

CBSAC

2014 Blue Crab Advisory Report

Figures

Figure 1. Winter dredge survey index of total blue crab abundance (density of males and females, all sizes combined) in Chesapeake Bay, 1990 through 2014. Error bars represent 95% confidence intervals.

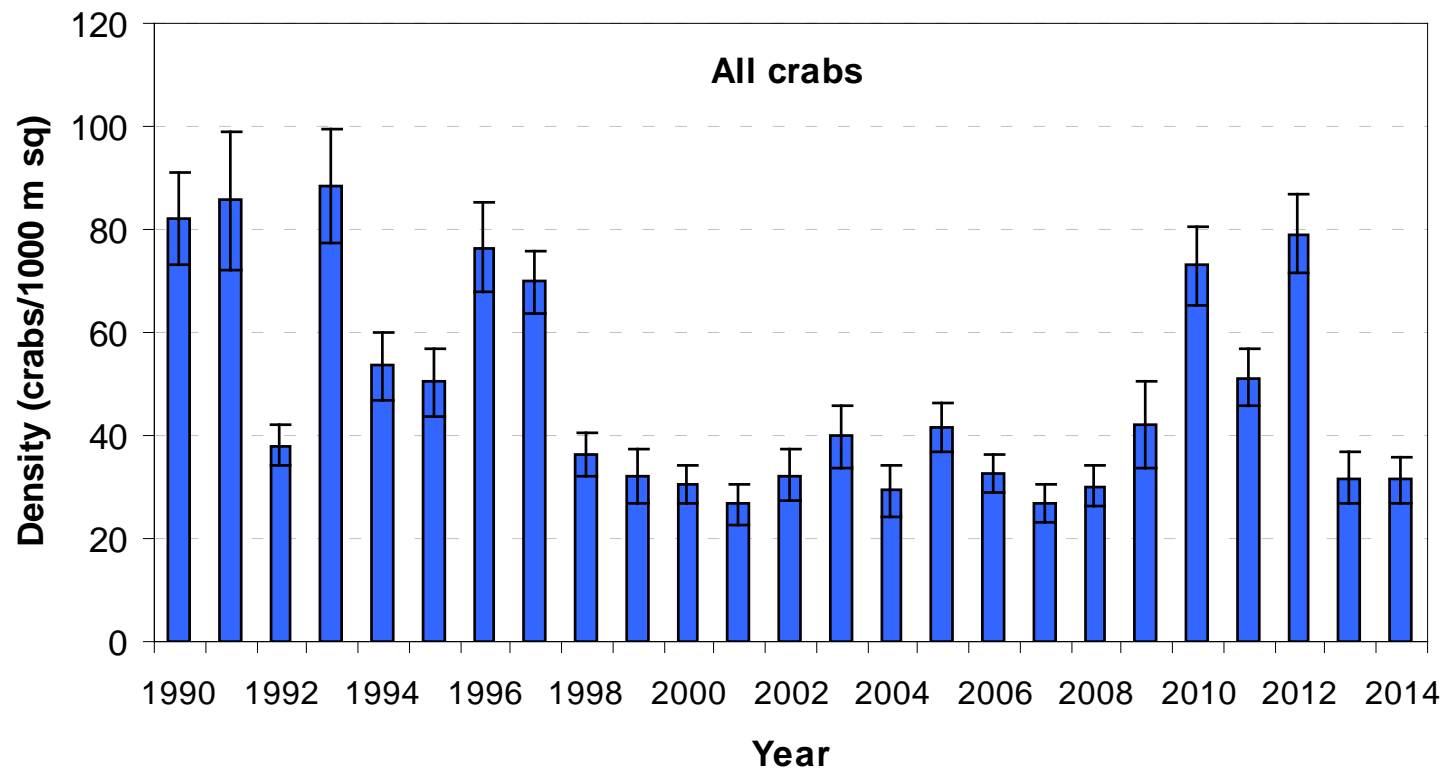
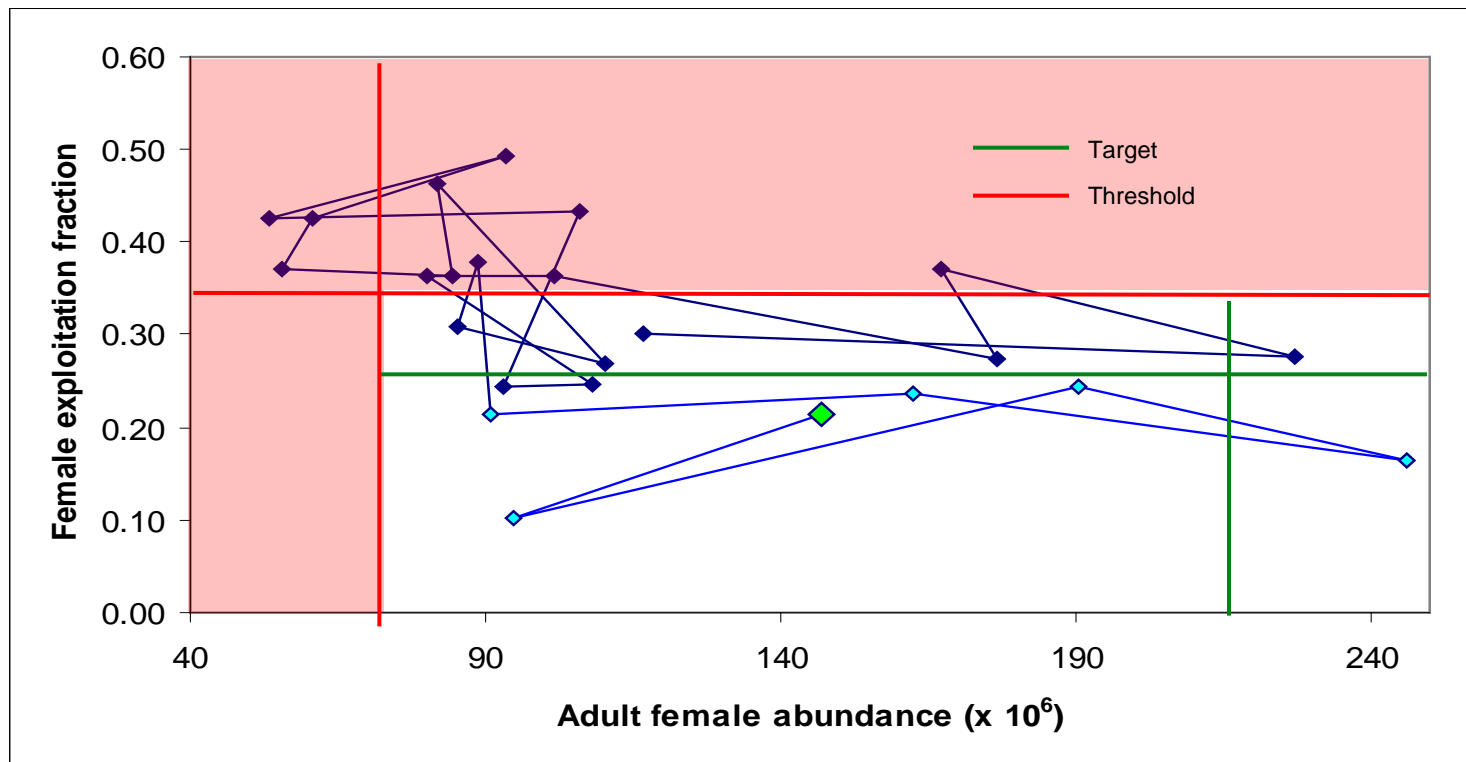


Figure 2. The female-specific control rule for the Chesapeake Bay blue crab fishery. In 2013, adult female abundance was below the overfished target, while the female-specific exploitation rate was below the overfishing target. Reference points were derived from a statistical assessment model incorporating multiple surveys.

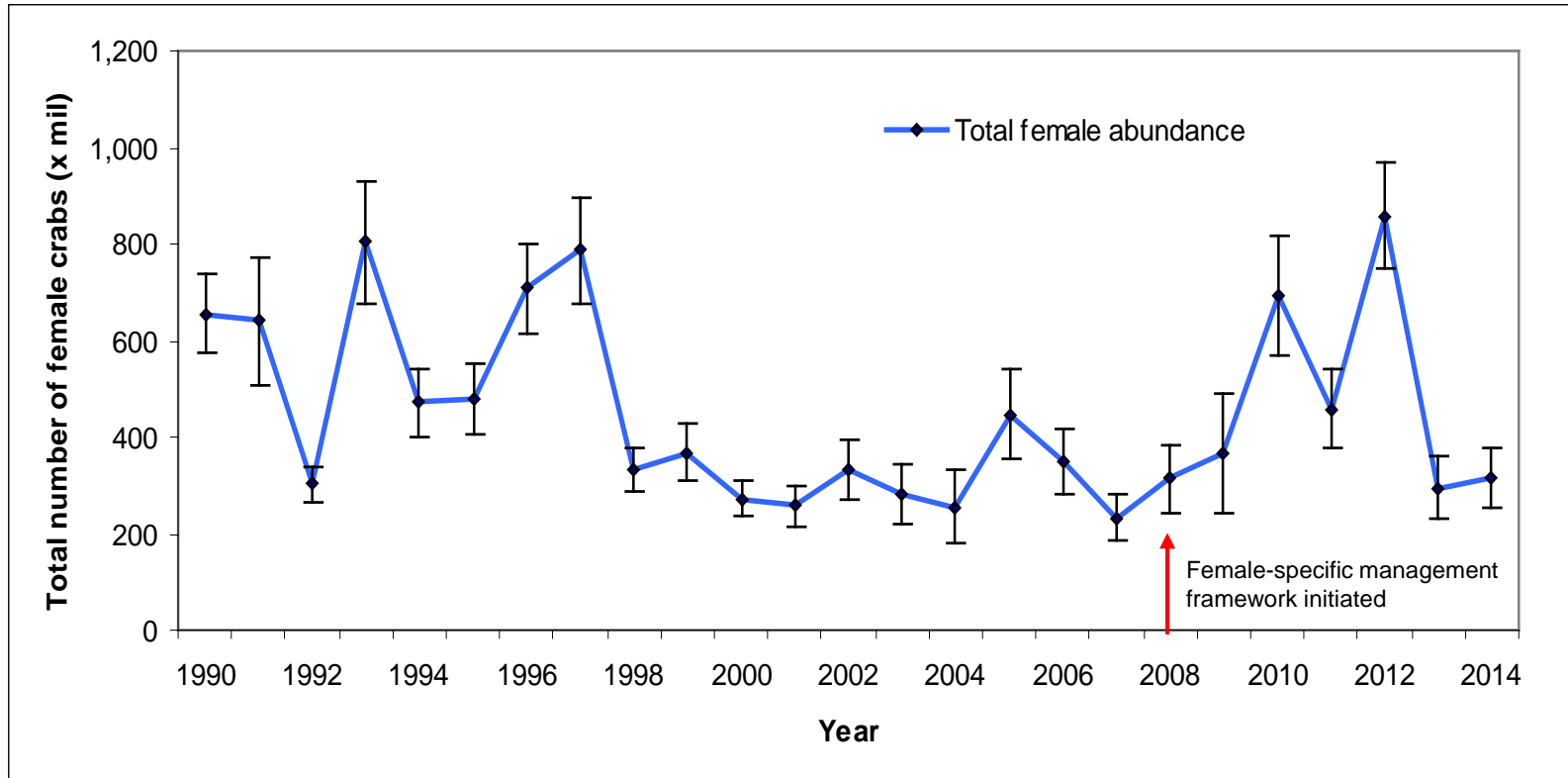
Exploitation: target is 25.5%, threshold is 34%

Abundance: target is 215 million crabs, threshold is 70 million crabs



Exploitation fraction is (harvest / abundance). Abundance of Age 0 + Age 1+ females calculated using catchability adjustment for juveniles.

Figure 3. Winter dredge survey estimate of **abundance of all female blue crabs (age 0 and age 1+)** 1990-2014. The population of over-wintering females is the basis of female exploitation rate calculations. Error bars represent 95% confidence intervals.



Abundance calculated using catchability adjustment for juveniles.

Figure 4. Winter dredge survey estimate of **abundance of male blue crabs age one year and older (age 1+)** 1990-2014. These are male crabs measuring greater than 60mm across the carapace and are considered the 'exploitable stock' capable of mating within the coming year. Error bars represent 95% confidence intervals.

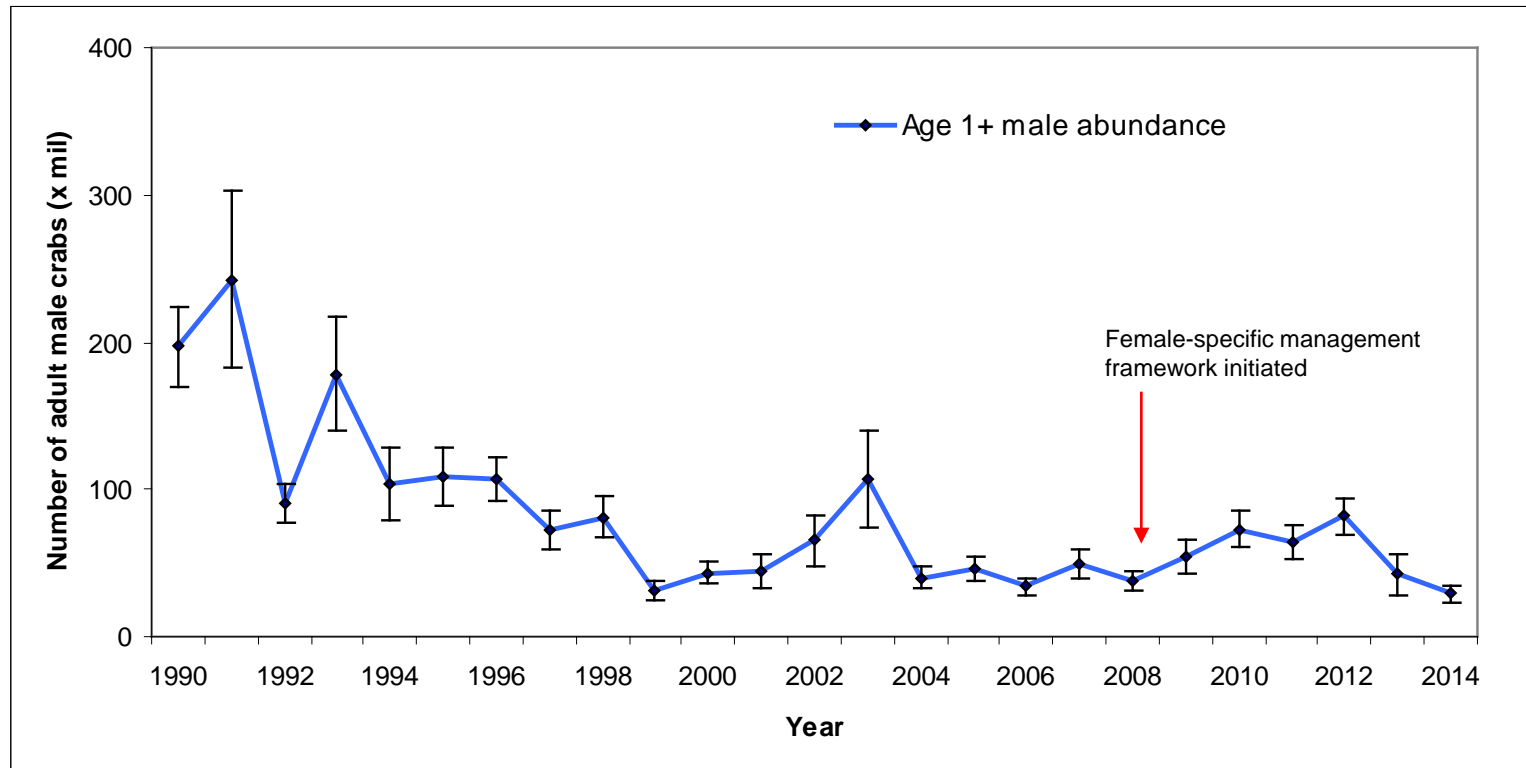
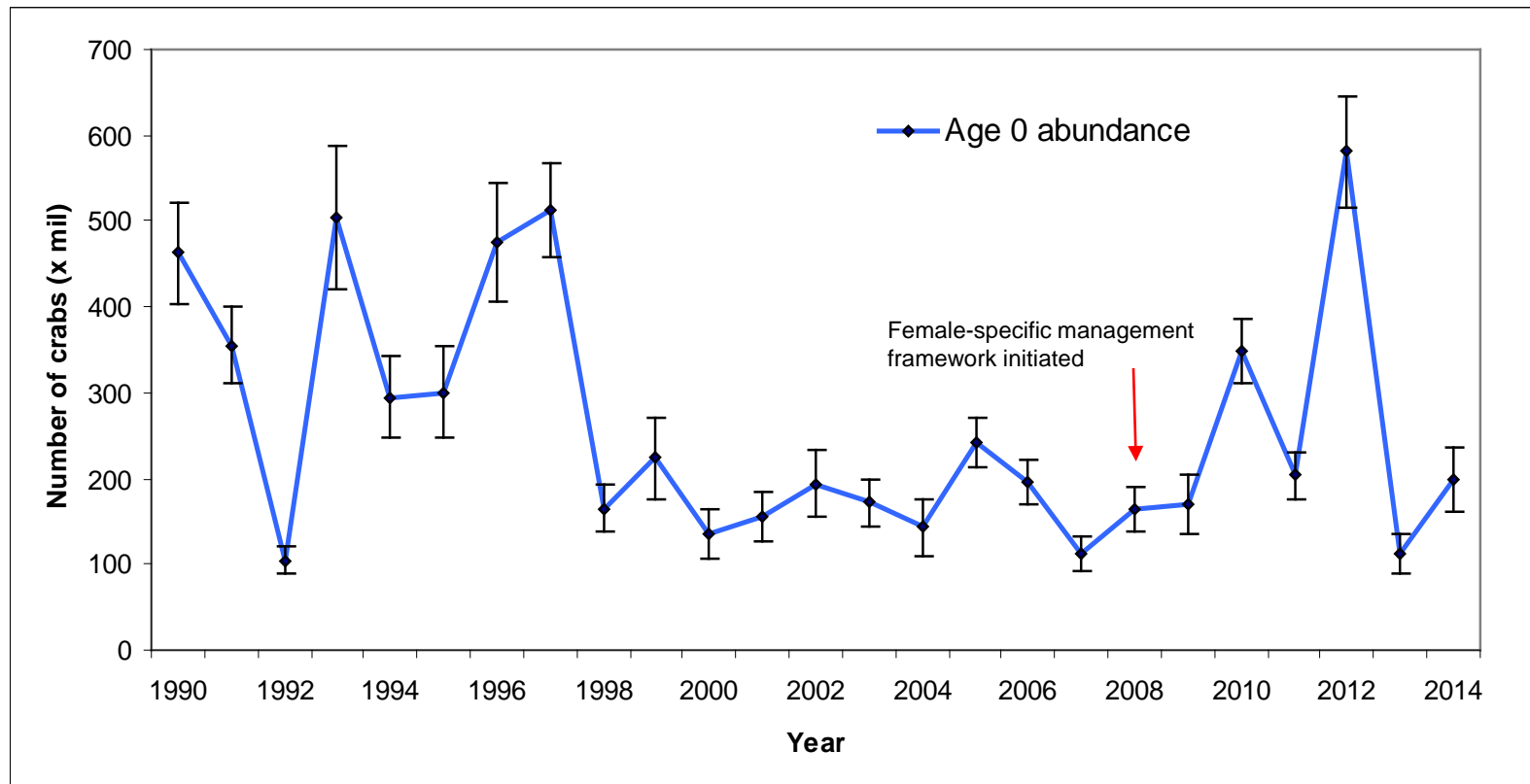
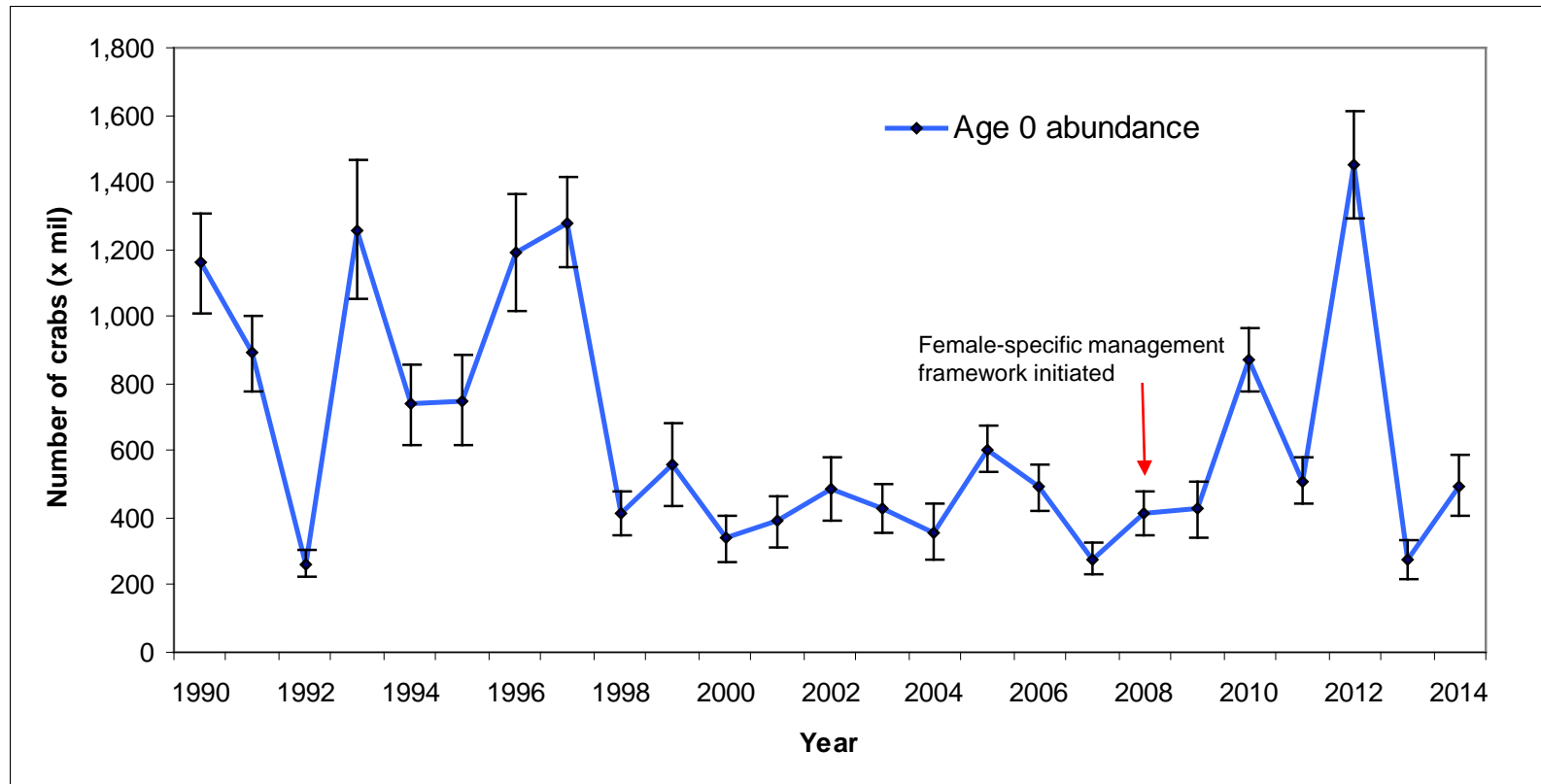


Figure 5. Winter dredge survey estimate of **abundance of juvenile blue crabs (age 0)**, 1990-2014 calculated without the catchability adjustment for juveniles. These are male and female crabs measuring less than 60mm across the carapace. Error bars represent 95% confidence intervals.



Abundance calculated without catchability adjustment for juveniles.

Figure 6. Winter dredge survey estimate of **abundance of juvenile blue crabs (age 0)**, 1990-2014 calculated using the catchability adjustment for juveniles. These are male and female crabs measuring less than 60mm across the carapace. Error bars represent 95% confidence intervals.



Abundance calculated using catchability adjustment for juveniles.

Figure 7. Maryland and Virginia Chesapeake Bay commercial blue crab harvest in millions of pounds, 1990-2013.

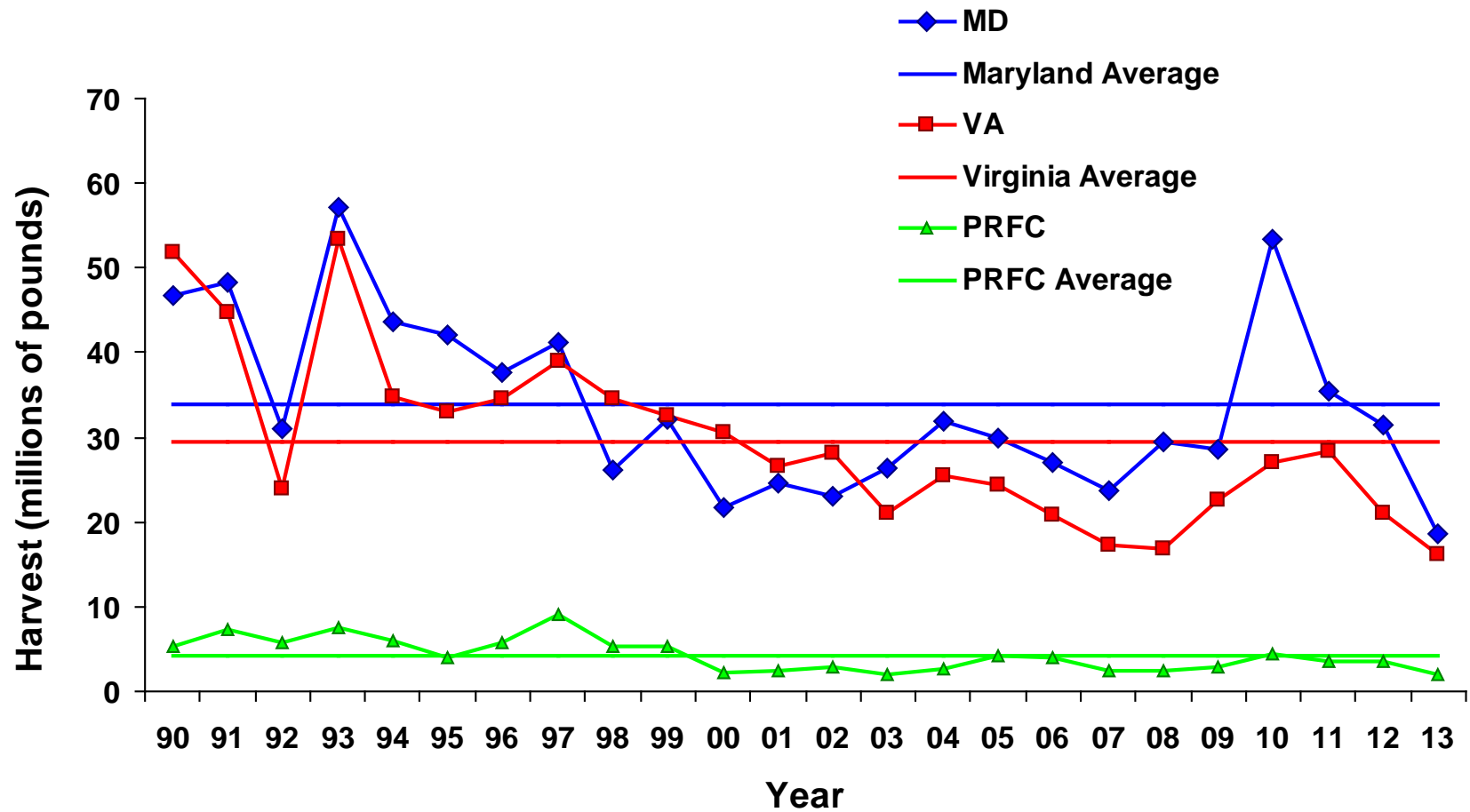


Figure 8. Total commercial blue crab landings (all market categories) in Chesapeake Bay, 1990-2013

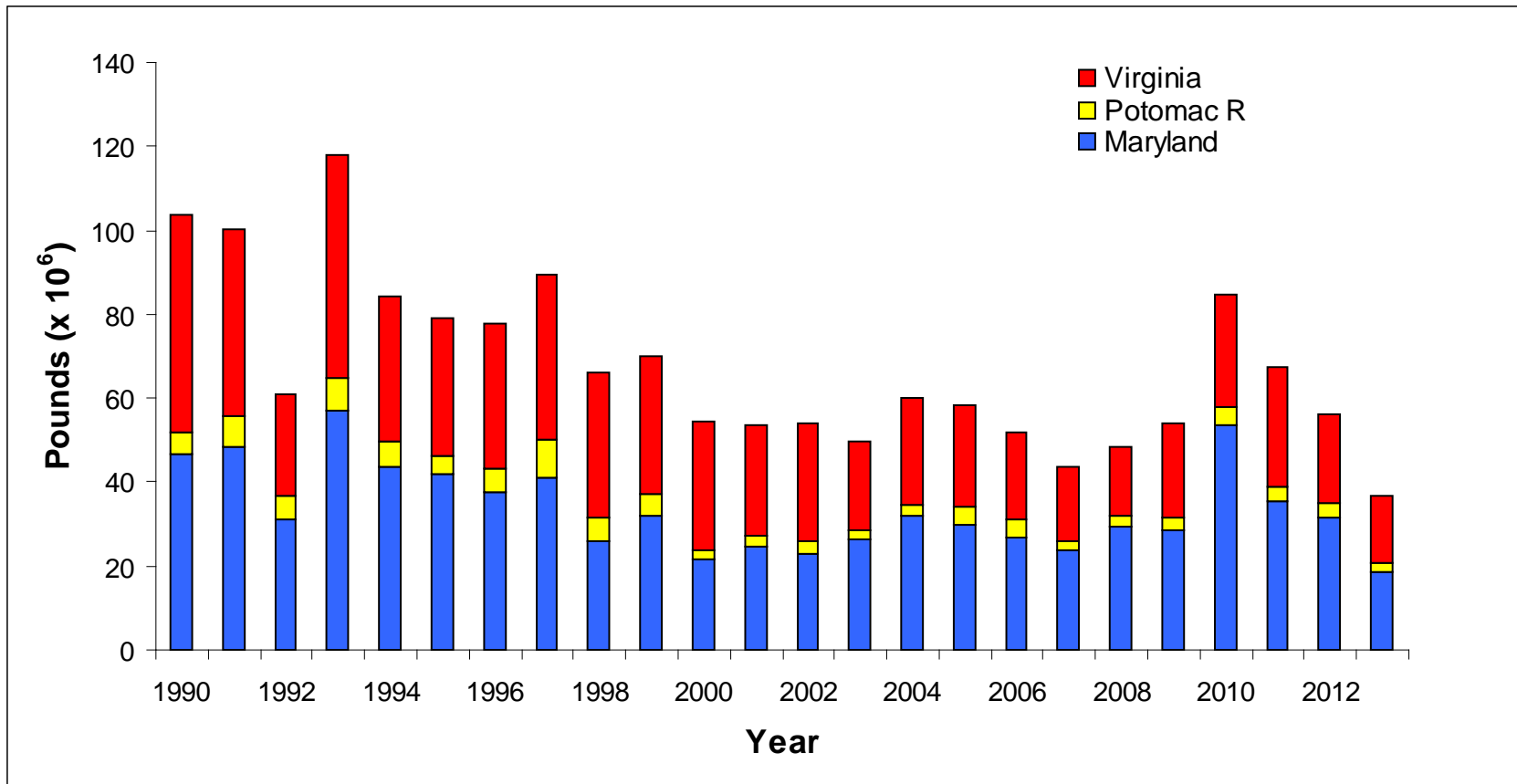


Figure 9. Winter dredge survey estimate of **abundance of female blue crabs age one year and older** (age 1+) 1990-2014 with female-specific reference points. These are female crabs measuring greater than 60mm across the carapace and are considered the 'exploitable stock' that will spawn within the coming year.

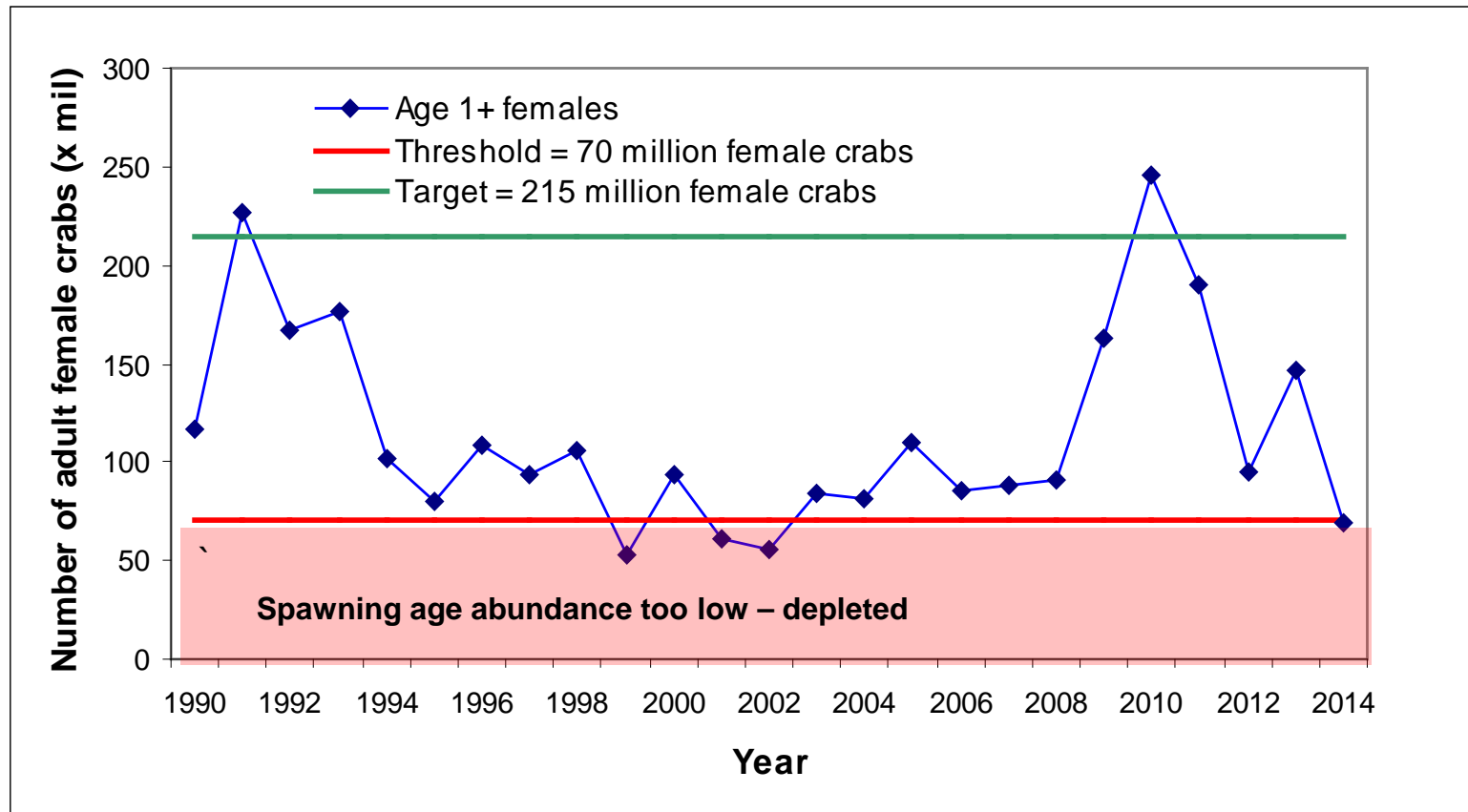
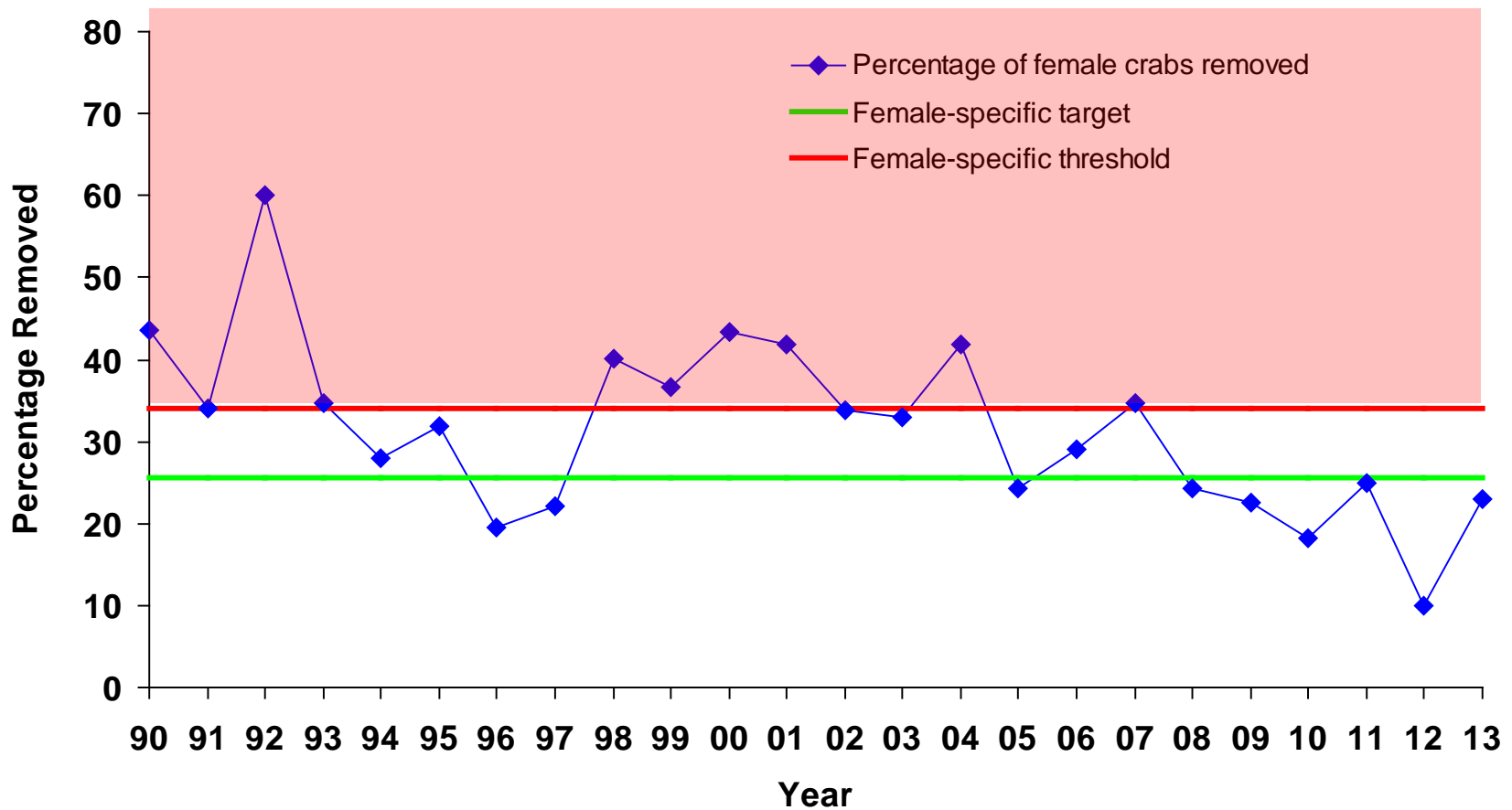


Figure 10. The percentage of all female blue crabs removed from the population each year by fishing relative to the female-specific target (25.5%) and threshold (34%) exploitation rates, 1990 through 2013.

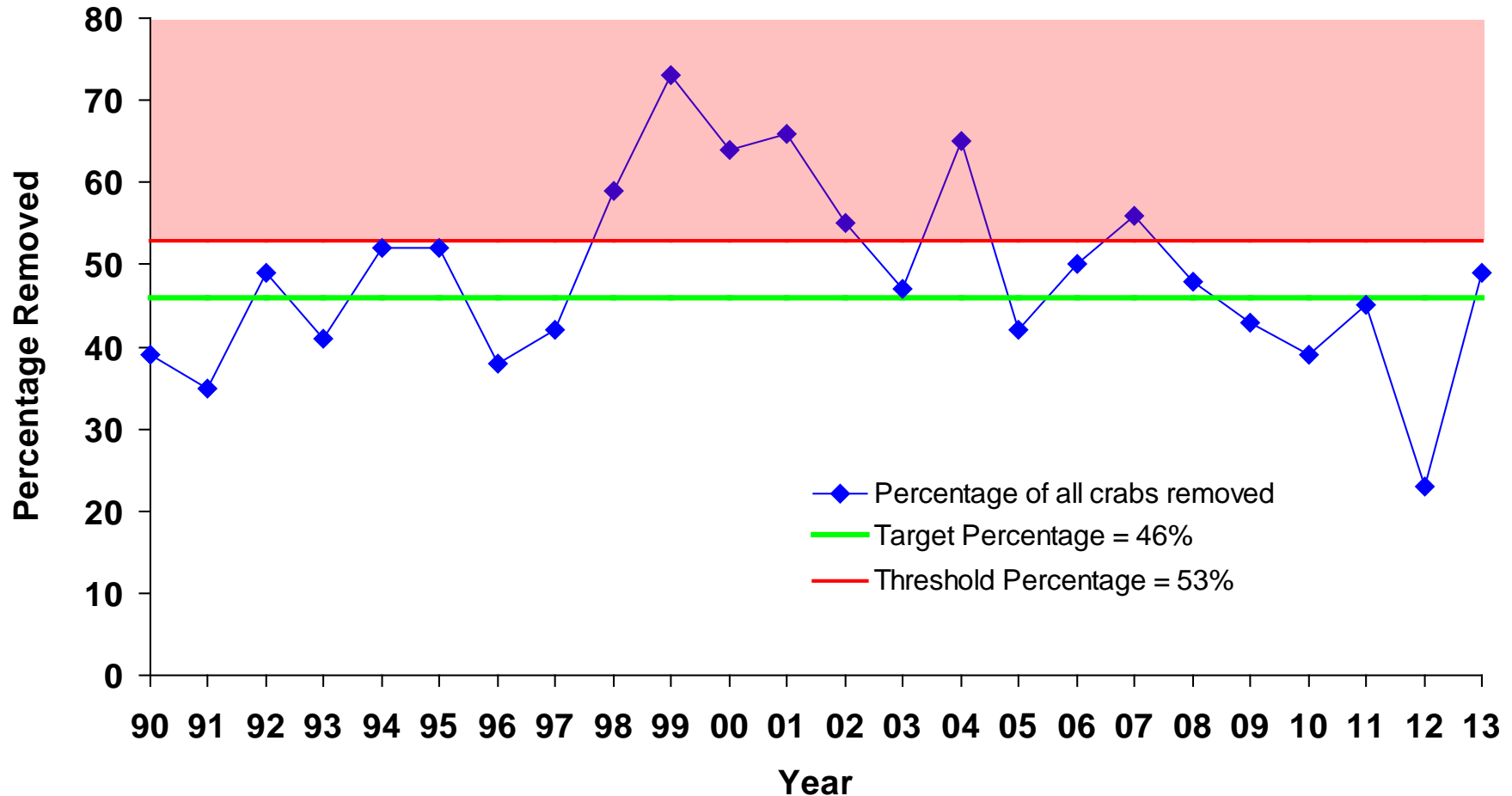
Exploitation rate (% removed) is the number of female crabs harvested within a year divided by the female population (age 0 and age 1+) estimated at the beginning of the year.



Abundance estimate calculated using catchability adjustment for juveniles.

Figure 11. The percentage of male and female crabs removed from the population each year by fishing relative to previously used target (46%) and threshold (53%) exploitation rates, 1990 through 2013.

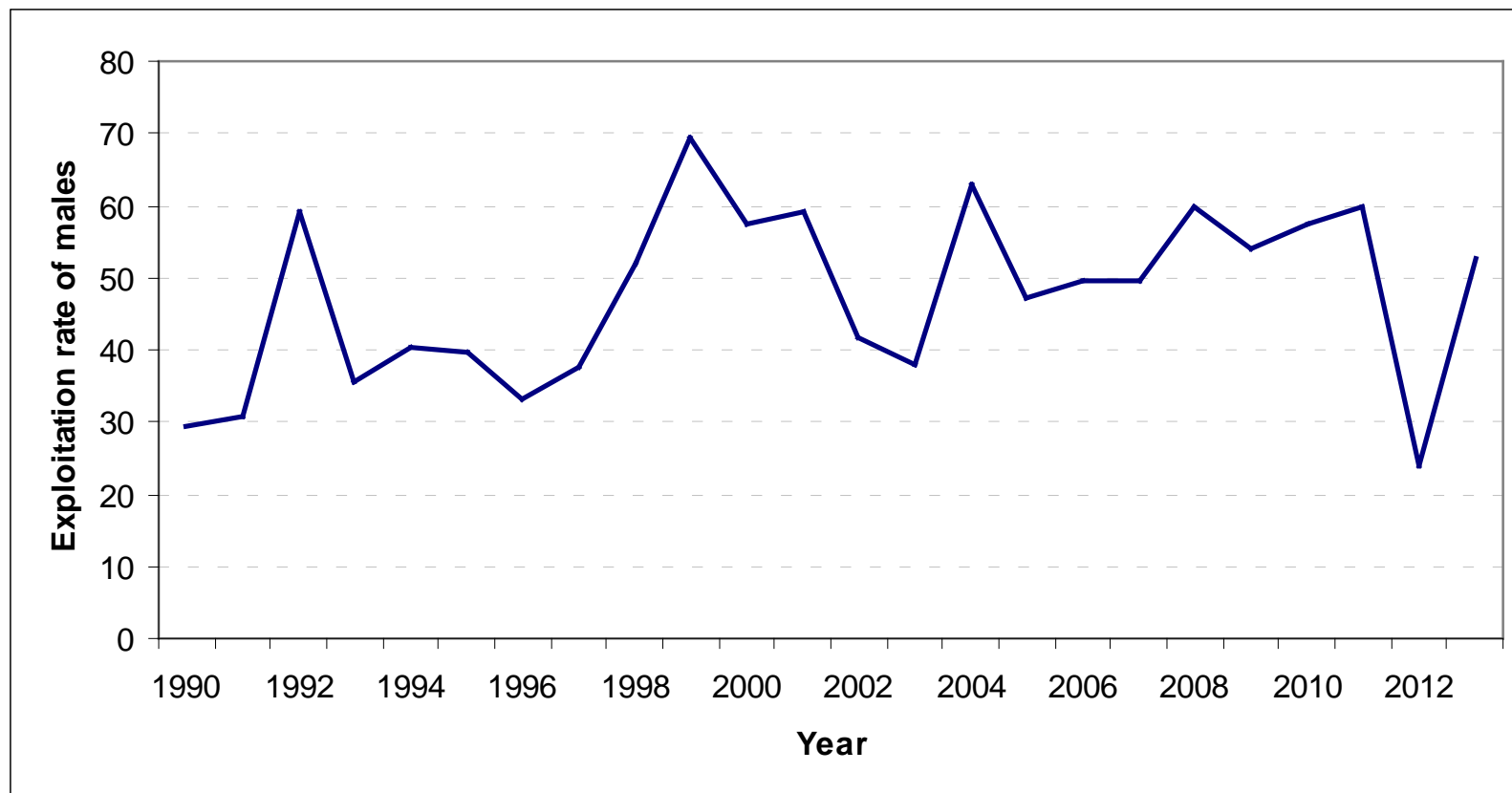
Exploitation rate (% removed) is the number of crabs harvested within a year divided by the population of all crabs estimate at the beginning of the year.



Abundance estimate calculated without catchability adjustment for juveniles.

Figure 12. The percentage of male crabs removed from the population each year by fishing, 1990 through 2013.

Exploitation rate (% removed) is the number of male crabs harvested within a year divided by the male population estimate (age 0 and age 1+) at the beginning of the year.



Abundance calculated without catchability adjustment for juveniles.