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SEABIRD BEST HANDLING AND RELEASE PRACTICE GUIDELINES

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This document was developed as part of the workplan to adopt best handling and release practices for all vulnerable species and as an integral component of the IATTC Seabird Action Plan to assist CPCs in advancing seabird conservation efforts with an eventual update of Resolution C-11-02 that include seabird BHRPs guidelines for all IATTC fisheries.

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SUMMARY

The Ecosystem and Bycatch Working Group (EBWG) has recommended updates to the Inter-American Tropical Tuna Commission (IATTC) seabird conservation measure, endorsing a Seabird Action Plan (SAP) to refine bycatch mitigation strategies and address data gaps. A five-year workplan for Best Handling and Release Practices (BHRP) guidelines for vulnerable species captured in IATTC fisheries endorsed by EBWG2 was also developed, with seabirds prioritized for 2025. While Resolution C-11-02 encourages live release and mitigation of harm, enhanced guidelines are needed to maximize seabird post-release survival. The proposed BHRP guidelines provided herein are informed by expert consultations, workshops, regulations and guidelines from CPC fishery agencies, and other tuna RFMOs, offers science-based recommendations for handling seabirds in IATTC purse seine, longline, and gillnet fisheries. The IATTC staff sought review and comments of these proposed guidelines from subject matter experts, industry representatives and biologists identified by CPCs in response to Memorandum 0601-410. Recommendations across regional CPCs and experts were integrated into this final document along with guidance from the Agreement on

the Conservation of Albatrosses and Petrels (ACAP)). In addition to recommendations for BHRP the document also identified the need for these guidelines to be accompanied by illustrated figures to assist CPCs with training and provide fishers with placards for posting on vessels.

1. BACKGROUND

The second meeting of the Ecosystem and Bycatch Working Group (EBWG) in 2024 made several recommendations to the Scientific Advisory Committee (SAC) and the 102nd Commission to the IATTC regarding seabird conservation and bycatch mitigation. First, it endorsed a Seabird Action Plan (SAP) requiring the IATTC scientific staff to review the bycatch mitigation options currently in place and address several data gaps and concerns regarding seabird catches in the EPO. The overarching goal of the SAP is to support an update to Resolution C-11-02 with scientifically relevant and spatially significant bycatch mitigation options. Concurrently, the scientific staff also presented a workplan towards the development of best handling and release practice (BHRP) guidelines for all vulnerable taxa, including seabirds, over the next five years (EB-02-03). The BHRP workplan included a framework for BHRP guideline adoption along with a timeline for each taxa, where seabirds were planned for 2025 aligning with the timeline of the SAP and the potential inclusion of BHRP guidelines in an updated Resolution.

The use of BHRP are widely viewed as simple straightforward options for mitigating mortality to incidental vulnerable species by making small changes to fisher behavior and tools when handling bycatch species and by educating fleets on which practices are harmful and ought to be avoided. At present, the seabird conservation Resolution C-11-02 contains content relating to the use of BHRP for ensuring survival of seabirds bycaught in longline fisheries (paragraph 9), which states:

CPCs are encouraged to adopt measures aimed at ensuring that seabirds captured alive during longline fishing operations are released alive and in the best condition possible, and that, whenever possible, hooks are removed without jeopardizing the life of the seabird.

But the Resolution does not identify the practices that help to release them in the 'best condition possible' to reduce mortality nor does it provide guidance on hook removal. The draft BHRP guidelines presented in this document were developed using the strategic framework established in the workplan for BHRP development (EB-02-03) and following the advice from EBWG2 and SAC15 to ensure CPCs and industry personnel are actively engaged in the development of BHRP. This process began with a data review of all known information on post release survivorship across seabird species and fisheries (EB-01-01). Then proceeded with a request for BHRP guidelines, regulations and the identification of subject matter experts from CPCs and non-members (Memorandum 0601-410) in November 2024. In January of 2025 two workshops were conducted soliciting advice from experts and industry personnel, during the Inter-sessional meeting of the EBWG on the IATTC staff's progress towards the SAP and the annual IATTC seminar for purse seine industry personnel (skipper workshops). Following the guidance received during both workshops in January 2025, draft seabird BHRP guidelines for all fisheries under the IATTC purview were developed for circulation and comment prior to the EBWG-3. The draft was circulated to those subject matter experts that were identified by the CPCs in response to Memorandum 0601-410, seabird biologists and other experts in the field of seabird bycatch and biology. Comments and revisions were integrated into the present document and the resulting BHRP guideline recommendations will be presented to the third meeting of the EBWG for CPCs to consider including in an updated Resolution for seabirds.

1.1. Seabird Survival

Globally, gillnetting and industrial longlines are thought to have the highest impacts and bycatch rates of seabirds (Anderson et al. 2011; Žydelis et al., 2013; Phillips and Wood 2020), while interactions in IATTC

tuna purse seine fisheries are perceived to be negligible (see reviews in EB-01-01; Baker and Hamilton, 2016). Data on seabird bycatch from some Pacific Ocean longline fisheries shows up to 75% of seabirds are alive when hauled back (Gilman et al. 2014), highlighting the importance of using BHRP in longline fisheries.

Longline crew members often release live seabirds by cutting the line, leaving the hook embedded in the animal along with varying lengths and compositions of trailing gear. This trailing gear may have a variety of sublethal effects, but direct measurement of PRS rates has not been conducted (Wilson et al 2014). However, some data from several regions suggest that a portion of released animals do survive post-release (EB-01-01). For example, observers using the NOAA BHRP guidelines in Hawaii-based longline fisheries targeting tuna and swordfish reported that 13% of banded albatross captured and released were later observed at nesting sites (NOAA Fisheries unpublished data).

The Pacific Islands Regional Observer Program also reported that observers often see seabirds captured and released in good condition resuming normal foraging behavior shortly after release using the NOAA Seabird Handling Guidelines (NOAA Fisheries pers com), which involve removing the hook and allowing seabirds to recover on deck until their feathers have dried prior to release (ACAP 2024, NOAA 2022).

A long-term bird banding program from Bird Island, South Georgia found that most banded seabird bycatch were alive when brought to the vessel in pelagic and demersal longline fisheries, and that interactions were geographically widespread involving vessels from multiple flag states operating in the high seas and near the islands (Phillips and Wood, 2020). During the 26-year study at the bird colony, several large seabirds were observed hooked and or entangled with longline gear. However, the study found that survival to nesting was significantly lower than expected, raising concerns about the population-level effects of seabirds released with trailing gear (Phillips and Wood, 2020). Similarly, a study using data from a seabird rehabilitation center in Portugal from 2008 to 2018 found that bycatch and entanglement in fishing gear accounted for 42.5% of all admissions, and only 38% of seabirds with evidence of fishery interactions survived to be re-released (Costa et al. 2021). Taken together these data suggest that removing as much fishing gear as possible, without causing further injury, improves the post release survival probability for seabirds interacting with longline gear, thereby reducing population impacts from fishing. Ensuring that fishers are well informed of the BHRP guidelines, carry the tools necessary and also made aware of those practices that must be avoided will help to reduce the impacts of fishing on seabird populations. The following sections were developed with this mandate in mind and are meant to empower fishers with the information necessary for training and awareness to utilize best practices for handling and releasing seabirds incidentally captured in fisheries.

1.2. Avian flu pathogenicity and risks to human health

Due to concerns about human susceptibility to HPAIV H5Nx (Avian flu) infection from handling infected seabirds, the Agreement on the Conservation of Albatrosses and Petrels (ACAP) has provided advice on the risks of contracting the virus and strategies for mitigating infection and the spread of the virus. Health authorities, including the Centers for Disease Control and Prevention (CDC), assess that the immediate risk to the public from H5N1 remains low. However, individuals with occupational or recreational exposure to infected animals are at higher risk, especially if appropriate protective measures are not utilized. As the virus continues to adapt in terms of transmission dynamics and the geographic spread, it is essential that management strategies remain flexible and responsive to the latest developments (Serafini et al. 2024). To this end, please refer to ACAP's comprehensive epidemiological insights here (https://acap.aq/resources/disease-threats/avian-flu), where their guidance is regularly updated in alignment with emerging evidence, ensuring that interventions are continually updated and optimized to mitigate impacts on human health, wildlife populations and ecosystems (Serafini et al. 2024).

ACAP General preventive measures for crew includes:

i. Wearing gloves and a mask when handling seabirds

    a. dead animals should be put overboard. For CPCs that require fishers to keep bycaught carcasses guidance on proper storage needs to be sought from local officials.

ii. Washing hands with soap and water after handling dead or live birds

iii. Wash bird guano off vessel surfaces with a lot of seawater. Any equipment in contact with the birds and their guano needs to be disinfected.

2. DRAFT BEST HANDLING AND RELEASE PRACTICE GUIDELINES FOR SEABIRDS

Multiple studies have demonstrated that some handling practices can lead to injury and mortality while other practices are non-injurious with measurable improvements to post release survival rates across taxa (e.g., Gianuca et al. 2020). For vulnerable seabird species, often endangered, ensuring that poor handling practices are avoided is increasingly imperative as some populations continue to decline due to fishing related mortalities and other impacts. According to the BHRP framework established in EB-02-03 and endorsed by the EBWG-2, harmful practices should be identified and banned within the Resolution text. Thus, the draft BHRP guidelines provided below are formulated to identify the best practice in the 'Do' subsections and harmful practices in a 'Do not' subsection.

Several CPCs and other subject matter experts suggested that any mitigation methods, including the BHRP guidelines adopted by the IATTC, should be aligned with the advice of the ACAP. The ACAP provides bycatch mitigation measure reviews and advice for trawl fisheries, demersal longline fisheries and pelagic longline fisheries (ACAP, 2024). The ACAP also provides guidelines for hook removal in longline fisheries along with infographics for the recommended techniques (ACAP, 2024). Seabird safe rescue and handling onboard purse seine fisheries have also recently been developed (Suazo et al. 2024). To this end the staff, integrated the ACAP advice for hook removal resuscitation and release into the draft BHRP guidelines for longline fisheries. The ACAP does not provide detailed best handling and release practice advice beyond the hook removal guidelines for longline fisheries, so the recommendations drafted below have been adopted from the content provided by CPCs in response to Memorandum 0601-410 and from the BHRP guidance available from the International Seafood Sustainability Foundation (ISSF), and other external experts and agencies.

2.1. For All Fisheries

In addition to incidental captures seabirds may also seek refuge on any vessel. They may be exhausted during storms, or they may be attracted by the lights. Allow seabirds to recover onboard and ensure they are kept away from fishing gear where they may become injured or come into contact with grease or oil.

Seabirds stay waterproof thanks to the intricate layering of their feathers, particularly on their backs, which causes water to bead and roll off. Beneath this outer layer, a soft layer of down feathers insulates the bird by trapping warm air close to its body. This trapped air also aids in buoyancy. To preserve both warmth and flotation, seabirds must regularly groom and realign their feathers. However, when a bird is exposed to grease or oil, this feather structure becomes compromised. The oil mats the feathers, allowing water to reach the bird's skin, making it difficult to maintain body heat or stay afloat putting the bird at risk of hypothermia and drowning. Furthermore, seabirds cannot fly when they are waterlogged, they must be perfectly dry and waterproof prior to release or it will not survive. Even a small amount of oil—no larger than a coin—can be fatal. For this reason, it is very important that seabirds are kept clear of any grease or oil on deck (adapted from birdrescue.org).

Seabirds can be quite large and may bite, so personal protective equipment (PPE) is recommended to not

only reduce the risk of contracting the avian flu but also to reduce the risk of injury.

Recommended PPE includes, but is not limited to; gloves, masks (to prevent influenza infection), eye protection, long sleeves composed of protective materials, and the help of a second crewmember.

Do:

- Use PPE when handling seabirds.
- Gently fold wings or flippers (penguins) towards the body to prevent injury during handling and maneuvering seabirds.
- Hold seabirds against your body near the waist to keep them safe and their beaks away from your face.
- Keep the bird's bill away from your face to avoid injury.
- Allow birds to remain on the vessel to recover and follow the resuscitation and release guidelines below.

Do not:

- Restrict the bill or legs with tape, rope or bands.
- Cover the nostrils of seabird species like albatrosses, petrels, and shearwaters (allowing it to breath).
- Completely close the bill in seabirds without nostrils like pelicans, boobies, and cormorants (allow it to breath through an open mouth).
- Lift or handle seabirds by the wings or flippers (penguins) as this can break delicate bones or dislocate joints.
- Intentionally maim or disfigure the bill or any other body part of the seabird.

Resuscitation

Do:

- Remove all or as much entangling fishing gear as possible.
- If birds are wet and exhausted, place them in a box with airholes for ventilation or a clean, dry, safe area to recover.
- Make sure the bird does not come into contact with oil or grease on deck. Seabirds cannot fly if their wings become waterlogged (exacerbated by contact with oils).
- Follow the release guidelines below, ensuing they meet the 'release criteria' prior to release.

Do not:

- Try to feed them or give them water during resuscitation.

Release

A seabird can be released to sea surface when the following criteria are met:

i. Feathers are dry. (Approximately 1/2 to 4 hours), and;

ii. Bird is alert and head is erect, and;

iii. Breathes without difficulty and/or noise, and;

iv. Wings can flap and retract onto back, and;

v. Stands on both feet with toes forward.

If any of the above criteria are not met, allow the seabird additional time to recover on deck by temporarily placing them in a ventilated box with airholes or a clean, dry, safe area. Assess release criteria and seabird condition again after 4 hours to make sure it is ready for release. If they are not ready for release allow additional time on deck.

Do:

- Slow or stop vessel for the release.
- Set the bird on the deck railing, facing against the prevailing wind direction and when wings open, allow it to fly off.
- If it does not fly off on its own, gently lower it over the side of the vessel by hand if you can reach the water surface or with a net if you cannot. For vessels with a very high freeboard (i.e. > 5 m, such as on purse seine vessels) release birds using the small boats (skiff or speedboat), while they are in the water.

For dead, moribund or seriously injured seabirds, follow your local guidelines for transport to a rehabilitation facility or for proper storage or discard.

Tools required

FIGURE 1. Image depicts an example of a metal cage protective device (red arrow) built by fishers on a purse seine vessel to prevent seabirds, taking refuge on the vessel, from getting caught and injured on one of the blocks in the working lines.

- Clean towel or blanket
- Line cutters
- Ventilated box or bin
- Net with a handle equal in length to the distance the waterline from the deck (longline & gillnet)
- Bolt cutters (longline only)
- Pliers (longline only)

2.2. Purse Seine Fisheries

The presence of seabirds aboard purse seine fishing vessels can result from interactions with fishing infrastructure or from bird strikes onto the deck (Suazo et al. 2024). In the case of interactions with the purse seine net during hauling, seabirds can become wet from contact and rubbing against the target catch, which disrupts their plumage architecture and thus waterproofing and may require time on the vessel for rest and recovery (Suazo et al. 2024). During a recent workshop with EPO purse seine industry personnel, fishers were

asked to contribute their knowledge to developing BHRP guidelines for seabird interactions on their vessels. Although it is widely acknowledged that seabird bycatch is extremely rare in tuna purse seine fisheries off coastal waters we did receive some feedback regarding seabird interactions. Some fishers highlighted that seabirds taking refuge on their vessels will perch on working lines and have, on rare occassions, been injured in the blocks and pulleys. Figure 1 shows an example of a device used by some fishermen, on a voluntary basis on their vessels, to prevent seabird injuries from getting caught in working lines.

The following guidance is for seabirds that may (on a rare occasion) become entangled in the purse seine net. For seabirds simply seeking refuge on the vessel follow the Resuscitation guidelines in the 'All Fisheries' section (2.1).

For seabirds entangled in the purse seine net stop the net roll and allow the crew to disentangle the animal from the net (by cutting it if necessary). Ensure the seabird is not passed through the power block.

2.2.1. For seabirds that have become entangled in the net

Do:

- Stop the net roll and allow the crew to disentangle the animal or cut the net away from the seabird.
- Follow the resuscitation and release guidelines in section 2.1

Do not:

- Allow the seabird to be rolled through the power block.

FIGURE 1. Image depicts an example of a protective device (red arrow) built by fishers on a purse seine vessel to prevent seabirds, taking refuge on the vessel, from getting caught and injured in the working lines.

2.3.Longline Fisheries

If a live seabird is discovered on the line, release the tension on the mainline by slowing the vessel and the winch speed (if applicable) to a stop to reduce drag on the line. Ease the bird to the side of the vessel by steadily bringing in the line. Do not make sudden jerks on the line as this may cause further injury.

2.3.1. Bring seabird aboard

Do:

- Bring it onboard the vessel using a net to support its weight.
- Carefully fold the wings into the natural position on the bird's body.
- Wrap the bird in a towel/blanket (not too tightly).
- Cover the bird's eyes and head with a loose cloth to help calm it, making sure to keep nostrils exposed. For gannets, which do not have nostrils, allow the bill to stay slightly open.
- For crew safety, hold the bill while assessing if

gear removal is possible. If the bird vomits, loosen grip on bill so the bird does not suffocate.

Do not:

- Pull the bird up on the line it is captured or entangled in, as this may cause further injury.
- Do not handle birds by wingtips as it can break the wing.

2.3.2. Hook Removal

Adapted from ACAP Advice on hook removal (2019). See the illustrated guidelines in Appendix 1.

Do:

2.3.2.a *If the hook is visible*

- With one crew member holding the bird, another crew member can detach the fishing gear from the animal.
- Use pliers or bolt cutters to cut through the hook shaft and pull hook out of the bird. Flatten the barbs with pliers or cut off barbs with bolt cutters, if it is necessary to pull the hook through tissue to remove it.

2.3.2.b *If the hook is swallowed and removal is possible*

- With one crew member holding the bird, another crew member can look for the hook and if they can find the hook position in the neck and it is possible, push the hook tip through the skin and remove it.

2.3.2.c *If hook removal is not possible*

Either because removing the hook will cause further damage to the bird or the hook is too deeply ingested,

- Cut the line as close to the hook as possible and leave the hook in the bird.
- Untangle and cut away any line caught around the bird's wings, body or legs.

Do not:

- Extract the hook backwards.
- Do not try and *pull* or rip the hook out from inside the bird.

2.4. For gillnet fisheries

For seabirds that become entangled in gillnet fishing gear every effort must be made to disentangle the seabird immediately.

Do:

- Bring the seabird onboard ensuring that the seabird is not subject to the weight of the net and the catch by supporting the weight of the fishing gear under the area where the seabird is entangled.
- Carefully disentangle and or cut the netting away from the seabird.
- Follow the resuscitation and release guidelines in section 2.1.

3. CONCLUSIONS AND RECOMMENDATIONS

Effective mitigation of mortality in seabird bycatch across fisheries requires not only evidence-based technical solutions, but also practical implementation strategies that account for safety and other operational realities at sea, by fishery. These BHRP guidelines have benefitted from the reviews and helpful and constructive comments provided by CPCs, biologists, seabird specialists, industry personnel, ACAP and other subject matter experts. Because it is well-documented that handling and releasing practices are very important to the survival outcomes for incidentally captured seabirds, and this document provides clear guidance for those practices that should be used and those that need to be avoided, the IATTC staff believes that these guidelines, as intended by the IATTC Seabird Action Plan, should be integrated as required practices and tools into an eventual update or amendment of the existing Seabird Resolution (C-11-02).

Consider updating Resolution C-11-02 with the inclusion of the BHRP guidelines outlined herein (EB-03-06) for all IATTC fisheries.

Throughout the review process multiple subject matter experts noted that the guidelines outlined above would be more useful if accompanied by illustrated guidelines and training (see examples of illustrations in Annex 1 on hook removal and Suazo et al. (2024) for holding and handling illustrations across seabird species). Effectively identifying funding needs for generating infographics and outreach materials and training efforts are key for continuous capacity building of the fleet and authorized personnel. Specifically, resources are needed to develop clear, accessible educational materials tailored to diverse audiences, including infographics, posters, and placards for display on vessels and in port facilities, as well as the associated training activities. Such visual tools and training efforts play a key role in reinforcing the need to use best handling and releasing practices in operational settings.

In this context, the IATTC staff believes that support to create and deliver standardized “train-the-trainer” curricula is desirable. These programs can empower regional trainers, fisheries observers, and enforcement personnel with the knowledge and tools to ensure proper training on seabird BHRP to fishing crews and vessel operators. Organizing targeted training workshops, particularly in collaboration with local fisheries stakeholders, further enhances capacity building and promotes ownership and understanding of existing conservation measures. Sustained investment in these outreach and capacity-building components is critical to achieving long-term reductions in seabird bycatch and ensuring success at scale (unfunded projects Q.3a). Furthermore, these efforts are critical for the successful implementation of BHRPs, building awareness, fostering cooperation, and enabling effective, on-the-water application of agreed BHRP. Therefore, the IATTC staff recommends that:

The Commission ensures the necessary funding to support capacity building, the development of training materials and a range of education and outreach activities (unfunded project Q.3a).

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6. ANNEX

6.1. Additional resources

- A video about seabird dehooking is available from ISSF:

https://www.youtube.com/watch?v=9QSd3XAn05A

- ACAP Hook Removal Guidelines

Espanol:

https://acap.aq/es/resources/captura-incidental/extraccion-de-anzuelos-en-aves-marinas/3540-acap-extraccion-de-anzuelos-en-aves-marinas-a3-print/file

English:

https://acap.aq/resources/bycatch-mitigation/hook-removal-from-seabirds-guide

- Handling by seabird species infographics:

  Suazo, C.G., Frere E.,, Rouxel, Y., & Yates O. (2024). Guidelines for the safe seabird rescue, handling, and recovery onboard purse seine fisheries. Twelfth Meeting of the Seabird Bycatch Working Group (SBWG12 Inf 11). Agreement on the Conservation of Albatrosses and Petrels (ACAP). Lima, Peru

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HOOK REMOVAL FROM SEABIRDS

Agreement on the Conservation of Albatrosses and Petrels

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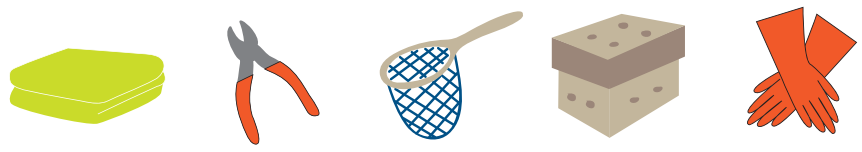
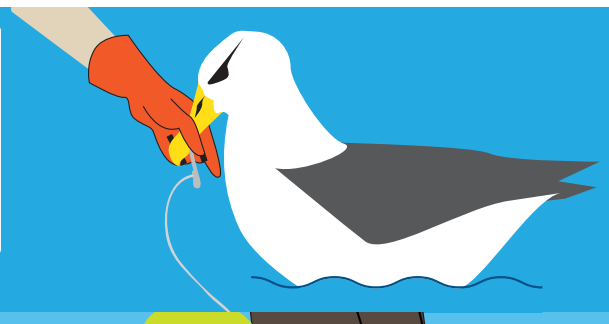
ACAP

Release Kit



Towel / Blanket | Pliers / Bolt cutters | Net | Box / Bin | Gloves

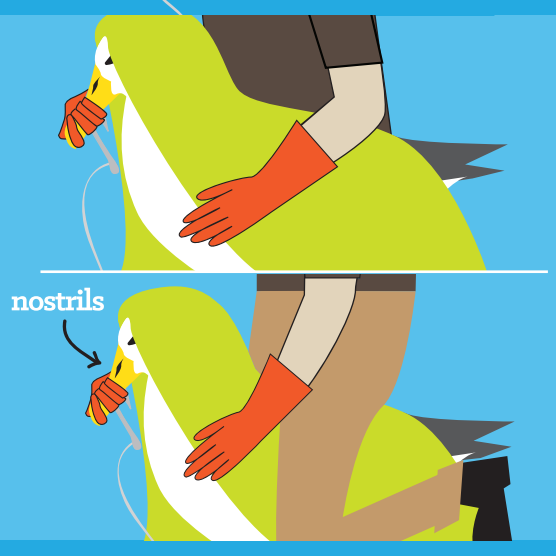
1



Bring bird aboard

If possible, slow or stop hauling and slow or stop vessel to release line tension. If practical, use a landing net to lift small birds on board, otherwise retrieve the bird on the line as safely and quickly as possible. When within reach, grab it by the bill. Never grab the wing.

2



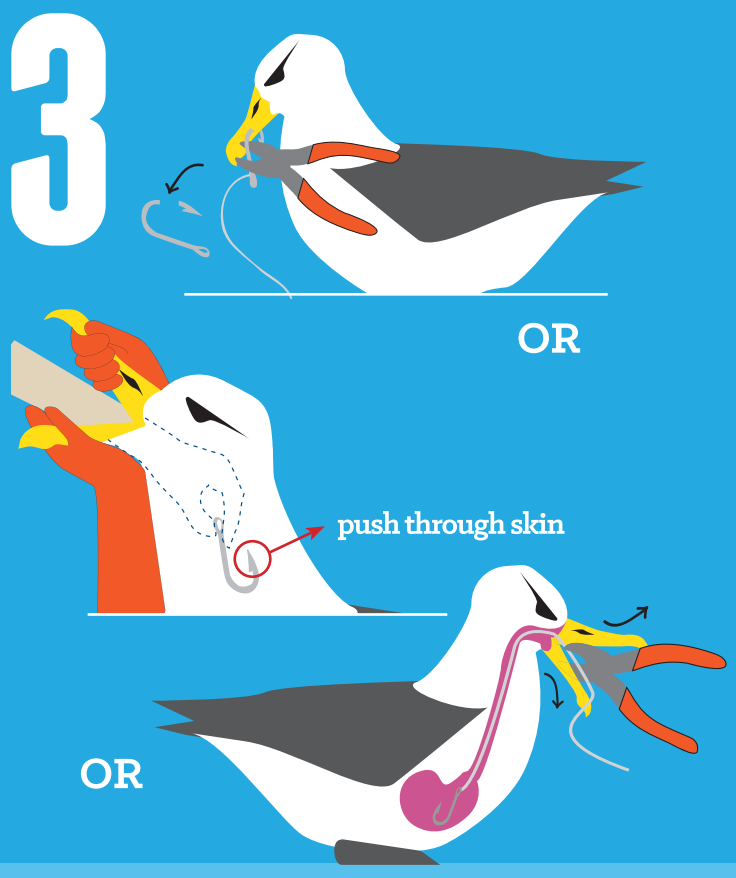
Restrain bird and hold securely

Carefully fold the wings into the bird's body. Wrap the bird in a towel/blanket (not too tightly). Make sure the bird doesn't come into contact with oil on deck.

For large birds that you cannot manage under your arm, restrain the bird securely between your legs without squeezing. Hold the bill gently shut but do not cover the nostrils.

If the bird vomits, loosen hold on bill so the bird does not suffocate.

3



Remove the hook

If the hook is visible

Use pliers (or bolt cutters for large hooks) to cut through the hook shaft (or to flatten the barb). Pull the hook back out of the bird.

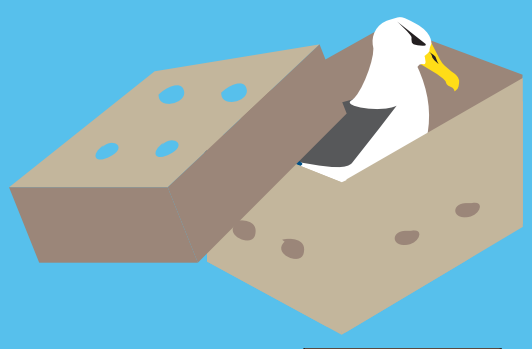
If the hook is swallowed and removal is possible

A second person can find the hook position externally by feeling along the neck or internally by following the line to the hook. Gently force the tip of the hook so that it bulges under the skin of the bird (for large birds, this may be easier if you reach down the bird's throat and hold the hook). If you can get a good grip on the hook, push the tip of the hook through the skin and remove.
Never try to extract the hook backwards.

If hook removal is not possible

Either because removing the hook will cause further damage to the bird or the hook is too deeply ingested, cut the line as close to the hook as possible and leave the hook in the bird.

4



If the bird is exhausted or waterlogged

If possible, place in a ventilated box or bin in a quiet, dry, shaded place to recover for an hour or two. Otherwise, contain bird in a quiet dry area, away from oil. The bird is ready for release when the feathers are dry, bird is alert and able to stand.

5

Release the bird

If the bird is strong and mostly dry, release it onto the water (but clear of the vessel) immediately after hook removal. Having again first grabbed the bill, lift and slowly lower the bird onto the water letting go of the bill last.
Where birds cannot be lowered directly onto water, lift and release the bird from the side of the vessel into the wind letting go of the bill at the same time. The bird may remain on the water for some time after release.

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