



Australian Government  
Australian Fisheries Management Authority

## Guide to developing new seabird mitigation devices in trawl fisheries

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# 1 Background

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Minimising interactions between seabirds and otter trawl fishing operations is recognised as a priority for AFMA and the fishing industry. AFMA's report: Assessing the Effectiveness of Seabird Mitigation Devices in the Southern and Eastern Scalefish and Shark Fishery of Australia<sup>1</sup>, found that 600mm warp deflectors (pinkies) reduce heavy interactions between seabirds and warp wires by 75 per cent.

As a result, AFMA has implemented seabird management plans (SMPs) for all otter board trawl vessels operating in the Southern and Eastern Scalefish and Shark Fishery (SESSF). Each vessel's SMP lists the AFMA approved seabird mitigation measures for that vessel, including the compulsory use of 600mm diameter pinkies<sup>2</sup>.

There is increasing interest from fishers in developing new mitigation devices or enhancing the current AFMA approved devices to improve operational efficiencies, crew safety and further reduce seabird interactions.

New or modified mitigation devices will need to be approved by AFMA for each SMP. New or modified mitigation devices will need to be assessed to ensure they meet the required bycatch reduction target and maintain a safe working environment for crew. This document outlines the necessary steps to plan, develop, trial and implement a new seabird mitigation device in the SESSF otter board trawl fisheries.

## 2 Key considerations for the development of new mitigation devices

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1. Scientific permits can only be issued for at sea testing of new mitigation devices if there is a clear project plan and if the application meets AFMA's policy for scientific permits [Fisheries Management Paper \(FMP11\) Scientific Permits](#).
2. Testing of new or modified mitigation devices shall follow the scientific procedure specified in this document.
3. New or modified mitigation devices should not jeopardise the work health and safety standards for crew.
4. Only mitigation devices that demonstrate bycatch reduction equal to or better than 600mm pinkies will be approved by AFMA.

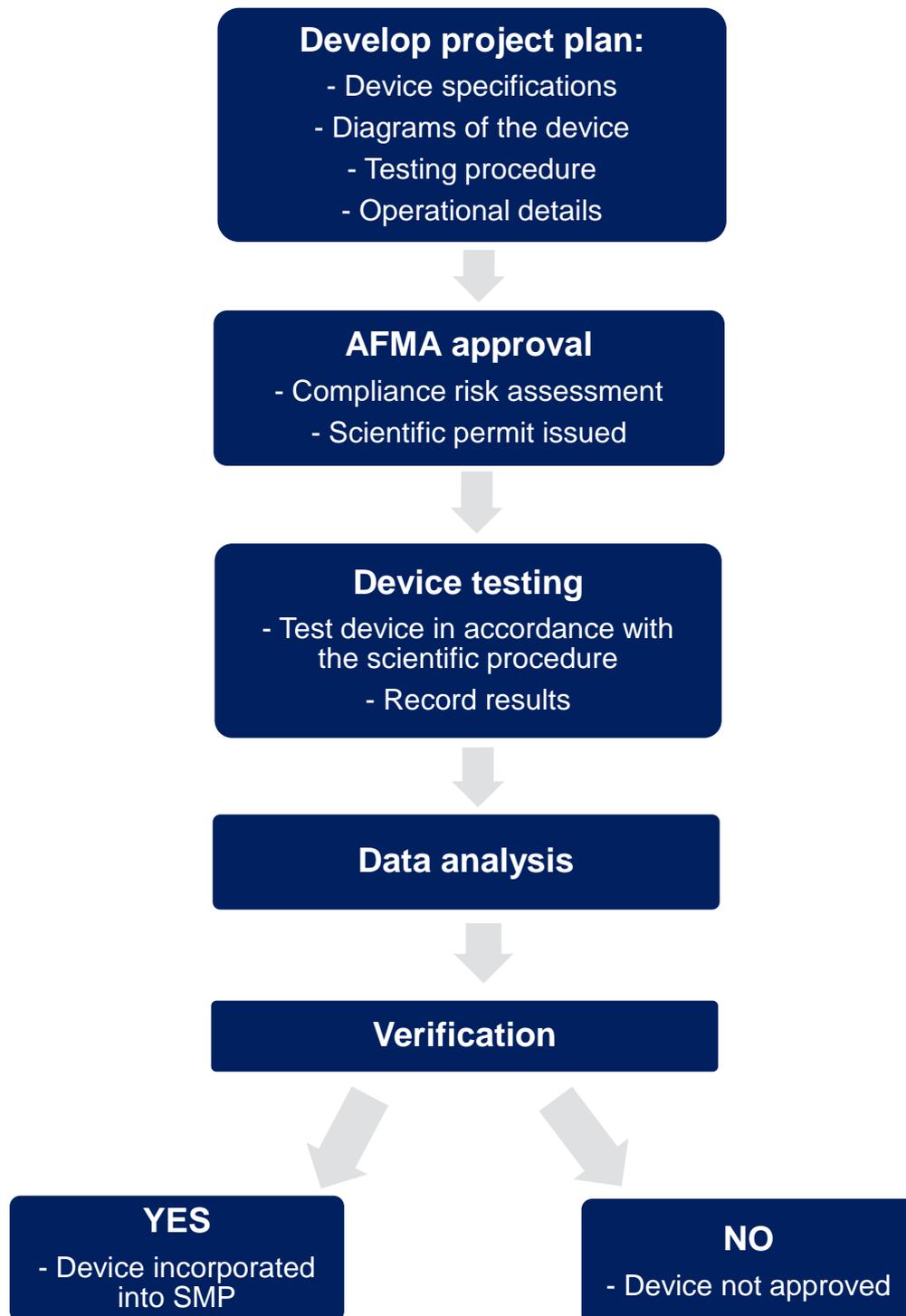
<sup>1</sup> AFMA report available on AFMA's website: <http://www.afma.gov.au/wp-content/uploads/2014/12/Seabird-Mitigation-Assessment-Report.pdf>.

<sup>2</sup> Unless other seabird mitigation devices have been approved for that vessel's SMP, for example a zero discharge of biological material while fishing gear is in the water.

### 3 Summary of device trialling procedure

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The flow diagram below sets out the procedure for industry to follow to complete the assessment for a new seabird mitigation device.



## 4 Project plan

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Prior to testing, AFMA requires a project plan which details the proposed mitigation device and testing procedure. The project plan shall include:

1. Device specifications:
  - 1.1. List of materials required to construct device
  - 1.2. Dimensions of device
2. Diagram of the device:
  - 2.1. Drawings / pictures
3. Testing procedure:
  - 3.1. How the device will be tested (methodology)
  - 3.2. Who will test the device
4. Operational details:
  - 4.1. Deployment and retrieval procedure for the device
  - 4.2. Diagram showing the device deployed
  - 4.3. Work health and safety consideration

## 5 AFMA approval

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AFMA will review the project plan to ensure there is sufficient detail of proposed mitigation device and that the approved testing procedure will be followed.

Any proposed seabird mitigation device will be assessed by an AFMA compliance risk assessment. AFMA must be able to monitor compliance with any new mitigation device and this must be enforceable through surveillance.

AFMA will only approve the at sea testing of new or modified seabird mitigation devices which provide a satisfactory project plan and are rated as satisfactory by the AFMA compliance risk assessment.

The testing of a new or modified mitigation device may be undertaken with:

1. a scientific permit, within Commonwealth waters, granted by AFMA on application, or
2. a state license, within state waters, where Commonwealth Seabird Management Plans (and a scientific permit) are not applicable.

## 6 Device testing

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Comprehensive testing was carried out to determine the efficiency of pinkies in reducing seabird interactions— provided in the AFMA report Assessing the Effectiveness of Seabird Mitigation Devices in the Southern and Eastern Scalefish and Shark Fishery of Australia. The results of this assessment determined that 600mm diameter pinkies reduced heavy contact by around 75 percent.

**AFMA requires robust information that the new device being tested performs as well, or better, than 600mm diameter pinkies.**

1. Data must show that the mean number of seabird interactions observed for the new device is equal to or less than the mean number of interactions observed for pinkies during the same trial.
2. New mitigation devices must be assessed comparatively to pinkies using randomised treatments for the first shot and then alternated throughout the day (new devices cannot be compared with a naked warp).
3. Seabirds must be actively searching or feeding around the vessel for each shot to be accepted as a valid shot for the trial. Shots without active seabirds provide no information on the effectiveness of the seabird mitigation device and cannot be used.

**For a new device to be approved by AFMA it must satisfy the decision rule:**

The new device must demonstrate that the mean interaction rate with seabirds is equal to or less than pinkies across 30 paired shots.

### Worked example – decision rule

Skipper Bob would like to trial a new seabird mitigation device on his vessel.

As a first step Bob needs to develop a project plan, it must include information and diagrams of the proposed device, the testing procedure and operational details.

Bob will send the project plan to AFMA for approval. AFMA will approve a device for testing if the project plan is satisfactory and the proposed device passes the AFMA compliance risk assessment. If the device is approved AFMA will issue Bob with a scientific permit to test the device.

To satisfy the decision rules Bob must complete 30 paired shots with the new device and a 600mm diameter pinky. If after 30 paired shots the proposed device has a mean interaction rate which is equal to or lower than pinkies Bob can apply to have the new device approved by AFMA.

AFMA will review the data from at sea testing; if the new device followed the testing procedure and demonstrates that it performs better than or equal to 600mm pinkies the new device will be approved by AFMA.

If the device is approved AFMA will issue Bob with a new seabird management plan.

## 7 Data analysis and verification

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Results from the at sea trial must be substantiated by either:

1. third party contractor hired to test the new device and record the results; or
2. AFMA observer hired to test the new device and record the results.

Once the at sea test results have been analysed and the new device meets the testing procedure an application for approval of the new device should be submitted to AFMA.

## 8 Device approval procedures

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The application must include evidence to support the claim that the new or modified seabird mitigation device performs equal to or better than 600mm diameter pinkies.

1. The application shall include data from the sea trial and the data must have been collected by a third party contractor or AFMA observers.
2. The application shall include sample video footage of the device deployed during the trial.
3. If the results of the trial fall outside the testing procedure the device will not be approved.
4. If approved, the device can be incorporated into the vessel's SMP.

## 9 Summary

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There have been substantial reductions in seabird interactions with trawl fisheries in the past decade. It is in the interest of AFMA and industry to continue reducing seabird mortality with strategies conducive to crew safety and cost-effective commercial fishing. In line with this, AFMA aims to support the development of new mitigation devices by industry and welcomes innovation that will meet the outlined conditions and requirements of new seabird mitigation devices.