Action Plan for a Fishery Improvement Project (FIP) for Pink Ling and Leatherjacket caught by Otter Trawl in the Commonwealth South East Trawl Sector (CTS) of the Southern and Eastern Scalefish and Shark Fishery (SESSF)

Prepared by WWF Australia, under the WWF-Coles Sustainable Seafood Partnership

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INTRODUCTION:

This document captures actions that will be taken to deliver fishers of the Commonwealth Trawl Sector to MSC standards, as agreed to by the FIP stakeholders including the South East Trawl Fishing Industry Association during the FIP Action Planning meeting, held in Melbourne, Australia on 15 July 2014. This includes information on the level of priority (high or medium), current status (ongoing or new) and expected timeframe to complete the initial tasks.

The definition of the fishery as outlined in the scoping document and thus the FIP is:

Fishery:	Otter trawl sub-fishery of the Commonwealth Trawl Sector (CTS)
CAAB names:	Pink Ling (37 228002), Ocean Leatherjacket (37 37465006)
Scientific name & Authority:	Pink Ling (*Genypterus blacodes*, Forster, 1801) Ocean Leatherjacket (*Nelusetta ayraudi*)
Gear type:	Otter-trawl
Management Authority:	Australian Fisheries Management Authority (AFMA)

The Australian Fisheries Management Authority (AFMA) is the government body responsible for the management of all of Australia's Commonwealth fisheries. AFMA is not a signatory of this FIP, however they have agreed to support the process through the provision of relevant information and, where priorities overlap, to work together on specific issues. To this extent, AFMA have been identified as the group responsible for carrying out specific tasks in this action plan. However AFMA is only able to facilitate these actions where they align with its role and objectives which are specified in legislation and Australian Government policy. To the extent the planned actions do not reflect AFMA's priorities, alternative approaches to achieving the action must be sought. Alternative actions can also be considered but they must ensure that the relevant MSC criteria addressed by the initial action are achieved to the 80 guidepost level.

The Scoping Document and Action Plan were reviewed by an accredited CAB, MRAG Americas. Comments from these reviews have been considered in finalising this Action Plan. The FIP Action Plan is audited annually by an accredited CAB. All actions, budget and timelines may be reviewed and altered at any time if all signed parties agree with the changes. All estimated budget lines presented in this Action Plan are GST Exclusive.

1. Rebuild the eastern stock of pink ling to at least BMSY

The Pink Ling fishery is considered to comprise of two separate stocks (eastern and western). There are no current issues with the stock status of the western stock as modelling suggests it is currently above target levels. However biomass estimates for the eastern zone were 25% of unfished with 95% credibility interval ranging from 17% - 38% of unfished levels. While there was 85% certainty that the stock was above B20%, modelling suggests the fishery was well below BMSY and thus there is a need to ensure stock rebuilding.

The fishery is managed under a global total allowable catch (TAC) that is determined by summing the eastern and western recommended biological catches (RBCs) determined as the biomass reference point that achieves maximum economic yield. This is in line with the Southern and Eastern Scalefish and Shark Fishery (SESSF) Harvest Strategy. For the eastern stock, the RBC has been assessed as sufficient to achieve recovery of the stock within the guidelines of the MSC framework.

Pink ling is currently managed under a multi-year TAC that ends in April 2017, with a landed catch limit of 349 t for the Eastern stock, with an allowance for state catches and discards of 50 t. On 3 April 2014, the Australian Fisheries Management Authority (AFMA) notified concession holders of possible closure of the fishery between depths of 350m-550m if the catches approach 350t recommended biological catch (RBC). The catch cap is currently managed by allowing operators to choose one management arrangement:

1) A daily catch limit of 250 kg

Or,

2) Opting into a system in which operators can catch their quota 25% east 75% west if they are able to do so (the latter being more conservative than the east/west RBC split).

There is some concern that these arrangements may result in excessive discarding of pink ling, and it is unclear if this will be accurately reported by fishers.

The following actions are intended to ensure compliance with the catch limit for the Eastern stock, and to accurately report and minimise the levels of discards for the fishery during the stock rebuilding phase.

1.1 Ensure that regional RBCs are not exceeded for either stock of pink ling. Continue to improve management arrangements to ensure that the regional limits are maintained but discards are minimised.

MSC Performance Indicators addressed	MSC 1.1.1. Stock status reduces the likelihood of recruitment overfishing MSC 1.1.3. If stock is depleted, is there recovery?

The AFMA letter to licence holders was written prior to the 2014/15 quota season. If the TAC continues to be managed in a global manner and no new science is presented AFMA need to ensure that the same commitment to managing to the regional catch caps in a non-quota system manner is maintained during the stock rebuilding phase.

While the daily limit appears to constrain landings, there is concern that this promotes discarding of pink ling and creates a disincentive to report accurately. In the same letter, AFMA encouraged industry members to develop alternative approaches to the daily catch limit for ensuring the catch cap is maintained. AFMA and SETFIA will continue to work on the most appropriate non-legislative arrangements for the fishery while stock rebuilding of pink ling is occurring.

Action 1.1.1 AFMA to limit catches consistent with the Commonwealth Fisheries Harvest Strategy Policy for future quota seasons while the pink ling fishery is rebuilt.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1: AFMA managers to develop and implement management arrangements consistent with the Commonwealth Fisheries Harvest Strategy Policy to give effect to rebuilding of the eastern stock for the duration of the FIP.	Ongoing	AFMA	Within current	AFMA

Action 1.1.2 AFMA and SETFIA to develop improved management arrangements to minimise the discarding of pink ling while stocks are rebuilt to target levels.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1: Evaluate the effectiveness of the 25/75 management arrangement in maintaining catches within the catch cap while minimising discards.	April 2015	AFMA	Within current	AFMA
2: Where possible continue to evolve management arrangements that minimise discarding of pink ling while maintaining catch caps for the Eastern stock.	Ongoing	AFMA and SETFIA	Within current	AFMA and SETFIA

1.2 Improve the reporting of pink ling discards by commercial fishers.

MSC Performance Indicators addressed	MSC 1.1.1. Stock status reduces the likelihood of recruitment overfishing MSC 1.1.3. If stock is depleted, is there recovery?

When catches of pink ling exceed the daily catch limits over a fishing trip, fishers are forced to discard excess catch. Discarding is wasteful and does not promote industry confidence in the management of the fishery. It is possible that fishers are not fully reporting discards in commercial logbooks. Under-estimates of discards will result in under-estimates of commercial CPUE. While approaches that minimise discarding are required, it is equally important to ensure that fishers accurately record the levels of pink ling discards in logbook data. Currently independent estimates of discard rates from observer data are used in stock assessment modelling. Improving logbook reporting will help to confirm if estimates of discards from observer data are an accurate reflection of general fishing activity.

1.1.1 E-log books are modified to ensure fishers enter a value for pink ling discards (i.e. either 0 or a positive integer)

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Ensure all commercial fishers are using E-logbooks	June 2105	Consultant & SETFIA	$44,000	Coles
2. Modify and implement changes to E-logbook software to make fishers to enter a value for pink ling discards (i.e. 0 or a positive integer)	June 2015	Consultant & SETFIA	$17,100	Coles

1.1.2 Develop and ensure fishers undertake E-learning modules to educate fishers on the importance of accurately recording discard levels.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Develop E-learning module for discarding.	Dec 14	SETFIA	Existing project	AFMA
2. Ensure fishers engage in and successfully complete the course. Fishers to understand Coles requirements and subsequent motivation to complete the course(s).	Ongoing	SETFIA	Existing project	TBC
3. Provide an additional report on completion of the course.	Dec 2014, Dec 2015, Dec 2016	SETFIA	Existing project	TBC

1.1.3 Improvements in discard recording are tracked by comparing data from independent observers with the logbook returns.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Analyse and report on pink ling discard reporting by fishers by comparing E-logbook with independent observer data to examine effectiveness of E-logbook changes and E-Learning courses.	June 2017	AFMA	Within current	AFMA
2. If under-reporting is still occurring, identify and address trends or on-going issues in under-reporting.	Dec 2017	AFMA	Within current	AFMA

2. Continue to improve certainty in the assessment model for pink ling

The Resource Assessment Groups (RAGs) assess stock assessment modelling inputs and outcomes and provides advice on the RBCs for quota species in the SESSF. Standardised CPUE data obtained from commercial logbooks is one component of the data used for

SESSF stocks. One of the most significant problems with commercial CPUE data in the SESSF as an index of abundance is that fishers modify their fishing practices to suit market demands, quota availability and fishery management measures e.g. low or bycatch TACs affect targeting of pink ling which influences CPUE. Also, it is likely that some fishers don't record discarded catch in logbooks, which means the Integrated Scientific Monitoring Program observer estimate of discards which is currently used in assessments is unable to be confirmed. All of these factors can provide misleading trends in CPUE which in turn is likely to provide misleading estimates of relative biomass that are used to make Recommended Biological Catch (RBC) recommendations.

2.1 Examine the value of fishery-independent surveys as an additional index of abundance to reduce reliance on CPUE data in the pink ling assessment model

MSC Performance Indicators addressed	MSC 1.1.1. Stock status reduces the likelihood of recruitment overfishing MSC 1.1.3. If stock is depleted, is there recovery? MSC 1.2.4. Adequate assessment of stock status

Fishery Independent Surveys (FIS) are one means to get an independent index of abundance for some SESSF stocks. These have been the highest priority research projects for the SESSF for over a decade.

The value of FIS indices of abundance increases with time. Surveys were completed in 2008, 2010, 2012 and recently in 2014. To date it has not been possible to use these data to determine whether they may be used to improve stock assessment modelling for pink ling. If trends in abundance of pink ling from the FIS are biologically sensible and statistically robust, they may be used as a second index of abundance, along with commercial CPUE, in model fitting.

The TAC for pink ling has been agreed for the next three years and it has also been agreed that the stock assessment model will be revisited in 2016 unless there are unexpected circumstances. In the meantime, an analysis of existing FIS data is required to determine their value as an index of abundance for pink ling. If the analyses indicate that the data are likely to provide a significant improvement in model fit, the FIS data should be included in the 2016 stock assessment model. By this time an additional survey may have been conducted meaning that the dataset will have five data points over an eight year period.

2.1.1 Consider using measures of pink ling abundance from fishery-independent surveys as a secondary index of abundance in model fitting.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Conduct analyses to determine the potential for pink ling abundance estimates from FIS to be used as a secondary source of abundance information in model fitting.	Dec 2015	AFMA	Within current	AFMA
2. If abundance measures are considered a cost effective source of supplementary information,	June 2016	AFMA/ SETFIA	Within current	AFMA and

conduct a FIS in 2016.				SETFIA
3. If abundance measures from the 2014 FIS are considered a valuable source of supplementary information on pink ling abundance, include fishery-independent survey data in stock assessment modelling for pink ling in 2016.	Dec 2016	AFMA (Stock assessor)	Within current	AFMA

2.2 Examine additional approaches to improve the reliability of standardised CPUE as a measure of relative biomass

MSC Performance Indicators addressed	MSC 1.1.1. Stock status reduces the likelihood of recruitment overfishing MSC 1.1.3. If stock is depleted, is there recovery? MSC 1.2.4. Adequate assessment of stock status

There are many factors that can affect CPUE as a measure of relative abundance and these can be addressed through standardisation procedures. The introduction of per vessel catch limits for pink ling in the eastern zone is particularly likely to have affected CPUE because it changes the targeting behaviour of fishers. This is likely to result in under-estimation of CPUE relative to years when pink ling are targeted.

A number of actions for this FIP aim to improve the recording of discards by fishers. Taking these developments into account, examination of the effects of a change in behaviour of fishers that results from a per vessel catch limit is needed when standardising pink ling commercial CPUE for the 2016 stock assessment model.

2.2.1 Incorporate changes in targeting behaviour of fishers in CPUE standardisation for pink ling.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Endorse the examination of standardisation techniques to assess the potential impact of per vessel catch controls. Examine the potential use of logbook recorded discards for informing pink ling CPUE	September 2015	RAG	Within current	AFMA
2. Subject to Task 1, conduct standardisation of pink ling CPUE including examination of the effects of per vessel catch controls and potential for using logbook recorded discards.	December 2016	AFMA	Within current	AFMA
3. Where possible, include revised measures of standardised CPUE in stock assessment modelling for pink ling.	December 2017	AFMA	Within current	AFMA

3. Obtain an understanding of stock status for leatherjacket

Catch data suggest that the biomass of leatherjackets in South-East Australia can be highly variable. While ocean and velvet leatherjackets have been taken regularly by various sectors of the SESSF in recent decades, greater than 90% of total landings were harvested by the CTS between 2000 and 2005 (average annual catch of 154 t). While this catch is significant and is likely to be an under-estimate of total mortality (discard rates are high due to the relatively low value of the species), there is currently no quota or stock assessment for leatherjackets.

3.1 Assess the stock status of leatherjacket against the MSC Risk Based Framework

MSC Performance Indicators addressed	MSC 1.1.1. Stock status prevents recruitment overfishing

Leatherjackets are a byproduct species of the CTS and as such are not assessed with a formal stock assessment, nor are they given an allocated TACC. AFMA monitors catches of byproduct species and assesses them under the Ecological Risk Assessment framework.

The revised MSC certification requirements allow species to be assessed under the Risk Based Framework for PI 1.1.1 stock status. The species needs to be assessed via a Consequence Analysis (CA) and Productivity Susceptibility Analysis (PSA). If the species passes all criteria in each process to the SG80 level, the species can be considered as passing the MSC criteria 1.1.1, 1.1.2, 1.1.3 and 1.2.4. AFMA has previously conducted a PSA and SAFE assessment for ocean leatherjackets and thus only a CA is required.

If leatherjackets fail to meet the SG80 for any of the criteria of the CA and PSA analyses, leatherjacket must be either removed from the FIP or a stock assessment must be conducted that satisfies the default assessment tree of the MSC certification requirements.

3.1.1 Conduct an independent Consequence Analysis and Productivity Susceptibility Analysis to ensure that leatherjacket are harvested sustainably.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Review the PSA and SAFE assessments conducted by AFMA to determine whether they meet the SG80 level of the revised MSC criteria. Conduct a Consequence Analysis to determine a MSC score under the RBA framework.	April 2015	AFMA/ Consultant	$2K	Coles
3. If the RBA does not meet the SG80 benchmark, determine whether or not a cost effective data collection strategy may reduce the uncertainties in assessment to enable a SG80 score to be attained.	June 2015	AFMA/ SETFIA/ WWF/	TBC	TBC

4. Ensure recovery of retained species that are assessed as uncertain or overfished

Two retained species for the fishery are considered uncertain or overfished: blue warehou and Eastern gemfish. The latest stock assessment for blue warehou suggests biomasses in the east and west regions of 15% and 17%, respectively. While there is considerable uncertainty regarding these biomass estimates, a Rebuilding Strategy was developed in 2008 underpinned by a zero target catch policy (i.e. a bycatch only quota). This policy has helped to keep catch of blue warehou well below historical levels.

The biomass of Eastern gemfish is stable but very low. There is also a zero targeting policy for Eastern gemfish that has kept catch to low levels.

To pass MSC P2 the fishery needs to have a strategy that demonstrates that effort is not likely to be affecting the recovery of the species. The zero targeting policy has kept catches well below historical levels and thus it is considered that if the policies are adhered to, this constitutes an appropriate strategy to ensure that commercial harvest does not hinder the ability of the population to achieve stock recovery.

4.1 Ensure that the zero targeting policies for blue warehou and eastern gemfish are being complied with.

MSC Performance Indicators addressed	2.1.1. No risk to retained species 2.1.2. Strategy in place to manage retained species

A zero targeting policy allows incidentally caught fish to be retained to prevent waste and provide information to assist in assessing stock status, but intends to prevent fishers from taking large catches. However, as it is a difficult policy to enforce, when these species aggregate at suitably large densities it is possible that some fishers may ignore the policy and intentionally target these species. Aggregation at high densities usually occurs at spawning when it is the most important time to maximise recruitment.

4.1.1 Develop and implement a performance framework (Performance Indicators, and Management Actions) to ensure compliance with the zero targeting policy for blue warehou and eastern gemfish.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Develop performance indicators indicating targeting behaviour to ensure that targeted catch of blue warehou and eastern gemfish continues to be minimised	December 2015	RAG	Within current	AFMA
2. Report against the performance indicators annually and ensure management actions are implemented when needed.	Ongoing starting 2016	AFMA	Within current	AFMA

5. Ensure continued recovery of overfished upper slope dogfish species.

Upper slope dogfish (USDs) were previously retained species for the CTS. However two species within this group were identified as overfished in some parts of their range and subsequently a recovery strategy based on zero retention was implemented. Thus they are considered as bycatch in this Action Plan, although the same requirements to pass MSC P2 are required as for main retained species. USD's are captured on rare occasions by CTS fishers and while they are slow growing and two species are still considered overfished in some of their range. It is believed that the recovery strategy that has been in place for several years has already halted the population decline. The second phase of the recovery strategy has been implemented and must now be monitored.

5.1 For upper-slope dogfish, ensure the second phase of the recovery strategy is being implemented successfully (i.e. a representative network of spatial closures; regulated no retention of USDs).

MSC Performance Indicators addressed	2.2.1. No risk to bycatch species 2.2.2. Strategy in place to manage bycatch species

In February 2013, AFMA implemented the revised Upper-Slope Dogfish (USD) Management Strategy (the strategy). The strategy is intended to recover populations to limit reference points. Given the life history of USDs this reference point is more precautionary than the Commonwealth Harvest Strategy default. The strategy is designed primarily around two species of gulper sharks, Harrisson's Dogfish (*Centrophorus harrissoni*) and Southern Dogfish (*C. zeehaani*), which were later listed as conservation dependant under the Environment Protection and Biodiversity Act 1999 (EPBC Act). While species listed as 'conservation dependent' are listed under the EPBC Act, they are not matters of national environmental significance and therefore do not trigger the EPBC Act i.e. they are not considered a TEP species (DotE website).

To ensure the protection of key dogfish habitat the strategy includes a network of fishery closures and management measures to minimise impacts across fisheries. Some of those measures are: the expansion of three existing fishing closures, the addition of five new closures and the revision of three existing closures. Also, the landing of gulper shark from Commonwealth fisheries is now prohibited and those fisheries where gulper sharks are found are subject to increased monitoring, trigger limits and in the longline fishery move-on provisions and mandatory handling practices to maximise post-release survival.

CSIRO were engaged to conduct research on the biology, distribution, habitat and stock status of these species of dogfish, and to develop a range of area closures to protect the species for consideration in the development of the strategy. This research (completed in 2012), which found that upper-slope dogfish stocks are not as depleted as initially thought, was used to developed the second phase of the Strategy. The following actions intend to ensure that the second phase of the recovery strategy is fully implemented within the lifetime of the FIP which will ensure that MSC criteria are met for this species.

5.1.1 AFMA to report annually on compliance with the USD recovery strategy closure areas.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Subject to confidentiality restrictions, report annually on the level of compliance with fishery closures through a) VMS incursions into fishery closures and MPAs, b) logbook and observer data, and c) compliance activities	Starting 2015	AFMA	Within current	AFMA

5.1.2 AFMA to implement a monitoring strategy for USD's to monitor the recovery of these species.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Develop and implement a monitoring strategy to measure recovery (increase in relative abundance over time).	Starting 2015	AFMA	Within current	AFMA

5.1.3 Reporting of interactions with USD's to be included in the biannual report from fishery independent surveys.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Observers to gather data on interactions with USDs during fishery independent surveys	Dec 2016	FIS Contractor	Within current	AFMA
2. Report on the levels of interactions with USDs during fishery independent surveys in the biannual survey report.	June 2017	FIS contractor	Within current	AFMA

5.1.4 Develop and ensure fishers undertake E-Learning modules on the importance of a) compliance with fishery closure and marine park boundaries and b) USD identification and reporting.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Develop E-learning module for sharks and rays that includes USD's.	Dec 2014	SETFIA	Existing Project	Parks Aust./ AFMA
2. Ensure fishers engage in and successfully complete the course. Provide a report on completion.	June 15, June 16, June 17	SETFIA	Existing Project	

5.1.5 Include provision for reporting of USDs in E-logbooks.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Implement modifications to E-logbook software to ensure fishers enter a value for USD interactions.	June 2015	Fishwell Consulting / Catchlog & SETFIA	Covered in previous section	Coles

5.1.6 Examine alternative gear designs for reducing interactions with USD's.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Trial grids in the deepwater royal red prawn fishery.	Dec 2014	SETFIA	Existing project	AFMA/ SETFIA
2. Report on the trial outcomes and the potential for introducing this new gear to reduce interactions with USDs in the CTS.	Dec 2014	SETFIA	Existing project	

6. Implement a strategy to better understand impacts on Bight skate.

Bight skate have been identified by the ERA process as being extreme high risk from the impact of otter trawl fishing as bycatch by the CTS. As this assessment is primarily due to uncertainty in their distribution, identification and abundance, additional information is required to re-assess the species through the risk assessment framework.

6.1 Demonstrate a reduced risk from fishing to Bight skate

MSC Performance Indicators addressed	2.2.1. No risk to bycatch species 2.2.2. Strategy in place to manage bycatch species

Bight skate were assessed as extreme high risk from the impact of otter trawl fishing through AFMA's risk assessment process (ERA) due to a lack of information on the species. A part of AFMA's strategy to address this was improved data collection through the Skates identification guide in the management arrangements booklet: http://www.afma.gov.au/managing-our-fisheries/fisheries-a-to-z-index/southern-and-eastern-scalefish-and-shark-fishery/publications-and-forms/ . However, to date the data collected on the species is insufficient and thus a new program of data collection is required, underpinned by improved identification by fishers.

6.1.1 Develop and ensure fishers undertake E-learning modules on the correct identification of sharks and rays.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Develop an E-learning module for identification of shark and ray species that include bight skate.	Dec 2014	SETFIA	Existing Project	AFMA
2. Ensure fishers engage in and successfully complete the course. Provide a report on completion.	June 15, June 16, June 17	SETFIA	Existing Project	AFMA
3. Measure the success of the E-learning module through improved data collection of shark and ray species, including bight skate.	June 2017	AFMA	Within current	AFMA

6.1.2 Include provision for reporting of bight skate in E-logbooks.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Modify and implement changes to E-logbook software to include provision for reporting bight skate catches	June 2015	Fishwell Consulting /Catchlog & SETFIA	Funding identified previously	Coles

6.1.3 Re-evaluate the risk assessment for bight skate and develop mitigation strategies if required.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. When adequate data on bight skate are available, re-evaluate the risk of overfishing bight skate.	Review annually	AFMA	Within current	AFMA
2. If bight skate are determined as an unacceptable risk, develop management arrangements through the Ecological Risk Management process to address the risk.	Within 12 months of review outcome	AFMA	Within current	AFMA

7. Continue to mitigate the impact of the trawl sector on TEP species

Up to 201 TEP species have been identified that the SESSF may interact with. The risk that the fishery poses was assessed through the application of an ecological risk assessment process. The Ecological Risk Assessment for the Effects of Fishing (ERAEF) employed for the fishery was a four step process:

1. Level 1 analysis (SICA – Scale Intensity Consequence Analysis)
2. Level 2 analysis (PSA – Productivity Susceptibility Analysis)

3. Level 2 analysis (Residual risk PSA)
4. Level 3 analysis (SAFE - Sustainability Assessment for Fishing Effects)

Five TEP species were identified as priority species that required specific Ecological Risk Management (ERM) for the otter trawl sector. These were the Australian fur seal (*Arctocephalus pusillus doriferus*) and four species of seabirds. All were assessed as High Risk.

Population trends for Australian fur seals indicate that the population has increased significantly in recent years and is approaching levels not previously recorded for the species. While AFMA and the industry continues to invest in mitigation strategies to further reduce interactions with fur seals (e.g. AFMA and SETFIA are currently conducting trials to compare interaction levels with cod-end length), recovering seal populations indicate that CTS bycatch is not preventing the recovery of the Australian fur seal population. Therefore the focus on TEP interactions is placed on seabirds.

7.1 Develop an improved understanding of and mitigation strategies for interactions with seabirds

MSC Performance Indicators addressed	2.3.1 Adequate protection of TEPs species 2.3.2 Strategy in place to manage TEPs interactions

SETFIA and AFMA have developed a strategic approach to understanding and mitigating the impact of the fishery on TEPs, including seabirds. Fishery specific management actions for priority TEP species are identified and documented in the Bycatch and Discarding Workplan for the South East Trawl Fishery. The Workplan is updated every two years and progress against the actions for the Workplan is provided annually to SEWPaC.

Recently SETFIA received Australian Government funding for a seabird mitigation project, where different mitigation techniques will be developed and then evaluated during at sea trials. The project has already begun with several designs soon to be tested at sea. Actions and outcomes from the project are being included in this FIP.

7.1.1 Obtain an improved understanding of interactions with seabirds through the Seabird Mitigation Project. Using these data, determine the risk posed to seabirds by the CTS.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Gather data throughout sea trials and report on interaction levels with the new mitigation measures in place	Nov 2014 onwards	SETFIA	Existing project	AFMA
2. Evaluate data on seabird interactions to determine risks posed to each of the four priority species.	Dec 2015	AFMA	Within current	AFMA

7.1.2 Develop and implement improved seabird mitigation technologies through the Seabird Mitigation Project.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Trial different approaches to improve mitigation measures for seabird interactions.	July 2016	SETFIA	Existing project	AFMA
2. Develop an implementation plan if effective and feasible approaches are developed.	July 2017	SETFIA	Existing project	AFMA
3. Ensure compliance with seabird mitigation technologies.	Ongoing	AFMA	Within current	AFMA

7.2 Improve reporting of TEPs interactions in logbooks for important species to improve data collected on the spatial and temporal extent of TEPs interactions.

MSC Performance Indicators addressed	2.3.1 Adequate protection of TEPs species 2.3.2 Strategy in place to manage TEPs interactions

While dedicated research programs provide excellent information on levels and types of TEP interactions, commercial logbook data provide opportunity for robust assessment of temporal and spatial trends in interactions during fishing. All TEP interactions must be recorded by fishers. While some fishers record information on TEPs interactions, there is a need to continue to educate and encourage fishers to improve logbook reporting over time to ensure it more closely reflects true interaction levels, at least for some species.

7.2.1 Improve reporting of TEPs interactions through an E-learning unit.

Task	Timelines	Group/s responsible	Indicative Budget	Source $
1. Develop an E-learning module for TEPs interactions	Dec 2014	SETFIA	Existing Project	Funded earlier
2. Ensure fishers engage in and successfully complete the course. Provide a report on completion.	June 15, June 16, June 17	SETFIA	Existing Project	AFMA
4. Measure the success of the E-learning module through improved data collection of TEPs interactions.	Ongoing	AFMA	Within current	AFMA