

1984 STATUS OF STOCK REPORT ON
CHILIPEPPER ROCKFISH IN CALIFORNIA

The chilipepper rockfish (Sebastes goodei) is an important component of California's commercial and sport fisheries. Optimum yield (OY) levels for this species have been established at 1300 and 1000 mt for the Monterey and Conception INPFC areas, respectively. Although annual commercial chilipepper catches of as much as 224 mt have occurred in recent years in the Eureka INPFC area, this species is not an important component of the sport and commercial fisheries in that area. Therefore an OY determination was not made for the Eureka zone.

Chilipepper catches in California are reported on fish receipts in the unspecified rockfish category or in the bocaccio/chilipepper complex category. In order to gather catch and biological data on a species-by-species basis, a joint NMFS-CDFG rockfish sampling program was initiated in 1977. In this field program trawl and CPFV rockfish catches from Morro Bay to Crescent City are sampled. Estimates of rockfish harvests by species and age for 1977-1982 from this sampling program were recently completed and utilized in this report. A historical species composition percentage value was employed in past annual status of stock reports on chilipepper rockfish. However, this sampling program has revealed that chilipepper constitute a greater percentage of trawl rockfish catches in the Monterey zone. During the 1977-1983 period, chilipepper comprised an average of 25% of all trawl-caught rockfish in this area (range 9-37%).

Chilipepper rockfish are recruited to hook-and-line and trawl fisheries at age 3 and are fully recruited to the trawl fishery by age 7. During the 1977-82 period, 4 to 12 year old individuals comprised 92.8% by number of the trawl chilipepper catch in California. Individuals as old as 27 years have been sampled in sport and commercial catches.

The 1984 trawl landings of chilipepper rockfish in the Monterey zone are projected to be approximately 980 mt, or 61% of the 7 year mean value of 1595 mt (Figure 1). An additional 100 mt are expected to be harvested in the setnet fishery. Lesser amounts will be taken by other commercial fisheries that cannot be accurately quantified at the time of this report. Chilipepper rockfish are taken in insignificant quantities in the Monterey zone recreational fishery. The projected total harvest is 83% of the Acceptable Biological Catch (ABC) level for the Monterey area.

There are several possible explanations for the projected decline in 1984 landings when compared with the 7 year mean. The January-April, 1984 period had unusually hazardous ocean conditions which kept many trawlers from fishing, thus significantly reducing the number of landings (Figure 2) and the quantity of chilipepper rockfish landed. In addition, chilipepper catches historically are highest in the winter quarter of the year. Thus the actual 1984 harvest may be greater than forecast if fishing conditions are favorable in the latter half of the year.

Another possible explanation for the projected decline in chilipepper landings is overexploitation during the 1979 to 1983 period. The OY level has been exceeded in five of the seven years for which accurate rockfish catch values exist (Figure 1). A thorough assessment of the stock using cohort analysis as well as effort data is underway, but unfortunately was not completed for this report. Examination of the age composition of trawl catches in California revealed no obvious signs of juvenescence (Figure 3). The large chilipepper landings in 1979, 1980, and 1981 may be attributable to the recruitment of the robust 1975 cohort and the continued contribution of the 1973 cohort. Conversely, it appears that recruitment was poor from 1980 to 1982. Initial recruitment of the 1979 year class during 1983 suggests that it is quite strong. Fishing mortality and population estimates presently being produced will be invaluable in the evaluation of current stock status, OY, and ABC levels for this species. Until such estimates are available it is premature to attribute the decreased landings to overexploitation.

The projected 1984 harvest of chilipepper rockfish in the Conception INPFC zone is 300 mt, or 30 percent of the 1000 mt ABC. Accurate estimates of chilipepper landings are available only for the trawl fishery; therefore this harvest estimate is conservative. The trawl-caught component of this catch is projected to be 150 mt.

As cited in the PFMC Groundfish Plan, Conception area CPFV catches of chilipepper rockfish may equal the commercial harvest of this species. Unfortunately, recent CPFV catch values are unavailable. As a rough approximation, the CPFV harvest was set at the level of the trawl harvest or 150 mt.

The projected 1984 chilipepper harvest is 20% less than the previous year's catch and continues the decline from the 1981 harvest of 802 mt (Figure 4). Reduced trawl effort may be a contributing factor to this decline as well as fishing mortality from the large setnet fishery in southern California waters (Figure 5). Estimation of chilipepper removals by both the hook-and-line and setnet fisheries is of utmost importance in the proper stock assessment of the chilipepper resource in the Conception area.

Until more detailed analyses can be completed on the present status of the chilipepper rockfish resource in the Monterey and Conception zones, no changes are recommended in the OY or ABC levels of 1300 mt and 1000 mt for the two management areas.

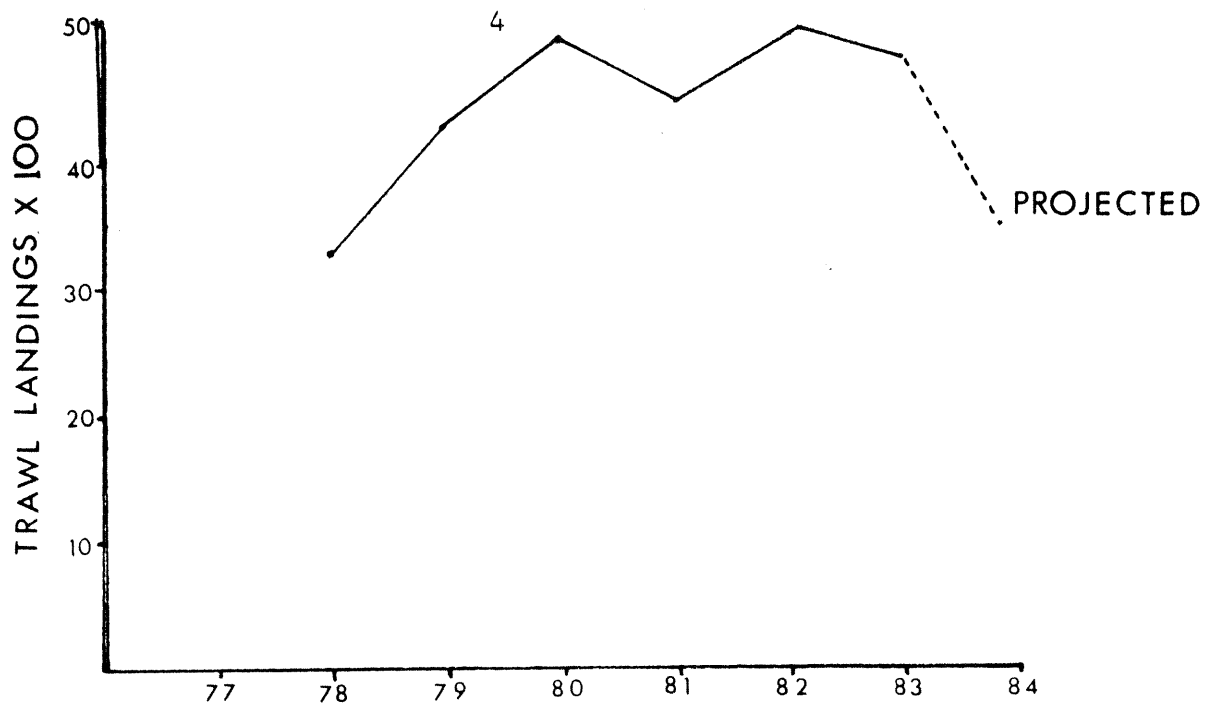


Figure 2. Annual trawl landings in the Monterey INPFC zone (number of deliveries).

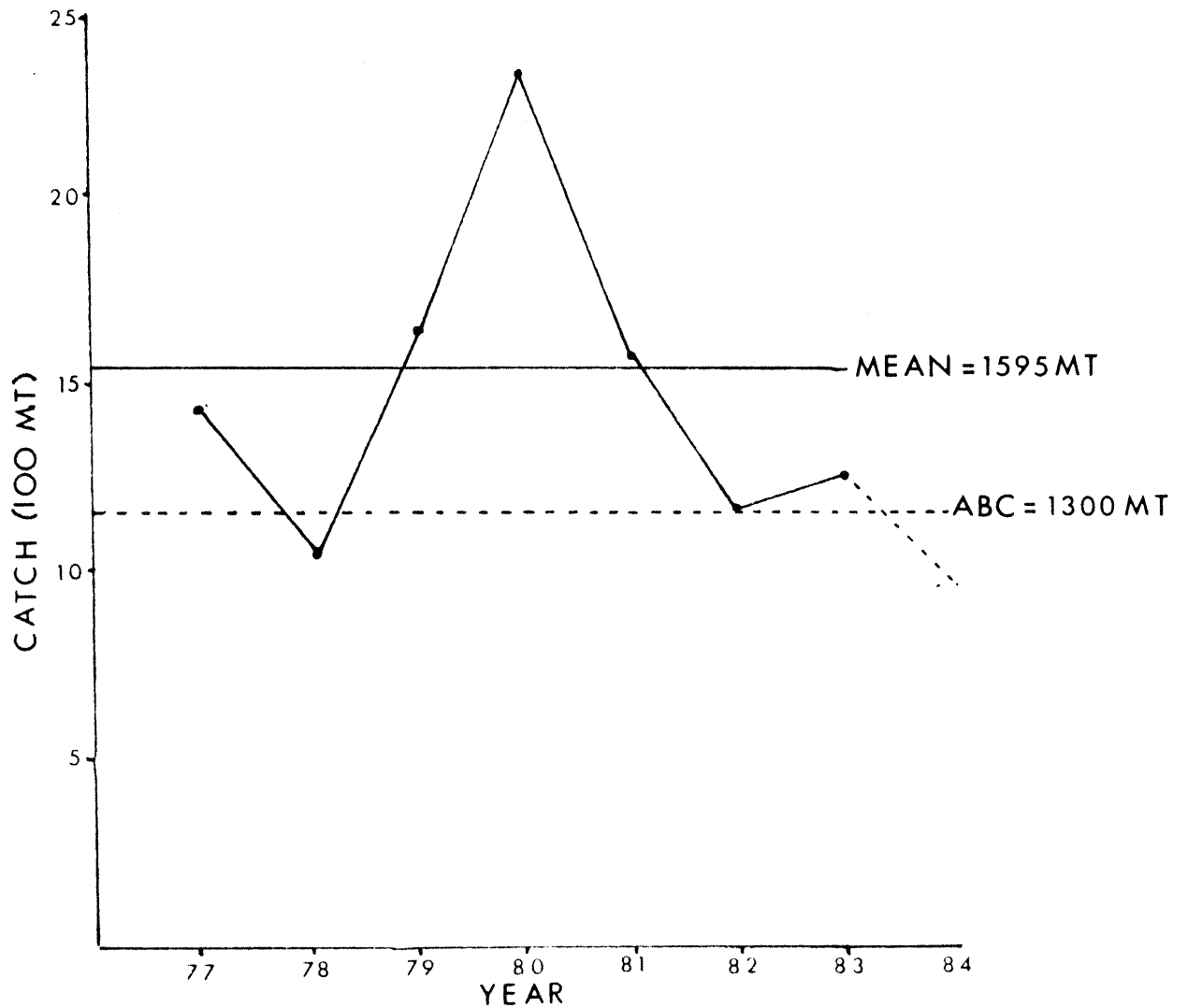


Figure 1. Annual trawl landings (metric tons) of chilipepper rockfish in the INPFC Monterey zone.

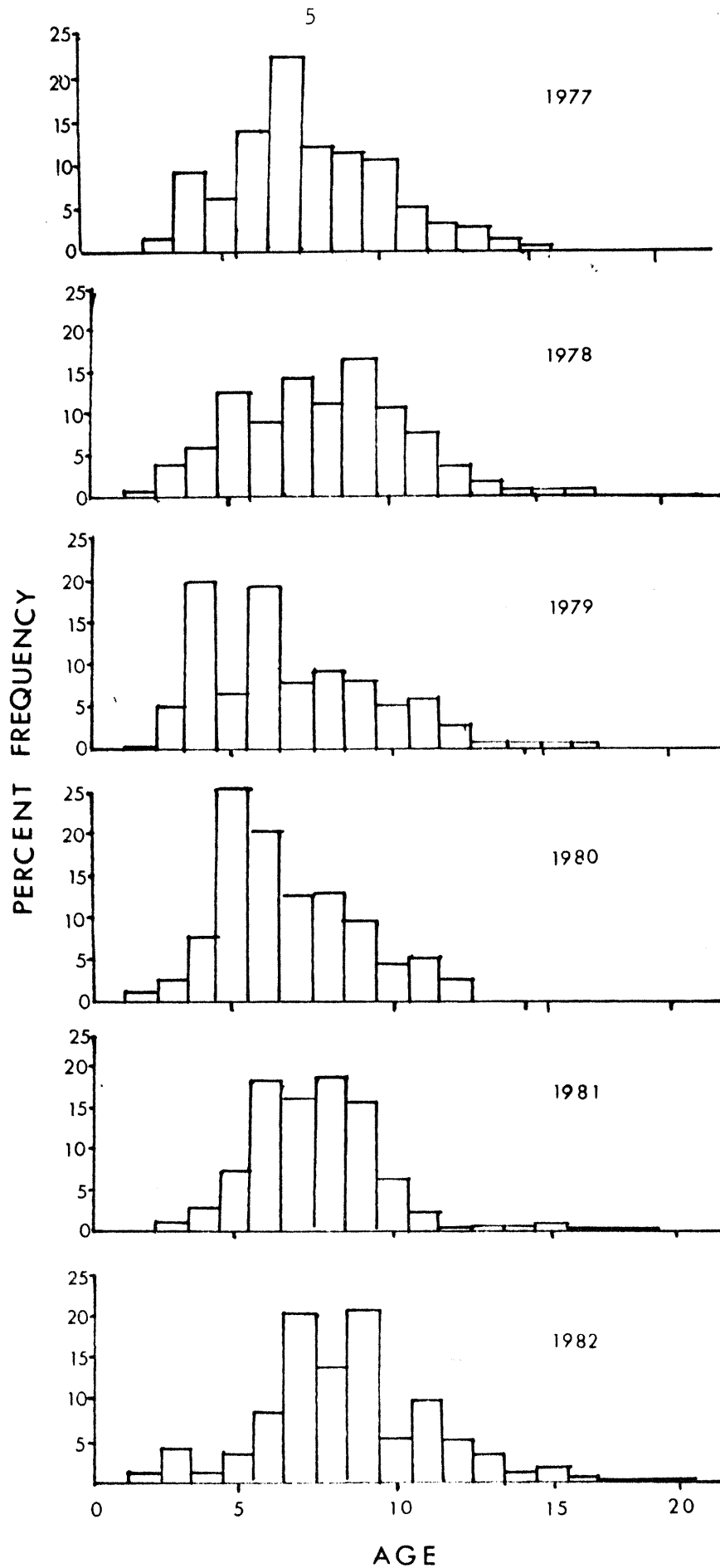


Figure 3. Age frequency distribution of sampled trawl-caught chili-pepper in California.

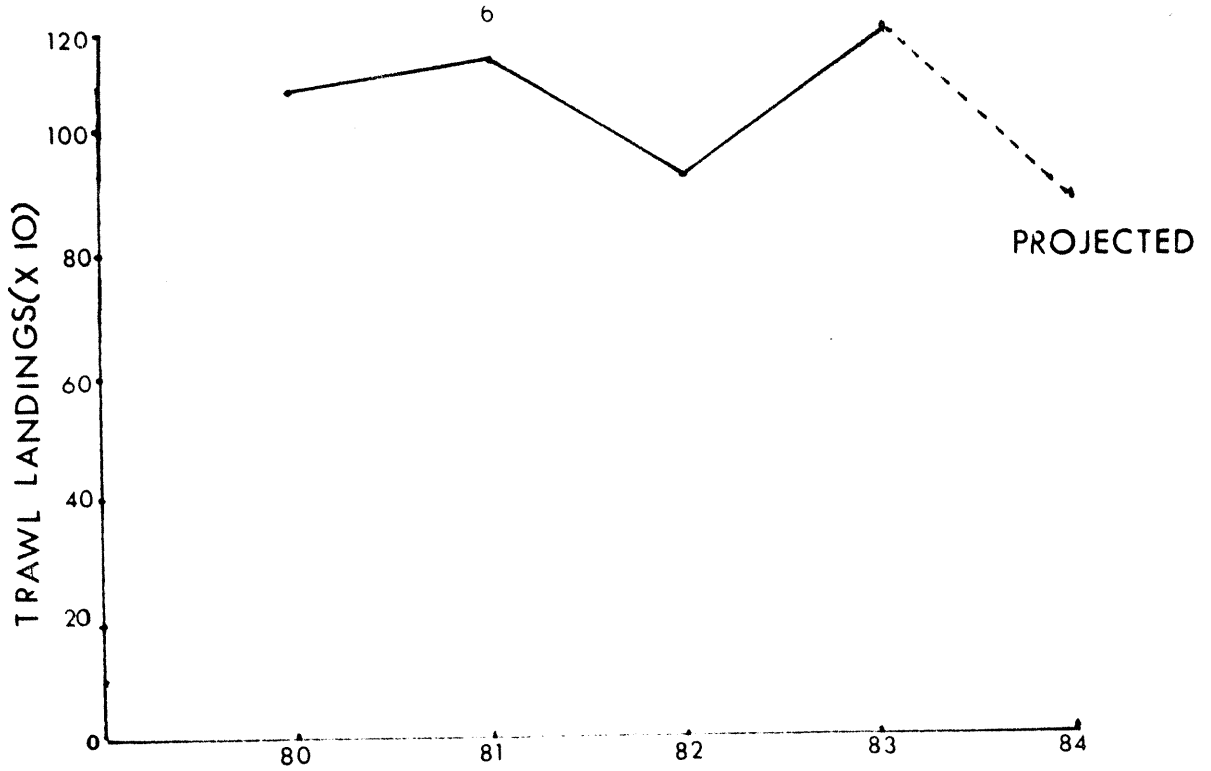


Figure 5. Annual trawl landings in the INPFC Conception zone (number of deliveries).

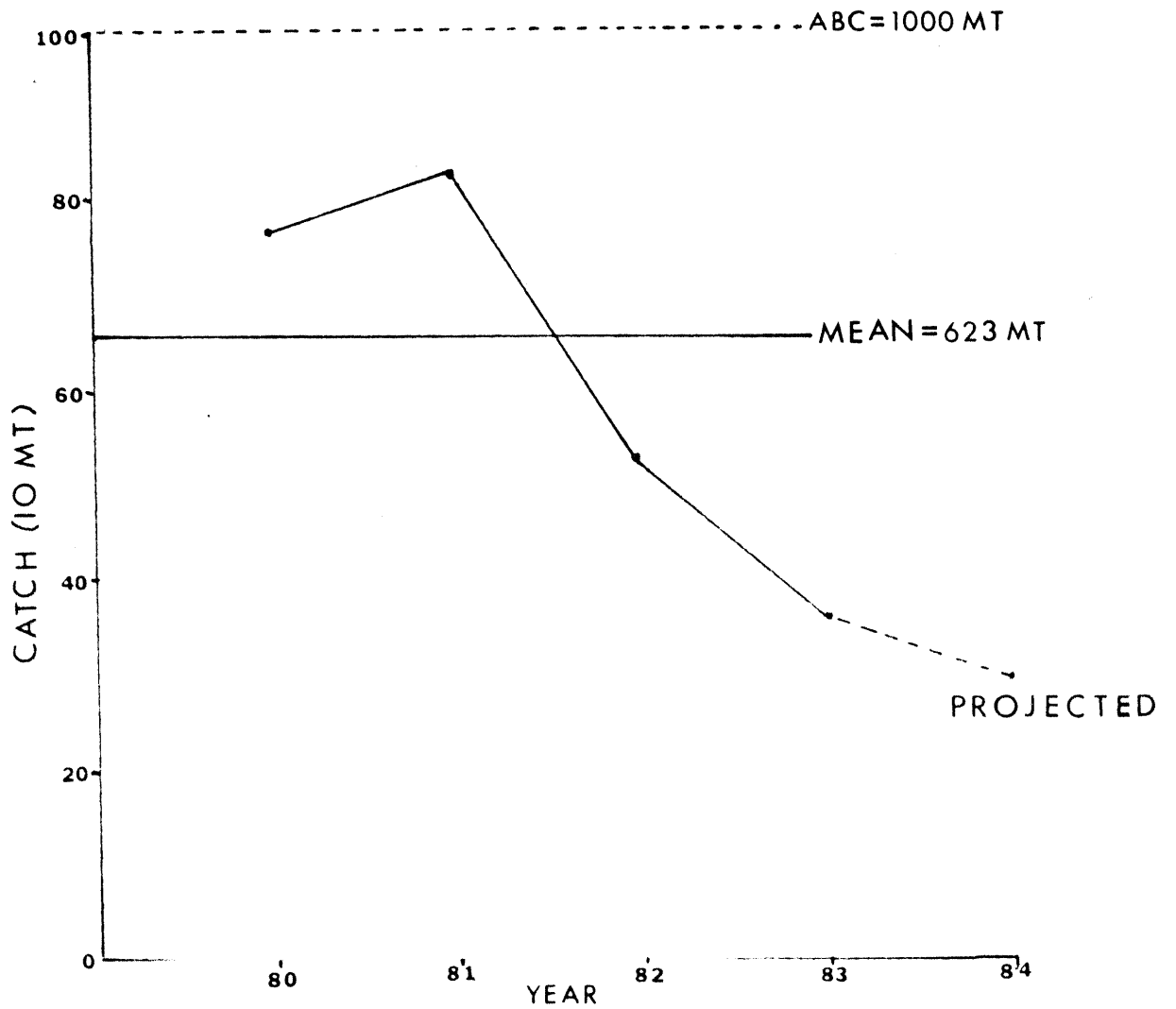


Figure 4. Annual total landings (metric tons) of chilipepper rockfish in the INPFC Conception zone.