp bass, barred sand bass, and spotted sand bass may not be sustainable at current levels of take, especially during the present colder water regime. The proposed regulation is needed to offset impacts from fishing and to conserve populations while environmental conditions remain less than optimal. Major findings for the recreational bass fisheries resulted from analyses of many fisheries-dependent, fisheries-independent, oceanographic, and harvest history data sources (*Note: more data are available for kelp bass and barred sand bass than for spotted sand bass*):

1. Declines in fisheries-dependent data: The fisheries-dependent data were predominately collected from CPFV logbooks and the RecFIN website.
 - *Landings, effort, and CPUE*. Most of the effort and landings for barred sand bass and kelp bass are from CPFVs and private/rental boats (Table 1). Since 2000, CPFV effort and numbers of barred sand bass landed have dramatically declined; landings in 2011 have dropped 83 percent from 2000 (Figure 4a). The numbers of kelp bass landed show a similar general decline dropping 65 percent between 1992 and 2011 (Figure 4b). Effort and numbers of fish landed for these two species from private and rental boats have also declined in recent years.

Spotted sand bass are primarily caught aboard private and rental boats (Table 1). From 2004-2011, numbers of spotted sand bass landed have declined 24 percent. Most spotted sand bass caught are released; 94 percent of the spotted sand bass catch since 2004 was released.

Table 1. Percent of total harvested catch by fishing mode from (2010-2011). *Data source: California Recreational Fisheries Survey (RecFIN)*

Fishing Mode	Percent of catch		
	Kelp bass	Barred sand bass	Spotted sand bass
Man-made	3.6	2.0	9.3
Beach/bank	1.8	1.1	14.9
CPFV/charter	58.3	70.2	0.4
Private/rental	36.3	26.7	75.3
Total fish (thousands)	1653.98	2246.27	132.67

a) barred sand bass

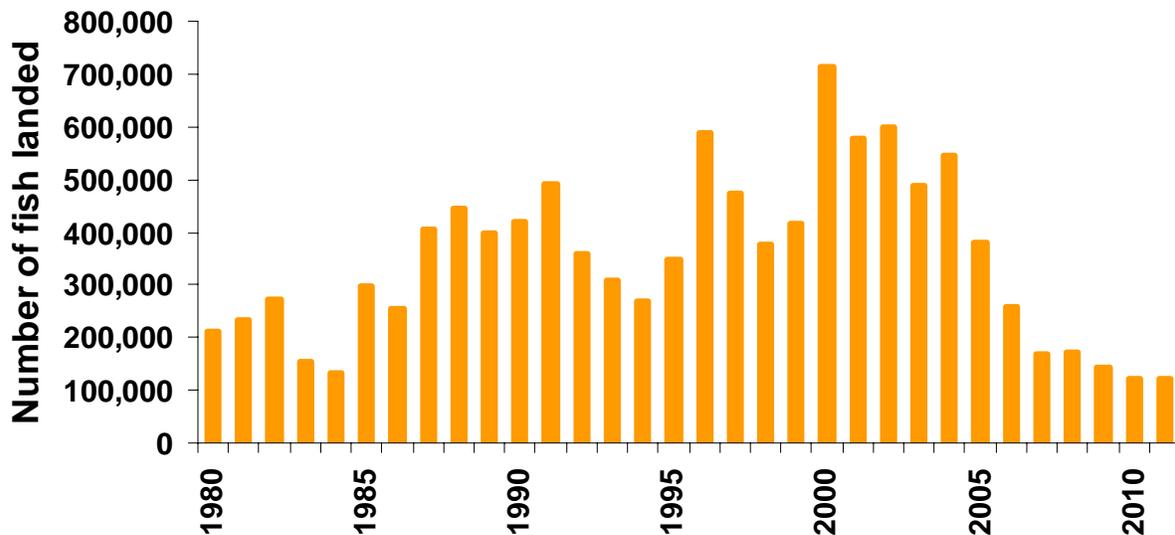


Figure 4. Commercial Passenger Fishing Vessel (CPFV) harvested landings for a) barred sand bass and b) kelp bass from 1980-2011. *Data source: California Department of Fish and Game CPFV logbooks*

b) kelp bass

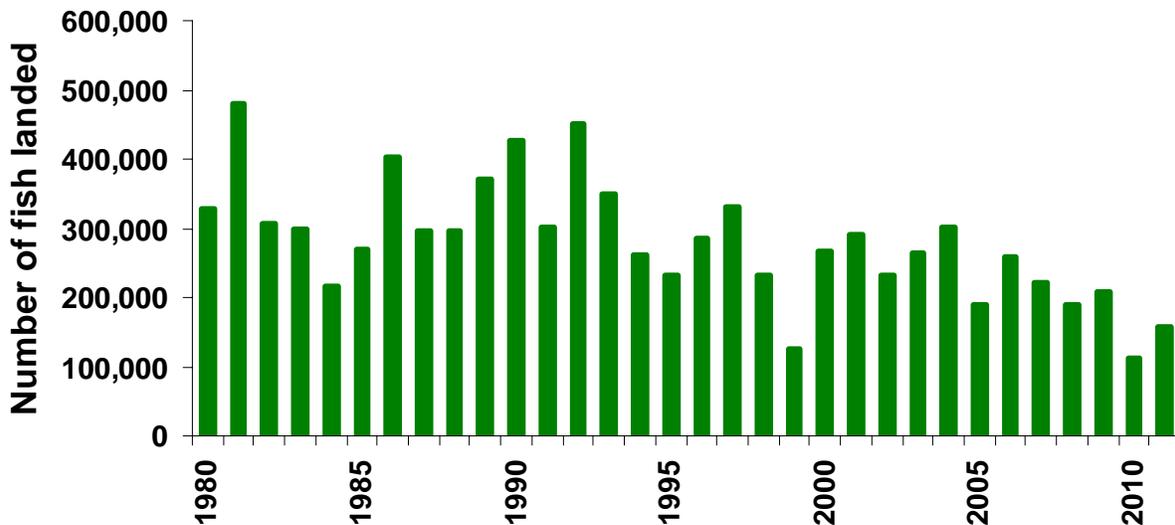


Figure 4 (continued).

CPUE (number of fish kept and discarded dead/number of anglers) is best evaluated by looking at the CPFV logbook data. CPUEs of barred sand bass and kelp bass aboard CPFVs have declined substantially since 2004. For barred sand bass, CPUE from 2004-2007 declined sharply (61 percent), and has remained at this lower level up to the present day. Kelp bass CPUE has been relatively more stable over the years with a slight decline from 2004-2011 (31 percent). Private and rental boat data show similar declining trends for barred sand bass and kelp bass. Spotted sand bass CPUE also declined from 2004-2011 (17 percent).

- *Spatial and temporal trends in the distribution of barred sand bass catch rates.* Barred sand bass form very large spawning aggregations that are targeted by fishermen in the summer months. In theory, when fish of an aggregating species are abundant, catch rates are high over a large geographic range, and when fish are scarce, catch rates remain high only within a smaller geographic range. Since 2000, CPFV catch rates of barred sand bass have remained high over a significantly reduced catch range. Barred sand bass catch rates were high from Santa Barbara to San Diego in 2000 but were high only in Huntington Flats, a known spawning aggregation, by 2010. In 2011, catch rates slightly increased off San Diego and north of Huntington Flats but are still relatively low.
- *Temporal trends in fishery recruitment for kelp bass and barred sand bass.* Length/frequency data were assessed to estimate fishery recruitment strength over time. Because this fishery has been managed, in part, with a minimum size limit, the group of fish recruiting into the fishery in any given year should generally represent the most abundant size class. During the period 1980-2010, fishery recruitment

for kelp bass and barred sand bass was relatively stable until 2004. After 2005, fishery recruitment was poor as evidenced by a successive increase in the size of fish caught over a three year period and a coincident dramatic decline in CPUE. Poor fishery recruitment for kelp bass and barred sand bass had similar timing, suggesting population level recruitment failure in previous years. Because most spotted sand bass are released, length data are too few for this species to make similar comparisons.

2. Declines in fisheries-independent data: Several fisheries-independent datasets directly and indirectly measuring kelp bass and barred sand bass abundances at sites throughout the Southern California Bight have been obtained and analyzed. These datasets encompass several studies by researchers outside the Department and also include Department-collected data. The data sets with the longest time series are reported here.
 - *Percent change in abundance across datasets*. The percent change in abundance was calculated for each species and dataset by comparing the most recent abundance value to the historic maximum. The Department examined several types of datasets: California Cooperative Oceanic Fisheries Investigations (CalCOFI) larval surveys, mainland SCUBA transects, island SCUBA transects, gillnet surveys, and power plant entrapment surveys. All of these datasets showed a decrease in abundance relative to the historic maximum. Percent declines by species and data set were dramatic and ranged from 71-91 percent (Table 2).

Table 2. Percent decline by fishery-independent dataset for kelp bass and barred sand bass. Percent declines represent the difference between the historic maximum and the last year of available data.

Dataset	Percent Decline	
	Kelp Bass	Barred Sand Bass
SCUBA Surveys		
Palos Verdes (1974-2009)	78	--
King Harbor (1974-2009)	90	71
Anacapa Island (1985-2010)	87	--
Santa Cruz Island (1985-2010)	84	--
Gillnet Surveys		
North SCB (1995-2008)	75	77
South SCB (1988-2008)	83	87
Entrapment Surveys		
Abundance (1975-2009)	89	90
Biomass (1980-2009)	87	91

-- Data not available or applicable

- *Temporal trends in abundance across life stages.* Several time series of population indices of abundance and densities across several life stages (adults, juveniles/subadults, larvae) were examined. The pattern that emerges across all life stages consists of a period of relatively low abundance prior to the 1980s, a period of higher abundance during the 1980s and 1990s, and a return to a period of low abundance during the last 10+ years.
3. Unfavorable oceanographic conditions: Temporal trend comparisons among abundance indices and oceanographic indices suggest barred sand bass and kelp bass populations have historically responded to changes in ocean conditions. Specifically, the populations appear to respond negatively during cooler conditions and that these conditions during the past 14 years have contributed to population recruitment failure in the early 2000s. Spotted sand bass have a subtropical geographic distribution and its population is driven by sporadic recruitment during warm ocean conditions. Given there are no indications the populations will recover during the current cool regime, the continued take of a reduced population could have serious consequences for the sustainability of the fishery.
- *Ocean regime shifts.* Long-term trends in the Pacific Decadal Oscillation (PDO) index show a shift out of a cool water regime in the mid-to-late 1970s. The warm water regime persisted into the 1980s and 1990s, and following 1998, a cooler water period began again. It is not clear how long current ocean conditions will continue, but typically regimes can last from 20-30 years.
 - *Population recruitment failure.* Larval abundance of the basses peaked more frequently during the warm regime than either the cool regime before or after (Figure 5). Following the regime shift into cooler ocean conditions in 1998, larval abundance was especially low for five consecutive years (1999-2003). A result of this low larval abundance was poor fishery recruitment and coincident decline in catch-per-unit effort 2004-2007 (see *Temporal trends in fishery recruitment* above).
4. Harvest impacts: Long-term trends of bass CPUE (fish per angler hour) in the CPFV fleet suggest both oceanographic influence and fishing effects. Regulation restrictions in the 1950s appeared to enhance the fishery, but continued fishing pressure over time has contributed to an overall decrease in bass availability regardless of oceanographic regime. In addition to alleviating fishing pressure on all three basses, protection of barred sand bass during the spawning season appears prudent due to world wide examples of the detrimental effects of fishing spawning aggregations (see *below*).

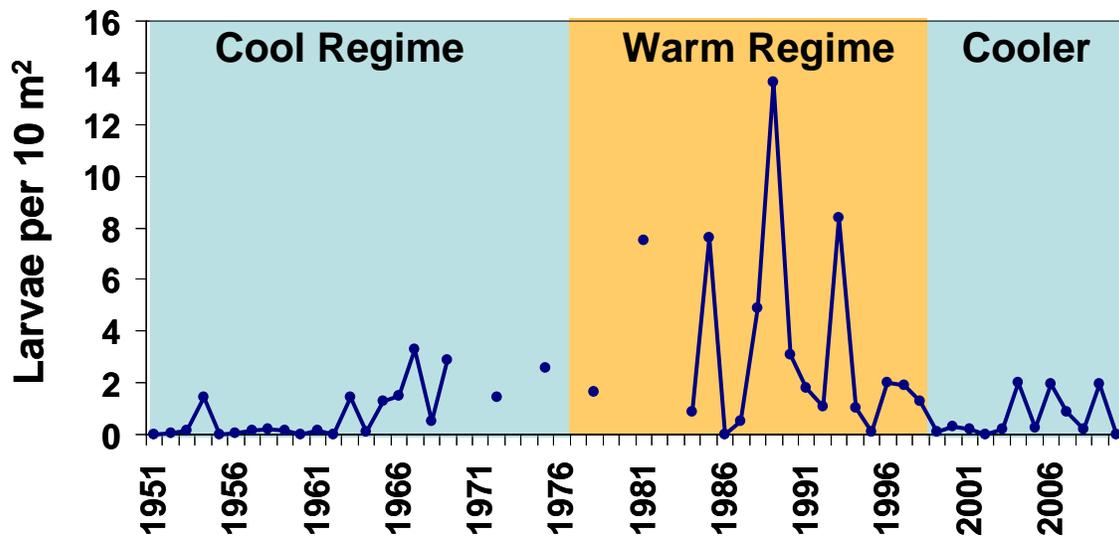


Figure 5. Larval abundance of basses by oceanographic regime (1951-2009). Larval abundance primarily represents kelp bass and barred sand bass. *Data source: CalCOFI*

- Fishery history.* All three basses have been managed under the same minimum size limit and bag limit for over 50 years. Following several regulation changes, including the commercial fishing ban on the basses in 1953, the implementation of a 10 fish bag limit and gradual, subsequent increases in the minimum size limit throughout the 1950s, CPUE increased to an all-time high in 1963 (Figure 6). Although CPUE dramatically decreased again during the cool regime of the 1960s and 1970s, CPUE during the warm regime of the 1980s and 1990s increased but never again reached the historic maximum. This is in spite of major advances in fish-finding technology and navigational systems that should have otherwise yielded higher catch rates had the bass populations been as historically abundant. Popularity for bass fishing has not decreased over the last several decades; in fact, popularity of kelp bass, barred sand bass, and spotted sand bass fishing appears to have increased.

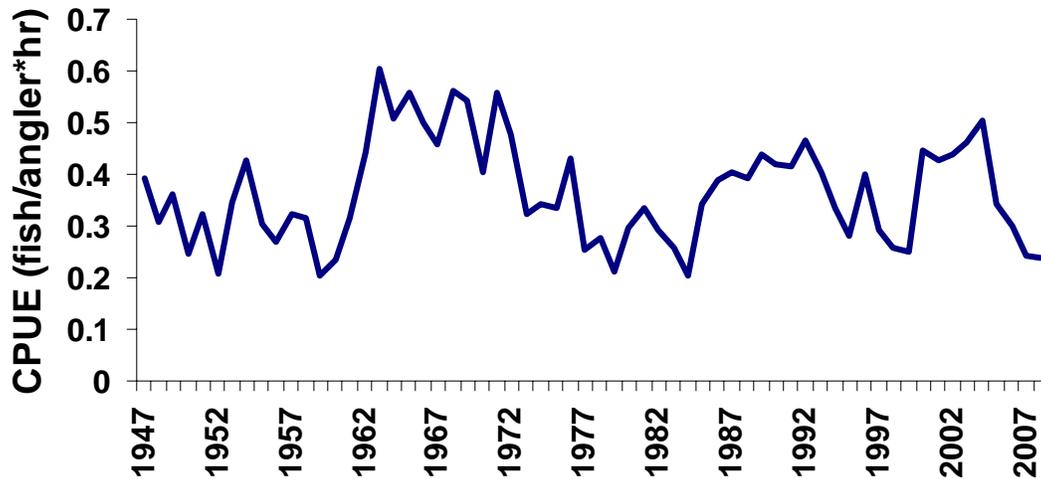


Figure 6. CPUE of harvested basses on board CPFVs from 1947-2008. The method of measuring CPFV fishing effort has changed considerably over time; historical effort data were converted to angler*hr (number of anglers multiplied by number of hours fished) to standardize the time series. *Data source: Historical archive of summarized California Department of Fish and Game CPFV logbook data*

- Hyperstability.* The basses are in the Family Serranidae. Of the three basses, barred sand bass form the largest, most localized, and most intensely targeted spawning aggregations. Due to the high densities of bass within their aggregations, and because the aggregations can be easily targeted by fishermen, catch rates can remain stable over time even during a population decline. This phenomenon is referred to as hyperstability and has resulted in the extirpation of fisheries world wide with little to no warning. The most well known examples of fishery exploitation of spawning aggregations include the tropical serranids (ex. Nassau grouper), of which eight are currently listed as Endangered or Critically Endangered on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. Many others are listed as Vulnerable, Near Threatened, or Threatened as a result of declining catch numbers and their aggregating reproductive strategy. The IUCN Red List assesses the extinction risk of species, and is used by government agencies, wildlife departments, conservation-related non-governmental organizations (NGOs), natural resource planners, educational organizations, and many others interested in reversing, or at least halting the decline in biodiversity.

(c) Authority and Reference Sections from Fish and Game Code for Regulation:

Authority: Sections 200, 202, 205, 219, and 220, Fish and Game Code

Reference: Sections 200, 202, 203.1, 205, 207, 210, 215, 219, 220, 240,

5508, and 5509, Fish and Game Code

- (d) Specific Technology or Equipment Required by Regulatory Change:

None.

- (e) Identification of Reports or Documents Supporting Regulation Change:

[Jarvis, E.T., Linardich, C. Valle, C.F., 2010. Spawning-related movements of barred sand bass, *Paralabrax nebulifer*, in southern California: interpretations from two decades of historical tag and recapture data. Bulletin of the Southern California Academy of Sciences 109, 123-143.](#)

[McKinzie, M., 2012. Fine-scale horizontal and vertical movement of barred sand bass, *Paralabrax nebulifer*, during spawning and non-spawning seasons. Department of Biological Sciences Master's Thesis. California State University, Long Beach, Long Beach.](#)

[Moser, H.G., Charter, R.L., Smith, P.E., Ambrose, D.A., Watson, W., Charter, S.R., Sandknop, E.M., 2001. Distributional atlas of fish larvae and eggs in the southern California Bight region: 1951-1998. CalCOFI Atlas No. 34. Library of Congress Catalog Card Number 67-4236.](#)

[Sadovy, Y., Domeier, M.L., 2005. Are aggregation-fisheries sustainable? Reef fish fisheries as a case study. Coral Reefs 24, 254-262.](#)

[Young, P.K., 1963. The kelp bass \(*Paralabrax clathratus*\) and its fishery, 1947-1958. California Fish and Game, Fish Bulletin 122.](#)

[Young, P.K., 1969. The California Partyboat Fishery 1947-1967. California Fish and Game, Fish Bulletin 145.](#)

[Economic Impact Analysis Report.](#)

- (f) Public Discussions of Proposed Regulations Prior to Notice Publication:

Marine Resources Committee meeting, October 12, 2010, Santa Barbara, California. Potential basses sport regulation changes and research results supporting changes were presented and discussed.

Marine Resources Committee meeting, May 25, 2011, Santa Barbara, California. Update on the bass fisheries was presented.

Marine Resources Committee meeting, September 27, 2011, Monterey, California. Update on the bass fisheries was presented.

Marine Resources Committee meeting, January 18, 2012, Santa Barbara, California. Department presentation on "Fishery Analysis of the Bases in Southern California"
(<http://www.fgc.ca.gov/meetings/2012/011812mrcitem4.pdf>).

.IV. Description of Reasonable Alternatives to Regulatory Action:

(a) **Alternatives to Regulation Change:**

Several alternatives to regulation change include, 1) slot limits for kelp bass and barred sand bass, 2) spawning area closures for barred sand bass, and 3) catch and release only fishing for spotted sand bass.

(1) *Slot limits for kelp bass and barred sand bass.* Take is restricted to fish caught within the harvestable size range (equal to or within the minimum and maximum size limits). This alternative has been dismissed due to the following reasons:

- Catch and release mortality must be minimal for slot limits to be effective. Kelp bass and spotted sand bass appear to suffer little mortality upon release; however, there have been no studies to determine if there is delayed mortality. Barred sand bass have increased mortality due to barotrauma issues and slot limits are not a viable alternative for them.
- Currently no definitive data exists on the age structure of the fishery. Slot limits will put increased fishing pressure on the age classes within the given slot limits instead of spreading take across more age classes. If there are any weak age classes within the slot limit, this could have negative effects on the population.
- Slot limits will be difficult to enforce. Currently, there are fillet length regulations for kelp bass and barred sand bass based on the minimum size limit. A maximum size from a slot limit would also require a maximum fillet length. Since it would be difficult to ensure that fillet lengths were from the appropriate sized fish, the regulation would be impossible to enforce. Slot limits could be enforced better if anglers were required to keep the entire fish intact until they were home or at some designated fish cleaning station. However, many anglers enjoy the filleting service provided by CPFVs or private charters, and eliminating this service could have a negative economic effect on their business. In addition, requiring filleting of fish at the dock or designated cleaning stations requires an infrastructure not currently in place, and it would greatly delay the schedules of CPFV trips and decrease fishing times.
- Slot limits would be an impractical regulation for spear fishermen due to the inability to accurately determine sizes of fish underwater within this narrow size window.

(2) *Area closures for barred sand bass during spawning season.*

Spawning area closures for other species of fish that form spawning aggregations have been implemented in other regions of the world with success. Current Marine Protected Areas (MPAs) in southern California are not inclusive of all major barred sand bass spawning grounds. Barred sand bass spawning grounds include the Ventura Flats, inner Santa Monica Bay, Huntington Flats, San Onofre, Pt. Loma, and Imperial Beach Flats (a total of approximately 600 square nautical miles). Only a small proportion of this spawning habitat (less than four percent) is estimated to be included within the current MPA array. This alternative is not recommended for the following reasons:

- To encompass all spawning areas, this alternative would necessarily include large areas on the Ventura Flats, within Santa Monica Bay, Huntington Flats, San Onofre, Pt. Loma, and Imperial Beach Flats. This represents a significant increase in area coverage (approximately 162 percent) to the existing MPAs in southern California.
- Bycatch mortality of barred sand bass would be a concern as fishing for other popular sport fish (including Pacific bonito, Pacific barracuda, yellowtail, kelp bass, California scorpionfish, and jumbo squid) occurs within these areas during the summer spawning season.
- Area closure boundaries on spawning grounds would necessarily be conservative to account for variability in the site-specificity of aggregations. Although the general location of barred sand bass spawning grounds is well-known, the exact location of individual spawning aggregations varies from year to year.

(3) *Catch-and-release only for spotted sand bass.* This alternative has been raised by the public several times in recent years. There is some public concern that effort (and harvest) for spotted sand bass may be underestimated and/or increasing. By fishing mode, 73 percent of harvested spotted sand bass are estimated taken by private/rental boats, 16 percent by beach and bank, 10 percent by man-made structures, and less than one percent by CPFV/charter boats. From 1980-2011, spotted sand bass was estimated to comprise less than one percent of the total harvested catch of all three basses. This alternative is not recommended for the following reasons:

- The estimated take in the spotted sand bass fishery is very low when compared to total catch (~6 percent) and a zero bag limit is estimated to provide minimal reductions in catch.
- Catch-and-release only would unnecessarily impact low income fishermen that are more likely to keep spotted sand bass for subsistence.

(b) **Alternatives that would lessen any adverse impact on small businesses:**

The proposed regulation includes three options, with multiple sub-options, which will impact small businesses to varying degrees. The alternatives identified in section IV.(a), above, are not expected to have less adverse impacts on small business. No additional alternatives were identified.

(c) **No Change Alternative:**

Maintain Status Quo: No Regulation Change (No reduction)

The no change alternative would maintain current regulations which have been used for the past 50 years and are well understood. However, this is not preferable because evidence exists that current levels of take may be unsustainable. Continued fishing pressure at current levels may drive the fishery to the point of being unable to recover even when favorable environmental conditions return. If that were to happen, the Commission would then need to revisit regulation changes that may be far more restrictive than those currently proposed. In order to avoid more restrictive measures in the future, regulatory changes are recommended now.

(d) **Consideration of Alternatives:**

In view of information currently possessed, no reasonable alternative considered would be more effective in carrying out the purposes for which the regulation is proposed, would be as effective and less burdensome to affected private persons than the proposed regulation, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

V. **Mitigation Measures Required by Regulatory Action:**

The proposed regulatory action will have no negative impact on the environment. Therefore, no mitigation measures are needed.

VI. **Impact of Regulatory Action:**

The potential for significant statewide adverse economic impacts is difficult to assess because available socio-economic and fishing effort data were not designed to address this question, and therefore assumptions must be made. Notwithstanding this limitation, the potential impacts that might result from the proposed regulatory actions have been assessed, and the following initial estimates relative to the required statutory categories have been made:

(a) **Significant Statewide Adverse Economic Impact Directly Affecting Businesses, Including the Ability of California Businesses to Compete with Businesses in Other States:**

The proposed action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states.

Some impacts to southern California businesses catering to bass fishing may be realized; however, these impacts are not expected to be significant or statewide. The bass fishery is only a southern California fishery, and

businesses from other states do not compete with southern California businesses for this resource.

- (b) Impact on the Creation or Elimination of Jobs Within the State, the Creation of New Businesses or the Elimination of Existing Businesses, or the Expansion of Businesses in California; Benefits of the Regulation to the Health and Welfare of California Residents, Worker Safety, and the State's Environment.

An increase in the minimum size limit (Option 1) will result in fewer bass taken, but it is unlikely to result in the creation or elimination of jobs or businesses. The minimum size increase is not expected to reduce the number of anglers aboard CPFVs and rental boats to the same extent that a reduction in the bag limit would because the opportunity to catch larger fish still exists.

Due to some of the recreational fishing community having support for a reduction in the bag limit (Option 2), it is unknown whether a moderate reduction in the bag limit would deter a significant portion of anglers from fishing. However, a severe reduction in the bag limit (e.g., zero take) would most likely result in the loss of jobs and the elimination of several businesses associated with the industry (see economic impact analysis report).

A barred sand bass season closure (Option 3) could also result in the loss of jobs or businesses, depending on actual customer interest (fishing for barred sand bass versus other species) and revenue lost due to potential impacts to sport fishing landings. Under a partial season closure, it seems likely that landings would choose to continue their regular schedule and fish for other species, resulting in no loss of jobs or businesses. However, under a full season closure, a significant reduction in fishing trips would most likely result in the loss of jobs and the elimination of several businesses associated with the industry (see economic impact analysis report).

For all three options, fewer fish being taken home would result in some lost income to CPFV crew members due to filleting fewer fish.

Despite the possibility of a short-term adverse impact to businesses, the long-term intent of all the proposed actions is to increase sustainability of the bass fisheries and, subsequently, the long-term viability of these same businesses.

The Commission anticipates benefits to the health and welfare of California residents. Currently there are health advisories recommending limited consumption of kelp bass and barred sand bass from certain areas within southern California due to contaminants (see economic impact analysis report). Limiting take of these fishes through the proposed regulations will help residents comply with these health advisories.

The Commission does not anticipate any non-monetary benefits to worker safety.

The Commission anticipates benefits to the environment by the sustainable management of California's bass resources.

(c) Cost Impacts on a Representative Private Person or Business:

The agency is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

(d) Costs or Savings to State Agencies or Costs/Savings in Federal Funding to the State:

None.

(e) Nondiscretionary Costs/Savings to Local Agencies:

None.

(f) Programs mandated on Local Agencies or School Districts:

None.

(g) Costs Imposed on Any Local Agency or School District that is Required to be Reimbursed Under Part 7 (commencing with Section 17500) of Division 4, Government Code:

None.

(h) Effect on Housing Costs:

None.

Informative Digest/Policy Statement Overview

Under current regulations, Section 27.65(b)(1), Title 14, CCR, specifies a minimum fillet length for kelp bass, barred sand bass, spotted sand bass, and ocean whitefish. Section 28.30 specifies a minimum size (total length and alternate length) and bag limit for kelp bass, barred sand bass, and spotted sand bass.

The three proposed regulatory options are intended to work together to favor population increases of the three bass species by reducing take. The options include an increase in the minimum size limit for all three species (with a corresponding increase in fillet length and alternate length), a reduction in the bag limit for all three species, and a spawning season closure for barred sand bass only. Each proposed option includes a range of sub-options yielding different reductions in catch depending on the species. The following summarizes the options for regulatory change in Title 14, Sections 27.65(b)(1) and 28.30:

Option 1: The proposed regulation would increase the minimum size limit for bass to either 13, 14, or 15 inches total length. An increase in the minimum size limit to 13, 14, or 15 inches will require a corresponding increase in the fillet length size to 7, 7.5, or 8 inches, respectively and a corresponding increase in the alternate length size to 9.25, 10, or 10.75 inches, respectively. Ocean whitefish fillets would retain the 6.5 inches minimum length and require the entire skin be attached.

Option 2: Current regulations specify a limit of 10 fish (bass) in any combination of species. The proposed regulation would retain the 10 fish upper limit in aggregate stipulation, but provide for a reduction in the individual species limit within the range of 10 to 0.

Option 3: Current regulations do not specify any seasonal closure of barred sand bass fishing. The proposed regulation would close barred sand bass fishing from 1 week to 3 months during the spawning season (June 1-August 31).

The benefits of the proposed regulations are sustainable management of the bass resources to protect bass populations while continuing to provide recreational fishing opportunities.

The proposed regulations are neither inconsistent nor incompatible with existing State regulations. No other State agency has the authority to promulgate sport fishing regulations.