CBSAC

2011 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 2011. Error bars represent 95% confidence intervals.

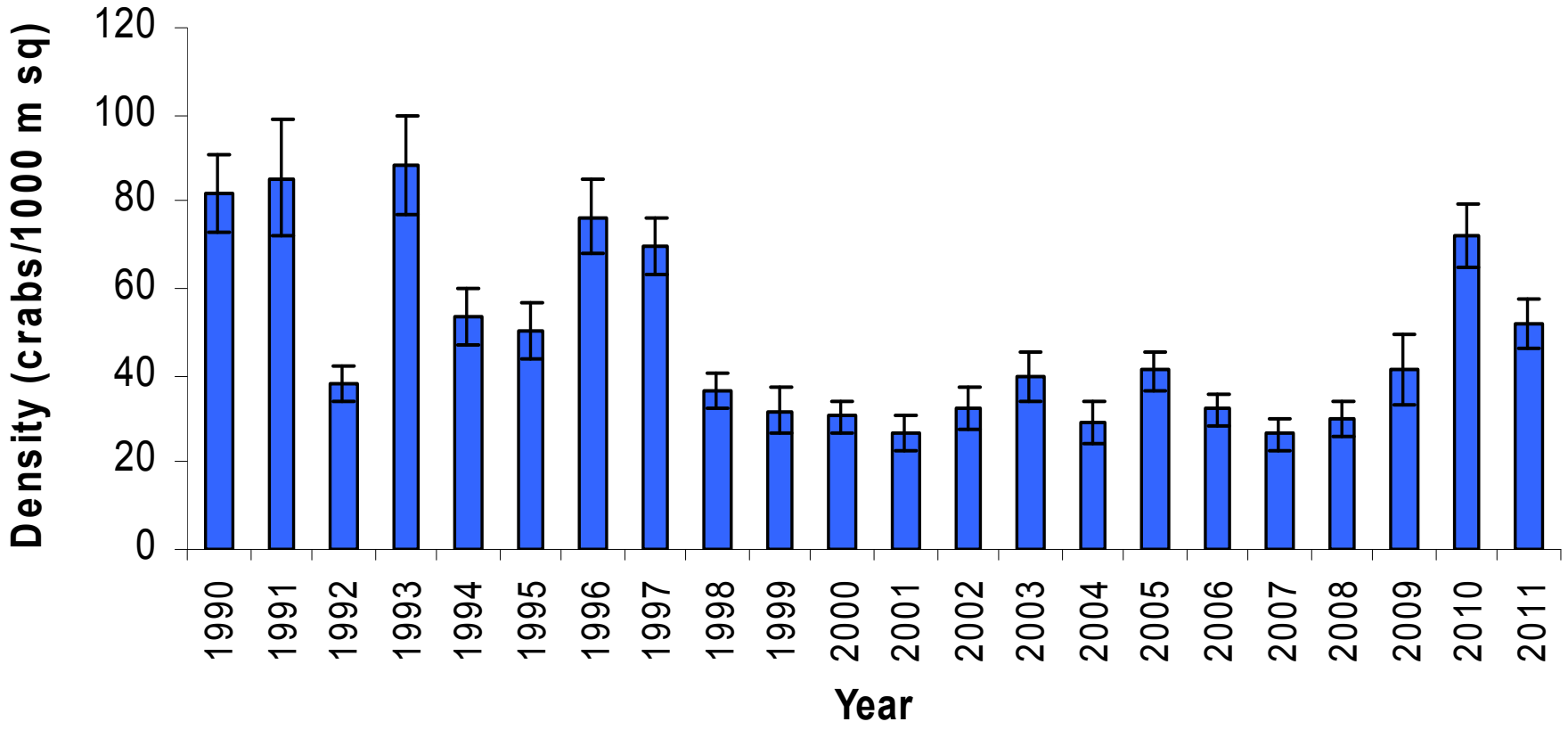

Figure 2. The recommended control rule for the Chesapeake Bay blue crab fishery. An abundance of 70 million age 1+ female crabs represents the overfished threshold. In 2010, abundance was above the overfished target and the exploitation rate was below the overfishing target. Reference points were derived from a statistical assessment model incorporating multiple surveys. Please see text for explanation of terms.

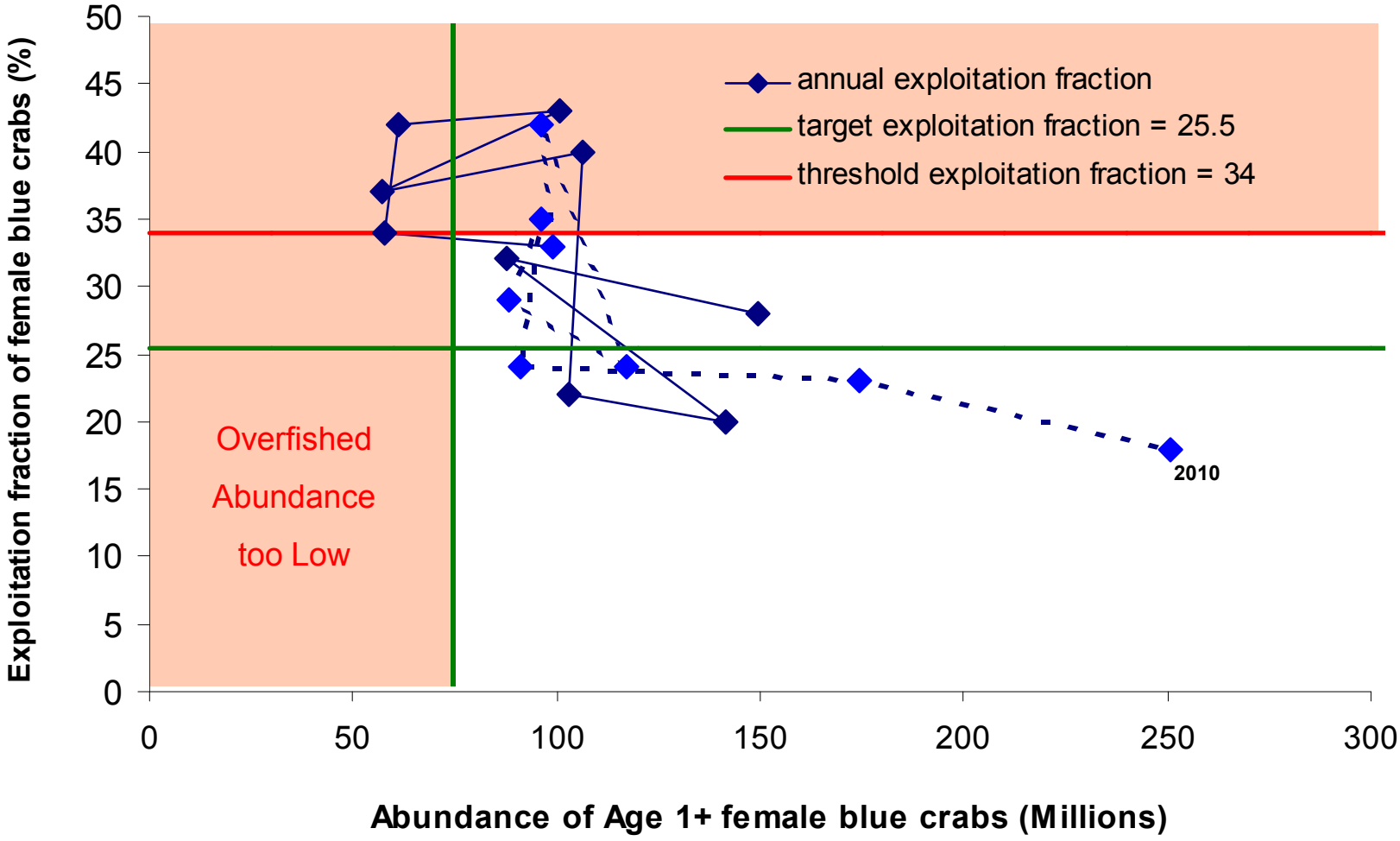

Figure 3. The former control rule used to manage the Chesapeake Bay blue crab fishery. An abundance of 86 million age 1+ (male and female) crabs represents the overfished threshold. In 2010, abundance was above the overfished target and the exploitation rate was below the overfishing target.

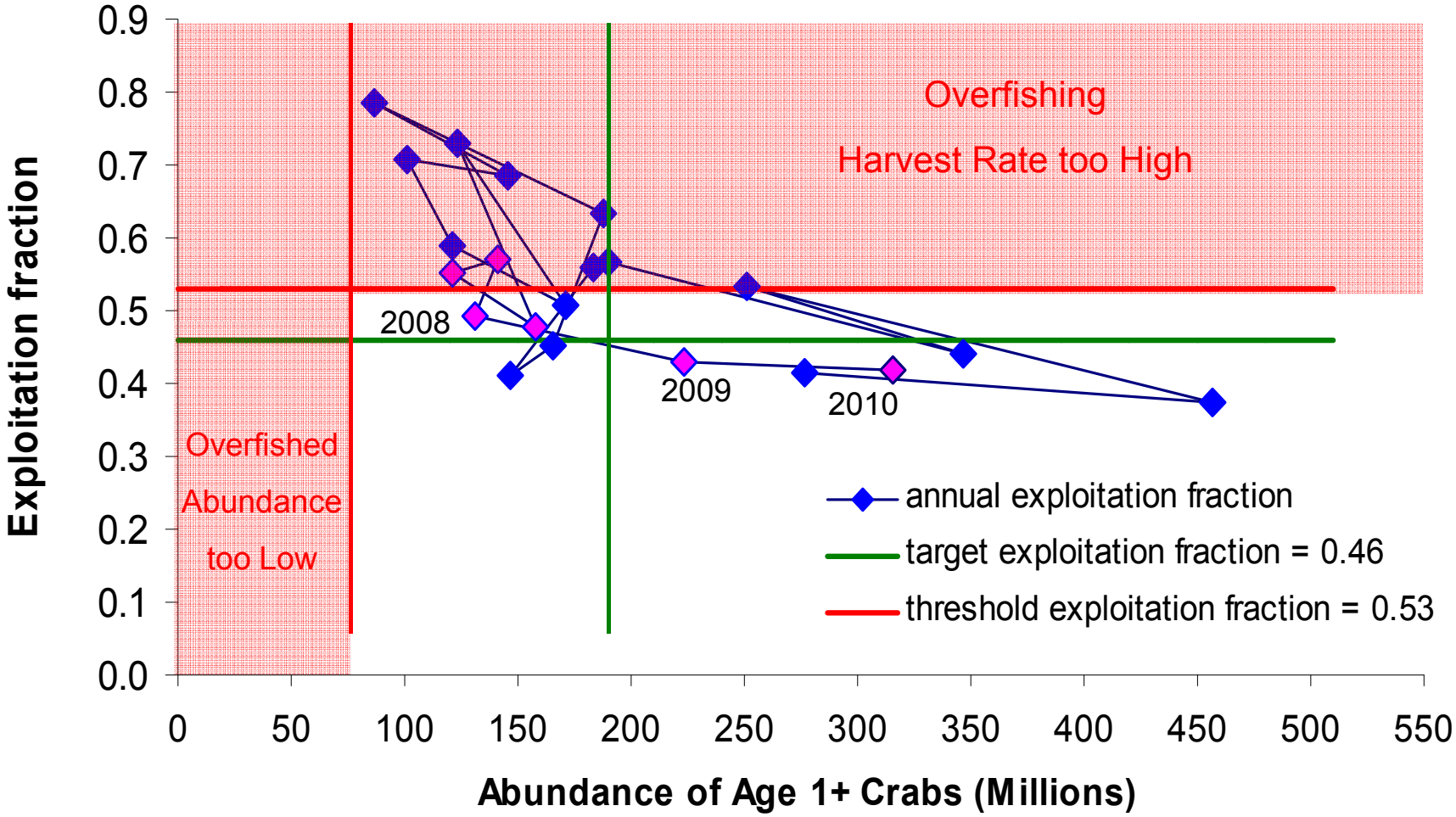

Figure 4. Winter dredge survey estimate of **abundance of female blue crabs age one year and older** (age 1+) 1990-2011 with recommended reference points. These are female crabs measuring greater than 60mm across the carapace and are considered the 'exploitable stock' that will spawn within the coming year.

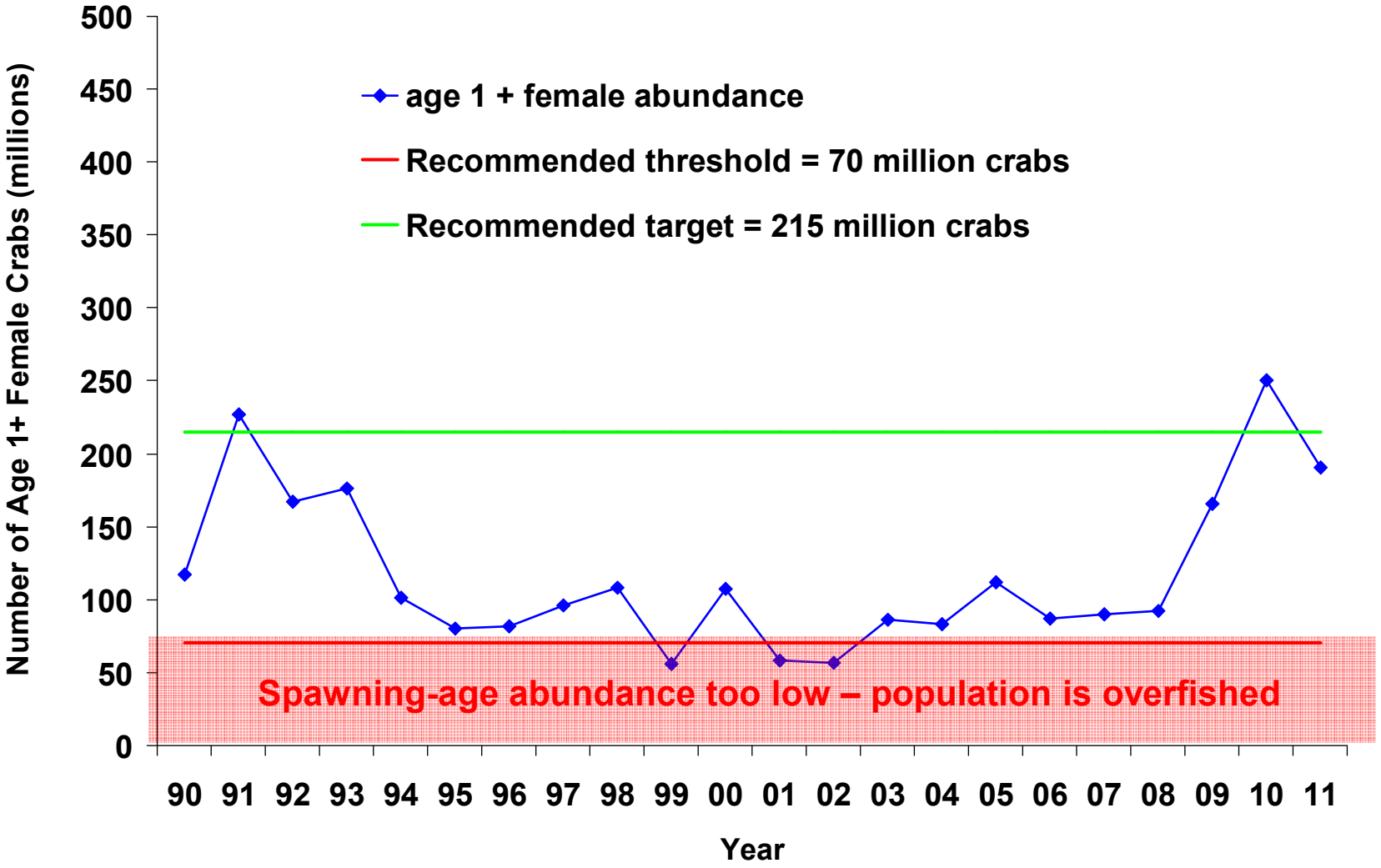

Figure 5. Winter dredge survey estimate of **abundance of male and female blue crabs age one year and older (age 1+) 1990-2011.** These are crabs measuring greater than 60mm across the carapace and are considered the 'exploitable stock' that will spawn within the coming year. The lowest abundance of 86 million crabs was observed in the 1998-1999 survey and is considered the overfished threshold. The interim target abundance was 200 million crabs.

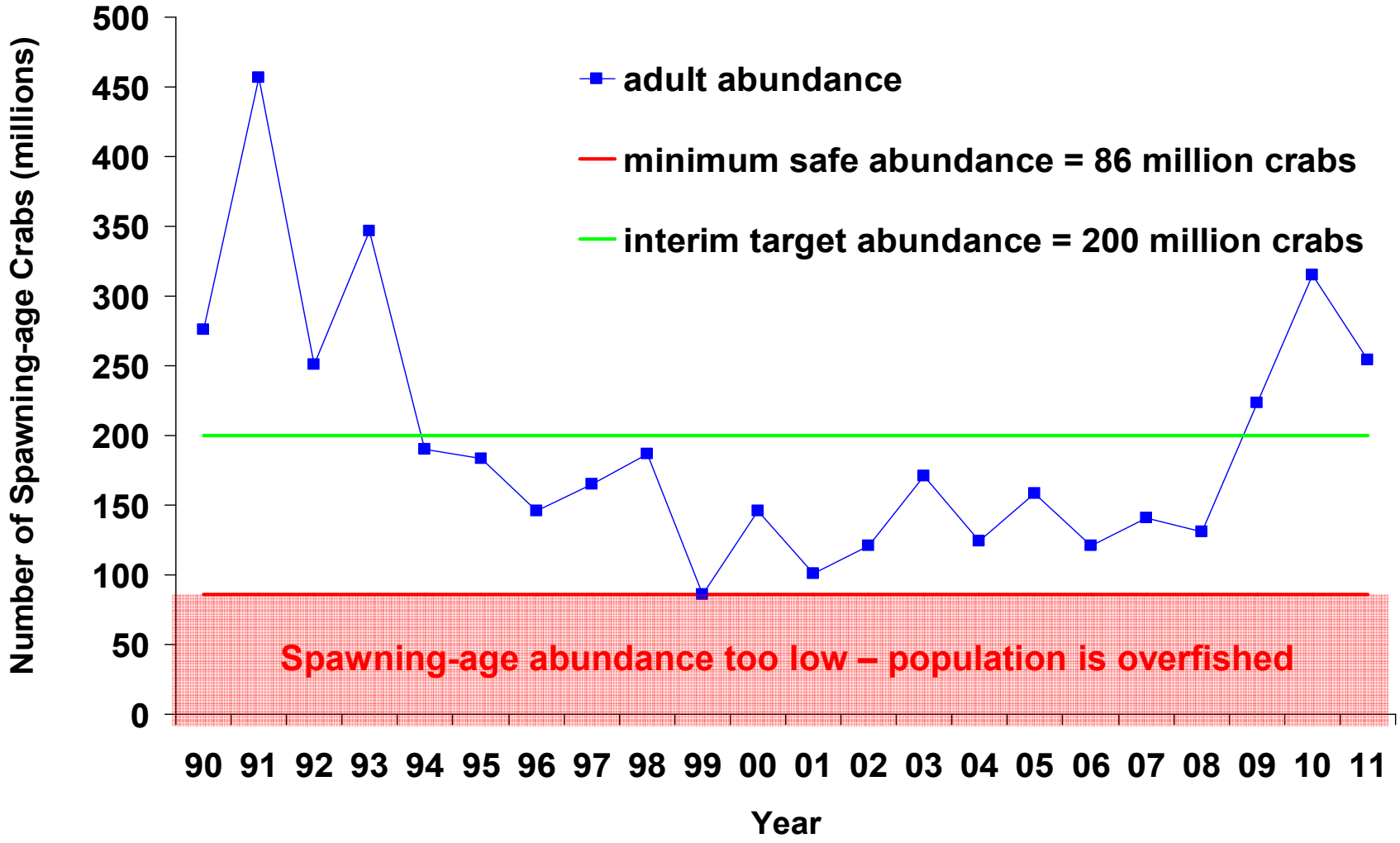

Figure 6. Beginning in December 2010, water temperature during winter in Chesapeake Bay declined to the coldest temperatures observed since 1996. Temperatures remained below average from January through February, causing high mortality of large crabs.

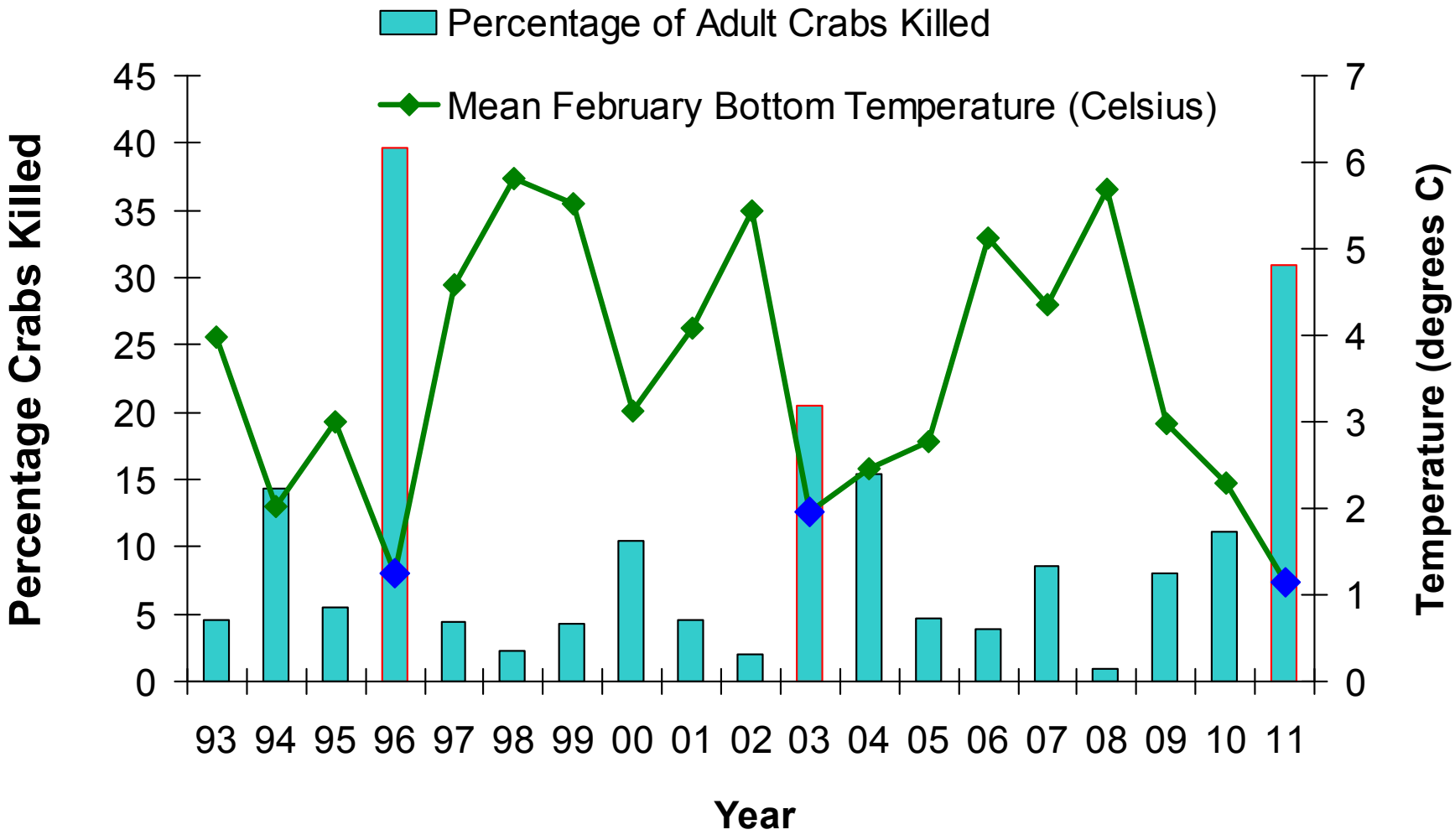

Figure 7. Winter dredge survey estimate of **abundance of male blue crabs age one year and older (age 1+)** 1990-2011. These are male crabs measuring greater than 60mm across the carapace and are considered the 'exploitable stock' that will spawn within the coming year.

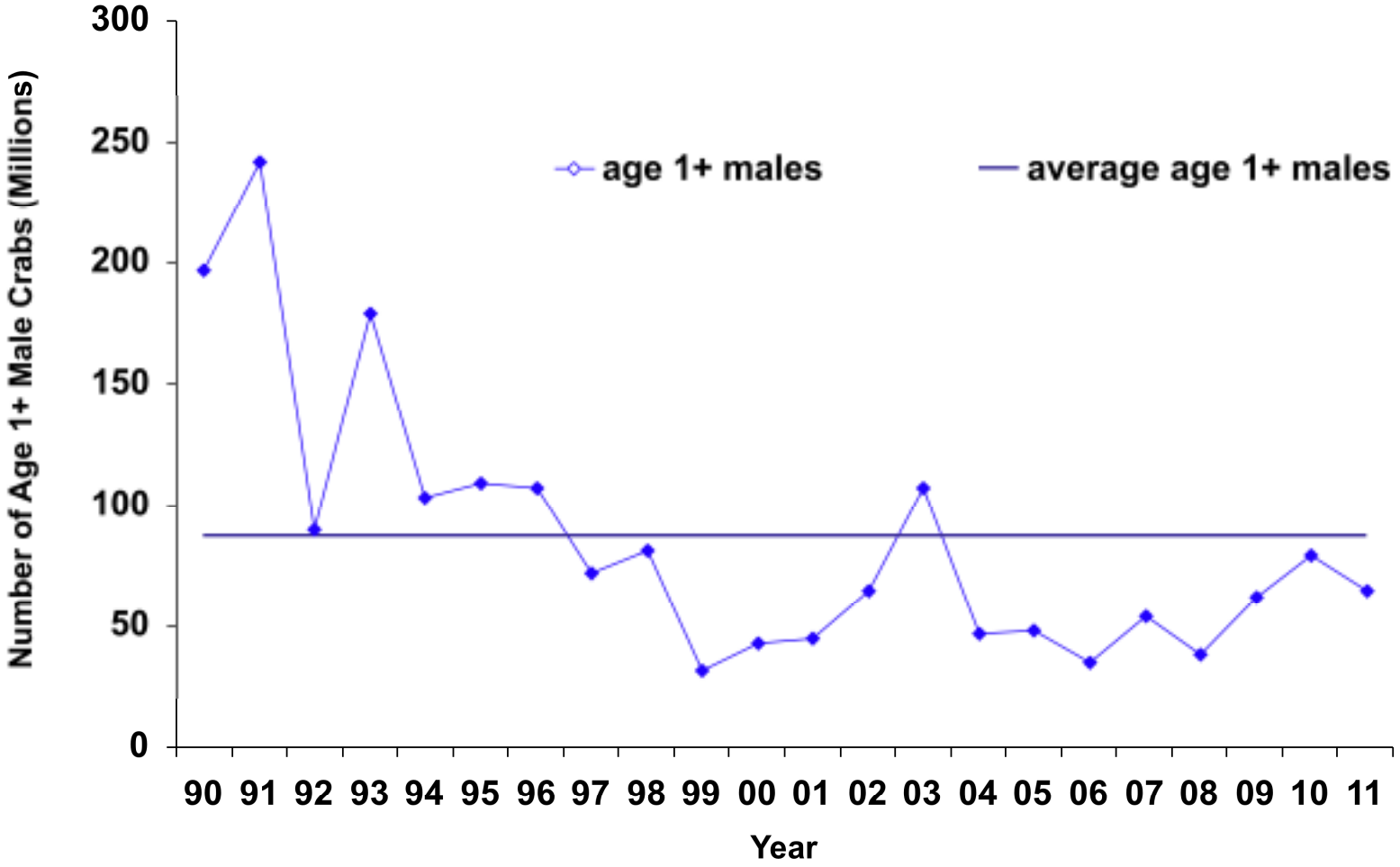

Figure 8. Winter dredge survey estimate of **abundance of age 0 crabs,** 1990-2011. These are male and female crabs measuring less than 60mm across the carapace.

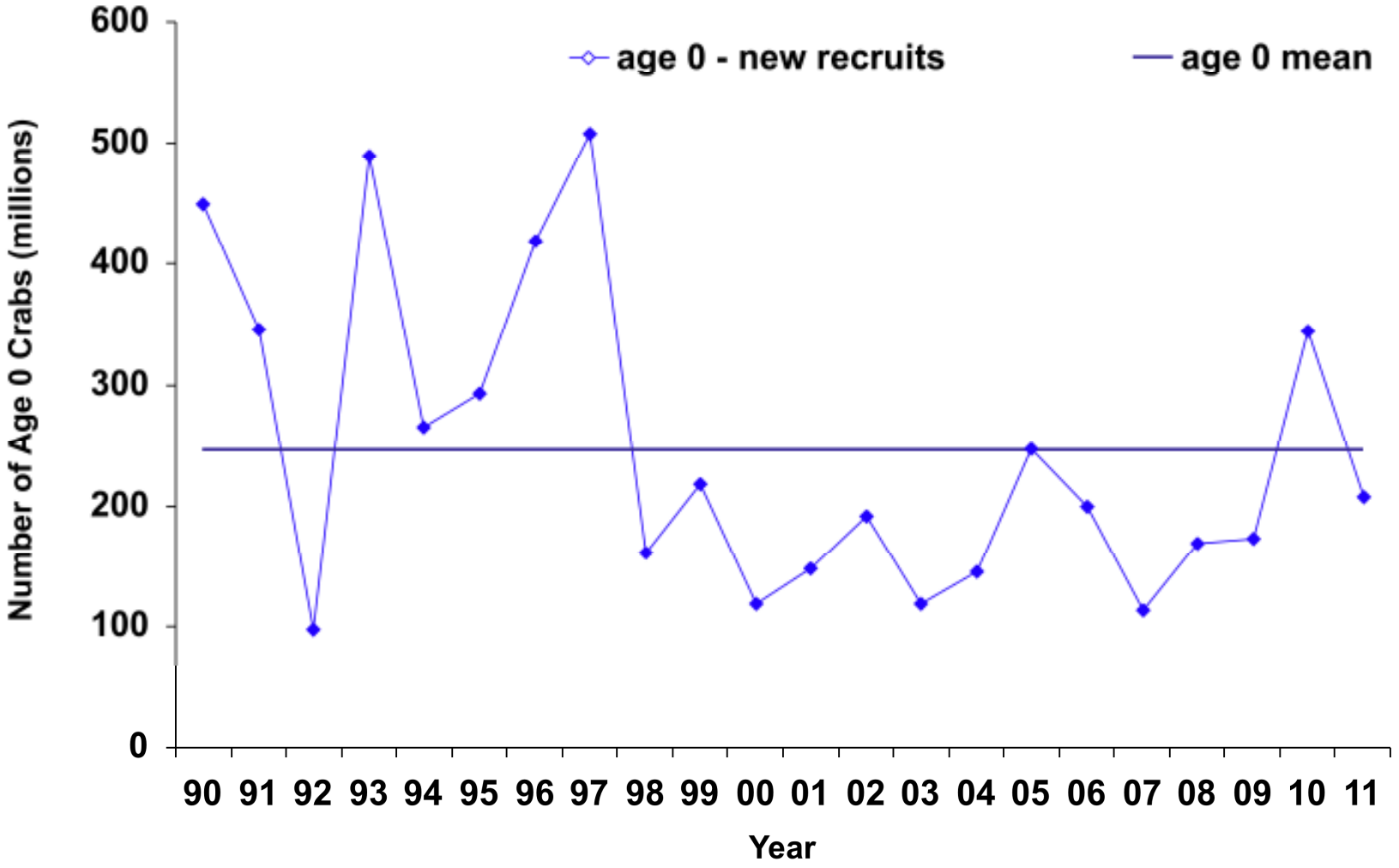

Figure 9. Maryland and Virginia Chesapeake Bay commercial blue crab harvest 1993-2011.

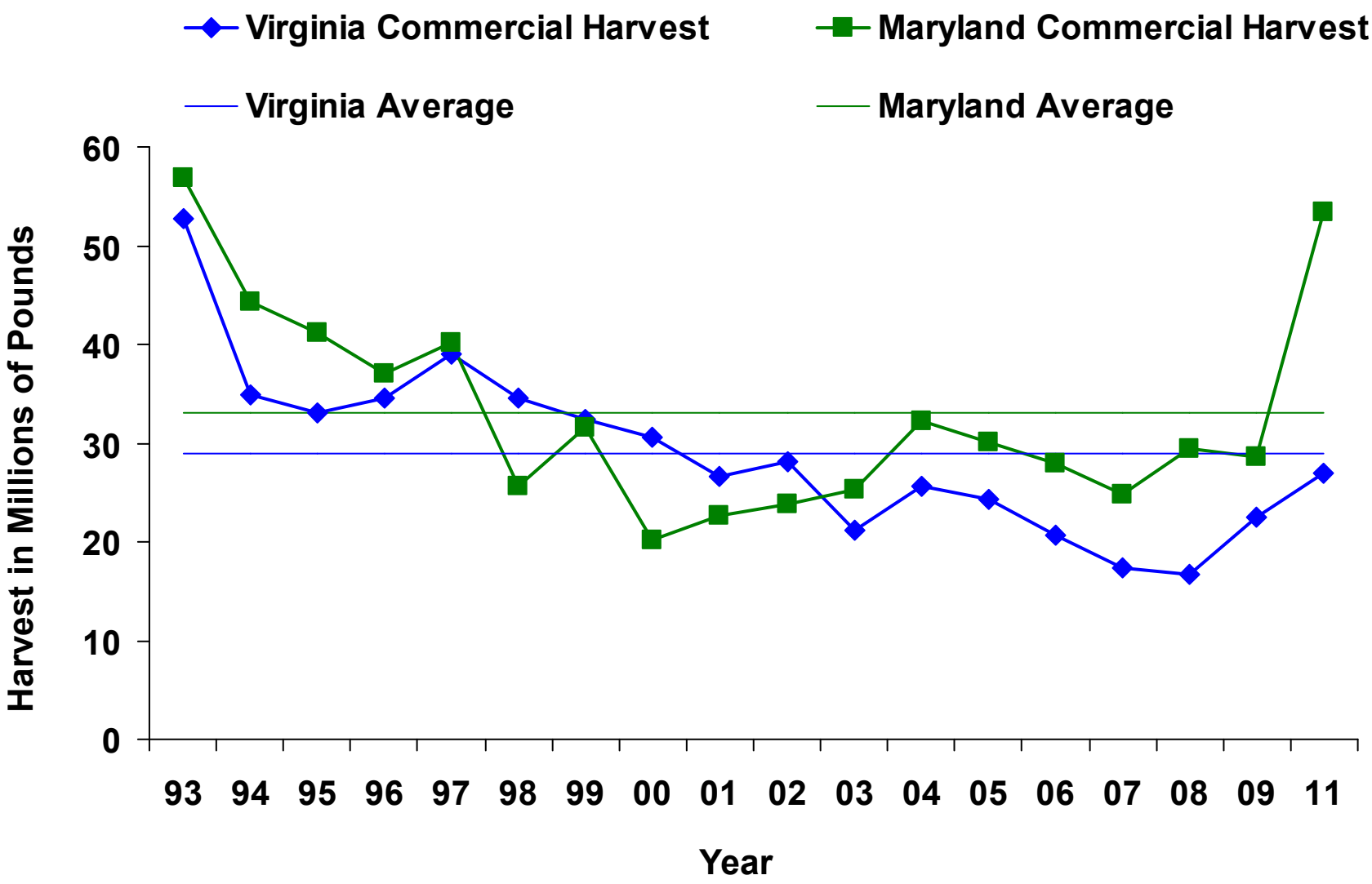

Figure 10. The percentage of female crabs removed from the population each year by fishing relative to recommended female-specific target and threshold levels 1990 through 2010.

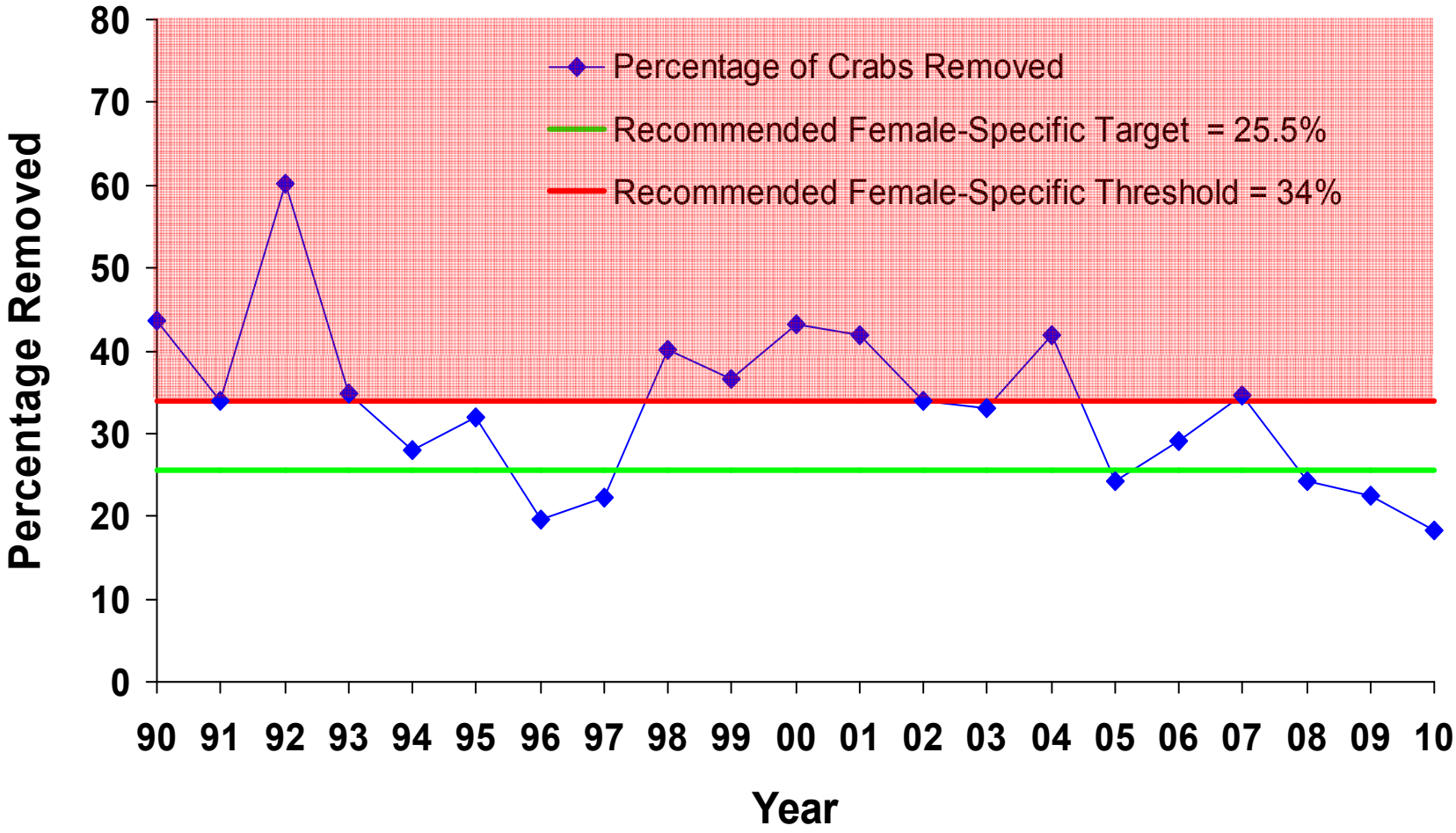

Figure 11. The percentage of male and female crabs removed from the population each year by fishing relative to target and threshold levels 1990 through 2010.

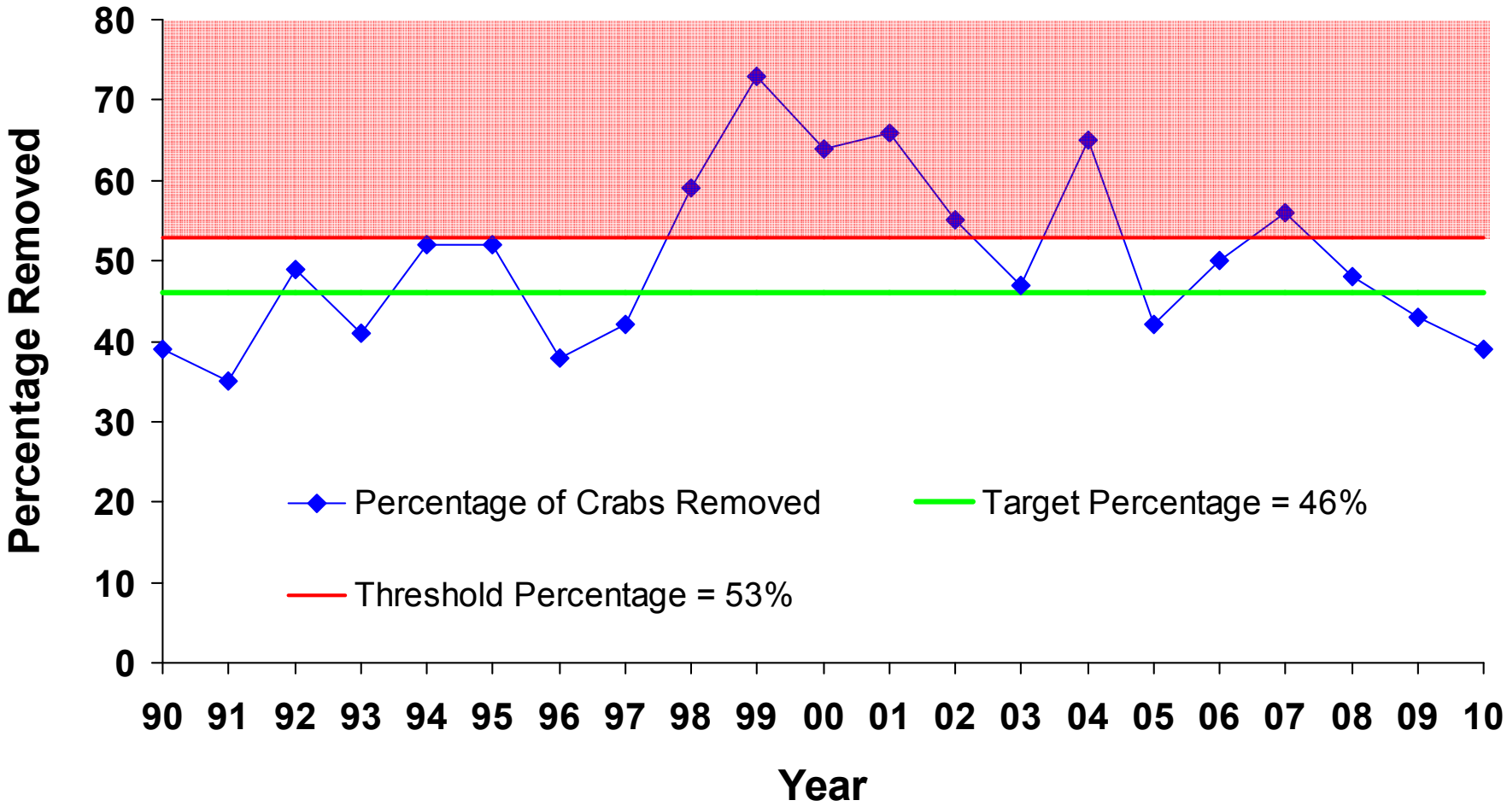

Figure 12. An 'operational' sex ratio for blue crab in Chesapeake Bay based on abundance estimates from the Winter Dredge Survey. The ratio is the density reproductive males (greater than 60 mm across the carapace) divided by the density of female crabs which would actively be seeking mates (immature female crabs greater than 60 mm across the carapace).