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Fewest Northern Elephant Seal Pups Since 1976

PRBO Conservation Science (PRBO) in collaboration with the US Fish and Wildlife Service has monitored the reproductive success and population size of northern elephant seals, *Mirounga angustirostris*, on South Farallon Islands (SFI) continuously since 1972. The 2011 breeding season had the fewest number of pups born since 1976. However, pup mortality was down and productivity was up compared to the 37 yr averages (Fig. 1). Continued emigration of cows to adjacent colonies (i.e. Point Reyes, Año Nuevo) likely plays a major role in the decreasing number of pups born on SFI each season.

Elephant seals recolonized SFI (includes Southeast Farallon Island (SEFI) and West End Island (WEI)) in 1972. From 1973-1983 the number of pups born increased at an average rate of 56% per annum. The Farallon pup population declined from 1983 to 2010 at an overall rate of 5.2% per annum. In the 1980s the major breeding colony was found on WEI where up to 250 cows hauled out to pup. From the 1998 El Niño to the 1999 breeding season, the colony declined 64% from 188 to 67 cows. Elevated mortality due to El Niño and wave destruction of the small beach which was the main access route are probably responsible for the dramatic decline in numbers. Ever since, numbers on WEI have continued to decrease while numbers on SEFI have remained stable (Fig 1).

Although overall numbers are down, trends indicate that pup survival and productivity on SEFI have been up much of the last decade. Seven of the last 10 years have shown a negative mortality anomaly with the past 5 years all being

negative. During the past decade the productivity anomaly has shifted between both positive and negative values. This year's productivity was higher than the 37 yr average (Fig. 2). The last year of positive productivity anomaly was in 2009.

Dates of the first cow to arrive and the first pup born on SEFI have been recorded since 1974. The past decade has seen earlier than average first arrival and pupping dates (Fig 3). Median cow arrival and pupping anomalies were slightly earlier than average this year.

Main Points

- The 96 pups born on SFI during 2011 season is the lowest since the 60 pups that were born in 1976.
- Pup mortality on SEFI has been down over the past 5 years when compared to the long term average.
- Elephant seal productivity was higher this year compared to the long term average.
- The first cow to arrive and the first pup born on SEFI this year occurred earlier than the long term averages throughout much of the past decade.

For more information see:

Berger, R.W. 2011. Population size and reproductive success of Northern Elephant Seals on South Farallon Islands 2010-2011. (<http://www.prbo.org/cms/160>)

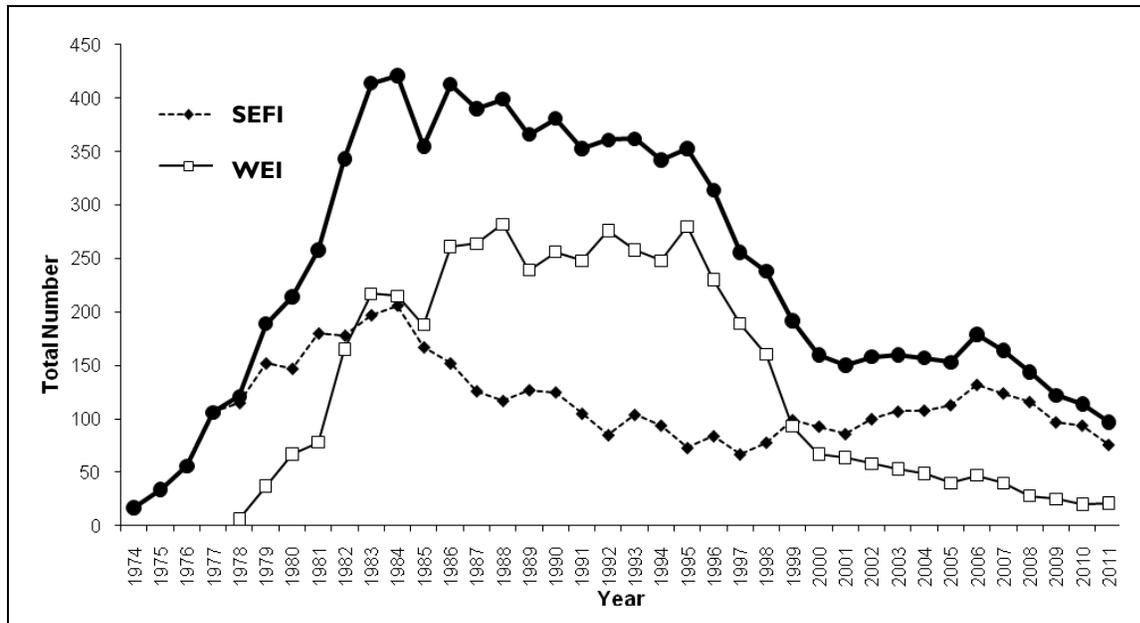


Figure 1. Maximum Elephant Seal cows recorded for total, SEFI, and WEI censuses 1974-2011.

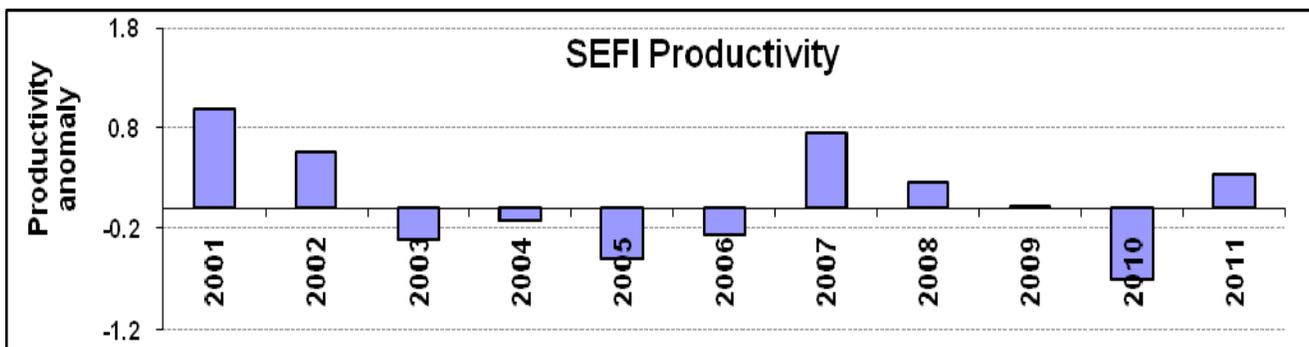


Figure 2. Standardized anomalies for SEFI Elephant Seal productivity [(annual number – long term mean)/SD] over the last decade.

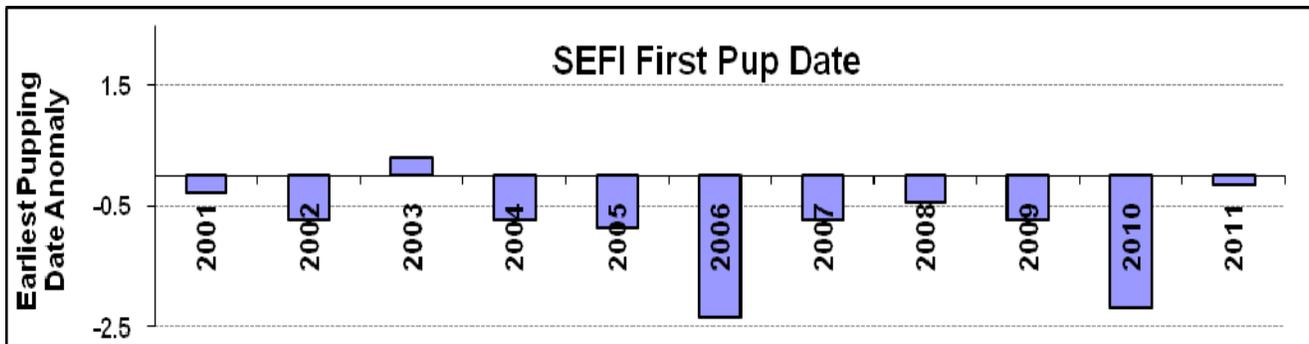


Figure 3. Standardized anomalies for SEFI Elephant Seal first pup date [(annual number – long term mean)/SD] over the last decade.