



Patuxent Wildlife Research Center Science Brief for Resource Managers

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Population dynamics of the Black-footed and Laysan Albatrosses

Description:

Recent declining populations of the Black-footed Albatross (*Phoebastria nigripes*) have aroused worldwide concern over the incidental catch of this and other protected species by the fishing industry in the Pacific. The largest nesting population as of 1998 (21,415 pairs) is on Laysan Island, and the second largest (20,510) is at Midway. In 1990 alone, 4,426 Black-footed Albatrosses were reported killed in drift nets (McDermond and Morgan 1993). Although this is a long-lived species, it generally does not breed until 5-8 years of age, and then lays only one egg per year. During the 1950's and 1960's, USFWS biologists studied the life history of this species and published results of some of their studies, especially with relation to aircraft strikes and the distribution of Black-footed and Laysan (*P. immutabilis*) Albatrosses at sea (Rice and Kenyon 1962, Robbins 1966, Robbins and Rice 1974). However, the population dynamics data have yet to be analyzed. Analysis of the tens of thousands of recapture records at Midway has until now been impractical because the species is long lived (50+ years), thousands of worn bands have been replaced, and multiple records for the same bird have been filed under different band numbers. The Bird Banding Laboratory is currently developing software to link together the string of records of each bird. This work is nearing completion, so this is an appropriate time to analyze the recapture data and obtain survival estimates of various segments of the population of both the Black-footed and the Laysan Albatross. This project will analyze existing data, the majority of which was collected by the principal investigator.

series of banding data, obtained by Robbins in the 1950s and 1960s, had never been digitized by the Bird Banding Lab. Volunteers were solicited to enter these data, but progress was too slow. Funding was finally obtained, and in August 2001 work was resumed entering the hundreds of pages of recapture records from the early period. That work has nearly been completed (April 2003). On a five-day reconnaissance trip to Midway in February 2002, several hundred banded birds were recaptured, including a nesting Laysan Albatross at least 51 years old that was rearing a chick. This becomes the oldest wild bird in the history of the Bird Banding Laboratory.

Management Implications:

Comparison of present-day survival rates with those of 40 to 50 years ago will help determine whether more drastic steps are needed to protect the Black-footed Albatross from a continuing population decline.

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Progress to Date:

The recent increase in accidental drowning of Black-footed Albatrosses by the Pacific fishing industry demands a detailed study of current survival rates compared with those of earlier decades. The best