

Appendix 1 – Seabird body size and vulnerability to bycatch

We extracted the information from the IUCN threat classification scheme on whether a species is classified as vulnerable to bycatch or not using the R function `rl_threats` and package “`rredlist`” (Chamberlain 2018). Next, using the body mass traits from Richards et al. (2021), we tested whether there was a difference in body size between seabird species that are and aren’t threatened from bycatch using a t-test (function `t.test` in base R).

While the data do not specify which gear type a species is vulnerable to, overall, we find that species vulnerable to bycatch in all gear types are significantly larger (t-test, $t = -9.0115$, $df = 300$, $p < 0.001$) than those that are not vulnerable to bycatch. We therefore give a higher trait score and greater conservation weight to species with larger body masses in our vulnerability framework. For the full description of our scoring and weighting approach, see the Trait Scoring and Weighting section in the main manuscript. However, it is important to note that we consider whether a species is vulnerable to bycatch or not, which is a composite measure of risk. Therefore, this measure not only includes sensitivity, but also other factors. This result only suggests that larger birds are more sensitive.

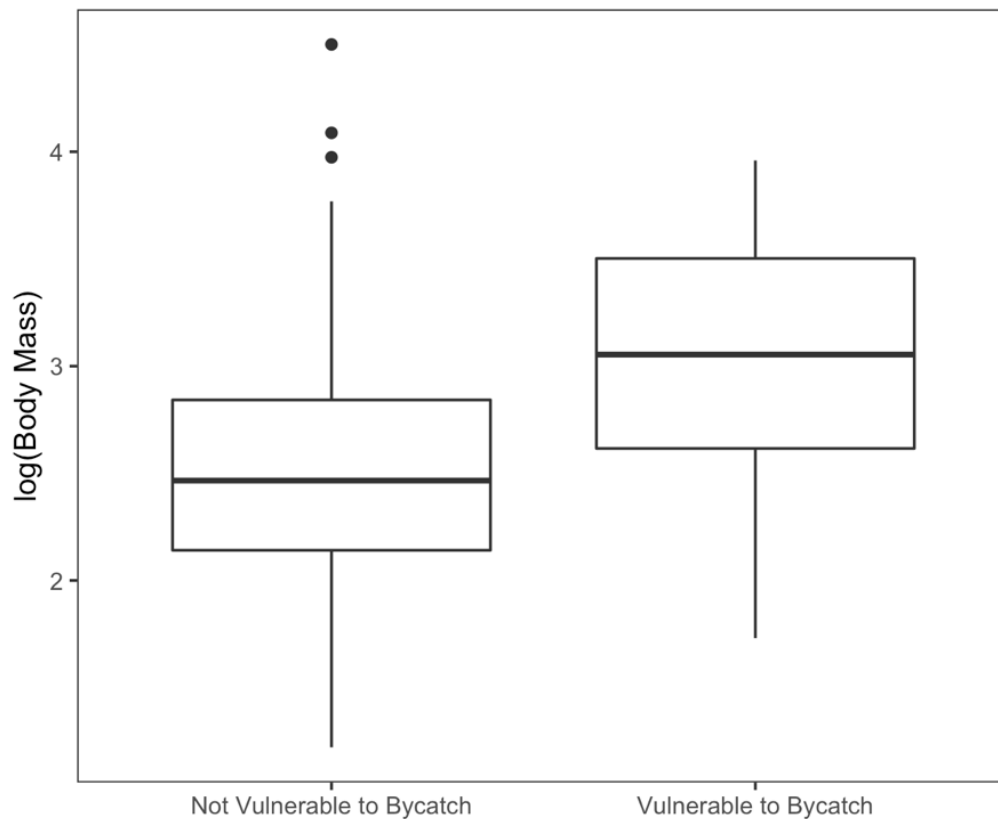


Figure A1.1 The difference in body mass between seabird species identified as vulnerable to bycatch in all gear types and those that are not by the International Union for Conservation of Nature (IUCN) threat classification scheme. Body mass is \log_{10} transformed. The three outliers are Emperor Penguin (*Aptenodytes forsteri*), King Penguin (*Aptenodytes patagonicus*), and Great White Pelican (*Pelecanus onocrotalus*).

Literature Cited

Chamberlain, S. (2018). rredlist: “IUCN” Red List Client. R package version 0.6.0.

<https://CRAN.R-project.org/package=rredlist>

Richards, C., R. S. C. Cooke, and A. E. Bates. 2021. Biological traits of seabirds predict extinction risk and vulnerability to anthropogenic threats. *Global Ecology and Biogeography* 30:973–986. doi: [10.1111/geb.13279](https://doi.org/10.1111/geb.13279).