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FISHERY BYCATCH OF THE WAVED ALBATROSS *PHOEBASTRIA IRRORATA*, A NEED FOR IMPLEMENTATION OF AGREEMENTS

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SUMMARY

The Waved Albatross, a threatened Ecuadorian endemic bird, is protected by national and international laws and agreements, in spite of which, 43 that had been ringed on the island of Española, Galapagos, were found killed off the coast of Peru, at least 34 of them by incidental fishing. International collaboration is required for the effective conservation of this species.

RESÚMEN

Pesca incidental del Albatros de Onda *Phoebastria irrorata*, una necesidad para la implementación de acuerdos. El Albatros de Onda *Phoebastria irrorata*, es una ave amenazada, endémica del Ecuador, la cual está protegida por leyes nacionales y acuerdos internacionales, pese a esto, 43 individuos anillados en la isla Española, Galápagos, fueron encontrados muertos en la costa del Perú, al menos 34 de estos fueron por pesca incidental. La colaboración internacional es necesaria para una conservación eficaz de esta especie.

INTRODUCTION

The Waved Albatross *Phoebastria irrorata* is endemic as a breeding species to the Galapagos Islands (Jiménez & Wiedenfeld 2002), except for a few pairs that breed on Isla de la Plata off the coast of Ecuador (Granizo 2002). It is Vulnerable (IUCN 2006) but a proposed move to Critically Endangered (B1a,b(ii,iii,iv,v)) is currently under discussion.

In Galapagos, it breeds on Española Island, in colonies at Punta Suarez, Punta Cevallos and along the coast and inland areas in the southern part of the island (Harris 1973, Douglas 1998). Between January and March each year, virtually all Waved Albatrosses leave Galapagos, traveling more than 1200 km to spend the non-breeding season off the coasts of S Ecuador and N Peru, in the productive waters of the Humboldt Current (Fernández *et al*. 2001). It is threatened by oil spills, hunting for food, and fisheries bycatch in continental coastal waters (Granizo 2002, Awkerman *et al*. 2006, IUCN 2006).

Since 1960, Waved Albatrosses have been marked with metal identification rings (Lévèque 1962), and since 2002 with passive internal transponder (PIT) tags, allowing individual identification, which in turn permits long-term monitoring, demographic analysis, nesting studies, and evaluation of the species distribution within Galapagos and elsewhere. Tagging also provides information on mortality. Since 2003 the Peruvian group Pro-Delphinus has recorded ring numbers of albatrosses collected by Peruvian fishing vessels.

RESULTS

The identification numbers reported belong to 43 Waved Albatrosses (which include the 24 mentioned by Awkerman

Table 1. List of dead Waved Albatrosses collected from vessels fishing in Peruvian waters, ordered by date of death.

Ring scheme/number	Date ringed	Ringing site	Age when ringed	Date of death	Site where found dead	Cause of death
BTO 1089295	Nov 1975	Suárez	Juvenile	1998	Salaverry	Long-line
BTO 1089272	Nov 1975	Suárez	Juvenile	2000	Salaverry	Long-line
BTO 1135337	Nov 1988	Suárez	Juvenile	2000	Salaverry	Long-line
BTO 1135151	Jun 1994	Suárez	Adult	2000	Salaverry	Long-line
BTO 1135337	Nov 1988	Suárez	Juvenile	2000	Salaverry	Long-line
USFW 84827323	1999	Cevallos	Adult	Jun 2003	Salaverry	Long-line
USFW 84827432	1999	Cevallos	Adult	Jun 2003	Salaverry	Long-line
USFW 84830860	Jun 2002	Suárez	Adult	Jun 2003	Salaverry 9°20´S, 79°50´W	Long-line
BTO 1089237	Nov 1975	Suárez	Juvenile	Sep 2003	Salaverry	Long-line
USFW 84827569	2000	Cevallos	Adult	Sep 2003	Salaverry	Long-line
BTO 1019960	Dec 1970	Suárez	Juvenile	Sep 2003	Salaverry	Long-line
BTO 1100653	Nov 1978	Suárez	Juvenile	Jun 2004	Salaverry	Unknown
USFW 66881350	1996	Cevallos	Juvenile	Jun 2004	Salaverry	Unknown
USFW 84827042	1997	Cevallos	Adult	Jun 2004	Salaverry	Unknown
USFW 84827247	Jun 2002	Suárez	Adult	Jun 2004	Salaverry	Unknown
USFW 84827905	Dec 2001	Cevallos	Juvenile	Jul 2004	Salaverry 8°7´S, 79°6´W	Gillnet
USFW 84828758	Dec 2001	Cevallos	Juvenile	Jul 2004	Salaverry 8°7´S, 79°6´W	Gillnet
USFW 76806199	1996	Cevallos	Juvenile	Jul 2004	Salaverry 8°7´S, 79°6´W	Gillnet
USFW 84828758	Dec 2003	Cevallos	Adult	Jul 2004	Salaverry 8°7´S, 79°6´W	Gillnet
USFW 84827362	1999	Cevallos	Adult	Aug 2004	Callao	Long-line
BTO 1089345	Nov 1975	Suárez	Juvenile	Aug 2004	Salaverry	Long-line
USFW 84827333	1999	Cevallos	Adult	Oct 2004	Salaverry	Hook and line
Anderson 2365	Aug 2004	Cevallos	Unknown	Mar 2005	Salaverry	Hook and line
Anderson 2638	Aug 2004	Cevallos	Adult	Mar 2005	Salaverry	Hook and line
USFW 84828883	2004	Cevallos	Unknown	Mar 2005	Salaverry	Hook and line
USFW 84828193	2004	Cevallos	Unknown	Mar 2005	Salaverry	Hook and line
BTO 1100129	Nov 1979	Suárez	Juvenile	Apr 2005	Salaverry 8°14´S, 78°58´W	Hook and line
USFW 84827580	2000	Cevallos	Adult	May 2005	Salaverry	Hook and line
BTO 1089116	Oct 1974	Suárez	Juvenile	Jun 2005	Salaverry	Gillnet
BTO 1019668	Jul 1980	Suárez	Juvenile	Jul 2005	Salaverry 8°42´S, 79°32´W	Hook and line
USFW 84827471	1999	Cevallos	Adult	Jul 2005	Salaverry	Gillnet
USFW 84831707	Dec 2004	Suárez	Juvenile	Jul 2005	Salaverry	Hook and line
BTO 1072317	Jun 1994	Suárez	Adult	Aug 2005	Salaverry	Hook and line
USFW 85821377	Dec 2001	Cevallos	Adult	Aug 2005	Salaverry	Hook and line
BTO 5012268	Jun 1994	Suárez	Adult	Sep 2005	Salaverry	Unknown
BTO 1089908	Nov 1977	Suárez	Juvenile	2005	Salaverry	Unknown
BTO 1200004	Nov 1981	Suárez	Juvenile	2005	Salaverry 8°14´S, 78°58´W	Hook and line
BTO 1200167	Nov 1981	Suárez	Juvenile	2005	Salaverry	Unknown
BTO 1135127	Jun 1994	Suárez	Adult	2005	Salaverry	Unknown
USFW 84827521	1999	Cevallos	Adult	Oct 2006	San José	Unknown
BTO 5042585	Aug 1971	Suárez	Juvenile	Unknown	Salaverry	Long-line
BTO 1089141	Jun 1994	Suárez	Adult	Unknown	Salaverry	Hook and line
USFW 84830389	Jul 2001	Cevallos	Adult	Unknown	Salaverry	Long-line

et al. 2006), 34 (79%) of which died as bycatch and nine (21%) from unknown cause (Table 1). Of the fishery bycatch deaths, 15 (44%) were by long-line, 13 (38%) by hook and line, and six (18%) by gillnets. Age of the dead birds varied from one to 33 years. They had been ringed at Punta Suarez (23) and Punta Cevallos (20). At time of ringing, 20 were adult, 20 juvenile, and three of unknown age. Most (41) were collected in Salaverry marine zone, one in Callao and one in San José, all in Peruvian waters.

DISCUSSION

Without a doubt, many more albatrosses have been killed by these fisheries, accounting for reduced adult survival in recent years (Awkerman *et al*. 2006). This poses a high risk to the survival of this species, an effect that is being felt in other regions of the world by other species of albatrosses and petrels.

At least in part due to concern about this, long-line fishing has recently been forbidden in the Galapagos Islands. Unfortunately, this resolution is only local, whereas the issue requires international commitment. Several current conservation agreements and suggested measures for this species require enforcement or implementation, including: extend protection of the species beyond the areas in which it is currently protected, *i.e.* Galapagos and Machalilla National Parks, including implementing the hunting ban in accordance with Ministerial Resolution 105, 7 January 2000 (Granizo 2002); surveillance of fishing methods and techniques that could affect this species (Granizo 2002); inclusion in Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS; Anderson *et al.* 2002); inclusion in the Agreement on the Conservation of Albatrosses and Petrels (ACAP 2001). Some of these agreements have not been acted upon, particularly the ACAP, which has been in force in Ecuador and Peru (among other countries) since 2001.

We call upon the appropriate authorities to seek solutions to this problem and emphasize the importance of enforcing existing agreements to ensure the protection of this and other marine species that are being adversely affected by fisheries.

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