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**INFORMATION PAPER ON AUSTRALIA'S TRACKING DEVICE TRIAL TO RETRIEVE  
ABANDONED, LOST OR OTHERWISE DISCARDED FISHING GEAR (ALDFG)**

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## Information paper on Australia's tracking device trial to retrieve abandoned, lost or otherwise discarded fishing gear (ALDFG)

### **Highlights:**

- ***Regional and international collaboration is required to address the transboundary nature of abandoned, lost or discarded fishing gear (ALDFG).***
- ***Australia shares information regarding its current marine pollution initiative involving ALDFG tracking, in accordance with the information sharing provisions of CMM 2017-04 (Marine Pollution).***
- ***This ALDFG initiative assists Australia in successfully removing marine pollution from its waters.***
- ***Australia wishes to share its experience and encourages similar initiatives and information sharing by WCPFC CCMs.***

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### Introduction

The Western and Central Pacific Fisheries Commission (WCPFC) seeks to address marine pollution including the impacts of abandoned, lost or discarded fishing gear (ALDFG) in the Western Central Pacific Ocean (WCPO) through Conservation and Management Measure (CMM) 2017-04 on Marine Pollution. Paragraph 4 of CMM 2017-04 encourages members, cooperating non-members and participating territories (CCMs) to undertake research into marine pollution related to WCPFC fisheries, to further develop and refine measures to reduce marine pollution, and to share this information with the Scientific Committee (SC) and the Technical and Compliance Committee (TCC).

In 2020, Australia commenced an ALDFG tracking trial to further understand the impacts of ALDFG on the marine environment. The trial tested the suitability and deployment of satellite tracking devices from patrol vessels operating in northern waters of Australia. The devices are attached to ALDFG that cannot be safely retrieved at the time of detection, and instead tracks the location for retrieval at a later date by a suitable vessel. This has increased the amount of ALDFG removed from Australian waters and the south western Pacific Ocean, improving the health of ocean systems and supporting sustainable and effective fishing operations.

The purpose of this paper is to share Australia's experience in addressing ALDFG, in accordance with the information sharing provisions of CMM 2017-04. Australia recognises its responsibility to the international community as well as its capacity to engage and therefore stands ready to collaborate with partners on this issue beyond Australian waters.

### Background

ALDFG is the collective term used for fishing gear that has been deliberately left at sea with no intention of retrieval, has been deliberately thrown overboard with no intention of retrieval, or has been lost accidentally. ALDFG comes in many different forms and can range from small fishing buoys to large fish aggregating devices (FADs) and ghost nets.

ALDFG is transboundary in nature and therefore its reach includes coastal and high seas fisheries around the world. This form of marine pollution has serious impacts, including entangling marine wildlife or 'ghost fishing', altering the benthic environment, creating navigational hazards, introducing synthetic material into the food web, introducing alien species transported by the gear and the significant costs of gear retrieval. Due to the widespread impacts of ALDFG, action across many platforms is required to address the issue and includes consideration of preventative as well as reactive steps.

Collaboration is vital, both domestically, regionally and internationally, to address the widespread impacts of ALDFG, supported by robust national legislation and policy. Marine pollution can be regulated in many ways including through national legislation, international agreements<sup>1</sup> and through regional fisheries management organisations (RFMOs). Government and non-government organisations (NGOs) can complement national and international regulations by implementing additional marine pollution initiatives. Through effective regional and international collaboration, countries can collectively address the issue of ALDFG in the marine environment.

### ALDFG tracking trial in Australia

A significant amount of ALDFG is retrieved within the Australian Exclusive Economic Zone (EEZ), particularly in the northern waters of Australia, with many nets originating from Southeast Asian fishing vessels outside Australia's EEZ. In some instances, ALDFG is too large to be retrieved safely by the identifying or responding vessel. Once the responding vessel has left the area, it is often difficult to relocate the gear due to the fact that the location of ALDFG is dependent on weather conditions, making later retrieval by a larger or more suitable vessel expensive and time consuming.

Australia commenced an ALDFG tracking trial in late 2020, supported by the combined efforts of multiple Australian agencies including the Australian Fisheries Management Authority (AFMA), the Department of Agriculture Water and Environment (DAWE), Parks Australia and Maritime Border Command (MBC). The trial tested small satellite devices and their suitability and effectiveness in tracking ALDFG. In instances where ALDFG is found but cannot be retrieved safely, a tracking device can be attached to the ALDFG to enable the gear to be relocated and retrieved by a suitable vessel at a later time.

A preliminary trial tested the suitability of two types of tracking devices, concluding that the Collecte Location Satellites (CLS) generic tracker is the most suitable device for the purpose and conditions described in terms of size and cost (see Figure 1). The unit is small, robust, has a battery life of three-six months and is relatively inexpensive. Since the preliminary trial, Australia has purchased 20 units, configured to establish satellite communication. These units will be deployed on Australian Navy and Australian Border Force patrol boats, ready to be attached to ALDFG unable to be retrieved immediately.

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<sup>1</sup> The International Convention for the Prevention of Pollution from Ships (MARPOL) and the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (London Protocol). Both are key international agreements regulating pollution in the marine environment and promote effective control of waste dumping at sea.



Figure 1 - CLS Generic Tracker (AFMA, 2020).

As a part of this trial, Australia deployed a tracking device on a large ghost net in June 2021 that was unable to be retrieved when initially found. The ghost net was over 40 metres long, weighed two tonnes and was made of synthetic nylon net and torpedo floats (see Figure 2). The deployed tracking device continuously monitored the location of the ghost net, allowing it to be tracked, its trajectory monitored to allow for later retrieval. The net was brought to the Australian mainland where it was treated for biosecurity pests and disposed successfully by authorised contractors. As is the case for all recovered ALDFG, the catch composition was recorded to note the effects of ongoing 'ghost fishing' once the net was recovered. There is a high chance that this ghost net may not have been relocated and retrieved if the tracking device had not been attached to monitor its location. The ability to track the net's movement over time enabled recovery assets to be mobilised and deployed to the location, resulting in less time steaming and searching. This case provides more confidence in the program and demonstrates the value of this Australian initiative.

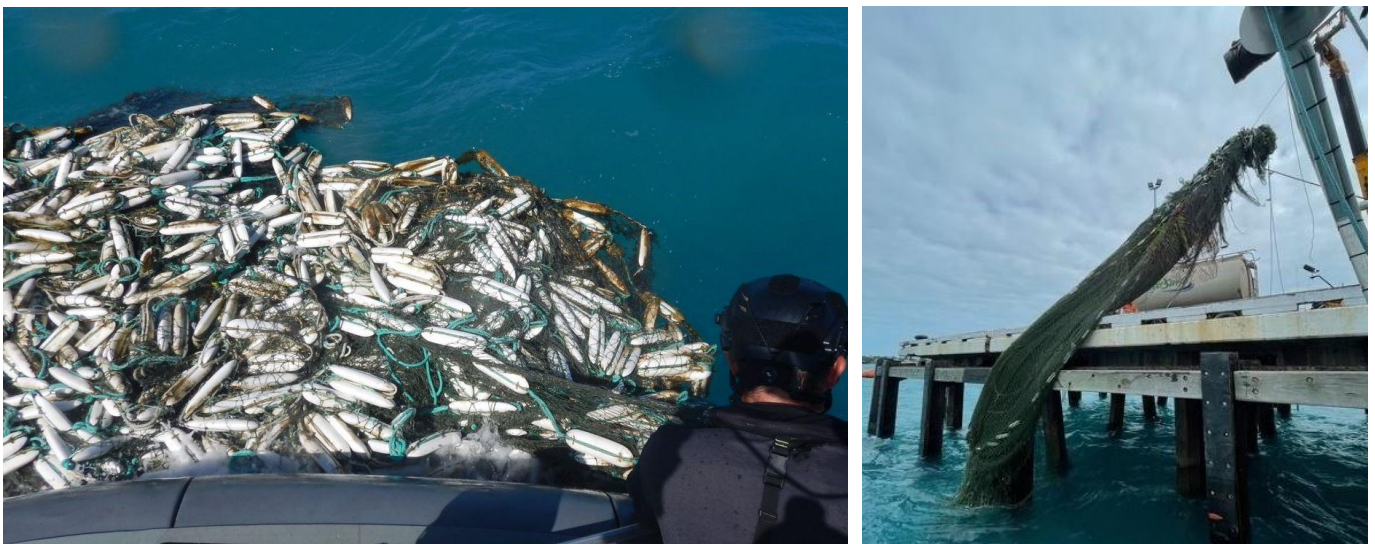


Figure 2 - Ghost net tracked through device trial when found and when retrieved by contractors (AFMA, 2021).

Tracking devices are a valuable monitoring tool that greatly assists in removing ALDFG from Australian waters, complementing aerial and on-the-water surveillance. The ongoing success of the trial is made possible through effective project management, resource allocation and data sharing, all of which is attributed to successful interagency collaboration.

## CMM 2017-04

In 2017, FFA Members submitted a proposal for a binding WCPFC CMM addressing marine pollution. CMM 2017-04 recognises that marine pollution from vessels fishing in the WCPO places increasing pressure on ocean ecosystems, maritime safety and economies. The measure came into force in January 2019 and outlines CCMs' responsibilities to minimise marine pollution emanating from fishing vessels in the region.

CMM 2017-04 prohibits the discharge of all plastics (not including fishing gear)<sup>2</sup> and encourages CCMs to prohibit discharge of oil, fuel, garbage (including fishing gear), incinerator ashes and sewage<sup>3</sup>. The measure contains additional provisions that encourage CCMs to undertake research<sup>4</sup>, provide adequate port/waste facilities<sup>5</sup>, record/share information<sup>6</sup> and conduct crew training<sup>7</sup>. Despite the measure being binding, not all obligations are mandatory. Greater sharing of initiatives implemented by CCMs that help meet the measure's binding and non-binding obligations is required to understand the opportunities available to address the issue of marine pollution from vessels fishing in the WCPO.

Australia's tracking trial responds to paragraphs 4 and 9 of CMM 2017-04:

- Paragraph 4 provides that '*CCMs are encouraged to undertake research into marine pollution related to fisheries in the WCPFC Convention Area to further develop and refine measures to reduce marine pollution, and are encouraged to submit to SC and TCC any information derived from such efforts*'. Australia's trial has refined the way it retrieves ALDFG and also increases the amount of gear that can be recovered due to gear location tracking abilities.
- Paragraph 9 provides that '*CCMs are encouraged to develop communication frameworks to enable the recording and sharing of information on fishing gear loss in order to reduce and facilitate recovery of fishing gear*'. As the tracking devices operate on a satellite signal, the location of the gear is tracked through Australia's Vessel Monitoring System until it can be retrieved by a suitable platform. Without this technology, gear can float away from the last known location or sink and therefore is unable to be located and retrieved.

CMM 2017-04 is an important step in recognising the increasing levels of marine pollution and ALDFG in the WCPO. However, as the measure itself states<sup>8</sup>, further international work is needed to eliminate fishing gear pollution and its impact on the marine and coastal environment.

## Australia's Regulation of Marine Pollution

Australia addresses marine pollution in many ways. Australia applies its international obligations (such as those prescribed in MARPOL, the London Protocol and RFMO CMMs) through domestic legislation and regulations. These regulations apply to Australian fishing vessels and to foreign fishing vessels operating in Australia's EEZ. There are many sources of marine pollution other than fishing vessels including merchant vessels and mismanaged land based pollution. It is therefore important that Australia ensures appropriate steps are taken along the spectrum of responsibility, from entry of pollution into a marine system to the removal and disposal processes. Australia

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<sup>2</sup> Paragraph 2, CMM 2017-04.

<sup>3</sup> Paragraph 3, CMM 2017-04.

<sup>4</sup> Paragraph 4, CMM2017-04.

<sup>5</sup> Paragraph 6, CMM 2017-04.

<sup>6</sup> Paragraph 9, CMM 2017-04.

<sup>7</sup> Paragraph 11, CMM 2017-04.

<sup>8</sup> See CMM 2017-04 preamble and paragraphs 3, 5, 9 and 10.

acknowledges that the fishing industry, and other responsible industries all have a part to play in addressing this issue.

Australia implements a ‘whole of government’ approach to tackle this issue, involving numerous agencies that specialise in key areas of marine pollution prevention and responses. Interagency collaboration is required for the entire process, from reducing and preventing ALDFG entering waters, to the identification, retrieval and disposal of derelict gear. Australian agencies including AFMA, DAWE, MBC, Parks Australia and the Australian Maritime Safety Authority work together to provide funding and resources for the tracking trial and to raise awareness of the many other initiatives<sup>9</sup> that remove ALDFG from Australian waters.

### Addressing ALDFG

Marine pollution must be addressed on a national, regional and international scale, with all initiatives contributing collectively to reducing or eliminating marine pollution. In addition to addressing ALDFG regionally through RFMOs, supplementary government and non-government work aims to address this issue. These initiatives complement work currently underway, such as Australia’s ALDFG tracking trial.

Regional initiatives have assisted in quantifying the issue of ALDFG and helped to identify ways in which it can be addressed constructively with the fishing industry and relevant regional partners. In early 2021, the Pacific Islands Forum Fisheries Agency (FFA) commissioned a study on ‘*An assessment of fishing vessels plastic waste generation in the WCPO region and potential measures to improve waste management in the fleet*’<sup>10</sup>. This study aimed to further understand plastic waste generated by fishing vessels in the WCPO and estimated the amount of waste being generated and disposed at sea from longline and purse seine vessels. The study identified possible strategies to prevent all plastic pollution from fishing vessels from entering the ocean including through the introduction of Garbage Record Books, disposal of waste at home ports and strengthened implementation and reporting of CMM 2017-04. This work displays the Pacific’s regional commitment to address this prevalent issue, improving the health of oceans and supporting FFA Members’ sustainable management of their fisheries.

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<sup>9</sup> For example, other relevant Australian programs include: Indigenous ranger marine debris clean-up programs (state and Commonwealth), Ghost Net Initiative (Commonwealth), No Rubbish on Country (State and NGO), National Waste Policy Action Plan (local, state/territory and Commonwealth), Australian Marine Debris Initiative coordinated by Tangaroa Blue (NGO) and the International Maritime Organisation Marine Litter Action Plan (international).

<sup>10</sup> Forum Fisheries Agency, 2021 - <https://www.ffa.int/node/2569>



As RFMO members and signatories to relevant international agreements, countries have various obligations in relation to ALDFG and marine pollution. However, NGOs and community initiatives also undertake considerable work to complement actions by government bodies. NGO and community run programs play key roles in removing derelict gear that has already entered marine environments, engaging communities in gear recovery, recycling, and repurposing initiatives (see Figure 3). These outreach programs often engage both the general public as well as fishing crew and operators and therefore educate a wide range of community members on the effects of ALDFG.



*Figure 3 – AFMA-commissioned Erub Arts Centre in the Torres Strait to create this repurposed ghost net art piece which now sits proudly in the AFMA Canberra office (AFMA, 2021).*

Through various national and regional initiatives, the impact of ALDFG is progressively being addressed within marine ecosystems. Australia is committed to continue its work and efforts to address ALDFG through trials such as the current ALDFG tracking trial.

## Conclusion

WCPFC CCMs have expressed their concern over the widespread and harmful nature of marine pollution in the WCPO. The impacts of ALDFG in the marine environment can damage marine, reef and coastal habitats, harm marine life through ghost fishing, entanglement, ingestion and acting as habitat for the spread of invasive species, and create navigation hazards. CCMs and their fishing industries continue to take steps to understand and respond to the impacts of ALDFG on the marine environment.

Australia's ALDFG tracking trial is one initiative that can shed more light on the movement of ALDFG and its effect on marine life. Importantly, this initiative can also assist in removing marine pollution from the WCPFC Convention Area. Through effective national, regional and international collaboration, WCPFC CCMs can collectively work towards the goal of eliminating marine pollution in the WCPO. Australia recognises its responsibility to the international community and therefore stands ready to work collaboratively with partners to further address this global issue.