

 <p>Agreement on the Conservation of Albatrosses and Petrels</p>	<p><b>Eighth Meeting of the Seabird Bycatch Working Group</b></p> <p><i>Wellington, New Zealand, 4 – 6 September 2017</i></p> <p><b>Man versus machine: electronic monitoring versus on-board observers in small-scale fisheries in Peru</b></p> <p><b><i>David Bartholomew<sup>1</sup>, J.C. Mangel<sup>1,2</sup>, J. Alfaro-Shigueto<sup>1,2</sup>, B.J. Godley<sup>1</sup></i></b></p> <p><sup>1</sup><i>University of Exeter, Cornwall, Penryn, UK</i> <sup>2</sup><i>ProDelphinus, Lima, Peru</i></p>
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#### SUMMARY

Small-scale fisheries impact greatly on the populations of threatened marine fauna. Peru's small-scale elasmobranch gillnet fishery captures thousands of sharks and rays each year, as well as high rates of incidental capture of sea turtles, small cetaceans and pinnipeds. We assessed the ability of cameras to identify and quantify catch in this fishery by comparing its performance to observer reports. Cameras were installed across five boats with a total of 139 fishing sets monitored. The cameras were shown to be an effective tool for identifying catch, with > 90% detection rates for 9 of 11 species of elasmobranch caught. Detection rates of incidental catch were much lower (sea turtle = 73%; cetacean = 67%). The camera's ability to quantify target catch degraded with quantity and smaller species. Cameras were more effective at quantifying rays than sharks. We showed cameras can provide a more time- and cost-effective method to monitor small-scale fisheries and can be used to overcome deficiencies in observer reports. However, cameras are not yet sufficient to effectively monitor bycatch. With modifications to the camera specifications, we expect their performance to improve for all catch species.

This work was prepared as the Master's thesis of D. Bartholmew, University of Exeter, August 2016 and in collaboration with the NGO ProDelphinus.