

Kelp Bass

History of the Fishery

Kelp bass (*Paralabrax clathratus*) are popularly referred to as calico bass and represent one of the most important nearshore, recreational species in the waters off of southern California. This important species has been the target of southern California anglers and commercial fishermen since the early 1900s. In the early years of the fishery, catch statistics grouped kelp bass and the two other *Paralabrax* species, barred sand bass and spotted sand bass, into a single "rock bass" category. Based on recent information, it is very likely that kelp bass comprised most of this catch category early on. The largest commercial landings of rock bass occurred during the 1920s and 1930s; annual landings averaged 500,000 pounds. A sharp decline in fishing activity occurred during and after World War II and landings never exceeded 150,000 pounds from 1941 through 1953. The general decline of the rock bass resource prompted conservation measures, which in 1953 made commercial fishing for rock bass illegal in California waters. Legally sold fish imported from Mexico dwindled to insignificant levels since the late 1950s. Sport anglers using light hook-and-line tackle catch kelp bass while fishing from piers, beaches, private boats, and commercial passenger fishing vessels (CPFVs). Sport catch records for rock bass taken by CPFVs have been available since 1935, but only CPFV records since 1975 reliably differentiated kelp bass catches from the other rock bass. Early sport anglers considered the kelp bass a nuisance when attempting to catch more desirable gamefish. Only the largest "bull bass" were sought. In 1939, a limit on sport fish catches in California, 15 total fish in an aggregate of several species, was the first management attempt to prevent depletion of popular sport fish populations.

Intense fishing immediately after World War II may have caused a progressive decrease in the size of landed bass, and the popular kelp bass fishery was deteriorating. The California Department of Fish and Game (DFG) instituted comprehensive studies in 1950 that resulted in size and

bag limits for sport caught kelp and sand bass combined. The new size limit began at 10.5 inches and was increased several times until the 12-inch limit was reached in 1959.

The kelp bass catch has fluctuated greatly since the 1960s. The largest CPFV catches occurred during the mid-1980s, estimated at over 1,000,000 fish annually. Since 1980, the CPFV kelp bass catch has ranged from 273,000 to 2,795,000 fish in 1988 and 1986, respectively, and averaged about 1,000,000 kelp bass per year. CPFV landings of kelp bass typically peak in the late spring and early fall. The recent Federal Marine Recreational Fishery Statistics Survey estimated that since 1990 the catch from shore, pier, and private boat anglers averages about 900,000 kelp bass per year which exceeds that of CPFV fishermen (about 800,000 fish per year). The CPFV landings of kelp bass steadily declined each year from 1993 to 1999.

The most productive fishing areas for kelp bass in recent years have been off the Coronado Islands, Baja California, Mexico; Point Loma and La Jolla in San Diego County; Dana Point and Huntington Beach in Orange County; Santa Catalina Island and Horseshoe Kelp in Los Angeles County; and around the Channel Islands in Santa Barbara and Ventura Counties.

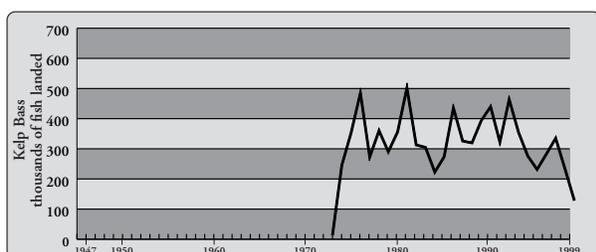
Status of Biological Knowledge

Kelp bass have ranged historically as far north as the mouth of the Columbia River and south to Bahia Magdalena, Baja California, Mexico. However, they are rare north of Point Conception. They are abundant in southern California waters including the shores of all the Channel Islands. They are typically found in shallow water (surface to 150 feet) being closely associated with high relief structure, including kelp. Kelp bass range throughout the water column, but seem to concentrate between eight and 70 feet. In general, they live solitary lives but form assemblies to spawn and to feed on small schooling fish. Early tag and release studies showed little movement for the majority of kelp bass and concluded that if they move at all, it is to nearby rocky reefs or short distances to gather into breeding assemblages. More recently, tagging studies in the northern portion of the Southern California Bight from Point Conception south the northern Channel Islands indicated the kelp bass were quite mobile with some fish traveling as far as 50 miles.

Kelp bass have the broad diet of a generalized carnivore consisting of small fishes (including anchovies, sardines, surfperch, queenfish), squids, octopuses, crabs, shrimps, and amphipods. They forage primarily in the midwater, but occasionally feed on the bottom. Young kelp bass feed on small crabs, copepods, and plankton. They feed lightly in the winter and most heavily during May through September.



Kelp Bass, *Paralabrax clathratus*
Credit: DFG



Recreational Catch 1947-1999, Kelp Bass

CPFV = commercial passenger fishing vessel (party boat); Recreational catch as reported by CPFV logbooks. Prior to 1973, Kelp Bass and Barred Sand Bass CPFV catch data were aggregated.

Kelp bass mature between seven and 10.5 inches in length and about three to five years and form breeding aggregations in deeper water off of kelp heads and rocky headlands, generally, in depths down to 150 feet. Several hundred ripe adults may aggregate in a small area during spawning. During spawning, high-contrast, black and white individuals with yellow-orange snouts are usually males, and fish with golden hues and yellow chins and jaws are usually females. Spawning occurs primarily around the full moon from April through November peaking in the summer months. Kelp bass produce pelagic eggs (0.04 inches in diameter) which enter the plankton in coastal waters. Larvae remain in the plankton for 28 to 30 days at which time they settle out in shallow water in attached, as well as drift algae including kelps. Young-of-year kelp bass grow to a length of about two inches in the first 90 days of life.

Kelp bass are known to grow to 28.5 inches and 14.5 pounds. The oldest known kelp bass was 34 years old and 25 inches long. Juvenile kelp bass can be five to six inches after one year and are about 12 inches (legal size) at five years. The average 10 year-old kelp bass is about 18 inches in total length. As with most fishes, growth is highly variable with the largest fish not necessarily being the oldest. The world record kelp bass (14.5 pounds) caught off Newport Beach in 1995 was 27 years old while a 9.5 pound fish caught at San Clemente Island in 1993 was 34 years old.

Status of the Population

In the 1970s and 1980s, the kelp bass was among the top three species taken by the average angler per hour of fishing (along with barred sand bass and Pacific mackerel). In 1986 and 1989, kelp bass were the most commonly taken species in the CPFV fleet. Throughout the 1980s, kelp bass have consistently ranked among the top five fishes caught by CPFV anglers. DFG surveys indicate the estimated total catches of kelp bass have increased since the mid-1970s. Low periods of kelp bass landings in the

mid-1970s and early-1980s may be attributed to El Niño events that provide anglers with alternative species to catch. Peak landings have followed each El Niño event. DFG surveys of the CPFV industry in the 1970s and 1980s indicated a stable spawning population is being maintained because of the large number of age classes that are caught and kept by anglers. Approximately 85 percent of the kelp bass kept by CPFV anglers measure between 11.4 to 15.9 inches, representing up to seven age classes. However, the alarming decline of recreational catch from all sources that has occurred in the 1990s is a major cause for concern.

Management Considerations

See the Management Considerations Appendix A for further information.

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