



New Assessment of Ashy Storm-Petrels on Farallon Islands

PRBO Conservation Science (PRBO) conducted analyses of our long term mist netting data to assess trends in Ashy Storm-Petrel (ASSP) abundance at the Farallon Islands. We documented changes in the number of storm-petrels captured during the past two decades, but did not detect any clear trends. We also examined the impacts of predation based on carcass surveys.

The Ashy Storm-Petrel is a small seabird endemic to the waters of the California Current and is a species of major conservation concern. Their largest breeding colony occurs at the Farallon Islands. Earlier analyses documented a 44% population decline between 1972 and 1992, but no more recent information was available. Data gaps on the recent population size and trend were identified as critical information to assess the current status of the species.

We modeled Catch Per Unit Effort (CPUE) data from our standardized mist net sessions, controlling for a variety of temporal and spatial factors in order to assess recent population trends in Farallon ASSP. We found that there was high variability between years but no clear trend was detected. CPUE was low throughout the 1990s, lowest during the 1998 El Niño, increased rapidly during the early 2000s, but declined again in recent years (2008-2010) (Figures 1 and 2). Environmental conditions during netting (moon phase and ocean conditions) did not significantly influence model results.

Predation surveys conducted from 2003-2010 identified Western Gulls and Burrowing Owls as major predators of ASSP. Western Gulls outnumber Burrowing Owls on the Farallon Islands by over 1000x, but owls account for 40% of observed ASSP predation. Neither overall predation nor predation by species, correlated with changes in CPUE. Although overall predation is high, differences in predation rate between years may not be enough to detect changes in the capture data.

Future studies should focus on developing more accurate estimates of survival in conjunction with detailed population modeling.

Main Points

- More Farallon Ashy Storm-Petrels were captured in mist nets during the 2000s than the 1990s.
- Catch per unit effort showed no clear trends.
- There was significant interannual variability in CPUE.
- Hundreds of adult Ashy Storm-Petrels are killed on the Farallon Islands each year by Western Gulls and Burrowing Owls.

For more information see:

Bradley et al. 2011. Assessing Population Trends of the Ashy Storm-Petrel on Southeast Farallon Island, California.

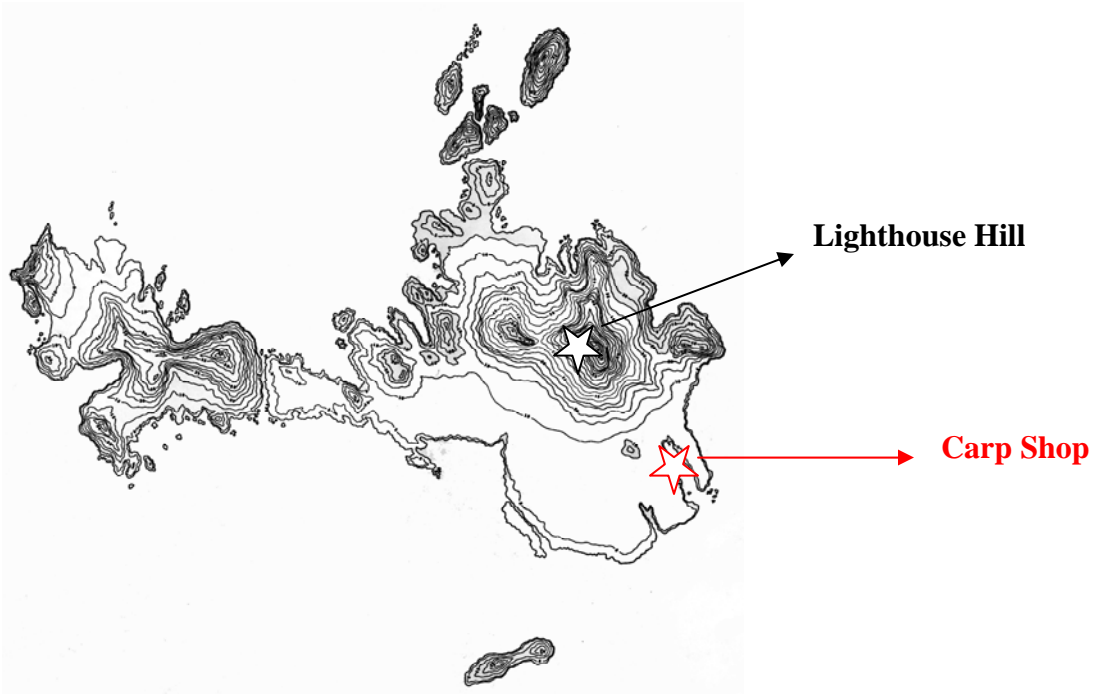


Figure 1. ASSP netting sites on Southeast Farallon Island, CA

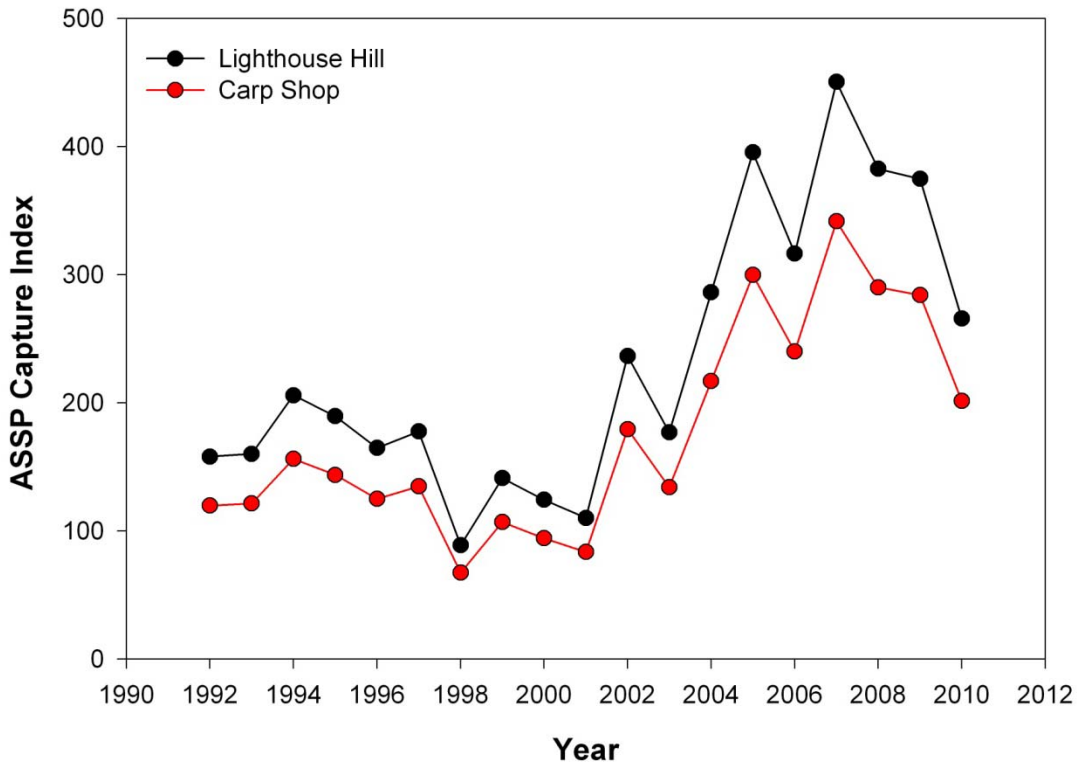


Figure 2. Farallon ASSP capture index, by site (Lighthouse Hill and Carp Shop), from 1992 to 2010. Capture index was generated with negative binomial regression models of CPUE data. Capture index controls for date, date², hours of netting, number of netting days in a year by site, and site.