

2. HISTORY OF FISHERY

2.1 Commercial Fishery: Beginning with the salted fish fishery in the 1800s, California Sheephead have maintained a presence in the California nearshore fishery. From the early 1920s, Sheephead sporadically appeared in reported landings for the nearshore fishery, with booms in harvest from 1927 to 1931, and again from 1943 to 1947, peaking in 1928 at 370,000 lbs. Excluding these periods of high landings, the average annual commercial harvest averaged just 10,000 lbs until the live-fish fishery appeared in the 1980s. The development of this new fishery corresponded to an upward trend in landings, ultimately reaching a peak of 366,000 lbs in 1997. During this time, prices, adjusted for inflation, increased from \$0.10/lb in the 1940s to 1980s to over \$9.00/lb for live-fish in the 1990s (Stephens 2001).

In just three years (between 1989 and 1992), the nearshore, live-fish trap fishery increased from 2 to 27 boats landing over 52,000 lbs of live fish (Palmer-Zwahlen et al. 1993). Sheephead accounted for more than 88% of live fish landed in the developing live-fish fishery, which has greatly contributed to the large increase in total commercial landings. During the early years of the fishery, commercial hook and line Sheephead landings totaled more than 165,000 lbs, of which over 66% belonged to the live-fish fishery (Palmer-Zwahlen et al. 1993).

2.2 Recreational Fishery: Sheephead are caught by hook and line as well as by spearfishers (Young 1973). Landings in the recreational fishery for Sheephead exceeded commercial catch between 1980 and 1989 (Figure 2.1, Schroeder and Love 2002), and most likely before this as well, except during the two boom times for the commercial fishery (Palmer-Zwahlen et al. 1993). In 2002, Sheephead ranked 13th in landings in the southern California recreational fishery. Large, old individuals are especially vulnerable to depletion by recreational spearfishing because of the ease at which they can be spotted and speared (CDFG 2003).

2.3 Artisanal Fishery: Sheephead represent a large proportion of the artisanal fishery in Baja California, Mexico, comprising over 25% of the catch, with this proportion increasing in summer months. This fishery is primarily comprised of individuals or small groups fishing with hook and line on boats less than 8 m long, fishing less than 15 fathoms from shore. The artisanal fishery tends to be a mixed fishery dominated by *Sebastes ssp.* In 1994, a study of the artisanal fishery of the northwestern coast of Baja California (from Santo Tomas to south of Punta Canoas) found that of 2490 fish caught (representing 2692.7 kg), six hundred forty-five (26%) were Sheephead. In this sample, the mean standard length of Sheephead was 312.2 ± 56.8 mm (Rosales-Casian and Gonzalez-Camacho 2003).

2.4 Regulation: Of the 19 nearshore species managed under the Nearshore Fishery Management Plan (NFMP), 16 (13 species of nearshore rockfish, California scorpionfish, cabezon, and kelp greenling) are designated as groundfish and fall under the management authority by the Pacific Fishery Management Council (PFMC). California Sheephead, monkeyface prickleback (also called monkeyface eel), and rock greenling do not have

groundfish designation, thus do not fall under the management by the PFMC. Furthermore, the PFMC has not actively managed cabezon or kelp greenling. This lack of PFMC management led to State of California regulations for California Sheephead, the two greenling species, and cabezon (CDFG 2002). Regulations for California Sheephead tend to fall under the general nearshore fishery regulations. The commercial fishery for both trap and hook and line gear is a restricted access fishery. Permits for the live-fish trap fishery began in 1996 in southern California and a statewide Nearshore Fishery Permit began in 1999. These permits are limited to individuals who have participated in the fishery the previous year as well as meeting historical catch criteria.

The Sheephead trap and hook and line fisheries reached optimal yield (OY) levels and closed early for all years, beginning in 2001. According to the NFMP, “Optimum yield (OY) is defined in FGC §97 as the amount of fish taken in a fishery that does all of the following: (a) provides the greatest overall benefit to the people of California, particularly with respect to food production and recreational opportunities, and takes into account the protection of marine ecosystems, and (b) is the MSY of the fishery, reduced by relevant economic, social, or ecological factors, and (c) in the case of an overfished fishery, provides for rebuilding to a level consistent with producing MSY in the fishery (CDFG 2002).” The 2002 OY was set to half that of total recent catches, and allocated almost 50,000 lbs more to the recreational fishery than the commercial fishery.

Size restrictions on Sheephead were fairly minimal before 1999 for both the recreational and commercial fisheries. In 1999, CDFG set the minimum catch size for the commercial fishery to 12 inches (total length) and followed with the same size limit for the recreational fishery in 2001. To further decrease commercial harvest, the minimum commercial harvest size was increased to 13 inches in 2001. Also in 2001, the 10 fish recreational bag limit was reduced to five (NFMP Table 1.2-17, CDFG 2002)

In 2002, the Sheephead fishery was aligned with the nearshore rockfish fishery for both the commercial and recreational fisheries (CDFG 2002). Sheephead are not to be taken commercially north of Point Conception, Santa Barbara County during March and April, and south of Point Conception during January and February. This essentially represents a seasonal closure because the bulk of landings occur south of Point Conception (CDFG 2002). Other season and area closures affecting the Sheephead fishery result from management of the nearshore fishery. In 2001, taking Sheephead deeper than 20 fathoms in a Cowcod Conservation Area was banned.