

## **Miscellaneous Species— Aleutian Islands**

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RACE bottom trawl surveys in the Aleutian Islands (AI) are designed primarily to assess populations of commercially important fish and invertebrates. However many other species are identified, weighed and counted during the course of these surveys and these data may provide a measure of relative abundance for some of these species. Many of these species are not sampled well by the gear or occur in areas that are not well sampled by the survey (hard, rough areas, mid-water etc.) and are therefore encountered in small numbers which may or may not reflect their true abundance in the AI. The fishing gear used aboard the Japanese vessels that participated in all AI surveys prior to 1991 was very different from the gear used by all vessels since. This gear difference almost certainly affected the catch rates for some of these species groups. Apparent abundance trends for a few of these groups are shown in Figure 101. For each species group, the largest catch over the time series was arbitrarily scaled to a value of 100 and all other values were similarly scaled. The standard error ( $\pm 1$ ) was weighted proportionally to the CPUE to get a relative standard error.

Echinoderm mean catch per unit effort (CPUE) increased rapidly between 1990 and 1997 in the eastern AI and has remained at consistently high levels since. The central and western AI have shown generally lower CPUEs over this period, while the lowest echinoderm CPUE has usually been in the southern Bering Sea. The 2006 survey showed a large increase in echinoderm CPUE in this area, however. Most remarkable are the similar trends in echinoderm frequency of occurrence in all areas, increasing rapidly between 1983 and 1991 and remaining high since, very similar to the pattern noted in the Gulf of Alaska.

The jellyfish pattern in terms of both mean CPUE and frequency of occurrence is also consistent across all areas of the AI. There was a sharp increase in the mid-1990s, followed by a steep decline in 1997 and a sharp increase in abundance since. The 2006 survey showed the highest level of jellyfish CPUE for all survey years, with a particularly large increase in the eastern AI.

Eelpout CPUEs have generally been highest in the central AI and have remained consistently high since 1991, the first survey that did not involve Japanese vessels with non-standard gear. Mean CPUE has also been relatively high in the eastern AI, but also much more variable. Catch rates have been lower in the western AI, and lower still in the southern Bering Sea. Poachers occur in a relatively large number of tows across the AI survey area, but mean CPUE trends are difficult to decipher. Poacher CPUE returned to very low levels in the southern Bering Sea in both 2002 and 2006 surveys, after reaching much higher levels in the 2000 and 2002 surveys.

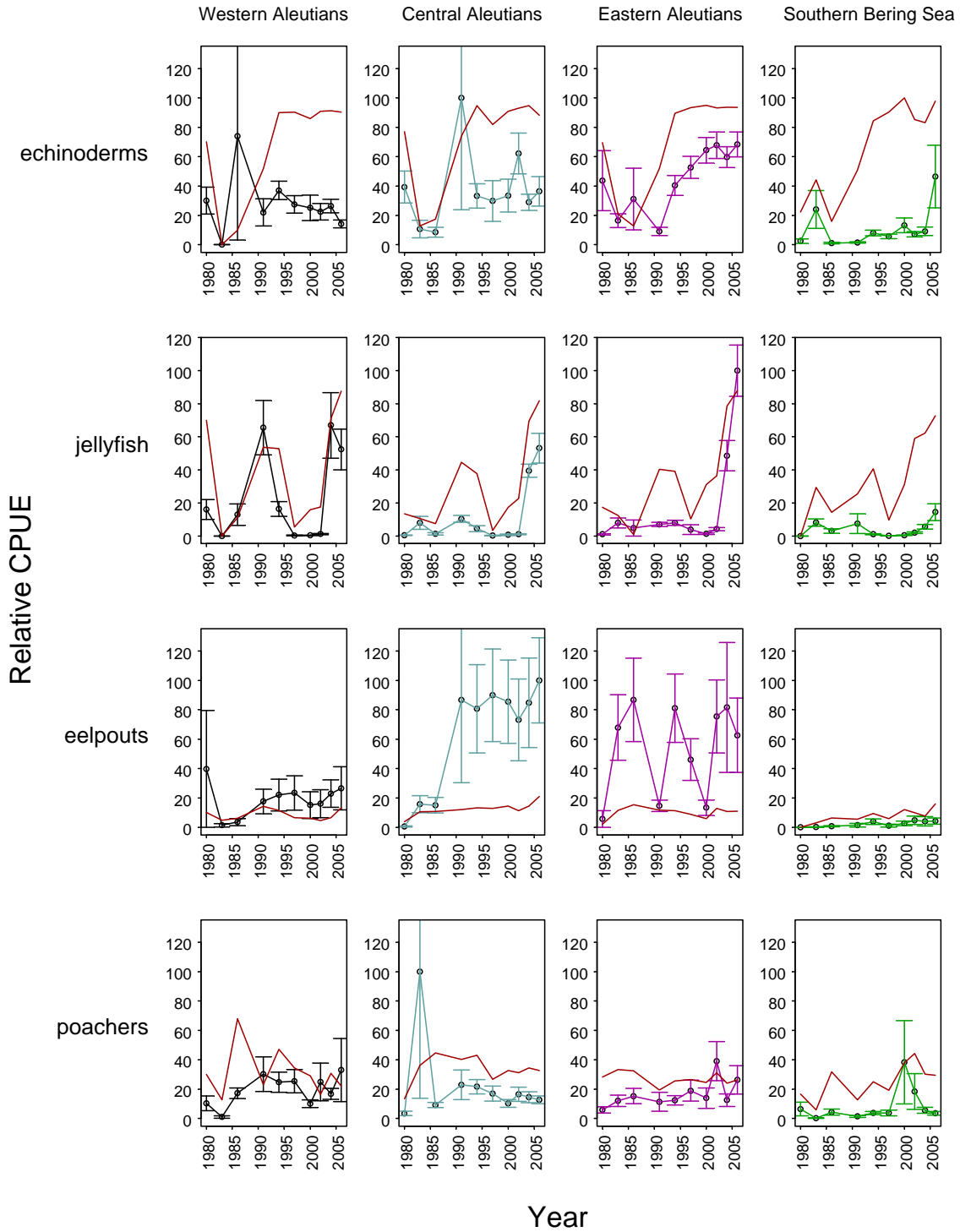


Figure 101. Relative mean CPUE of miscellaneous species by area from RACE bottom trawl surveys in the Aleutian Islands from 1980 through 2006. The bars represent standard errors. The red lines represent the percentage of non-zero catches.