



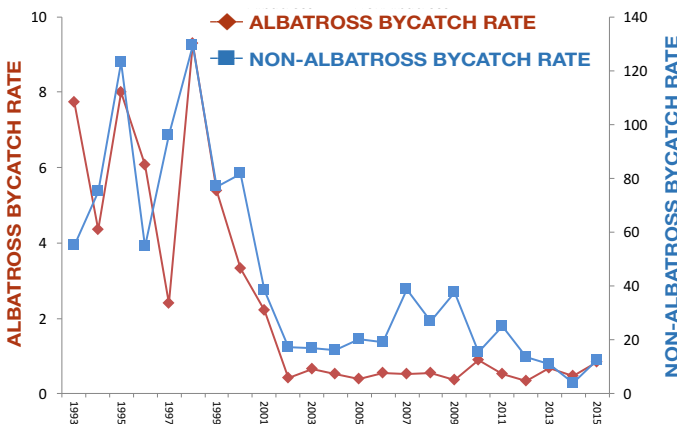
# Trends in Seabird Bycatch in Alaska Longline Fisheries 1993–2015

The following analysis was conducted to evaluate progress toward reducing albatross bycatch in the Alaska longline fisheries and to suggest where performance might be improved. Seabird bycatch rates (**birds per million hooks for all figures**) for Alaska longline fisheries were derived from data collected by the NOAA Fisheries North Pacific Observer Program. Results are from observed haul samples and were not extrapolated beyond the sample or to the entire fleet.

## PRE- VERSUS POST-STREAMER LINES

Research with the fishing industry in 1999 and 2000 showed that properly used streamer lines could dramatically reduce the bycatch of seabirds. With the voluntary adoption of streamer lines by Alaska fleets in 2002 (required in 2004), seabird bycatch rates decreased dramatically compared with the pre-streamer-line period of 1993–2001. As a result, albatross bycatch rates decreased by 89% while the bycatch rates for non-albatross seabirds (primarily northern fulmar, gull species and shearwater species) decreased by 77%.

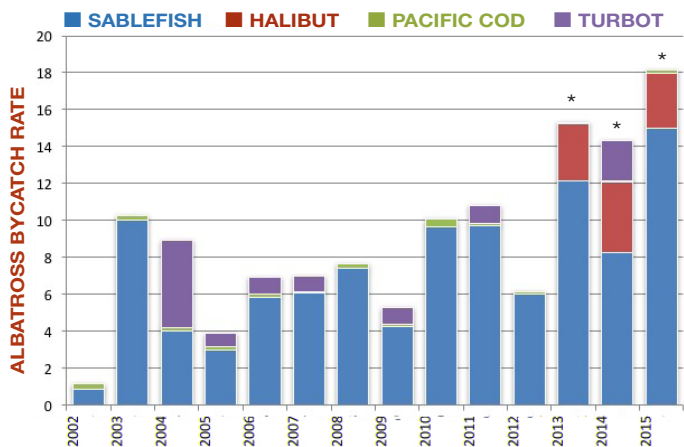
Mean albatross and non-albatross seabird bycatch rates, 1993–2015.



## ALBATROSS BYCATCH AFTER ADOPTION OF STREAMER LINES

Although albatross bycatch rates decreased dramatically with the adoption of streamer lines, they varied considerably year to year and showed an increasing trend driven by the sablefish fishery and, to a lesser extent, the halibut fishery. Extrapolating to the entire fleet, NOAA Fisheries estimated that 594 albatrosses were taken in Alaska longline fisheries in 2015.

Mean albatross bycatch rates by target species after streamer line adoption.



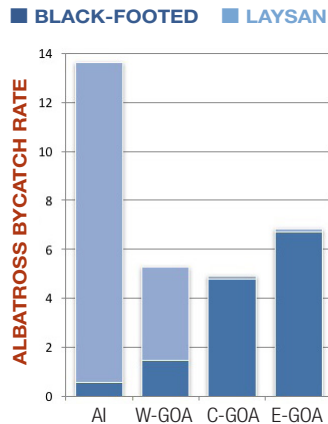
\*The NOAA Fisheries North Pacific Observer Program began monitoring the Pacific halibut fishery and smaller vessels in 2013.

**Sablefish** In the sablefish fishery, albatross bycatch rates were highest off the Aleutian Islands but rates were similar among the three Gulf of Alaska regions. Laysan albatrosses were caught at higher rates in the western Gulf of Alaska and black-footed albatrosses were caught at higher rates in the eastern Gulf of Alaska. Also in the sablefish fishery, albatross bycatch rates were 17 times lower in sets made at night than in those made during the day. Of the 178 vessels observed in the sablefish fishery from 2013 to 2015, only 32 had albatross bycatch. Of those, five vessels accounted for 56% of the 94 albatrosses taken in the observer sample, suggesting that estimates of total fleet albatross bycatch are driven by a few vessels.

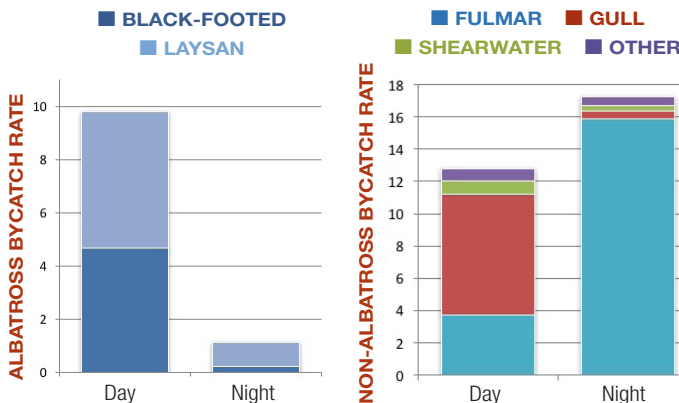
## NON-ALBATROSS BYCATCH AFTER ADOPTION OF STREAMER LINES

The bycatch rates of non-albatross seabirds were considerably higher and more variable year-to-year compared with albatrosses (see other side); they were driven by the turbot fishery and show a decreasing trend in recent years. Extrapolating to the entire fleet, NOAA Fisheries estimated that 4,698 non-albatross seabirds were taken in Alaska longline fisheries in 2015. The bycatch rates of non-albatross seabirds were two to three times lower in the eastern Gulf of Alaska than in the other management areas. Of the 374 vessels monitored from 2013 to 2015 (all target species), 58 vessels had non-albatross seabird bycatch. Of those, five vessels accounted for 42% of the 1,627 non-albatross seabird takes in the observer sample, suggesting that, similar to albatross, estimates of total fleet non-albatross bycatch are driven by a few vessels. Unlike those for albatrosses, mean bycatch rates of non-albatross seabirds in the sablefish fishery were 1.4 times higher in sets made at night than those made during the day, driven by a four-times higher rate of northern fulmar bycatch at night.

Mean albatross bycatch rates in the sablefish fishery by management area after adopting streamer lines (2002–2015).

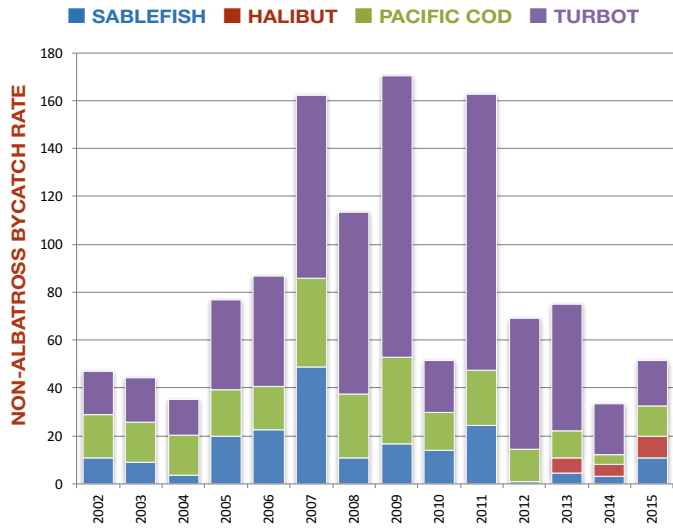


Mean albatross and non-albatross bycatch rates in the sablefish fishery for day vs. night sets after adopting streamer lines (2002–2015).



Day and night are defined by civil twilight.

Mean non-albatross bycatch rates by target species after streamer line adoption.



## PERFORMANCE

Alaska longline fisheries represent one of the few case histories where successful bycatch research translated into a dramatic bycatch reduction in a commercial fishery. This success is a testament to the value of collaborative research with the fishing industry and the commitment of Alaska longline fishermen to seabird conservation. Comparing estimated seabird bycatch before and during the 14 years since streamer lines were adopted, **roughly 9,400 albatrosses and 141,000 non-albatross were saved.** The increasing trend in albatross bycatch rates in the sablefish fishery suggests that performance could be improved in this fishery by paying more attention to the proper use of seabird bycatch prevention strategies, especially on the few vessels with high bycatch rates.

Photo courtesy of Washington Sea Grant.



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