LIFE PanPuffinus!

SEABIRD BYCATCH MITIGATION TOOLKIT

LIFE PANPUFFINUS! PROJECT 2026

Co-funded by the European Union

NATURA 2000

The LIFE PanPuffinus! project is coordinated by BirdLife Malta in partnership with Aquatic Resources Malta (ARM), Hellenic Ornithological Society (HOS), Natural Environment & Climate Change Agency (NECCA), Sociedad Española de Ornitología (SEO/BirdLife), Ligue pour la Protection des Oiseaux (LPO) and Sociedade Portuguesa para o Estudo das Aves (SPEA).

The project is co-financed by the LIFE Programme of the European Union, which supports environmental and climate action initiatives aimed at protecting Europe's biodiversity and natural habitats, under contract number LIFE19 NAT/MT/000982.

Project co-financing by: Malta's Ministry for Agriculture, Fisheries, Food and Animal Rights, the A. G. Leventis Foundation, The Green Fund, French Biodiversity Agency (OFB), Food4good, MAVA, Sathoan, Fondation Nature et Découverte, Oceanário de Lisboa and Fundo Ambiental.

Project duration:
September 2020 – February 2026.

Editors:
Paulo Lago, Ana Almeida, Flávia Carvalho, Martin Austad, Justine Borg, Danae Portolou, Niki Pardalou, Alexandra Caron-Strehlow, Chloé Faure, Daniel Rey, Jose Manuel Arcos, Manya Russo

Photos:
Pep Arcos, Justine Borg, Flávia Carvalho, Inês Casinhas, Luis Ferreira, Julie Grolleau, Paulo Lago, Rafaela Pestana, Daniel Rey, SEO/BirdLife, SPEA.

Citation:
Lago P., Almeida A., Carvalho F., Austad, M., Borg J., Portolou, D., Pardalou, N., Caron-Strehlow A., Faure C., Rey D., Arcos, J.M., Russo M. (2026) Seabird bycatch mitigation toolkit. LIFE PanPuffinus! project LIFE19 NAT/MT/000982.

Graphic design:
Rita Mendes

LIFE PANPUFFINUS! WEBISTE:

LIFE PanPuffinus!

SEABIRD BYCATCH MITIGATION TOOLKIT

ACTION C.1: Creation and implementation of a seabird bycatch mitigation programme
LIFE PanPuffinus! project LIFE19 NAT/MT/000982.

Improving the conservation status of endemic Balearic and Yelkouan shearwaters by ensuring safe land and sea

INTRODUCTION

LIFE PanPuffinus!

PROJECT OBJECTIVE

The LIFE PanPuffinus! project addresses the urgent conservation needs of two threatened and endemic Mediterranean seabird species, the Yelkouan and Balearic Shearwaters, for which bycatch in fishing gear represents the main threat at sea.
Through cross-border collaboration between Malta, Greece, Spain, France, and Portugal, the project has worked closely with fishers over five years to collect seabird bycatch data and test simple, effective ways to reduce it.

MITIGATION MEASURE

A mitigation measure is a modification to fishing gear or fishing practices that helps reduce the risk of seabird bycatch. Since each fishery and gear type has its own characteristics and overlaps with different seabird species, measures must be carefully tailored to each case. In most situations, a combination of several mitigation measures provides the most effective reduction of seabird bycatch.

According to the Agreement on the Conservation of Albatrosses and Petrels (ACAP), effective mitigation measures should:

1. Significantly reduce seabird bycatch.
2. Have clear and proven specifications and minimum performance standards for their use.
3. Be practical, safe, cost-effective, and widely available.
4. Maintain catch rates of target species.
5. Not increase the bycatch of other animals such as sea turtles, sharks and rays, or marine mammals.
6. Have minimum performance standards and methods of ensuring compliance.

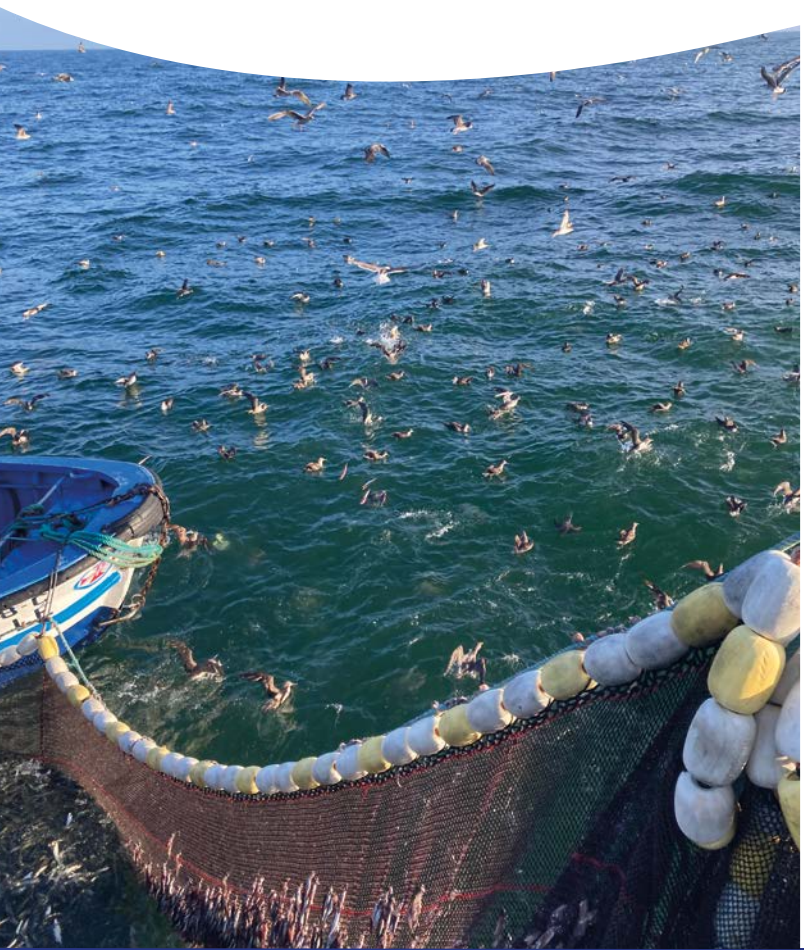
INTRODUCTION

MITIGATION MEASURES TOOLKIT

We present a toolkit composed of independent factsheets offering a wide range of options, each tailored to the gear and fishing practices of the project's longline, set-net and purse-seine fisheries, which are largely made up of small- and medium-scale artisanal fleets operating in the Mediterranean and Portuguese waters.

Each factsheet is dedicated to one mitigation measure for a specific type of fishing gear that was successfully tested during the project. It provides fishers with all the information needed to apply the measure effectively, including where it was tested and could be used, the seabird bycatch problem it addresses, how it works, and recommendations for its use. The factsheets also describe the main advantages, costs, and possible issues with troubleshooting advice, and explain how each measure can be combined with other measures for better results.

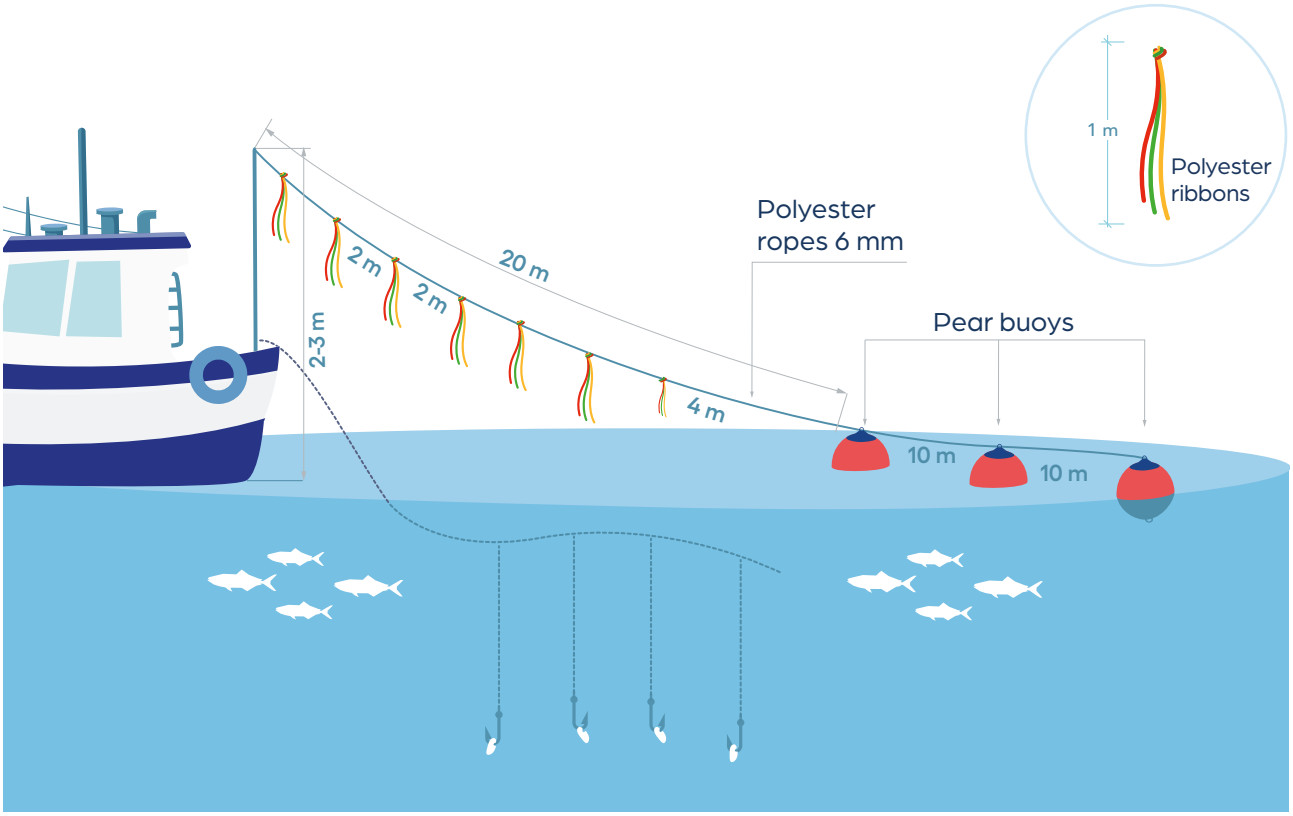
Once a mitigation measure is implemented, it is crucial to continue collaborating to record data on fishing effort, seabird bycatch, and the measure's effectiveness, as this information helps evaluate its performance, adaptability to different countries and fisheries, and support widespread implementation that contributes to the conservation of Balearic and Yelkouan shearwaters.



BIRD SCARING LINES

DEMERSAL LONGLINES (SETTING)

LIFE PanPuffinus!



HOW DOES THE MEASURE WORK?

Bird scaring lines, also called streamer lines or tori lines, consist of a section of a minimum of 20m polyester rope with several bright polyester ribbons hanging every 2m, followed by a 20m section with up to 3 buoys (around 600mm diameter) with a 10m distance between them. The rope is attached to either a vessel structure or a pole in the stern.

This mitigation measure scares the birds from the setting area extending up to 40m from the stern, reducing the probability of attacks to baited hooks and therefore reducing the risk of seabirds getting hooked.

FISHERY

A seabird bycatch mitigation measure used all over the world in longline fisheries, and here adapted to the small- and medium-scale demersal longline fisheries that usually operate in the Mediterranean. Longlines are set at different depths in the water column depending on whether it is a bottom longline, a floated demersal longline, or a semi pelagic set longline.

This mitigation measure was tested in Spain, but it could be applied anywhere in fisheries where seabird bycatch occurs in longlines during setting operations.

PROBLEM TO ADDRESS

Seabirds are attracted to bait during longline setting and can get hooked on hooks or entangled in the lines. Bycatch occurs during the short period between hook release from the vessel and bait sinking below seabird diving ranges. Most bycaught birds die from drowning as they are pulled down with the line. A few can be released alive during setting, mainly in small vessels which can pause the setting process for a while.

All Mediterranean shearwater species (Balearic, Yelkouan and Scopoli's) are affected, as well as gulls including the Audouin's Gull.

BIRD SCARING LINES
DEMERSAL LONGLINES (SETTING)

RECOMMENDATIONS

1. Attach bird scaring lines before setting starts, or as soon as a bird follows the vessel.
2. Use the highest attachment point possible (at least 2–3m from sea surface).
3. Use a separate attachment point from the setting side in stern (if possible).
4. Test the rope distance, number and shape of buoys in each vessel. Buoys covered with a net produce more drag.
5. Set between approx. 3–5 knots and keep constant speed.

ADVANTAGES

- Easy and quick to deploy and retrieve.
- Takes limited space in the vessel.
- Low probability of getting entangled with the fishing line.
- No impact on catches of target species or other groups.
- **Low investment:** it only needs materials available in the vessel or port (ropes, buoys, swivel, carabines, ribbons).

PROBLEMS AND TROUBLESHOOTING

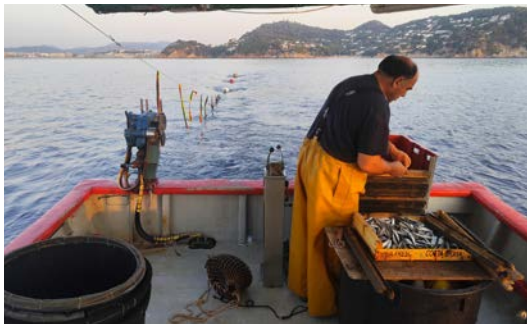
- Possible entanglement with longline with strong wind or currents. To avoid it, follow the recommendations above.
- If bait is still accessible to seabirds behind the last buoy, try with a longer bird scaring line or combine it with line weighting.
- If the vessel has limited space on board for buoys, the number of buoys can be reduced if combined with line weighting.

COMBINATION OF MEASURES

In general, no mitigation measure alone could eliminate all seabird by-catch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

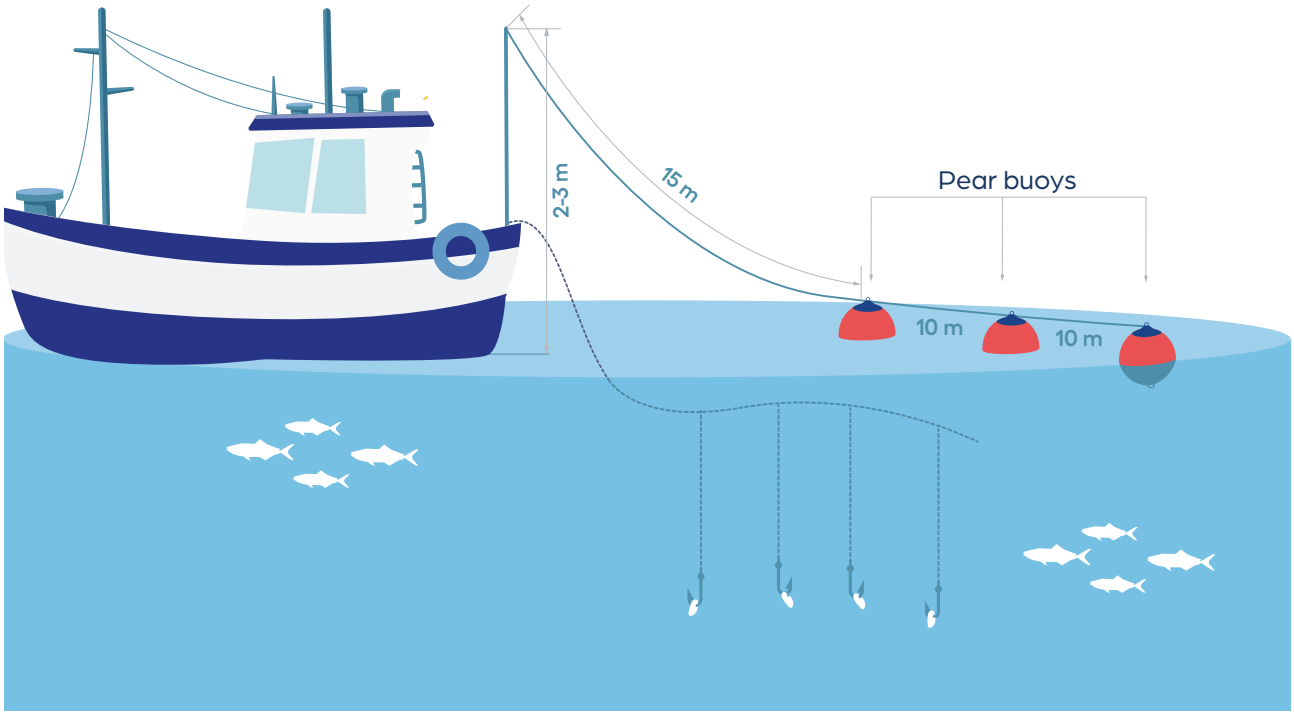
Setting lines at night is the best way to reduce seabird bycatch.

When setting at sunset, sunrise, in bright moonlight, or during the day, using bird-scaring lines together with line weighting helps keep seabirds away from the hooks until they sink out of reach.



TOWED BUOY
DEMERSAL LONGLINES (SETTING)

LIFE PanPuffinus!



HOW DOES THE MEASURE WORK?

This mitigation measure consists of several buoys attached by a rope, either to a vessel structure or a pole in the stern. The ideal configuration consists of a section of 15 m of rope followed by 3 buoys (around 600mm diameter) with a distance of 10m from each other, covering a total of 35 m.

The towed buoys and the rope scare the birds from the setting area extending up to 35m from the stern, reducing the probability of attacks to baited hooks and therefore reducing the risk of seabirds getting hooked.

FISHERY

A seabird bycatch mitigation measure to be implemented in demersal longline fisheries during setting, adapted to small-scale fisheries that usually operate in the Mediterranean as an alternative to bird scaring lines. Longlines are set at different depths in the water column depending on whether it is a bottom longline, a floated demersal longline, or a semi pelagic set longline.

Towed buoys are already used by some fishers in France, Greece, Malta and Spain and was tested in Spain within the scope of LIFE PanPuffinus! project. Further tests are needed for pelagic longlines.

PROBLEM TO ADDRESS

Seabirds are attracted to bait during longline setting and can get hooked on hooks or entangled in the lines. Bycatch occurs during the short period between hook release from the vessel and bait sinking below seabird diving ranges. Most bycaught birds die from drowning as they are pulled down with the line. A few can be released alive during setting, mainly in small vessels which can pause the setting process for a while.

All Mediterranean shearwater species (Balearic, Yelkouan and Scopoli's) are affected, as well as gulls including the Audouin's Gull.

TOWED BUOY
DEMERSAL LONGLINES (SETTING)

RECOMMENDATIONS

1. Attach buoys before starting setting operation, or as soon as a bird follows the ship.
2. Use the highest attachment point possible (at least 2–3 m from sea surface).
3. Use a separate attachment point from the setting side in stern (if possible).
4. Test the rope distance, number and shape of buoys in each vessel. Buoys covered with a net produce more drag.
5. Set between approx. 3–5 knots and keep constant speed.

ADVANTAGES

- Easy and quick to deploy and retrieve.
- No impact on catches of target species or other groups.
- Low probability of getting entangled with fishing line during setting.
- Takes very limited space in the vessel.
- **Low investment:** It only needs materials available in the vessel or port (ropes, buoys, swivel, carabines).

PROBLEMS AND TROUBLESHOOTING

- Possible entanglement with longline with strong wind or currents. To avoid it, follow the recommendations above.
- If bait is still accessible to seabirds behind the last buoy, try with a longer rope or combine it with line weighting.
- If the vessel has limited space on board for buoys, the number of buoys can be reduced if combined with line weighting.

COMBINATION OF MEASURES

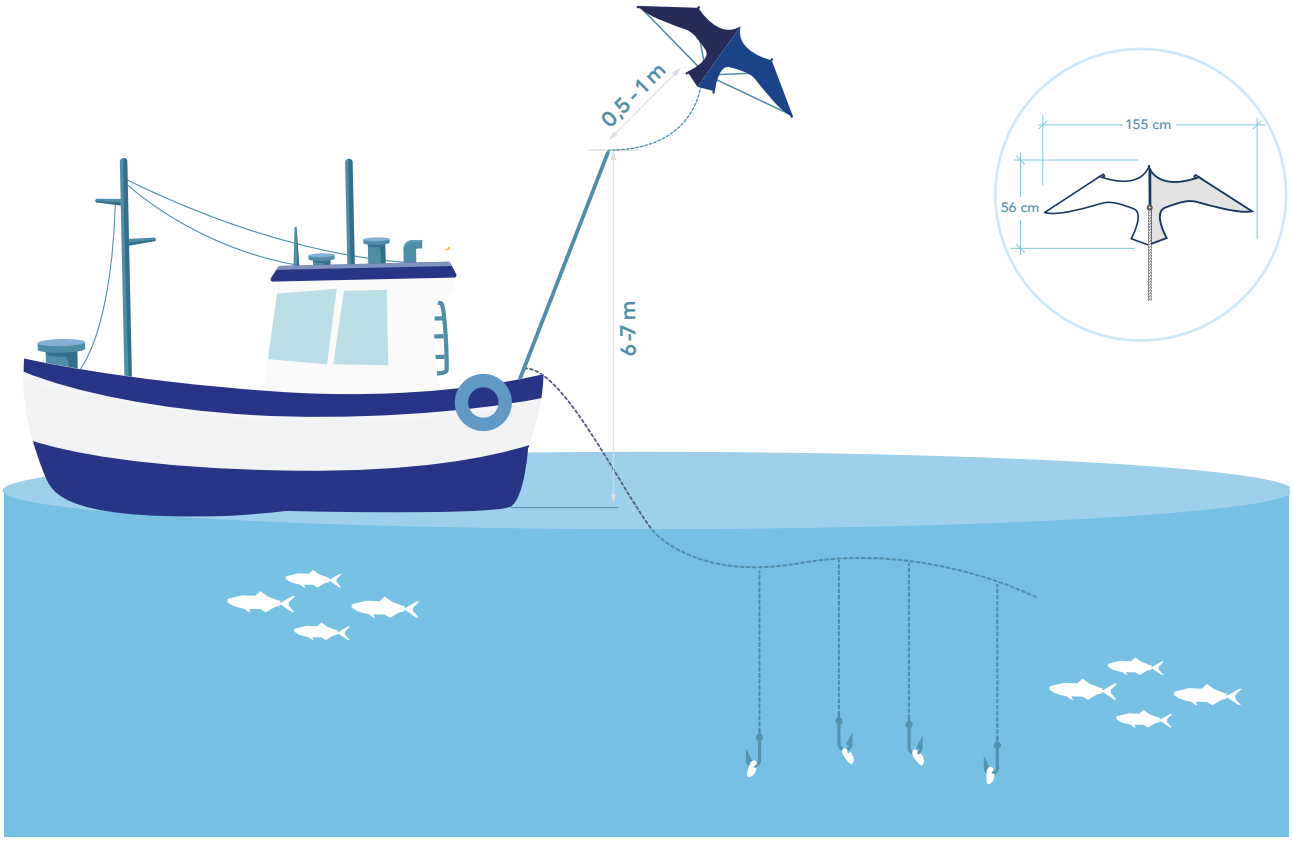
In general, no mitigation measure alone could eliminate all seabird by-catch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

Setting lines at night is the best way to reduce seabird bycatch.

When setting at sunset, sunrise, in bright moonlight, or during the day, using towed buoys together with line weighting helps keep seabirds away from the hooks until they sink out of reach.

SCARYBIRD KITE
LONGLINES (SETTING)

LIFE PanPuffinus!



HOW DOES THE MEASURE WORK?

The scarybird kite simulates the presence of a predator and aims to drive birds away from the vicinity of the vessel. The kite is attached to a telescopic pole at the stern of the vessel during setting. It is made from lightweight, waterproof fabric, keeping it moving in winds of around 2 km/h. At the same time, the resistant material with which it is made allows it to withstand strong winds for long periods of time.

Preliminary results from trials conducted in the LIFE PanPuffinus! project show that the scarybird kite can reduce seabirds' interactions with hooks during setting, and bycatch in bottom and drifting pelagic longlines. Further testing is needed on the distance at which it is effective.

FISHERY

A seabird bycatch mitigation measure to be implemented in longline fisheries, adapted to small- and-medium scale fisheries that usually operate in the Mediterranean. It can apply to both demersal and pelagic longlines of different configurations and target catch, including set and drifting longlines.

This mitigation measure was tested in France, Malta, Spain and Greece in both bottom and pelagic drifting longlines in vessels from 6m to 20m. It could be applied anywhere in fisheries where seabird bycatch occurs mainly during setting operations. Its efficacy during hauling operations needs to be tested further.

PROBLEM TO ADDRESS

Seabirds are attracted to bait during longline setting and can get hooked on hooks or entangled in the lines. Bycatch occurs during the short period between hook release from the vessel and bait sinking below seabird diving ranges. Most bycaught birds die from drowning as they are pulled down with the line. A few can be released alive during setting, mainly in small vessels which can pause the setting process for a while.

All Mediterranean shearwater species (Balearic, Yelkouan and Scopoli's) are affected, as well as gulls including the Audouin's Gull.

SCARYBIRD KITE
LONGLINES (SETTING)

RECOMMENDATIONS

1. Use during setting operation.
2. Attach the telescopic pole to the vessel, as close to the stern of the vessel as possible, vertically or slightly inclined. (up to 30°) to avoid getting entangled in the vessel's structures.
3. Attach the scarybird kite to the pole structure and adjust the length of the cable (~50cm) to reduce entanglement.
4. Pull each component of the pole to the limit rotating in opposite directions.
5. Keep direction of the vessel into the wind.
6. To avoid habituation, remove the scarybird kite after setting or hauling and store it in a safe place indoors..

ADVANTAGES

- Easy to use.
- Durable, waterproof and lightweight material.
- No impact on catches of target species or other groups.
- Easily accepted by fishers.
- **Low investment.**

PROBLEMS AND TROUBLESHOOTING

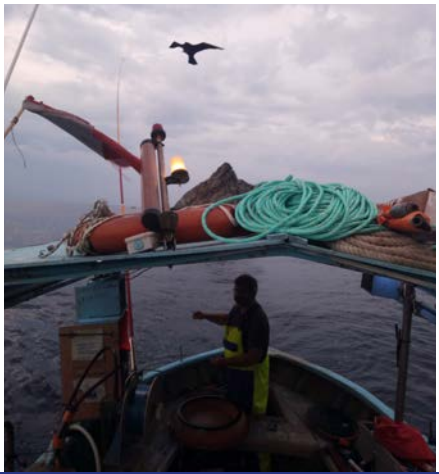
- Seabirds can get used to it and efficacy can decrease with time.
- Efficacy might vary with different seabird groups and times of the year.
- For some longline configurations with slow sinking speeds, the effective range might not be large enough.
- It can get entangled, and therefore ineffective, when wind is from behind the vessel.

COMBINATION OF MEASURES

In general, no mitigation measure alone could eliminate all seabird by-catch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

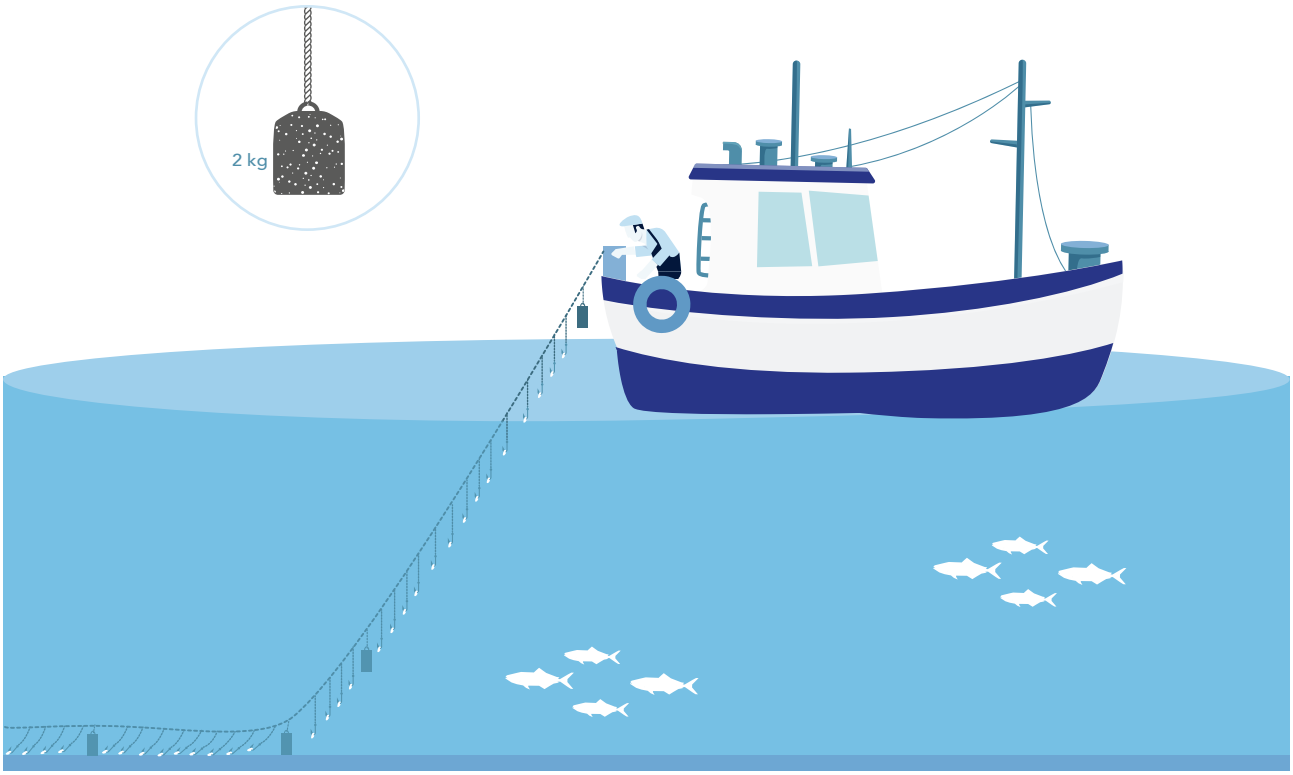
Setting lines at night is the best way to reduce seabird bycatch.

When setting at sunset, sunrise, in bright moonlight, or during the day, using the scarybird kite together with line weighting helps keep seabirds away from the hooks until they sink out of reach.



LINE WEIGHTING
DEMERSAL LONGLINES (SETTING)

LIFE PanPuffinus!



HOW DOES THE MEASURE WORK?

Line weighting is a commonly used technique in Mediterranean demersal longlining, varying with target species and fisher's preferences. Increasing the weight of the line increases sinking speed beyond the dive depths of surface- and shallow-foraging seabirds and thus reduces the likelihood of seabirds accessing baited hooks. Because most seabird dives occur in the first 10m of the water column, effective line weighting should sink hooks rapidly beyond this depth.

This mitigation measure consists of increasing the number of weights along the line, reducing the spacing between them, and increasing the mass of each weight to enhance the line's sink rate.

FISHERY

A seabird bycatch mitigation measure to be implemented in demersal longline fisheries, adapted to small- and medium-scale fisheries that usually operate in the Mediterranean. It applies to bottom longlines and floated demersal longlines.

Line weighting is already used in France, Greece, Malta and Spain. Trials to increase line weighting were carried out in Spain within the scope of LIFE PanPuffinus! Project. The measure could be applied anywhere in fisheries where seabird bycatch occurs in bottom and floated demersal longlines during setting operations, as long as fishers are confident in adding weights to the line.

PROBLEM TO ADDRESS

Seabirds are attracted to bait during longline setting and can get hooked on hooks or entangled in the lines. Bycatch occurs during the short period between hook release from the vessel and bait sinking below seabird diving ranges. Most bycaught birds die from drowning as they are pulled down with the line. A few can be released alive during setting, mainly in small vessels which can pause the setting process for a while.

All Mediterranean shearwater species (Balearic, Yelkouan and Scopoli's) are affected, as well as gulls including the Audouin's Gull.

LINE WEIGHTING
DEMERSAL LONGLINES (SETTING)

RECOMMENDATIONS

1. Test different levels of weight increase and distance reduction between weights on each vessel, assessing how these modifications adapt to the individual setting practices of each fisher. During trials, using 1–2kg weights every 25 hooks or even less proved to work the best.
2. Reducing the setting speed makes it easier to add weights to the line.
3. Attach weights to the line with ropes and clips.
4. Change the weights and ropes when they get worn.

ADVANTAGES

- Number of weights can be increased in the presence of a high number of seabirds.
- Low probability of entanglement when used by experienced fishers on the use of weights in the line.
- **Low investment:** It only needs materials available in the vessel or port.

PROBLEMS AND TROUBLESHOOTING

- Possible entanglement while setting when fishers have limited experience using weights.
- Increases the amount of mass set and hauled.
- Makes it harder to pause the setting phase, which in turn makes it more difficult to release live seabirds that become caught.
- Not suitable for fishing techniques where weights prevent catching the target species.

COMBINATION OF MEASURES

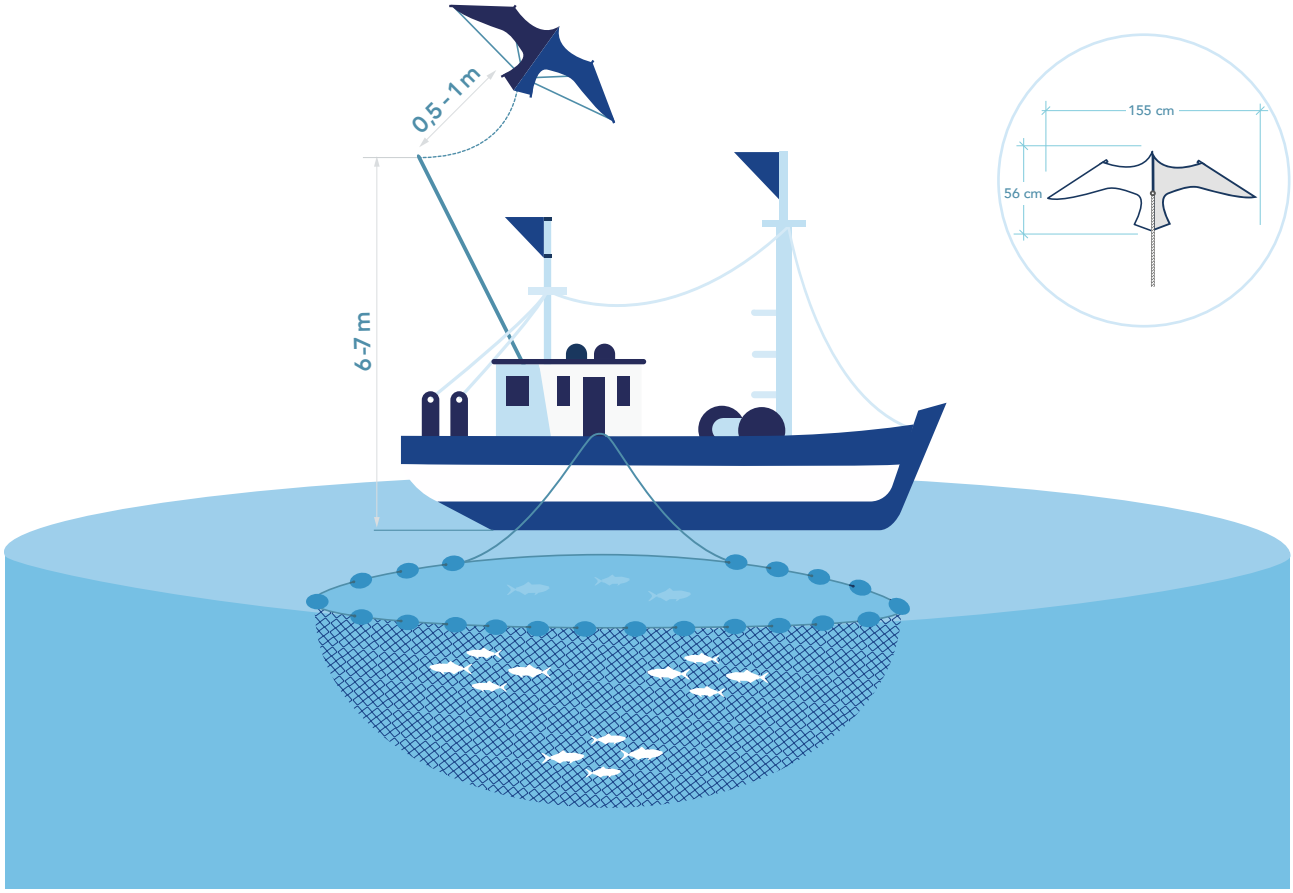
In general, no mitigation measure alone could eliminate all seabird by-catch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

Setting lines at night is the best way to reduce seabird bycatch.

When setting at sunset, sunrise, in bright moonlight, or during the day, using the scarybird kite together with line weighting helps keep seabirds away from the hooks until they sink out of reach.

SCARYBIRD KITE
PURSE SEINE

LIFE PanPuffinus!



HOW DOES THE MEASURE WORK?

The scarybird kite simulates the presence of a predator and aims to drive birds away from the fishing operation area. It is made from lightweight, waterproof fabric, keeping it moving in winds of around 2 km/h. At the same time, the resistant material with which it is made allows it to withstand strong winds for long periods of time.

Preliminary results from trials conducted in the LIFE PanPuffinus! project show that the scarybird kite can reduce gull's interactions with fishing gear, in the vicinity of the vessel. Further testing is needed on the distance at which it is effective.

FISHERY

A seabird bycatch mitigation measure to be implemented in medium-sized purse-seiners, targeting small pelagic fish (sardines, European anchovy, Atlantic horse mackerel).

This mitigation measure was tested in Portugal, within the Aveiro-Nazaré SPA, but it could be applied anywhere in purse-seiners where seabird bycatch occurs mainly during hauling operations.

PROBLEM TO ADDRESS

Incidental captures tend to occur during the hauling operations. At these times, birds are attracted to the area by prey items in the nets. When attempting to feed on these accessible food sources, seabirds may collide with or become entangled in the nets, leading to injury or drowning.

Bycatch events occur predominantly during summer and autumn, when higher interaction rates are recorded.

The seabird species most affected are the Balearic shearwater, in rare events of many individuals, and gulls.

SCARYBIRD KITE
PURSE SEINE

RECOMMENDATIONS

1. Use during all fishing operation.
2. Place the scarybird kite as close as possible to where the nets are hauled.
3. Attach the telescopic pole to the vessel, vertically or slightly bent (up to 30°) to avoid getting entangled in the vessel's structures.
4. Attach the scarybird to the pole structure and adjust the length of the cable (~50cm).
5. Pull each component of the pole to the limit rotating in opposite directions.
6. Remove the scarybird kite but leave the pole, after the fishing activity is over, and store it in a safe place indoors.

ADVANTAGES

- Easy to use.
- Light and waterproof.
- No impact on catches of target species or other groups.
- Easily accepted by fishers.
- **Low investment.**

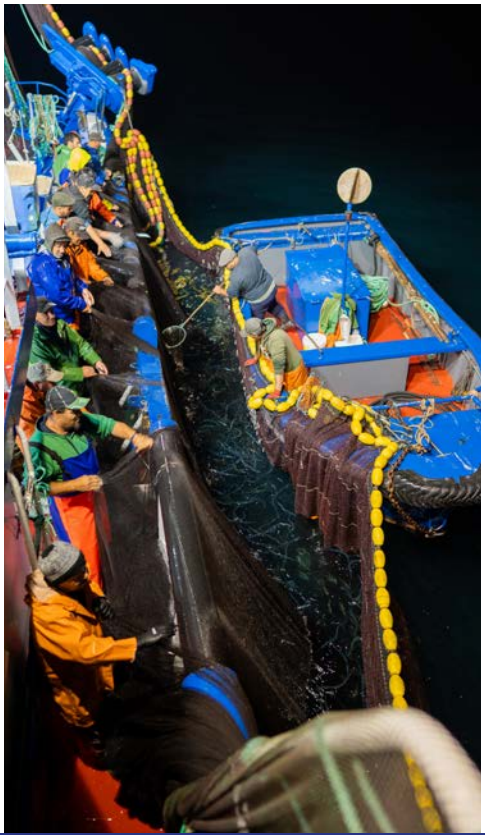
PROBLEMS AND TROUBLESHOOTING

- Without wind, the scarybird kite remains motionless and can become entangled in the telescopic pole.
- Probably insufficient to keep away birds that move closer to the surface of the water such as shearwaters.

COMBINATION OF MEASURES

In general, no mitigation measure alone could eliminate all seabird by-catch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

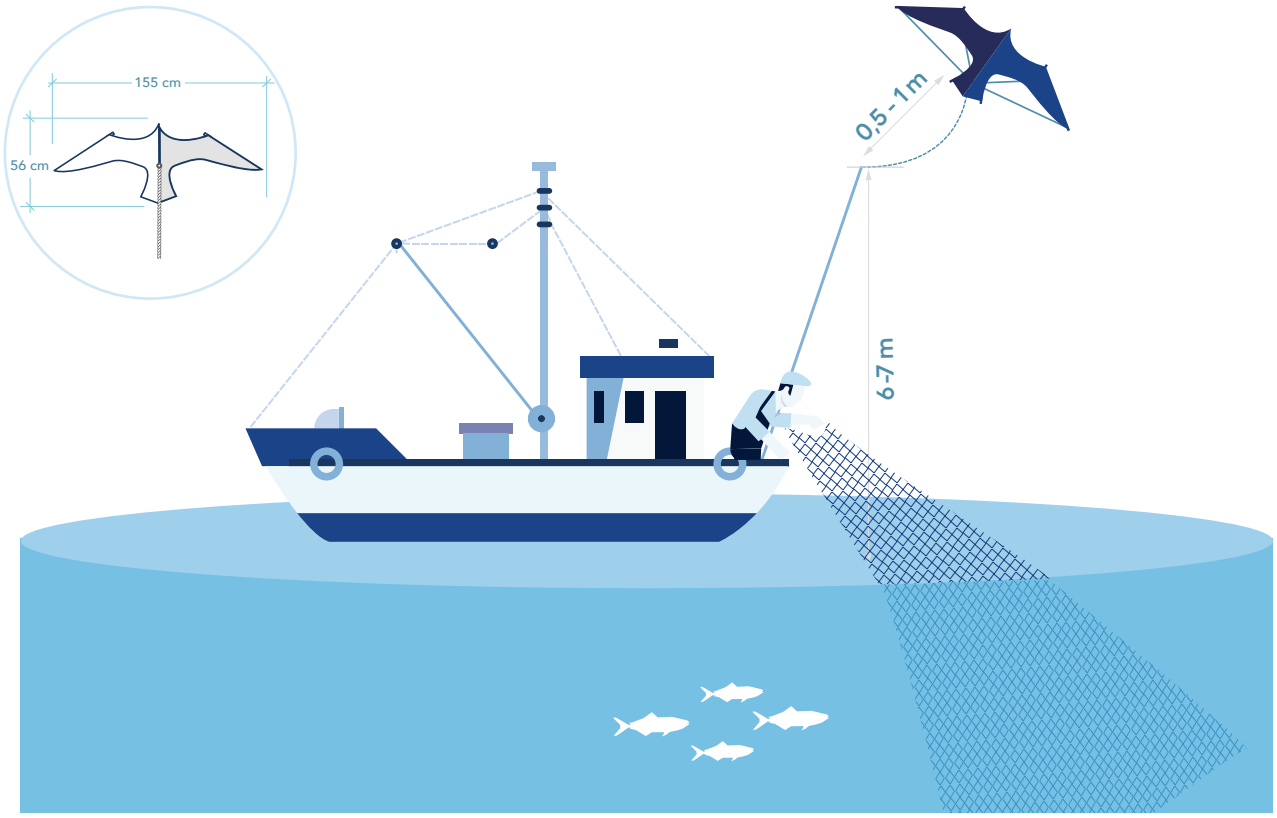
Night setting and hauling are some additional practices that can be combined to ensure the success of this mitigation measure.



SCARYBIRD KITE

TRAMMEL NETS (SETTING/HAULING)

LIFE PanPuffinus!



HOW DOES THE MEASURE WORK?

The scarybird kite simulates the presence of a predator and aims to drive birds away from the fishing operation area. It is made from lightweight, waterproof fabric, keeping it moving in winds of around 2 km/h. At the same time, the resistant material with which it is made allows it to withstand strong winds for long periods of time.

Preliminary results from trials conducted in the LIFE PanPuffinus! project show that the scarybird kite can reduce seabird interactions with fishing gear. Further testing is needed on the distance at which it is effective.

FISHERY

A seabird bycatch mitigation measure to be implemented in trammel nets targeting demersal fish (mainly soles and cuttlefish, but also whiting-pout, gurnards, seabass, rays). Suited for medium-sized vessels (15 – 18 m) operating relatively close to the coast.

This mitigation measure was tested in Portugal, within the Aveiro-Nazaré SPA, but it could be applied anywhere in fisheries where seabird bycatch occurs mainly during setting and hauling operations of trammel nets and gillnets.

PROBLEM TO ADDRESS

Although these nets are usually set at depths that are generally inaccessible to seabirds, incidental captures tend to occur during the setting and hauling operations. At these times, birds are attracted to the area by fish discards or prey items entangled in the nets. When attempting to feed on these accessible food sources, seabirds may collide with or become entangled in the nets, leading to injury or drowning.

Bycatch events occur predominantly during autumn and winter, when higher interaction rates are recorded.

The seabird species most affected are the Balearic shearwater, Northern gannet, alcids such as Razorbill and Common murre, gulls, and the Common scoter.

SCARYBIRD KITE
TRAMMEL NETS (SETTING/HAULING)

RECOMMENDATIONS

1. Use during hauling and setting events.
2. Place the scarybird kite as close as possible to where the nets are set/hauled.
3. Attach the telescopic pole to the vessel, vertically or slightly bent (up to 30°) to avoid getting entangled in the vessel's structures.
4. Attach the scarybird kite to the pole structure and adjust the length of the cable (~50cm).
5. Pull each component of the pole to the limit rotating in opposite directions.
6. Remove the scarybird kite but leave the pole, after the fishing activity is over, and store it in a safe place indoors.

ADVANTAGES

- Easy to use.
- Durable, waterproof and lightweight material.
- No impact on catches of target species or other groups.
- Easily accepted by fishers.
- **Low investment.**

PROBLEMS AND TROUBLESHOOTING

- Without wind, the scarybird remains motionless and can become entangled in the telescopic pole.
- Insufficient range to cover the entire extension necessary for the net to sink to depths inaccessible to birds.

COMBINATION OF MEASURES

In general, no mitigation measure alone could eliminate all seabird bycatch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

Night setting, increasing the net depth, good net cleaning and keeping discards in containers during fishing operations are some additional practices that can be combined to ensure the success of this mitigation measure.

DISCARDS MANAGEMENT

TRAMMEL NETS (HAULING/SETTING)

LIFE PanPuffinus!

HOW DOES THE MEASURE WORK?

This mitigation measure comprises the retention of discards onboard in appropriate containers and their release only after completion of the fishing operations, ideally while the vessel is navigating. This practice reduces the likelihood of attracting seabirds during critical phases such as hauling and setting.

FISHERY

This particular seabird bycatch mitigation measure could be also classified as a good practice to adopt on-board. It was tested in vessels operating trammel nets, working at an average depth of 50m and targeting demersal fish (mainly soles and cuttlefish, but also whiting-pout, gurnards, seabass, rays).

This mitigation measure was tested within the scope of the LIFE PanPuffinus! project only in Portugal, within the Aveiro-Nazaré SPA, but it could be applied anywhere in fisheries where seabird bycatch occurs mainly during setting and hauling operations.

PROBLEM TO ADDRESS

Although these nets are usually set at depths that are generally inaccessible to seabirds, incidental captures tend to occur during the setting and hauling operations. At these times, birds are attracted to the area by fish discards or prey items entangled in the nets. When attempting to feed on these accessible food sources, seabirds may collide with or become entangled in the nets, leading to injury or drowning.

Bycatch events occur predominantly during autumn and winter, when higher interaction rates are recorded.

The seabird species most affected are the Balearic shearwater, Northern gannet, alcids such as Razorbill and Common murre, gulls, and the Common scoter.

DISCARDS MANAGEMENT
TRAMMEL NETS (HAULING/SETTING)

RECOMMENDATIONS

1. Place containers near the fishers to store dead fish and remains.
2. Release discards overboard only after the completion of the fishing operations, ideally during navigation back to port.

ADVANTAGES

- Easy to use.
- No impact on catches of target species or other groups.
- Easily accepted by fishers.
- **Low investment**: all materials available on the vessel (containers).

PROBLEMS AND TROUBLESHOOTING

- Difficult to change fishermen's long-standing habits of discarding fish during fishing operations.
- Space required to store the containers on the deck (problematic on small vessels).

COMBINATION OF MEASURES

In general, no mitigation measure alone could eliminate all seabird by-catch. And, usually, several measures need to be combined to effectively minimize bycatch. Each fisher can test and choose those that best suit their vessel and fishing practices.

Night setting, increasing the net depth and good net cleaning are some additional practices that can be combined to ensure the success of this mitigation measure.

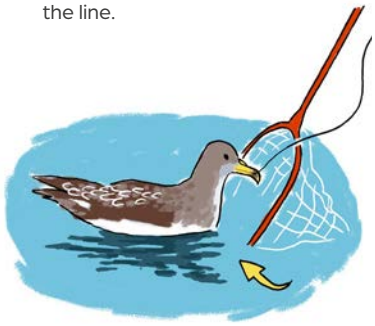
HOW TO RELEASE BIRDS CAUGHT IN HOOKS

LIFE PanPuffinus!

Material Required

1 Bring the bird aboard

Stop or slow the boat and gently lift the bird by using a hand net; avoid pulling the line.

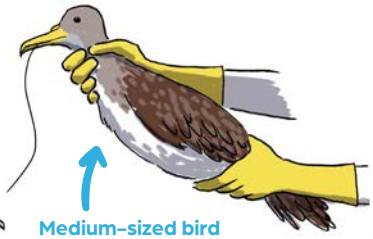


2 Handle the bird with caution

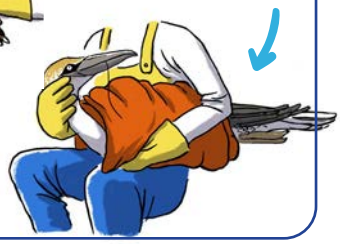
To facilitate the removal of the hook, introduce the bird in a cloth bag, keeping the wings folded and the head outside.

Small Bird
hold the bird with both hands, keeping its wings folded and pressing lightly

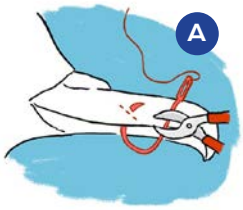
Medium-sized bird
hold with one hand the upper part of the neck firmly but gently; grasp the wing tips, tail and legs with the other hand.



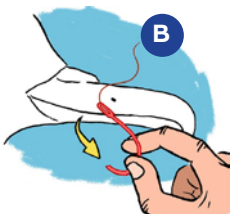
Large bird
Wrap the bird using a towel, keeping the wings held against its body. Hold the neck from back part.



3 Remove the hook



Cut the tip of the hook using pliers. If it were not possible, cut the other extreme (hook eye).

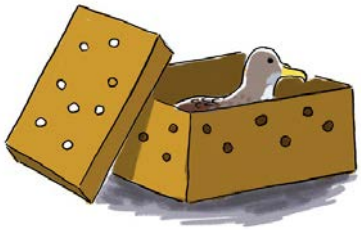


Pull the hook back out with your hand or using pliers.

If the bird has swallowed the hook don't try to remove it; cut the line as close as possible to the bill.

4 Let the bird rest

If the bird is in bad condition, place it in a ventilated box or container in a quiet and dry place in the shade until it is dry and shows signs of recovery (alert and holding its head up).



5 Release the bird

Release the bird directly on the water or from one side of the vessel, windwards.

Raul Deamo

HOW TO RELEASE BIRDS CAUGHT IN NETS

Material Required





1 Bring the bird aboard

Stop or slow the boat to reduce tension on the net. If possible, bring the bird on board to prevent injuries.

2 Handle the bird with caution

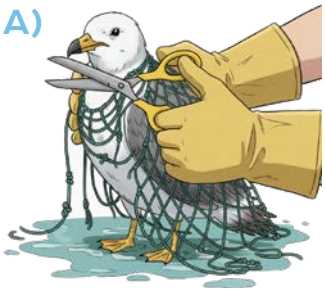
- Hold the bird firmly, without squeezing.
- If possible, use a towel or blanket to cover its eyes and prevent it from opening its winds.
- Hold its beak without covering the nostrils.
- If the bird vomits, loosen your grip on the beak slightly.

3 Untangle the bird.

A) Cut the netting around the bird. Avoid pulling the bird through the netting.

B) After removing it from the net, check for any remaining netting on the wings, neck, and legs.

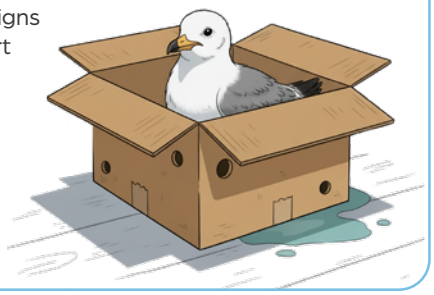
A)



B)

4 Let the bird rest

If the bird is in bad condition, place it in a ventilated box or container in a quiet and dry place in the shade until it is dry and shows signs of recovery (alert and holding its head up).



5 Release the bird

Release it slowly directly on the water. If this is not possible, release it from one side of the vessel windwards.

LIFE PanPuffinus!

Co-funded by the European Union

NATURA 2000

GOVERNMENT OF MALTA
MINISTRY FOR AGRICULTURE, FISHERIES AND ANIMAL RIGHTS

BirdLife MALTA

Agir pour la biodiversité

spea

SEO BirdLife

N.E.C.C.A.

Ορνιθολογική

Supported by:

GREEN FUND

A.G. LEVENTIS FOUNDATION

OFB OFFICE FRANÇAIS DE LA BIODIVERSITÉ

FONDATION NATURE & DECOUVERTES

SATHOAN

GOVERNMENT OF MALTA
MINISTRY FOR AGRICULTURE, FISHERIES AND ANIMAL RIGHTS

Food4Good

MAVA

Oceanário de Lisboa

FUNDO AMBIENTAL

LIFE
PanPuffinus!

SEABIRD BYCATCH MITIGATION TOOLKIT