



# Preventing Seabird Bycatch in North Pacific Groundfish Longline Fisheries

**D**rawn to fishing vessels to scavenge on discards, birds can become hooked and drown during line setting. If not managed, this interaction is bad for fishing profits and bad for bird populations, especially long-lived species like the albatrosses, which produce few offspring. Birds that forage behind fishing vessels in the North Pacific include both surface feeders and those capable of diving to considerable depths. Regardless of diving ability, preventing birds from accessing baits within the upper six feet of the water column greatly reduces seabird bycatch and bait loss.

**Shrink and defend** Vessel speed and longline sink rates together determine the distance astern of a longliner over which birds can access baited hooks. To avoid bait loss and seabird bycatch, longliners should reduce this distance as much as possible and defend the area with baited hooks near the surface.

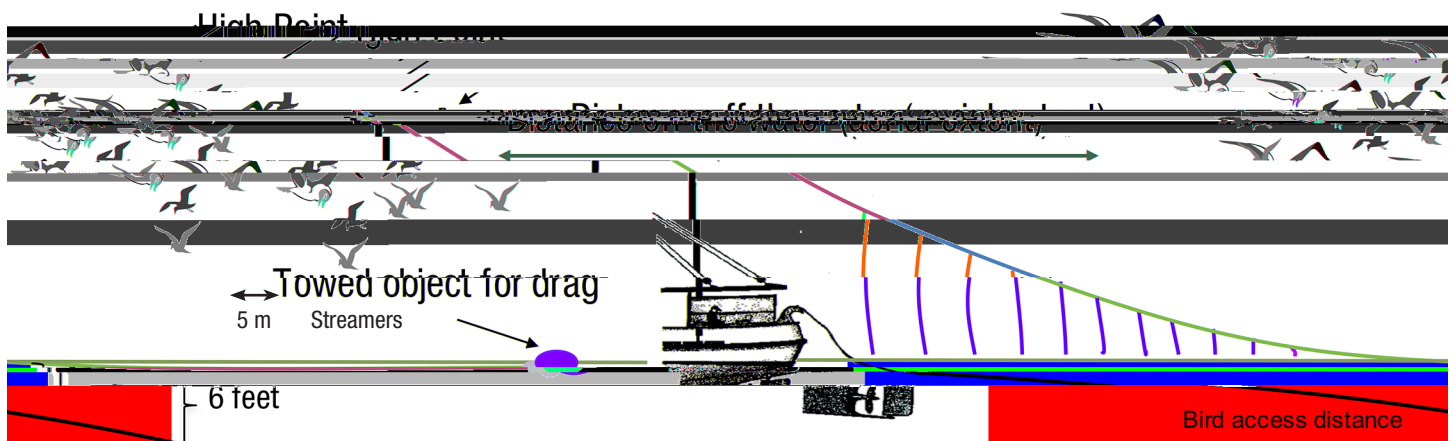


## SAVE BIRDS, SAVE BAIT

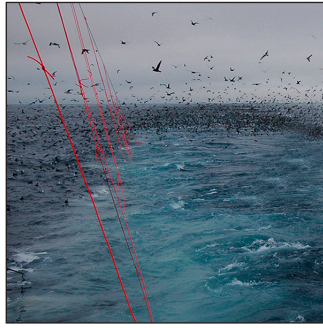
The following simple measures will reduce seabird bycatch and costly bait loss. Not all are required in U.S. North Pacific longline fisheries but all are recognized as best practices internationally.

**Use streamer lines** Streamer lines are the primary seabird bycatch prevention measure in longline fisheries worldwide. The objective is to suspend the section of line with streamers over the area where birds have access to bait. The aerial extent with

Streamer lines block access to baited hooks that are most accessible to birds. Count the number of streamers — spaced five meters apart — out of the water to determine if you are meeting the required aerial extent for your vessel. Depending on vessel size, 4–12 streamers should be out of the water. Two streamer lines work better than one.







streamers is the part of a streamer line that scares birds. Maximize the aerial extent by attaching it as high up on the vessel as possible — a minimum of 10 feet measured at the stern — and by adding a towed object to the end of the line to create drag. A skid buoy with a 10-pound lead attached to the nose works well, but so do a lot of other objects. Streamer line aerial extent requirements, specified in both Alaska and West Coast regulations, vary from 20 m to 60 m depending on vessel length and gear type. Count the number of streamers out of the water to determine if you are meeting the required aerial extent for your vessel. Two streamer lines work better than one because they exclude birds by fencing off the sinking longline regardless of wind direction. Single streamer lines should be maintained on the windward side of the longline for best performance.

**Sink hooks as quickly as possible** Make lines negatively buoyant by adding weight and using longlines with a specific gravity of one or higher. When used with streamer lines, fast sinking lines that integrate lead beads inside the lines have been shown to virtually eliminate seabird bycatch in Alaska. Reducing speed while setting gear also shrinks the distance birds can access baits.

**Set gear at night** Albatrosses and gulls are less active and less able to locate baited hooks in darkness. Existing evidence from the NOAA Fisheries North Pacific fisheries observer programs clearly shows a dramatic reduction (10 times or more) in albatross bycatch rates

when longlines are set at night compared with during the day. In contrast to the rates for albatrosses, mean bycatch rates of non-albatross seabirds in the Alaska 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. Consequently, night setting may not be as effective in areas with abundant fulmars and few albatrosses. And in high latitude fisheries the opportunity for night setting may be limited during the summer. Night setting is also less effective when the moon is bright.

**Manage discharged offal and bait** Avoid discharges while setting lines to avoid attracting birds; otherwise, direct the discharge to draw birds away from sinking hooks. When hauling in lines, discharge aft of the hauling station or on the opposite side of the vessel. Remove hooks before discharging fish heads.

## ALASKA AND WEST COAST SEABIRD BYCATCH REGULATIONS

Alaska and West Coast longline fisheries require the use of specific seabird bycatch mitigation measures for most vessels. For information on Alaska and the West Coast regulations, see:

<https://alaskafisheries.noaa.gov/pr/seabird-bycatch>

Photos courtesy of Washington Sea Grant.



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