## Action Plan to Prevent, Mitigate, and Remediate against ALDFG from Longline Fisheries in the StarKist Global Supply Chain





#### Version 1.0

Prepared by

# Key Traceability Ltd. June 2024



Key Traceability Ltd.

+44 7505 122728

Info@keytraceability.com

England Registered Company 09730288

70 Londesborough Road, Portsmouth, PO4 0EX

## Contents

Execut	ive Summary	3
Introd	uction	4
G	lobal Ghost Gear Initiative	4
St	arKist	4
Action	plan	6
	Prevention	
2.	Mitigation	22
3.	Remediation	24
Doforo	neoc	20

## **Executive Summary**

Abandoned, lost and otherwise discarded fishing gear (ALDFG) is a growing global concern for our oceans. Large congregations of ocean plastic pollution have been seen to accumulate in ocean gyres and circumnavigate the ocean with the currents (Macfadyen, et al., 2009). Exploration of these patches of pollution have demonstrated that the majority of the plastic identified derives from ALDFG, including nets, lines, and buoys. Ocean plastic pollution, specifically from ALDFG can also lead to serious ecological issues, including a phenomena known as ghost fishing, wherein uninspected ALDFG continues to entangle and trap animals, causing high mortality rates (Macfadyen, et al., 2009). Endangered, threatened, and protected ETP) species, including marine mammals, sharks, turtles, and seabirds are animals that are already facing threats from over exploitation, climate change, and other anthropogenic causes. Baited longline hooks will always pose a risk to marine species and ETP species because they lure animals to feed on the bait. However, this can induce a cycle of ghost fishing wherein the animal feeding on the bait may itself become hooked and therefore become easy prey for another animal. This cycle will continue until there is no bait remaining on the hook (Laist, 1995; Macfadyen, et al., 2009; Stelfox, et al., 2016). Turtles, seabirds and sharks are all attracted to the baited hooks on a longline gear and are at risk of ghost fishing. The decline in populations of ETP species and the added pressures of the other anthropogenic threats mentioned above, commercial fisheries must ensure that they are incorporating prevention, mitigation, and remediation efforts to reduce the potential for ghost fishing and ALDFG.

The Global Ghost Gear Initiative (GGGI) is an alliance of global partners with the mission of driving solutions to ghost fishing and ALDFG. GGGI has collaborated with the US brand, StarKist Co. to learn more about the current measures in place within the fisheries from which StarKist source tuna products. A risk assessment was produced to learn about how the purse seine and longline fisheries in the StarKist supply chain manage accumulated waste and prevent ALDFG. The risk assessment produced aligned with three main principles of ALDFG management: prevention; mitigation; and remediation. Under each of the three principles, a series of indicators were used as a guideline for assessing how well the fisheries had met the requirements. The results of the risk assessment demonstrated that there are elements in both the purse seine and longline fisheries that can be established or improved upon to align the fisheries with the requirements of the GGGI best practices.

The following report outlines the specific action plan for the indicators of the risk assessment that were deemed to be either "partially met" (for example, where evidence was available for some but not all fisheries) or "not met". The aim of the action plan is to gradually improve the measures currently in place within the fisheries or to implement further measures to reduce the potential contribution to ALDFG and ghost fishing.

#### Introduction

An estimated 11 million tons of debris enter the ocean every year, and about 10% of this plastic accumulation comprises fishing gear (MacFayden, 2009, Wooton, et al., 2022; Bertolazzi, et al., 2024), however, these numbers are derived on observations from the surface and could underestimate this percentage. Once in the ocean, a lot of the floating debris will become trapped in the ocean currents, continually circumnavigating the oceans in huge patches of pollution (Harris, et al., 2023). The Great Pacific Garbage Patch, perhaps the most infamous, is constituted of at least 52% discarded fishing gear, including nets, lines, ropes, hooks, and fish aggregating devices (FADs) (Apete, et al., 2024). Research conducted on abandoned, lost or otherwise discarded fishing gear (ALDFG) has shown that an estimated 75,000 km² of purse seine net, and 739,000 km² of longline mainlines, 15 million km² of longline branchlines, and 13 billion longline hooks are lost every year (Richardson, et al., 2022). Once these gears become ALDFG, they can also start to inadvertently entangle and kill marine species, which is also known as ghost fishing. Species that are considered endangered, threatened, or protected (ETP) are at high risk of ghost fishing because they cannot be released (Stelfox, et al., 2016; Richardson, et al., 2022).

Ghost fishing in high sea longlining is considered to be a low risk because the heavy hook will often sink to the seafloor and become buried in the seabed or embedded in a structure (Gilman, et al., 2022). Nevertheless, abandoned, lost or discarded longline gears can pose risk to Vulnerable Marine Ecosystems (VMEs) as a direct result of damage or vectoring disease (Gilman, et al., 2022). Longline gear can also lead to delayed mortality in bycatch species that still have the hook caught in its flesh after it is freed from the mainline. These hooks may also have trailing pieces of the monofilament line still attached to the hook, which can impede the animals' ability to survive. This is particularly true for ETP species and cause delayed mortality (Adams, et al., 2014; Gilman, et al., 2022). To reduce the potential for fishing gear to become abandoned, lost or discarded, any damaged, broken, or end-of-life lines must be stored onboard until it can be effectively disposed of. However, longline vessels are typically small vessels with limited available space. For example, longline vessels flagged to Taiwan, weigh between 50 and 200 gross tonnes across Pacific, Indian, and Atlantic Oceans, and the commercial value of the fish catch prioritises the onboard space. Therefore, adjustments must be made to ensure that the vessels can store this gear onboard without reducing the capacity for fish catch.

#### Global Ghost Gear Initiative



the mission of driving solutions to ghost fishing and ALDFG. A collaboration of partners from the fishing industry, private sector, academia, governments and NGOs, GGGI aims to improve the health of aquatic systems and safeguard

human livelihoods.

#### **StarKist**



StarKist Co. is one of the leading tuna retailers in the United States and noted as being America's favourite tuna. The StarKist brand is known for its commitment to ocean sustainability and sourcing from responsible supply chains.

The Global Ghost Gear Initiative (GGGI) is an alliance of global partners with

#### Aim

The aim of this action plan is to improve the waste management protocols on the longline vessels within the StarKist global supply chain. Using the information about the pre-existing measures to prevent, mitigate, and reduce ALDFG in the ocean through the risk assessment, the action plan

describes the methods by which these vessels can start to improve on their negative contribution to ALDFG.

## Action plan

The following section will outline the specific tasks and actions required by the longline fisheries and FIPs within the StarKist global supply chain that will help to improve their current scores. Scores were reported in the risk assessment that was conducted on the fisheries' and FIPs' current measures in place to prevent, mitigate, and remediate against ALDFG and ghost gear (Table 1). Scoring was allocated based on the extent that the fishery or FIP met the requirement.

Table 1: Total extent that the longline fisheries and FIPs met the requirements of the GGGI risk assessment (Y = yes, P = partial, N = no)

Principle	Approach	Indicator	Met?
	Spatial and/or temporal measures	1.1.1 There are spatial and/or temporal measures in place e.g., MPAs that the fishery adheres to or self-imposed setting and retrieval procedures that reduce potential for loss (or unintentional interaction with wildlife or vessel traffic)	Y
	Gear design to reduce     whole or partial loss of the     fishing gear	1.2.1 Gear design has been constructed to reduce whole or partial loss of the fishing gear or to be protective of species/responsive to entanglement (similar to mitigation pillar)	Р
	3. Vessel design to reduce gear and other aquatic litter discarding	1.3.1 Vessel design has been constructed to reduce gear and other aquatic litter discarding	N
	4. Better marking and identification of fishing gear	1.4.1 Fishing gear is marked and identified as per FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016)	Р
1 - Prevention		1.5.1 Vessels comply with MARPOL Annex V and have a written waste management plan	Υ
	5. Improved end-of-life fishing gear disposal facilities	1.5.2 Damaged gear is stored onboard the vessel until landing where it can be taken to be repaired or appropriately disposed of	Р
		1.5.2 End of life gear is either reused, recycled, reconditioned or part of a buy back scheme	Р
	6. Education and awareness	1.6.1 There are policies and/or materials available to all crew on how to mitigate incidence and impact of ghost gear.	Υ
	o. Education and awareness	1.6.2 There is training available to all crew on how to mitigate incidence and impact of ghost gear.	Р
	7. Improved fisheries management regimes	1.7.1 The fishery advocates for improved fisheries management regimes in relation to ADLFG	Р
8. Good practice for avoidance, mitigation and response	avoidance, mitigation and	1.8.1 Good practice for avoidance, mitigation and response is followed	Υ
2 - Mitigation	Gear design to reduce the incidence and duration of	2.9.1 There are measures in place to reduce the incidence of ghost fishing	Y
2 William	ghost fishing	2.9.2 Gear is made of biodegradable materials. Partially met if the vessels are part of biodegradable trials	N
3 –	10. Lost gear reporting,	3.10.1 The vessels report lost gear including their location	Р
Remediation location and recovery initiatives		3.10.2 The vessels cooperate or are subject to any recovery initiatives	Р

#### 1. Prevention

Preventative measures employed by longline vessels to reduce their contribution to ALDFG and ghost fishing is the most important component when considering the options of fisheries in reducing the amount of marine pollution as a result of fishing gear. There are several different possibilities that longline vessels may utilise to reduce their overall contribution to ALDFG and ghost gear in the oceans.

Action Number and Name	1.1 Engagement
Relevant Risk Assessment Indicator	All indicators
Action Goal	Engage with fisheries, associated NGOs, Flag States, and relevant fisheries' ministries to inform and educate them about the importance of appropriate waste management in the reduction of ALDFG and ghost fishing. Ensure that the detrimental impact caused by ghost fishing is well explained and received. Use these engagement opportunities to request more management measures related to fisheries' responsibilities in reducing ALDFG and ghost gear.
Action Description	Set up training sessions and encourage regular updates of the training with fisheries and fishers and presenting to them the importance of proper waste management.  Directly engage with fisheries and fishers, to ensure that they understand why effective waste management and a reduction of ALDFG and ghost gear is important.
Priority	Low
Responsible parties	Fisheries managers,
Estimated budget	\$10,000

### **Expected Completion Date**

Ongoing

Tasks/ Milestones	Starting date	Expected completion date
1.1a – Communicate RA and action plan with project partners to learn about the applicability of the actions onboard the vessels and within the fisheries.	Q1 2025	Q4 2025
1.1b – Collaborate with fishery stakeholders, associated NGOs, Flag States and Port states to ensure that there is adequate assistance with educating crew and fisheries of their responsibility in preventing, mitigating, and remediating ALDFG.	Q1 2025	Q4 2026
1.1c – Develop appropriate training material, including workshops that will help develop the skills required to prevent ALDFG and ghost gear. Ensure all training materials are conducted in the relevant fisher language to allow adequate knowledge transfer.	Q1 2025	Q4 2026
1.1d – Conduct regular fisher training in their responsibility in preventing, mitigating, and remediating ALDFG. This can be delivered through existing ISSF or FIP/MSC means.	Q1 2025	Ongoing
1.1e – Ensure all new members of the fisher receive training in their responsibility in preventing, mitigating, and remediating ALDFG when they sign their contracts.	Q1 2025	Ongoing
1.1f – Provide all training materials to fishers to ensure that they have unlimited access to the training and guidelines required to reduce ALDFG and ghost gear. Post all policies and training materials on the walls of the vessels to ensure that fishers can easily access these materials when required.	Q1 2025	Q4 2026
1.1g – Verify that the fishers are adhering to the training through human or electronic observer data and/or relevant GEN forms provided by the relevant observer authorities.	Q1 2025	Ongoing

1.1h – Produce and distribute a survey to understand how well the fishers are using the waste management preventative techniques and skills and if there is any room for improvement.	Q1 2025	Q4 2027
1.1i – If there are any improvements required, these should be considered for updates to the waste management policies and training materials.	Q1 2025	Ongoing

Action Number and Name	1.2 – Longline gear management
Relevant Risk Assessment Indicator	1.2.1 - Gear design has been constructed to reduce whole or partial loss of the fishing gear or to be protective of species/responsive to entanglement (similar to mitigation pillar)
Action Goal	All fisheries and FIPs shall implement bycatch mitigation.
Action Description	Mitigating bycatch means lowering the probability of gear loss for longline fishery. As the fishery is not subject to bottom longlining, the fishery should focus on reducing unwanted catch (ETP species including, marine mammals, sharks, sea turtles, and seabirds) by using circle hooks and other measures to indirectly reduce probability of failed dehooking. The fishery must ensure that all vessels in the fleets are using only circle hooks onboard the vessel, through analysis of observer data, and vessel audits.
Priority	Medium
Responsible parties	Fisheries managers, StarKist partners, ISSF Best Practice trainers
Estimated budget	\$5,000
Expected Completion Date	Q4 2030

Tasks/ Milestones	Starting	Expected
Tasks/ Willestones	date	completion date

1.2a – Flag states to initiate implementation trials based on existing regulations (e.g. Article 25 of Regulations for Tuna Longline or Purse Seine Fishing Vessels Proceeding to the Pacific Ocean for Fishing Operation) and launch an action and surveillance scheme to effectively oversee fishers' practices.	Q1 2025	Q4 2030
1.2b – Validate the fleet-wide policy that prohibits the use of 'J'-style hooks and requires that only circle hooks must be used.	Q1 2025	Q4 2025
1.2c – Hold multiple workshops to emphasise the impact of bycatch mitigation and reduction of gear loss towards marine environment and skipper trainings.	Q1 2025	Ongoing
1.2d – Use observer data and EM footage to record and monitor if fishers onboard practise recommended measures, including frequency of snagging and gear loss.	Q1 2025	Ongoing
1.2e – Conduct regular audits of the vessels to verify fishing gear, when in port.	Q1 2025	Ongoing

Action Number and Name	1.3 Vessel design
Relevant Risk Assessment Indicator	1.3.1 – Vessel design has been constructed to reduce gear and other aquatic litter discarding  1.5.2 – Damaged gear is stored onboard the vessel until landing where it can be taken to be repaired or appropriately disposed of
Action Goal	A dedicated space has been made onboard the vessels to ensure that any old, damaged, and/or end-of-life fishing gear can be stored until the vessel enters port where the waste can be disposed of in an appropriate facility.
Action Description	Work with fishers to figure out if any possibility to make a designated space onboard for storing ALDFG and other waste.
Priority	Medium
Responsible parties	Fisheries managers, fleet owners, StarKist partners
Estimated budget	\$3,500
Expected Completion Date	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date	
	uute	completion date	

1.3a – Work with skippers and crew to understand more about the current capacity onboard the vessels to store and retain old, damaged, and/or end-of-life fishing gear to prevent contributions to ALDFG and marine pollution.	Q1 2025	Q4 2025
1.3b – Based on a feasibility assessment (1.3a), work with fleet owners to dedicate a space onboard the vessels for any old, damaged, and/or end-of-life fishing gear to be stored until the vessel enters port, or can export waste to a transshipment vessel, and ensure all fishing gear waste is appropriately disposed of in a waste facility.	Q1 2025	Q4 2030
1.3c – Verify that the vessels are storing old, damaged, and/or end-of-life fishing gear onboard and disposing of it appropriately in a dedicated disposal facility via observer and logbook data and vessel audits and include to existing policies.	Q1 2025	Q4 2030
1.3d – Conduct a review using crew and skipper surveys about how efficient and effective the dedicated storage spaces are for old, damaged, and/or end-of-life fishing gear.	Q1 2025	Q4 2030
1.3e – Use information from the surveys to determine if any improvements are required to ensure that the crew and skippers are easily able to store the gear onboard the vessel and are motivated to do so.	Q1 2025	Q4 2030

Action Number and Name	1.4 Fishing gear marking
Relevant Risk Assessment Indicator	1.4.1 – Fishing gear is marked and identified as per FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016)
Action Goal	All buoys and beacons on longline boats should be marked with vessel's IMO or vessel's name.  Flag states should advocate and introduce gear marking to longline operation regulations.
Action Description	The longline fisheries and FIPs in the StarKist global supply chain must ensure that all gear that is not currently marked, is retrieved and marked appropriately as required under the FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016). The fisheries and FIPs should also require that all gear used in the future operations of the fishery must also be marked under the FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016), and described in their relevant fisheries management policies.
Priority	High
Responsible parties	Fisheries managers, fleet owners, StarKist partners
Estimated budget	\$3,500
Expected Completion Date	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date
1.4a – Conduct a review of the current fishing gear used by the fishery or FIP to understand which gear and in what quantity is the gear marked under the requirements of the FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016).	Q1 2025	Q4 2025
1.4b – Any and all gear that is not marked under the FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016), must be retrieved and marked accordingly before returning to operations.	Q1 2025	Q4 2026
1.4c – The fishery or FIP must include a specific requirement within their fisheries management policy that states that all fishing gear is clearly marked under the FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016).	Q1 2025	Q4 2026
1.4d – Conduct a verification activity, for example a vessel and fishing gear audit that can ascertain the adherence to the FAO Expert Consultation on the Marking of Fishing Gear (FAO, 2016) and the fishery or FIP's policy	Q1 2025	Q4 2030

Action Number and Name	1.5 Waste management policy
Relevant Risk Assessment Indicator	1.5.1 – Vessels comply with MARPOL Annex V and have a written waste management plan
Action Goal	All longline fisheries and FIPs will have a waste management policy that aligns with the requirements of MARPOL Annex V and relevant RFMO requirements.
Action Description	The longline fisheries and FIPs in the StarKist global supply chain will develop a waste management policy that applies to all vessels within the fleets to ensure that they are adhering to the requirements of MARPOL Annex V.  Advocate port state authority to set up designated spaces for storing damaged gears and wastes.
Priority	High
Responsible parties	Fisheries managers, fleet owners, StarKist partners
Estimated budget	\$5,000
<b>Expected Completion Date</b>	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date
1.5a – Review the current waste management practices being conducted onboard all vessels within the longline fisheries and FIPs in the StarKist global supply chain.	Q1 2025	Q4 2025
1.5b – Improve or develop waste management policies that align fully with the requirements of MARPOL Annex V:	Q1 2025	Q4 2025

I.	All noxious liquids including oil and petrol are to be kept on board and disposed of in port.		
II.	Untreated sewage must not be discharged at sea and pumped out in port.		
III.	Plastics may not be discharged into the ocean anywhere at any time. This includes items that have any plastic component including synthetic fishing gear and must be collected on board to be disposed of when the vessels come into port or incinerated on the vessel.		
IV.	Paper and cardboard are to be collected and incinerated on board.		
V.	All incinerated matter is to be kept on board and disposed of at port.		
VI.	Outside 12 nautical miles of land it is permitted to dump organic matter.		
	e that all waste management policies also align with any additional regionally specific measures required by nt RFMOs.		
	Conduct research into both fishing gear and vessel space adaptations that can be made to assist small-scale see vessels to be comply with the waste management policy	Q1 2025	Q4 2027
	Conduct regular fishers training in their understanding of the waste management policy and their asibility to ensure that fishing gear is prohibited to be discarded overboard.	Q1 2025	Ongoing
	Ensure all new members of the fishers receive training in their responsibility in preventing, mitigating, and liating ALDFG when they sign their contracts.	Q1 2025	Ongoing
	Verify that the vessels are adhering to the policies through observer data and/or relevant GEN forms ed by the relevant observer authorities.	Q1 2025	Q4 2030

Action Number and Name	1.6 Recycle end-of-life gear
Relevant Risk Assessment Indicator	1.5.3 – End of life gear is either reused, recycled, reconditioned or part of a buy back scheme
Action Goal	Any recycling, or reconditioning facilities will be sought after by the fisheries and used to repurpose old, end-of-life fishing gear, where appropriate.
Action Description	The fisheries will investigate any recycling, reconditioning, or repurposing facilities available in the relevant ports and flag states, and whether they can be used by the fisheries.
Priority	High
Responsible parties	Fisheries managers
Estimated budget	\$7,500
<b>Expected Completion Date</b>	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date
1.6a – Investigate any recycling, reconditioning, or repurposing facilities in the port states of the fisheries that can be used to repurpose old, end-of-life fishing gear.	Q1 2025	Ongoing

1.6b – Collaborate with any facilities discovered in 1.6a to build a relationship between the fishery and the facility.	Q1 2025	Ongoing
1.6c – Ensure all old, damaged, or end-of-life fishing gear is regularly delivered to the facility	Q1 2025	Ongoing

Action Number and Name	1.7 Advocacy
Relevant Risk Assessment Indicator	1.6.1 – The fishery advocates for improved fisheries management regimes in relation to ADLFG
Action Goal	The longline fisheries and FIPs in the StarKist global supply chain actively and regularly advocate to flag states and RFMOs for improvements in ALDFG and ghost gear requirements.
Action Description	Ahead of the annual meetings of the relevant RFMO Commissions, fisheries and FIPs within the StarKist global supply chain must write position statements and letters requesting that the RMFO improves or develops stronger requirements for ALDFG and ghost gear, including remediation requirements.
Priority	Medium
Responsible parties	Fisheries managers
Estimated budget	\$5,000
<b>Expected Completion Date</b>	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date
1.7a – Assess the current requirements in place regarding ALDFG and ghost gear from all relevant flag states and RFMOs and write a report about any areas for improvement	Q1 2025	Q4 2025

1.7b – Using the information from the review (1.7a), develop position statements and letters requesting that the RFMOs either develop or improve their current requirements about ALDFG and ghost gear. These letters should also request that the monitoring and management evaluation of these measures be regularly assessed by the RFMO.	Q1 2025	Ongoing
1.7c – Continue to assess the RFMO requirements regarding ALDFG and ghost gear to understand if any improvements have been made or to continue advocacy to improve these requirements.	Q1 2025	Ongoing

## 2. Mitigation

Mitigation measures are similar to the preventative actions that fisheries can do to reduce their contribution to ALDFG and ghost gear but are more specifically associated with the types of gear (gear materials) used by the fisheries. For longline fisheries, changes to the materials used in fishing gear relate largely to hooks as this is often lost due to human error and failed dehooking from unwanted catches. Two factors worth for further field research to set up recommended mitigatory measures.

Action Number and Name	2.1 - Biodegradable materials
Relevant Risk Assessment Indicator	2.9.2 – Gear is made of biodegradable materials
Action Goal	Research has been conducted on any possible biodegradable alternatives that can be used to improve the scores for longline fisheries.
Action Description	Research and development opportunities to understand whether any of the gears used in longline fisheries can be made with biodegradable material as opposed to the traditional plastic materials. This could include encouraging the use of biodegradable materials in bait bags, and other associated gear.
Priority	Low
Responsible parties	Fisheries managers, R&D teams, external partners, bait suppliers.
Estimated budget	\$7,500
Expected Completion Date	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date
2.1a – Conduct a review of the longline materials and associated fishing gears currently being used by the longline vessels within the StarKist global supply chain. This includes the materials used to construct the buoys, line, and beacons.	Q1 2025	Q4 2025
2.1b – Using the information obtained from the review of longlining, research possible alternative materials that could be used that are biodegradable.	Q1 2025	Ongoing
2.1c – If the biodegradable materials are fully functional and do not detrimentally impact the fishing operations, deploy 100% biodegradable materials into fishing operations	Q1 2025	Q4 2030
2.1d – Verify the implementation of biodegradable materials by using observer and logbook data	Q1 2025	Q4 2030
2.1e – Communicate with bait suppliers to understand if there is any possibility that the bait packaging could be made from biodegradable materials.	Q1 2025	Q4 2030

#### 3. Remediation

Remediation of ALDFG and ghost gear is an important aspect of improving a fisheries' contribution to this issue as this includes specific measures in place that require fisheries and vessels to implement a retrieval or recovery scheme into their management. Retrieval and recovery of fishing gear from the ocean is often challenging to conduct because storage space on vessels is primarily allocated to fish hold and fishers living space. However, with the increasing quantity of ghost gear in the oceans, remediation efforts are becoming increasingly important.

Action Number and Name	3.1 – Reporting lost gear
Relevant Risk Assessment Indicator	3.10.1 – The vessels report lost gear including their location
Action Goal	All gear loss that occurs on longline vessels in the StarKist global supply chain and the location of said incidents are reported to StarKist FIP Manager and authorities.
Action Description	If a longline fishing vessel in the StarKist global supply chain loses any part of the fishing gear, including branchlines, buoys, beacons, etc. these incidents and the location of said incidents must be reported to StarKist and competent authorities.
Priority	High
Responsible parties	Skippers, fleet owners, fisheries managers
Estimated budget	\$7,500
<b>Expected Completion Date</b>	Ongoing

Tasks/ Milestones	Starting date	Expected completion date
3.1a – Communicate with local authorities and/or fisheries ministries that are responsible for the monitoring and management of the operational area of the longline fisheries and FIPs in the StarKist global supply chain. Use this collaboration to understand the procedures in place to report any lost gear if and when it occurs.	Q1 2025	Q4 2025
3.1b – If there is no regulated system for reporting lost gear to local authority, work with said authority to improve their management measures and ensure that there is an appropriate channel through which reports of lost gear can be sent.	Q1 2025	Q4 2026
3.1c – Implement a policy onboard vessel that requires fishers to report incidents of gear loss onboard the vessel and to ensure that as many details about the type, size, and location of the incident are also reported to the relevant authorities within 24 hours of return to port.	Q1 2025	Q4 2026
3.1d – Educate fishers about their responsibility in reporting any incidents of gear loss to fisheries management authorities.	Q1 2025	Ongoing
3.1e – Regularly review the reporting process of gear loss incidents to monitor the number of incidents that take place and to understand if these incidents are due to a common cause or can be prevented in the future.	Q1 2025	Ongoing

Action Number and Name	3.2 – Recovery of lost gear
Relevant Risk Assessment Indicator	3.10.2 – The vessels cooperate or are subject to any recovery initiatives
Action Goal	The longline vessels in the StarKist global supply chain recover lost gear when encountered at sea.
Action Description	Longline fisheries and FIPs in the StarKist global supply chain will initiate recovery efforts of lost fishing gear that is encountered at sea and encourage vessels to store all ALDFG onboard the vessel until it can be landed in port and appropriately disposed of.
Priority	Medium
Responsible parties	Skippers, fleet owners, fisheries managers
Estimated budget	\$7,500
<b>Expected Completion Date</b>	Q4 2030

Tasks/ Milestones	Starting date	Expected completion date
3.2a – Develop or improve upon pre-existing waste management policy to include a requirement that all longl vessels in the StarKist global supply chain must be retrieving any ALDFG encountered during fishing operations	Q1 2025	Q4 2027

3.2b – Conduct fishers training in the ALDFG recovery procedures to ensure that all members of the vessels can safely and efficiently remove from the water and store ALDFG onboard.	Q1 2025	Q4 2028
3.2c – Require that a log of all recovered ALDFG is regularly completed and is sent to the relevant management authority.	Q1 2025	Q4 2030
3.2d – Ensure that there are appropriate waste disposal facilities in port for stored fishing gear can be transported once the vessel lands.	Q1 2025	Q4 2030
3.2e – Regularly review the reporting recovery process of ALDFG onboard the vessels to ascertain if there are any improvements required to improve efficiency.	Q1 2025	Q4 2030

## References

Adams, D. H. y otros, 2014. Mortality due to a retained circle hook in a longfin make shark Isurus paucus. *Journal of Fish Diseases*, 38(7), pp. 621-628.

Apete, L., Martin, O. V. & Iacovidou, E., 2024. Fishing plastic waste: knowns and known unknowns. *Marine Pollution Bulletin*, Volumen 205, p. 116530.

Bertolazzi, S., Cuttitta, A. & Pipitone, V., 2024. Addressing marine plastic pollution: a systematic literature review. *Current Opinion in Environmental Sustainability*, Volumen 68, p. 101428.

Gilman, E. y otros, 2022. Matching fishery-specific drivers of abandoned, lost and discarded fishing gear to relevant interventions. *Marine Policy*, Volumen 141, p. 105097.

Harris, P. T., Maes, T., Raubenheimer, K. & Walsh, J. P., 2023. A marine plastic cloud - Global mass balance assessment of oceanic plastic pollution. *Continental Shelf Research*, Volumen 255, p. 104947.

Huse, I., Løkkeborg, S. & Soldal, A. V., 2000. Relative selectivity in trawl, longline and gilnet fisheries for cod and haddock. *ICES Journal of Marine Science*, 57(4), pp. 1271-1282.

Laist, D. W., 1995. Marine debris entanglement and ghost fishing: a cryptic and significant type of bycatch?. *Gear Impacts of Lost Fishing*, p. 33.

Macfadyen, G., Huntington, T. & Cappell, R., 2009. *Abandoned, lost or otherwise discarded fishing gear*, Rome: United Nations Environment Programme: Food and Agriculture Organization of the United States.

Richardson, K., Hardesty, B. D., Vince, J. & Wilcox, C., 2022. Global estimates of fishing gear lost to the ocean each year. *Science Advances*, Volumen 8, pp. 1-8.

Stelfox, M., Hudgins, J. & Sweet, M., 2016. A review of ghost gear entanglement amongst marine mammals, reptiles and elasmobranchs. *Marine Pollution Bulletin*, 111(1-2), pp. 6-17.

Wooton, N., Nursey-Bray, M., Reis-Santos, P. & Gillanders, B. M., 2022. Perceptions of plastic pollution in a prominent fishery: building strategies to inform management. *Marine Policy*.