



The intentional harvest of waved albatrosses *Phoebastria irrorata* by small-scale offshore fishermen from Salaverry port, Peru

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Abstract. The waved albatross *Phoebastria irrorata* is classified by the IUCN as “critically endangered” because of its geographically restricted breeding range and evidence of a substantial decline in adult survival during the 1990s and early 2000s. This decline has been proposed to be a consequence of incidental mortality in the Peruvian small-scale fisheries but also of direct hunting for human consumption by fishermen. This paper uses a trans-disciplinary approach to describe and analyse the intentional capture of waved albatrosses in northern Peru by offshore small-scale fishermen. During 2008, 36 interviews were conducted in the port of Salaverry to understand the extent and reasons for the intentional capture. Sixty-nine percent of the interviewees mentioned occasionally harvesting albatrosses. Considering two to three vessels capture albatrosses regularly in Salaverry, we estimate a total annual mortality between 16 and 24 individuals since 2006. Reasons for capturing albatrosses included insufficient food supplies onboard during long fishing trips, collection of rings from ringed birds, the development of a taste for the bird’s meat and even boredom. Interviews with fishermen showed a lack of awareness of the conservation status of albatrosses. We recommend strengthening the role of existing local governmental and non-governmental organizations involved with monitoring and surveillance, education and conservation.

Keywords: Seabirds, wildlife conservation, fisheries, interactions, consumption, intentional harvest, bush meat

Resumen. Capturas del albatros de Galápagos por pescadores artesanales de altura del Puerto Salaverry, Perú. El albatros de las Galápagos *Phoebastria irrorata* está clasificado por la UICN como en “peligro crítico de extinción” debido a su reducida área de reproducción y al notorio declive en la sobrevivencia de individuos adultos durante la década de los 90 y principios de los 2000. El declive de la población de adultos de éstos albatros ha sido reportado como una consecuencia de la mortalidad incidental de los mismos en interacciones con la pesquería artesanal peruana y del consumo directo de éstas aves por pescadores de la zona. Nuestro artículo usa una metodología transdisciplinaria para describir y analizar la captura directa de albatros de las Galápagos en el norte del Perú, en donde los pescadores artesanales de altura son conocidos por realizar éstas capturas. Durante 2008, 36 entrevistas fueron realizadas en el Puerto de Salaverry para conocer la magnitud y las razones de éstas capturas. Sesenta y nueve por ciento de los pescadores entrevistados admitieron consumir albatros ocasionalmente. Considerando un aproximado de dos a tres embarcaciones capturando albatros

regularmente en el Puerto Salaverry, se estima una mortalidad anual de éstas aves de entre 16 y 24 individuos desde el 2006. Entre las razones para capturar albatros los pescadores mencionaron: la falta de suficientes víveres durante salidas al mar, la captura para obtener los anillos de las patas de los albatros, el gusto de algunos pescadores por consumir éstas aves y hasta el entretenimiento al capturar las aves. Los pescadores mostraron un pobre conocimiento del estado de conservación de los albatros. Se recomienda reforzar las labores de organizaciones del gobierno y no gubernamentales involucradas en actividades locales de monitoreo y vigilancia, educación ambiental y conservación.

Palabras clave: Aves marinas, conservación de vida silvestre, pesquerías, interacciones, consumo, captura directa

Introduction

Seabirds, especially penguins, albatrosses and petrels, are some of the most threatened species worldwide (Croxall *et al.* 2012). Despite a long history of human exploitation of seabirds its impact has rarely been documented in the past (Feare 1984). Seabirds and their eggs have been harvested by local human populations for centuries, mainly for food, fat, feathers and ultimately for purposes of health control (Skira 1990, Steadman & Kirch 1990, Lyver 2000, Simeone & Navarro, 2002). Throughout the circumpolar region, seabirds are still harvested. In the northeast Atlantic, seabird hunting has lost much of its traditional importance, and in Denmark, Sweden, Norway and Scotland effects on seabird populations are likely to be minor. However, in the Faroes, Iceland and Greenland seabird hunting is still important at least locally. For some species including Atlantic puffin *Fratercula arctica* in the Faroes and Iceland, and Brünnich's guillemot *Uria lomvia* in Greenland and off Newfoundland, current harvest levels may be unsustainable (Noes 2010). To reduce impacts to public health and to conserve other seabird colonies, e.g. terns; large colonies of herring *Larus argentatus* and lesser black backed *Larus fuscus* gulls were partially legally culled in the United Kingdom during the 70s and the 80s. The only licensed harvesting of seabirds for food currently taking place in the UK is the annual collection of 10,000 eggs from the black-headed gull *Chroicocephalus ridibundus* colony at Bemersyde Moss in the Scottish Borders, and the traditional annual "guga" hunt of 2,000 gannet chicks *Morus bassanus* on Sula Sgeir, where breeding numbers have declined in contrast to most other colonies that have been increasing in size (Wanless *et al.* 2005).

Particularly on islands, human settlements have been responsible for the decline or extinction of many seabird populations. Haynes (1987) reported that all nesting seabirds in Jamaica are exploited or disturbed by island inhabitants, with

sooty terns *Sterna fuscata* and brown noddies *Anous stolidus* being the species most affected. Seabirds and their eggs provide food for sustenance in the Grenadines of St. Vincent and Grenada and the harvest cannot be exclusively attributed to fishermen alone (Lowrie *et al.* 2012). Recent publications also indicate that Caribbean seabird populations are in decline (Bradley and Norton 2009, Lowrie *et al.* 2012). In the Cocos (Keeling) Islands, eastern Indian Ocean, the red-footed booby, *Sula sula*, has been hunted for food since first settlement in 1827. Despite legislative protection, an estimated 2000 to 3000 birds are killed illegally in most years and possibly as many as 10,000 in some years, without affecting the booby nesting population between 1985 and 2002 (Baker *et al.* 2004).

After the Second World War, the development of commercial fisheries brought about two additional threats to the survival of seabird populations: competition for food and incidental catch (bycatch). One of the most recognized examples of commercial fisheries impacts on seabird populations was the drastic decline of guano birds in Peru due to the development of the Peruvian anchovy fishery. These bird populations feed almost exclusively on Peruvian anchovies (*Engraulis ringens*) and declined from more than 20 million to around 4 million individuals during the development of the fishery between the mid-1950s and 1970s (Tovar *et al.* 1987). Although fisheries bycatch of seabirds is difficult to estimate, at least 160,000 birds are believed to be killed yearly in longline fisheries (Anderson *et al.* 2011) and 400,000 in gillnet fisheries (Žydelis *et al.* 2013) including cormorants, petrels and shearwaters.

The waved albatross *Phoebastria irrorata* was re-classified by the International Union for the Conservation of nature (IUCN) as a critically endangered species in 2007 because of its small breeding range, essentially confined to a small archipelago in the Galapagos Islands, and evidence

suggesting a substantial recent decline in adult survival during the 1990s and early 2000s (IUCN 2008). This decline has been proposed to be a consequence of incidental mortality in Peruvian small-scale longline and gillnet fisheries, but also as a result of direct hunting for human consumption by offshore fishermen (Awkerman *et al.* 2006). While efforts to reduce seabird bycatch in fisheries has primarily focused on the introduction of technical modifications of fishing gears and methods, the direct capture highlights the need to develop additional new trans-disciplinary conservation strategies to confront threats to endangered seabirds. This paper describes and analyses the intentional capture of waved albatrosses by offshore small-scale fishing vessels from the port of Salaverry in northern Peru. Individual interviews with fishermen and port employees were conducted to understand the extent of the practice, the reasons and factors influencing it, and the perceptions of fishermen and the local authorities of albatross conservation.

Material and methods

This study was conducted in the Peruvian district of Salaverry, located in the department of La Libertad in northern Peru. Salaverry is located near the city of Trujillo, the capital of La Libertad county, and is one of the most important ports on the Peru coast (Figure 1). Fisheries landings by artisanal fishermen from Salaverry can range between approximately 2 to 20 thousand tonnes per year and are highly variable. At the time of the study there were an estimated fifty small-scale fishing vessels operating from Salaverry (local authority, pers. comm.) (Figure 2). These vessels typically have five crew members (one skipper and four crew) yielding a total of around 250 fishermen active in the Salaverry small-scale fishery.

Thirty-six semi-structured individual interviews were conducted in Salaverry in June 2008. From these, 32 were offshore fishermen (Figure 3), one was a boat builder, one was a provider of landings services, one was the local staff person of the Peru maritime authority, Department of Environmental Issues (Capitanía de Puerto de Salaverry; hereafter 'Capitanía'), and one was the scientific personnel from the Peruvian Marine Research Institute (IMARPE) designated to monitor fishing landings and effort in Salaverry. Within the interviewees, older fishermen (i.e. those with most experience and knowledge) were contacted as well as younger fishermen whose opinions and social practices may be different.

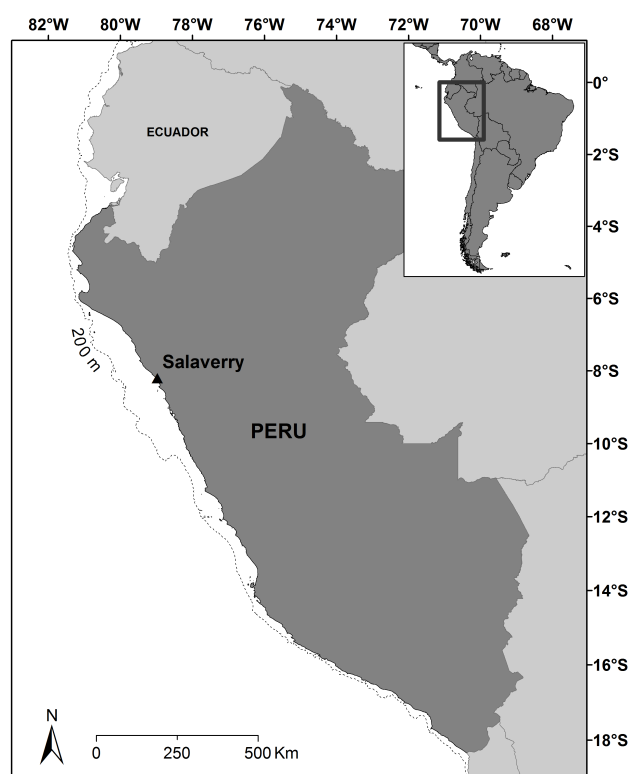


Figure 1. Study site location, Salaverry, Peru.

The majority of the interviews were directed at vessel skippers, who are responsible for the vessel's operations, and have control over the actions of the crew members. The boat builder and the provider of services interviewed were older, 70 and 72 years respectively, and were originally from the port of Callao on the central coast of Peru. Both worked previously in small-scale fisheries and have continued working in fisheries-related activities, and visited the wharf regularly, thus witnessing landings and staying in contact with active fishermen.

The average age of the interviewed fishermen in Salaverry was 32 years (range 21 to 55 years). Interviewed fishermen operated throughout the year, performing two to three trips per month in the winter, and three to four trips monthly in the summer, or during a specific fishing season (sharks and dolphinfish have separate seasons). The volume of fish obtained per vessel per trip varied from 0.5 to 1.5 tons (larger vessels with more autonomy can land up to 3 to 4 tons). A vessel must catch about 0.8 tons to recoup trip expenses. A high catch rate was one that brought in around 1,500 Peruvian Soles (ca. 500 USD) per crew per trip. The average crew person's per trip earning was 400 Peruvian Soles

(130 USD), which were sufficient to meet the fishermen's personal and family needs for about one week. The return from some trips could be as low as 100 Peruvian Soles (33 USD). Only five (2%) fishermen interviewed worked temporarily in other activities during the low fishing season. Those that fished year-round used the low fishing season to fix their fishing gear and to perform annual vessel maintenance. The general desire of interviewed fishermen was to remain in the fishery sector but as a vessel owner, not as a skipper or crew. Interviewees noted that it was difficult not being involved in fisheries once they had become fishermen. Four of those who had tried to quit fishing found the change impossible to bear. Seven others reported enjoying fishing, or as they said "*were used to the sea*" and did not intend to stop fishing. Only seven (2%) of interviewees were members of a local fishing association or "*gremio*".

Semi-structured interviews (Appendix 1) were recorded in written notes and transcribed after each interview.

Results

Captures of waved albatrosses. Fishermen in Salaverry have been interacting with waved albatrosses since at least the late 1990s when offshore fishing for sharks started. Sharks fishing came about mainly because traditional target fish became less abundant in coastal areas and because a new export market for sharks developed in Peru. Fishermen also stated that the capture of albatrosses took place during periods of low availability of fish during the winter season or when warmer ocean currents due to El Niño Southern Oscillation conditions arrived in their regular fishing areas.

Since the 1990s, the consumption of albatrosses by fishermen has become a relatively common practice that continues today. From the 32 fishermen interviewed, 22 (69%) mentioned occasionally eating albatrosses. Fishermen also stated that albatross consumption had decreased tremendously since 2006 with only about ten fishermen (two to three vessels) still doing so regularly. Among those fishermen who reported they regularly ate albatrosses, the annual consumption was estimated to be approximately eight birds per vessel per year, but zero bird takes occurred in some years. Considering two to three vessels capture eight albatrosses regularly per year we estimate a total annual mortality from intentional take in Salaverry at between 16 and 24 individuals since 2006.

Without exception, fishermen explained that



Figure 2. Small-scale offshore vessel at Salaverry port.

waved albatrosses were also incidentally caught in nets or on longlines, although infrequently. Vessels in Salaverry use weighted lines to make them sink quickly and unlike other local seabirds that can dive to retrieve baited hooks, a fishermen stated in relation to albatrosses "*few get caught due to weights being used and the fact that pajarotes (albatrosses) do not dive*".

Interviewees reported the sale of dead albatrosses in Salaverry as limited; albatrosses are not considered a high value commercial species. The price at the market in Salaverry was about five Peruvian Soles (ca. 1.7 USD) per bird. The fishermen preferred to sell other seabird species and dolphins, which have higher economic value, and most of them considered selling albatrosses to be a waste of time.

Factors influencing harvest and consumption. Fishermen reported the consumption of albatrosses for two main reasons: when food supplies at sea or ice to maintain this food became scarce during unsuccessful and consequently long fishing trips (however, according to the interviewees, such circumstances were exceptional) and/or due to some fishermen who have grown accustomed to eating the birds regularly.

Fishermen who liked to eat albatrosses first baited a hook with shark liver to catch them and pull the bird aboard where it was killed. The majority of waved albatrosses were consumed at sea and after food supplies were exhausted, especially meat. As two captains stated, "*this is when interest in eating seasoned pajarotes that taste like beef or chicken occurred*". However, other fishermen took the birds home to their relatives and neighbours, or in some cases sold them; although this remains a casual practice.

One vessel captain admitted consuming



Figure 3. Offshore fishermen interviewed at Port Salaverry

albatrosses and said that he enjoyed this practice but also stated that he did not regularly do this because food supplies at sea were sufficient; “*some do want a change of flavour in their diet and then hunt a couple of pajarotes*”. Only older fishermen reported consuming albatrosses. Younger fishermen reported not being used to this meat and refused to eat it. Within this group of younger fishermen one explained, “*I had killed pajarotes for fun, since at sea there is not much to do sometimes,*” however this seems to be an isolated case.

The majority of fishermen were not comfortable admitting the consumption of albatrosses. To acknowledge eating albatrosses meant acknowledging not being responsible enough to go fishing with enough food supplies aboard, or not being successful enough to keep some of the caught fish for their own consumption during a fishing trip. One fisherman stated proudly that small-scale fishermen consume ‘*better fish than the Peruvian president himself*’. It therefore seems that for some fishers, consuming albatrosses is a very personal, traditional practice, related to the development of a taste for the meat. Those that still consume albatrosses had to tolerate the bad smell of the carcass and the ticks, and for these reasons still only catch one or two birds at a time. Otherwise the vessel gets infested with ticks that cause large, red, irritating bites and the bad smell can taint their catch. Moreover, consumption was limited to a few albatrosses per trip because the crew would tire quickly of the taste.

Fishers’ perceptions and knowledge about albatrosses. Offshore fishermen considered albatrosses as companion animals during their fishing trips, which can last more than seven days.

One fisherman stated “*these birds are always near the vessel, waiting to feed on the viscera of target fish. In addition, pajarotes can be helpful in looking for fishing areas by indicating the presence of fish concentrations in the open sea*”. Therefore, interviewed fishermen considered albatrosses to be inoffensive seabirds that do not cause problems for their work. Moreover the form and colour of the albatrosses are a source of enjoyment and no one referred to them negatively or considered them as competitors for fish.

Fishermen perceptions of the abundance of albatrosses were that numbers seen have been stable during the last years with no reduction in their presence in the area. As one fisherman stated “*every time we are at sea there are always the same numbers of pajarotes present*”. This perception was registered even by fishermen that attended talks and workshops about the threatened status of this albatross, carried out by local organizations (governmental or NGOs). A general consensus existed among the participating fishermen that the information about the prohibition on hunting and possible penalties, has in the last few years reduced consumption of the species: “*Consumption of pajarotes has decreased considerably due to fishermen being better informed about the illegality of hunting and consumption*”. Apparently, most skippers now comply to avoid fines, other penalties or problems with local authorities, despite there being no strict control mechanisms in place. The fishermen, the local IMARPE officer, the two boat builders and one observer from a NGO confirmed this situation.

Knowledge about conservation issues of albatrosses among the fishermen was limited. Twelve fishermen (38%) knew that waved albatrosses are classified as endangered. This knowledge was obtained from talks given by local authorities or from the information provided by an NGO working locally or by the IMARPE officer. No fishermen believed the consumption of this bird was a problem given that the consumption is limited and personal, not commercial or extensive. However, those fishermen that have participated in talks and workshops or have had access to more information, knew that if they consume too many albatrosses, this may become a problem in the future “*since they lay only one egg every two years*” (sic). Also, they knew from other examples that excess consumption can lead to extinction of marine species and cited the Peruvian anchovy *Engraulis ringens* fishery and the catch of leatherback turtles *Dermochelys coriacea* as

examples.

Recovery of ringed individuals (numbered metal and plastic leg bands). Interviewees reported that some of the albatrosses caught had rings on their legs. Some rings were sold within the local community. Three fishermen reported a price of three Peruvian Soles or about one USD per ring, while others took the rings home as souvenirs or to be used as key rings.

The majority of fishermen however, stated that while these rings did not provide any extra income, because the metal was thin and of little value, they were attractive for personal collections. Initially some fishermen thought there might be a reward for returning the rings. Due to the fact that rings were a common knowledge and dead birds are not easily found or caught by longlines, fishermen might have harvest ringed birds for economic or preference reasons, although they did not admit such a practice. Interviewees stated that fishermen are now aware that there is no reward for the rings and they have stopped collecting them because the ring material is nowadays plastic, which is not as desirable or attractive as a souvenir.

Discussion

Intentional take of waved albatrosses. The use of marine mammals and birds by coastal communities is common along the entire Peruvian coast (Alfaro-Shigueto and Van Waerebeek 2001, Majluf *et al.* 2002) and seabirds are regularly targeted for direct capture by small-scale vessels. The use of seabirds for human consumption is reported as having occurred in Peru since the Terminal Pleistocene, 10 770 to 10 530 BP (Keefer *et al.* 1998, de France 2005), but also in Chile and Argentina (Lefèvre 1997, Simeone & Navarro, 2002). However, Larco-Hoyle (1939), reported references to a wide range of seabirds consumed by ancient Peruvian coastal communities but with no specific mention of albatrosses. Similarly, Keefer *et al.* (1998) and de France (2005) reported evidence of consumption of seabirds such as cormorants *Phalacrocorax* spp., boobies *Sula* spp., and pelicans *Pelecanus* spp., but not of albatrosses. In contrast to the more occasional captures of albatrosses, a more regular catch and consumption of cormorants 'patillos' *Phalacrocorax bougainvillii* is present along the north-central Peru coast. 'Patillos' are easier to catch and are sold at local markets for 6 Peruvian Soles each (around 2 USD). These birds are said to have a better flavour than 'parajotes' and are hunted on the islands near Salaverry by inshore

small-scale fishermen not included in this survey.

Based upon current information we consider the targeted take of waved albatrosses to be one of the primary human threats to the species while at sea. Although our estimates of 16 to 24 birds per year are minimal, we have to consider that we surveyed only one port on the Peruvian north-central coast. In the south of Peru, environmental conditions are different and Majluf *et al.* (2002) reported a reduced number of albatross landings compared to other seabirds between 1991 and 1998 at the port of San Juan.

Although not acknowledged by the Salaverry offshore fishermen, bird rings could have promoted the capture of waved albatrosses in the past or at least until it was realized that the rings had no economic value. Seabird conservation programs need to be aware of this potential issue and should work to raise awareness in the nearby coastal communities. In the absence of such efforts, research and conservation efforts could inadvertently increase the risk of intentional captures by uninformed local communities where ringed birds are commonly found.

Most fishermen justify the hunting and consumption of albatrosses as a case of 'need'. Considering the rising prices of fuel and food, as well as potential instability in fish prices, the consumption of albatrosses could increase. This could also be the case if other seabirds that are eaten, such as *patillos*, become less abundant (as one interviewed fishermen already acknowledged).

Due to the nature of this threat, waved albatross captures for consumption or ring collection cannot be addressed through gear modifications but rather by targeting the behavior of fishermen. Rather than imposing alternatives that might not be welcomed by local communities, we have identified viable alternatives to promote waved albatross conservation, using a trans-disciplinary approach.

Proposed actions to prevent waved albatrosses harvest and consumption. The role of the local NGO. One action that can lead to further reductions in the consumption of waved albatrosses is to continue working to raise awareness among fishermen, especially skippers who make the decisions when at sea. This awareness-raising needs to be continuous, taking account of the difficult schedules fishermen have, with not all of them on shore at any one time. A positive predisposition to such awareness programs and talks was evident in Salaverry and it would be appropriate to combine

them with other educational topics, such as short training sessions in mechanics, motor repair or other skills.

Fishermen in Salaverry are now used to the presence of NGOs and recognise their commitments to educate and create awareness on environmental issues. For talks targeting fishermen, there is a need to provide further information on the characteristics that make species vulnerable to extinction. As this report found, fishermen think albatrosses are abundant and so cannot fully comprehend the extent of any threat. It is therefore recommended that awareness-raising campaigns aimed at small-scale fishermen occur regularly and provide fishermen with information on species biology, protection and penalties. In addition, providing advice on nutrition and alternative recipes to try at sea may also assist in further reducing the consumption of albatrosses.

The role of the local marine authority. Authorities and fishermen recognised that there is little work on albatross protection by the port authorities in Salaverry. During an interview with an officer from the Capitania, he stated that there is limited work in fisheries on hunting marine species that should not be consumed (turtles, dolphins, seabirds in general). The officer had been in this position since March 2008 and stated that since then has conducted three talks on these issues, with satisfactory attendance. However, the interviews with fishermen and the IMARPE officer revealed no evidence of this having occurred. Also, it was stated that at the moment of departure and arrival of vessels, these officers warn captains of forbidden species captures and associated penalties. However, no such procedure was mentioned during interviews with captains.

A recognized problem is that the position of Capitania officers to Salaverry is only for periods of 6 to 12 months, and with no previous training provided regarding responsibilities, roles or duties. Furthermore, the emphasis of the Department for Environmental issues is on pollution and not on marine fauna protection. According to Peru law, it is illegal to kill and eat dolphins, turtles, cormorants or Humboldt penguins *Spheniscus humboldti*, but the environment officer claimed not to know of the occurrence of albatrosses in the region or of their threatened status. Illegal landings are difficult to detect because there is no permanent monitoring at the wharf, except from the beach sergeant (a fisherman that represents the fishing community with the marine local authorities), who verifies landings in the absence of any other local authority. The Capitania's landings reports for official fishing

statistics are based on what the fishermen declare after returning from their fishing trips and there is no independent verification of what is landed, so misreporting can occur. The lack of training of personnel, the short periods in each locality and the difficulty in detecting landings of albatrosses make it unlikely that local authorities could enforce regulations to protect the albatross population.

The Capitania could promote capacity building among its local officers. And it could encourage more direct observations and control of landings and compliance with legislation on fisheries and the take of albatrosses and other protected species. Currently, this is not a priority responsibility within the Marine Authority Agency and information on the status of species is limited or non-existent.

The role of the scientists (IMARPE). According to the IMARPE officer, this agency has no role in enforcing the protection of threatened species. The role of the officer is to monitor fish landings for research and during 12 years this officer had not recorded the landing of any albatrosses in Salaverry. However, the officer stated that some fishermen do capture albatrosses but the landings of these and other forbidden species occurs between 11 pm and 4 am, hours when he is not working. Unlike the Capitania, IMARPE registers only what is physically observed and not what the fishermen report. Despite this, the majority of fishermen interviewed stated that most of their information on albatross protection came from the IMARPE officer due to his personal commitment and the support of the NGOs work on this issue.

We recommend that the roles of existing organizations, including NGOs, marine authorities, and scientific personnel, who are accepted by the fishermen's community, be strengthened for the benefit of albatross conservation. We acknowledge the need for and continue to work to improve waved albatross conservation and awareness raising efforts. We believe these efforts will strengthen an interest in conservation among offshore fishermen, members of the Marine Authority Board, and IMARPE. This is a need as part of efforts to promote a holistic approach to wildlife conservation in the region.

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The intentional harvest of waved albatrosses *Phoebastria irrorata* by small-scale offshore fishermen from Salaverry port, Peru

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ANNEX I

Semi-structured interviews used at Salaverry Port, Peru

Age: _____ Address: _____

Where do you come from? _____ How long do you work as a fisherman? _____

How much do you earn monthly in average? ___ Is that enough to sustain you and your family?

How big is your family?

Do you have other incomes/other employment?

Tell me about your education?

Do you fish whole year around?

Do you go fishing regularly? How often do you go fishing?

How far from the coast do you fish? How much time it takes to go there?

Which are your target species? Which species do you fish?

Which fishing gear do you use?

Do you have by-catches? Which species? Can you sell them?

Among your by-catches, do you catch?

Marine turtles? How many per fishing trip?

Albatrosses? How many per fishing trip?

What do you do with these by-catches?

How much money do you get by selling them?

Who buy these bycatches? Do you know why?

Have you taste albatross meat? When? How was it cook? Who ate them more often, when? And Why?

Do you think albatross consumption in Salaverry is

Very high High Moderate Medium Low

Recalling the last 4 years, do you think albatross consumption is decreasing or increasing?

For how long you think albatross have been consumed in Salaverry? Why?

Do you think there is a way to stop albatross consumption by fishermen?