



**Australian Government**

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**Department of the Environment and Heritage**

Assessment of the  
**Informally Managed Fishing Permits**

November 2005

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Assistant Secretary  
Marine Environment Branch  
Department of the Environment and Heritage  
GPO Box 787  
Canberra ACT 2601

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This document is an assessment carried out by the Department of the Environment and Heritage of a commercial fishery against the Australian Government Guidelines for the Ecologically Sustainable Management of Fisheries. It forms part of the advice provided to the Minister for the Environment and Heritage on the fishery in relation to decisions under Parts 10, 13 and 13A of the Environment Protection and Biodiversity Conservation Act 1999. The views expressed do not necessarily reflect those of the Minister for the Environment and Heritage or the Australian Government.

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# Assessment of the ecological sustainability of management arrangements for the Informally Managed Fishing Permits Fishery

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## EXECUTIVE SUMMARY

### Background

The Australian Fisheries Management Authority (AFMA) has submitted documents for assessment of the Informally Managed Fishing Permits (IMFP) under Parts 10, 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

In June 2005, the Minister for the Environment and Heritage (the Minister) signed an Agreement with AFMA to initiate the strategic assessment of the fishery. The draft document: *Assessment Report: Informally managed fishing permits* (the submission) was received by the Department of the Environment and Heritage (DEH) in late October 2005. The documents were released for a thirty-day public comment period that expired on 17 November 2005. One public submission was received. AFMA provided a response to the issues raised and no changes were made to the submission as a result of public comment.

The submission reports on the IMFP against the Terms of Reference, including the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries*. The DEH assessment considers the submission, associated documents, public comments and AFMA's response to the comments.

**Table 1: Summary of the IMFP.**

<b>Area</b>	South from latitude 24°30' south (north of Fraser Island Queensland (QLD)) down the east coast of Australia, through New South Wales (NSW), Victoria (VIC) and around Tasmania to the eastern edge of Kangaroo Island in South Australia (SA). The permit area is divided into two zones, A and B.
<b>Fishery status</b>	Unknown.
<b>Target Species</b>	<p><u>3 permits:</u></p> <p>Scalefish other than tuna and tuna like species and Southern and Eastern Scalefish and Shark Fishery (SESSF) quota species.</p> <p>Jack mackerel, Peruvian jack mackerel, yellowtail scad, blue mackerel outside 80 nm off Southern Queensland.</p> <p>Pilchards, Russells mackerel, souries and other school species.</p> <p>No pilchards. Russell's mackerel or other scalefish using permits out to 200 nm of Vic and SA.</p> <p><u>1 permit:</u></p> <p>Pilchards and sandy sprat outside 3 nm off NSW only.</p>
<b>By-product Species</b>	Silver trevally – managed by a 200 kg trip limit.
<b>Gear</b>	Depending on the jurisdiction, operators may use small scale purse seine, lampara and lift nets.
<b>Season</b>	No distinct season.
<b>Commercial harvest 2003/04</b>	Commercial in confidence – low level of harvest.
<b>Value of commercial harvest 2001</b>	Commercial in confidence.
<b>Recreational harvest</b>	The National Recreational and Indigenous Fishing Survey

	(NRIFS) estimates from QLD states: 8997 blue mackerel 94 437 scads were harvested in QLD waters.  Other estimates of harvest are considered unreliable.
<b>Commercial permits issued</b>	4 permits issued.
<b>Management arrangements</b>	No formal management arrangements are in place. Harvest is controlled through permit conditions issued on an annual basis.  Conditions for three permits include: <ul style="list-style-type: none"> <li>• Prohibition on the take of a range of species (outlined in permit conditions);</li> <li>• Limitation on the total take of silver trevally (200 kg), broadbill swordfish (2 broadbill swordfish per fishing trip), deepwater dogfish (150 kg combined trunked weight per trip for Harrison's dogfish, endeavour dogfish and southern dogfish);</li> <li>• Prohibition on the harvest of tuna and tuna-like species;</li> <li>• Prohibition on the take of a number of species; and</li> <li>• Area restrictions.</li> </ul> Conditions on the remaining permit include: <ul style="list-style-type: none"> <li>• Prohibition on the take of any other species other than pilchards and sandy sprat;</li> <li>• Area restrictions (NSW waters only); and</li> <li>• Gear restrictions (purse seine only).</li> </ul>
<b>Export</b>	Low level of export to Asian markets.
<b>Bycatch</b>	Largely unknown, thought to be minimal due to the selective targeting of schooling fish.
<b>Interaction with Threatened Species</b>	Intermediate level of risk of interactions with dolphins (no interactions reported however interactions have occurred in similar purse seine fisheries in QLD and South Australia).

The area of the fishery includes waters from north of Fraser Island, QLD, down the east coast, through NSW, VIC and around Tasmania (TAS) to the eastern edge of Kangaroo Island in SA. The area of waters on these permits is divided into two zones described in the permits as Zone A and Zone B. The permit's area of waters extends out to the edge of the Australian Fishing Zone (AFZ) although most operations to date have been inside waters of the continental shelf.

Offshore Constitutional Settlement (OCS) arrangements governing waters off QLD, VIC and SA are more complex and IMF permits are therefore largely prevented from operating in some areas in QLD, VIC and TAS. The fourth IMF holder is restricted to waters outside 3 nm off NSW and only allows the operator to target pilchards and sandy sprat.

The IMF target scalefish other than tuna and tuna like species and SESSF quota species. Further restrictions apply as outlined in permit conditions in the submission. While one permit is only permitted to target pilchards and sandy sprat, the remaining permits primarily target pilchards, Russell's mackerel, sauries and other temperate schooling species.

Information on the main target species biology and ecology is provided in detail in the submission as available on the DEH website: <http://www.deh.gov.au/coasts/fisheries/commonwealth/index.html>.

Due to confidentiality issues, the exact amount of small pelagic species harvested in the fishery cannot be released. Catch levels are relatively low and the IMFP is low value.

Purse seine is the only permitted gear type for the IMFP. Purse seine is used effectively on blue mackerel, pilchards and Russell's mackerel as these species form large surface schools and are susceptible to this method. Seasonality, ocean temperature and wind force are believed to be important factors influencing this behaviour. Purse seine operations usually occur in daylight hours during periods of relatively good weather.

Direct information on bycatch in the fishery is limited, however the level of bycatch is considered to be low due to the selective targeting of aggregations of small pelagic fish. Some species that may be affected by this fishery are currently listed protected species under the EPBC Act. The most likely interaction in this fishery would be the incidental capture of dolphins and other cetaceans. While no interactions have been reported to date, interactions have occurred in similar purse seine fisheries in SA and QLD. These interactions are assessed under Principle Two of this report.

The recreational and game fishing and charter fishing sectors have traditionally relied on access to small pelagic species for use as bait. The National Recreational and Indigenous Fishing Survey 2003 estimated a total recreational take of blue mackerel off QLD of 8997 fish per year, while Indigenous harvest was estimated at 3545 herring and pilchards and 71 012 baitfish each year. This survey was aimed at communities north of the IMFP's area of waters. No reliable estimates of recreational or Indigenous harvest in the area of the IMFP have been obtained.

The IMFP is managed under annually issued fishing permits, issued under the Commonwealth *Fisheries Management Act 1991*. No other formal management documents have been developed for the IMFP, though AFMA state that they intend to either develop formal management arrangements for the permits, or allow their integration into other relevant Commonwealth or State fisheries. No progress on this goal has been made.

## **Overall assessment**

The material submitted by AFMA demonstrates that the management arrangements for the IMFP meet some of the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries*.

While the IMFP is small scale (only four permits), DEH has identified a number of risks in its assessment of the management regime that must be addressed to ensure their impacts are minimised:

- Absence of any management arrangements, including precautionary catch limits, trigger points, and fishery specific objectives linked to performance measures and performance criteria for target species, bycatch and protected species;
- Lack of data validation mechanisms for fishery dependent data collected in the IMFP;
- Lack of information on the stock status of key target species harvested by the IMFP;
- Absence of formal management measures to mitigate against the risk of protected species interactions, particularly dolphins;
- Lack of transparency, public consultation and public reporting; and

- Lack of risk assessment or other precautionary strategy in place to assess the impacts of fish aggregating devices, recently proposed for use in the IMFP.

DEH's assessment finds that the operation of the IMFP is generally consistent with the objects of Part 13A of the EPBC Act. Given the recent low levels of catch, DEH considers that the fishery will not be detrimental to the survival or conservation status of the taxon to which it relates in the short term.

However, given the risks and deficiencies identified above, DEH recommends that the permits be declared an approved Wildlife Trade Operation (WTO) for a period of 12 months, during which time AFMA will address the above risks and deficiencies through the development and implementation of formal management arrangements for the IMFP. AFMA have committed to integrate the IMFP with the Small Pelagics Fishery (SPF). DEH considers that such action would constitute the development of formal management arrangements for the IMFP.

A number of Conditions have been developed, which must be addressed and implemented over the next 12 months to ensure the ongoing export approval of the fishery.

Proposed Conditions on the declared 12 month WTO for the Commonwealth IMFP:

**Conditions:**

1. Operation of the permits will be carried out in accordance with the IMFP Fishing Permit conditions as in force under the Commonwealth *Fisheries Management Act 1991*
2. The Australian Fisheries Management Authority (AFMA) will inform the Department of the Environment and Heritage (DEH) of any changes to the IMFP or other significant policy documents.
3. Within 12 months, AFMA will develop and implement formal management arrangements for the IMFP.
4. Within 1 month of an interaction with a dolphin occurring, AFMA, in consultation with DEH, will develop and implement an appropriate management response to mitigate against future interactions.
5. Reports to be produced and presented to DEH 6 monthly, and to include:
  - i. Information sufficient to allow assessment of the progress of AFMA in implementing Condition 3; and
  - ii. A description of the status of the IMFP and catch and effort information.

As the official fishery area encompasses Commonwealth as well as State waters, consideration under Part 13 of the EPBC Act is required regarding the impact of the fishery on listed threatened species, listed migratory species, cetaceans and listed marine species.

Protected species occurring in the fishery area include marine turtles, cetaceans including dolphins, listed sharks, seals and seabirds. While no interactions have been reported to date in the IMFP, a moderate level of risk exists due to the type of gear used. Interactions have occurred in similar purse seine fisheries including the Commonwealth SPF and the South Australian Pilchard Fishery. The

actual and potential impact on Part 13 species under the management arrangements is considered moderate, however DEH considers that the implementation of **Condition 4** should ensure sufficient protection of the species in the short to mid term. This issue will be revisited when the 12 month WTO expires for the IMFP. There are no listed threatened ecological communities in the fishery area.

DEH recommends that the management regime be declared an accredited management plan under Sections 208A, 222A, 245 and 265 of the EPBC Act. In making this judgement, DEH considers that the fishery to which the regime relates does not, or is not likely to, adversely affect the survival in nature of listed threatened species or population of that species, or the conservation status of a listed migratory species, cetacean species or listed marine species or a population of any of those species. DEH also considers that the regime requires that all reasonable steps are taken to avoid the killing or injuring of protected species, and the level of interaction under current fishing operations is low. On this basis, DEH considers that an action taken by an individual fisher, acting in accordance with the management regime, would not be expected to have a significant impact on a listed threatened species or listed migratory species protected by the EPBC Act.

Part 10 of the EPBC Act requires that Commonwealth managed fisheries undergo strategic assessment to determine whether actions taken in the fishery have a significant impact on the environment in Commonwealth Marine Areas. Under this Part, the Minister may accredit a management plan to exempt actions taken in accordance with the management plan from further impact assessment approval. AFMA has not submitted a statement of formal management arrangements for assessment under Part 10 of the EPBC Act, therefore no accreditation can be granted.

## PART I - MANAGEMENT ARRANGEMENTS

The IMFP are managed by AFMA.

The management regime is described in the following documents, all of which are, or will be publicly available:

- The Commonwealth *Fisheries Management Act 1991*;
- Fishing Permits issued annually; and
- Relevant Gazetted notices and licence conditions.

DEH considers that AFMA must ensure that all fishing operations are carried out in accordance with the IMFP Permit conditions as in force under the Commonwealth *Fisheries Management Act 1991*.

**Condition 1:** *Operation of the permits will be carried out in accordance with the IMFP Fishing Permit conditions as in force under the Commonwealth Fisheries Management Act 1991.*

DEH considers it important that management arrangements remain flexible to ensure timely and appropriate managerial decisions. Because of the importance of the documents referred to above to DEH's assessment of the fishery, an amendment could change the outcomes of the assessment and decisions stemming from it. Decisions resulting from this assessment relate to the arrangements in force at the time of the decision. In order to ensure that these decisions remain valid, DEH needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decision.

**Condition 2:** *The Australian Fisheries Management Authority (AFMA) will inform the Department of the Environment and Heritage (DEH) of any changes to the IMFP or other significant policy documents.*

In the case of formally managed fisheries, AFMA actively involves a wide range of stakeholders in the process of developing and implementing fisheries management arrangements. Due to the small scale of the IMFP, no consultation is undertaken, apart from discussions with permit holders and with AFMA fishery managers involved with the fishery. DEH expects however, that effective consultation mechanisms will be pursued and all interested stakeholders will be involved in the transparent implementation of **Condition 3**.

No formal management plan or arrangements are currently in place for the IMFP, therefore no precautionary catch limits, trigger limits, fishery specific objectives or performance measures have been developed. DEH considers that the small scale nature of the fishery and relatively low levels of catch is not an adequate reason for the lack of management arrangements in place. While AFMA states that they intend to integrate access rights under these permits into other Commonwealth management plans, or under relevant state fishing concessions, no firm commitment has been made and no timeframe has been determined for this process. DEH considers that formal management arrangements must be developed as a priority for the IMFP. Options for the formalisation of management include the integration of the permits into relevant Commonwealth or State fishery management arrangements.

**Condition 3:** *Within 12 months, AFMA will develop and implement formal management arrangements for the IMFP.*

Management of the IMFP is based on a range of controls which are specific in permit conditions and reviewed annually. These controls differ between three long standing permits and one separately issued permit. Controls are outlined in Table 1. No specific controls are in place to control the level of take of the target species, though some limits on bycatch are in place. DEH consider that these controls are currently sufficient to ensure the ecological sustainability of the IMFP over the next 12 months but considers that the implementation of **Condition 3** will provide improved management of the level of harvest in the fishery and provide improved input and output controls essential to the ongoing sustainability of the IMFP.

Compliance and enforcement tools are based on a logbook reporting process. Failure to complete and submit the Purse Seine Daily Fishing Log may attract an infringement notice and/or fine. The submission states that logbook officers periodically visit fishing ports to talk to fishers about the logbook program and its important to the management of the fishery. No compliance risk assessment has been conducted for the fishery and no management measures are in place specifically to ensure compliance with critical aspects of the management arrangements. DEH considers that current compliance activities are sufficient to ensure the sustainability of the IMFP for the next 12 months but that the development of formal management arrangements (**Condition 3**) should include consideration of enforcement and compliance issues.

The IMFP are reviewed annually and can be modified if required. No other review of stock abundance, management strategies or the current status of the permits is conducted. DEH considers that once **Condition 3** is implemented, the permits or relevant fishery in which the permits have been integrated in, should be reviewed on a regular basis to ensure the ongoing effectiveness of the management arrangements. This issue will be revisited when the IMFP is reassessed in 12 months time.

Fishery dependent data relating to the target species is collected on a regular basis in the fishery. Fishery independent information is collected in a range of other similar fisheries and is available to inform some aspects of the management of the IMFP. Discussion of the information collection system can be found in Part II of this report.

An analysis of the IMFP's capacity for assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives and the fishery operates is contained under Principle Two of this report.

The target species harvested in the fishery occur across a number of jurisdictions and are harvested in QLD, NSW, VIC and SA. Ideally, management arrangements affecting a single stock should be under a single jurisdiction, or at least complementary across jurisdictions. Although the harvest is relatively small, DEH recommends that AFMA continue to liaise with all other jurisdictions where IMFP species are harvested to ensure that management is complementary. This issue will be revisited when the IMFP is reassessed in 12 months time.

DEH considers that although the current management arrangements are minimal, they comply with all relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under that policy. DEH expects that AFMA will also ensure compliance with any future plans or policies as they are developed.

No regional or international management regimes, to which Australia is a party, are of direct relevance to the fishery. The prime international regime affecting the fishery is the United Nations Convention on the Law of the Sea (UNCLOS). The management regime essentially complies with this. Other international regimes are applicable to fisheries management but do not explicitly involve this fishery, for example the 1992 Convention on Biological Diversity and in particular the

1995 Jakarta Mandate requiring that, in relation to the sustainable use of marine and coastal biological diversity, the precautionary principle should apply in efforts to address threats to biodiversity. While these agreements are not specifically addressed in the submission, the fishery's compliance with their requirements can be assessed by examination of Part II of this report. The application of the International Convention for the Prevention of Pollution from Ships (MARPOL) to vessels operating in the fishery is explicitly discussed under Principle 2, Objective 3.

DEH considers it is incumbent on all authorities to develop a thorough understanding of the framework of national, regional and international agreements and their applicability to export-based fisheries for which they are responsible.

## **Conclusion**

DEH considers that the IMFP management regime is not currently documented, publicly available and transparent or developed through a consultative process. The current management arrangements are adaptable and reviewed annually but are not underpinned by appropriate objectives and performance criteria by which the effectiveness of the management arrangements can be measured, enforced and reviewed.

The permit conditions are somewhat capable of controlling the harvest through controlling the species harvested in the fishery, but no catch limits or other relevant harvest controls other than gear limitations and controls on bycatch harvest are in place. Periodic reviews of the permits are provided for, however compliance measures are limited.

The management regime takes into account arrangements in other jurisdictions, and adheres to arrangements established under Australian laws and international agreements.

DEH considers that the implementation of **Condition 3** will assist in addressing these issues, which will be revisited in the reassessment of the IMFP in 12 months time.

## **PART II – GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES**

### **Stock Status and Recovery**

Principle 1: *‘A fishery must be conducted in a manner that does not lead to over-fishing, or for those stocks that are over-fished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover’*

### **Maintain ecologically viable stocks**

Objective 1: *‘The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability’*

### **Information requirements**

Fishery dependent data are obtained through the Purse Seine Daily Fishing Log (PS01). The logbooks provide for the recording of details in relation to vessels, fishing gear, location of fishing activity (latitude/longitude), fishing effort, estimated weight of each species caught, bycatch species (species weight) and any interactions with protected species. The submission states that to date, catches of IMFP species are only significant off NSW. DEH believes that data reliability for target species is reasonable and that compliance and enforcement activities have the capacity to ensure the ongoing reliability of data in the fishery in the short term until **Condition 3** is implemented.

No fishery-independent data has been collected to date in the IMFP, however AFMA have recently committed to support programs aimed at improving information on bycatch in smaller Commonwealth fisheries. AFMA states that 20 observer days will be dedicated to cover purse seining operations off NSW, and while this program is primarily aimed at the SPF, AFMA intends that some deployments will cover vessels that are dual endorsed for the SPF and IMFP.

Currently catch is only validated through the AFMA PS01 logbook system. DEH does not consider that this level of validation is sufficient, however considers that the implementation of **Condition 3**, and the proposed observer days will provide some level of data validation for the IMFP.

AFMA has recently obtained funding through the FRDC to improve knowledge on bycatch in smaller Commonwealth fisheries. While the projects are not aimed specifically at the IMFP, the findings are likely to apply given similar gear usage and dual endorsements of the IMFP with the SPF. Additionally, research is underway in the SPF to mitigate against dolphin interactions in the fishery. Interactions with dolphins are a risk in the IMFP and it is likely that the results of the SPF research would be transferable to the IMFP. This issue is discussed further Objective 2 below.

DEH does not consider that there is a reliable information collection system currently in place, however considers that the implementation of **Condition 3**, and the commitment of AFMA to involve the IMFP in further research applied in other fisheries should ensure that this improves in the future. This issue will be revisited in the reassessment of the fishery in 2006.

### **Assessment**

No formal quantitative stock assessments have been undertaken for pilchards or Russell’s mackerel off NSW and the status of pilchards in NSW is unknown (FMS, 2003). A stock assessment of pelagic baitfish was carried out in southern Queensland in the late 1990s, which estimated a pilchard spawning biomass of 25 000 tonnes.

AFMA states that the current combined catches of pilchard in VIC, NSW and in the Commonwealth sector are at a level approximately equal to 10% of the spawning biomass estimated for the northern portion of the stock (25 000 tonnes). AFMA state that unless this level increases, a formal stock assessment is not justified. Similarly, no stock assessments have been carried out for Russell's mackerel due to low harvest levels. DEH does not agree with AFMA's statement, given that no precautionary catch limits or trigger points are in place to detect a significant decline in stock abundance and that pilchard stocks were subject to a mortality event in 1999. DEH considers that this issue will be dealt with in the development of formal management arrangements as per **Condition 3**. In the meantime, DEH strongly encourages AFMA to pursue cross jurisdictional research and management arrangements to effectively manage possible cross fishery impacts on the fishery stock. This issue will be revisited in the reassessment of the IMFP in 2006.

As briefly mentioned above, stocks of pilchards, Russell's mackerel and sauries occur in waters around QLD, NSW, VIC, TAS, SA and Western Australia (WA). Some research has been conducted in a number of these areas but no research on the distribution and spatial structure of stock has been conducted in the IMFP.

No management arrangements are in place to take account of the distribution and spatial structure of stock or to ensure that cross jurisdictional management is pursued. Ideally, management arrangements affecting a single stock should be under a single jurisdiction, or at least complementary across jurisdictions. DEH believes it would be beneficial, for AFMA to be involved in cross-jurisdictional actions to address shared stock concerns. Furthermore, removals of the species in other jurisdictions should be factored into future management arrangements and stock assessments in the IMFP.

Potential removals from the IMFP fishing stock include direct harvest by the IMFP, recreational and Indigenous harvest, harvest of the target species by other fisheries and discards of the target species in this fishery.

AFMA states that the estimates of commercial removals of the key target species, pilchard and Russell's mackerel are considered reliable. Both Commonwealth and State licensed purse seine operations off NSW record catches taken in both jurisdictions on the AFMA PS01 logbook, which reduces the possibility of double counting and confusion where shots are made near the 2 nm line.

Estimates of recreational removals and Indigenous take of pilchards, Russell's mackerel and sauries are not particularly reliable despite a number of programs in place to collect data from the recreational sector in NSW. As outlined in Part I, some data was collected on the level of recreational take in QLD. DEH considers that estimates of recreational and Indigenous harvest needs to be improved and adequately accounted for in the management arrangements for the IMFP. DEH considers that this must be addressed in the implementation of **Condition 3** and will revisit this issue when the fishery is reassessed in 12 months time.

The submission states that the data collected by AFMA's observer program is improving the accuracy of information on discards of pilchards and Russell's mackerel in the SPF. AFMA states that high grading is not likely to be an issue in the IMFP, however no data has been collected to support this. Once again DEH expects that the new management arrangements developed through **Condition 3** will ensure that all potential removals from the fishery are accounted for and incorporated into the management of the fishery.

### **Management response**

No management measures, other than those outlined in Table 1 and Part I of this report are in place to control the level of take in the fishery. Similarly, no reference points to trigger management

action have been established and no performance measures or indicators apply to the IMFP. DEH has included a Condition that the fishery develop formal management arrangements within 12 months to ensure that ecologically sustainable management practices are in place for the IMFP (**Condition 3**).

The IMFP operators are currently all dual endorsed in the SPF. Subsequently three are able to retain pilchards, Russell's mackerel, sauries, anchovies, maray and all small pelagic species including jack mackerel, yellowtail scad, blue mackerel and redbait. The fourth is able to only retain pilchards and sandy sprat.

The main species therefore that could be considered byproduct specifically in the IMFP is silver trevally, which has been determined as overfished by the Bureau of Rural Sciences (2004 Status Report). The take of silver trevally is managed by a 200 kg trip limit per vessel. The submission states that no silver trevally catch was reported between 1 January and 30 June 2005 and that generally the catch of byproduct is low. DEH considers that current data validation is not sufficient to justify these statements and considers that the validation and control on the level of take of byproduct must be dealt with in the development of management arrangements for the IMFP.

### **Conclusion**

DEH does not consider that the management regime in the IMFP is appropriately precautionary and provides for the fishery to be conducted in a manner that does not lead to over-fishing. DEH does not consider that the information collection system is sufficient to ensure the fishery is conducted at catch levels that maintain ecologically viable stock levels with acceptable levels of probability. There are no stock assessment or management arrangements in place (apart from minimal permit conditions) to control and monitor the level of stock harvested. DEH considers however, that due to the low level of harvest, and commitment by AFMA to develop formal management arrangements within 12 months, the fishery should not prove detrimental to the survival of the target species in the short term.

DEH considers that there is significant scope to further refine some of the existing information collection, assessment and management responses and will reassess these issues in 12 months time.

### **Promote recovery to ecologically viable stock levels**

Objective 2: *'Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes'*

No defined reference point has been established in the IMFP, however given the low level of harvest and wide distribution of the target species, stocks (apart from silver trevally taken as byproduct) are unlikely to be overfished.

### **Conclusion**

DEH considers that the target species are not overfished but should that occur in the future, the fishery will be conducted, through the implementation of **Condition 3**, such that there is a high degree of probability the stock would recover to ecologically viable stock levels within nominated timeframes.

## **Ecosystem impacts**

Principle 2: *'Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem'*

## **Bycatch protection**

Objective 1: *'The fishery is conducted in a manner that does not threaten bycatch species'*

## **Information requirements**

AFMA admits that the level of verified data in relation to bycatch against IMF permits is limited as AFMA relies on logbooks. AFMA state however, that they expect to place observers on the purse seine sector of the SPF in late 2005 including vessels with are dual endorsed with IMFP. Observer coverage in the IMFP has been welcomed by industry.

## **Assessment**

No bycatch risk assessment has been carried out in the IMFP. AFMA is currently seeking public comment on a draft Bycatch Action Plan (BAP) for the SPF and plans to have the final BAP implemented by late 2005. This has not yet occurred, however should be in place by 2006. AFMA advise that IMFP operators have been a driving force in the development of a purse seine code of practice and have actively participated in the development of the BAP. DEH commends industry for its involvement and for its proactive approach to encourage more comprehensive management of the IMFP.

The BAP for the SPF is largely transferable to the IMFP, due to the similarities in gear usage. DEH strongly encourages AFMA to implement relevant BAP management actions into the IMFP when the BAP is finalised in early 2006.

The issue of bycatch and an analysis of the effectiveness of management arrangements developed under **Condition 3** will be reviewed in the reassessment of the IMFP in 12 months time.

## **Management response**

The IMF permits have a range of conditions aimed at controlling the level of take of bycatch species (outlined briefly in Part I and in detail in the submission). Prohibitions on the take of SESSF quota species are in place, trip limits are outlined on the number of broadbill swordfish and sharks taken (including overfished silver trevally Harrison's dogfish which has been nominated for listing under the EPBC Act) and a prohibition on the take of tuna and tuna like species and marlin.

No group of indicator species has been identified or therefore monitored.

## **Conclusion**

DEH considers that there is a high likelihood the fishery is conducted in a manner that does not threaten bycatch species, however management arrangements are not currently sufficient to measure and manage any potential risk. DEH expects that AFMA will more adequately address the issue of bycatch through the development of formal management arrangements (**Condition 3**) and in the meantime will ensure that any relevant research, including the BAP for the SPF fishery is used to inform management of the IMFP.

## Protected species and threatened ecological community protection

Objective 2: *'The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities'*

### Information requirements

The submission states that AFMA relies on operator supplied information on interactions with protected species in the IMFP. Operators are aware that any interactions with endangered, threatened or protected species must be reported to both AFMA and DEH. No interactions with protected species have been reported since 2000.

### Assessment

Of the protected species likely to interact with the fishery, the most likely negative interaction appears to be entanglement of dolphins in purse seine nets. Interactions with seabirds, sharks and seals are possible, but unlikely.

Although no interactions have been reported in this fishery, mortalities of dolphins have occurred in a number of purse seine fisheries including the South Australian Pilchard Fishery and the Queensland Developmental Pilchard Fishery (closed due to interactions in 1999).

There are no listed ecological communities in the fishery area.

### Management response

No formal management measures are in place to manage the potential impact of the IMFP on protected species.

AFMA advise that the IMFP operators avoid schooling aggregations where dolphins are present. Industry advise that fishing operations have only been cut short once in 2002 when a dolphin was present but did not interact with gear. Additionally, the IMFP operators developed techniques to minimise interactions with dolphins in the late 1990s and incorporated these principles into the NSW Ocean Hauling Fishery Fishers Code of Practice for boat based activities.

The IMFP holders are now working with other Commonwealth purse seine sectors to finalise a Commonwealth Code of Practice. DEH commends industry once again for this proactive approach in reducing the risks of interactions and in pursuing more formal management arrangements of their fishing resource.

The Commonwealth Policy on Fisheries Bycatch requires that AFMA must implement measures to minimise the take of protected species. Comments on a draft BAP for the SPF fishery are being sought and AFMA has indicated that it will consult with IMF permit holders to seek their endorsement of the purse seine elements of the BAP and implement a reporting regime consistent with the SPF BAP. DEH considers that this is a major issue which must be dealt with in detail in the development of formal management arrangements for the IMFP. This issue will be reassessed in detail in the reassessment of the fishery in 12 months time. In the meantime, DEH will require that, within 1 month of an interaction with a dolphin occurring, AFMA, in consultation with DEH, will develop and implement an appropriate management response to mitigate against future interactions.

**Condition 4:** *Within 1 month of an interaction with a dolphin occurring, AFMA, in consultation with DEH, will develop and implement an appropriate management response to mitigate against future interactions.*

## Conclusion

DEH notes that interactions with protected species in this fishery have been reported as minimal and considers that methods employed by IMFP operators should ensure that interactions are kept at a low level. DEH does not consider the current management arrangements ensure the fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities. DEH expects that **Condition 4** will be implemented where appropriate and that comprehensive management arrangements will be developed for these issues over the next 12 months.

## Minimising ecological impacts of fishing operations

Objective 3: *'The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally'*

## Information requirements

AFMA states that not much consideration has been given to ecosystem impacts of the four IMF permits in isolation. An Ecological Risk Assessment (ERA) is being conducted for the SPF which will identify significant ecosystem risks of the purse seine method.

Limited information is available for the analysis of ecosystem impacts. Some research has been conducted in other fisheries however has not been incorporated into the management of the fishery.

AFMA expects that the ecological risk assessment project for the SPF will be portable to the operations of the IMFP. DEH expects that the ERA for the SPF will be appropriately considered in the development of management arrangements for the IMFP to ensure that any identified ecosystem impact is addressed. DEH will revisit this issue in the reassessment of the IMFP.

DEH is concerned at the lack of information collection and research covering the fisheries impact on the ecosystem and environment, particularly in relation to pilchard mortality events. DEH expects that the lack of information on this issue will be dealt with in the development of management arrangements for the IMFP.

## Assessment

The fishery gear generally is not regarded as posing a significant risk to the benthic environment. Purse seine gear is used to target surface schools of fish and, while the footrope of the purse seine can rest on the seafloor during some inshore operations, there is only limited force exerted on the bottom and benthic structures. The purse seine vessel is essentially stationary when pursuing takes place so dragging of the gear on the seafloor is limited.

Small pelagic species play an important role in the foodchain as a significant component of higher order predators in south eastern Australia. Concerns have been raised by the recreational sector about the effect of the fishery on game fish abundance. Studies have indicated that this is unlikely to be a major concern and that marlin and tuna species readily switch feeding behaviour to suit conditions.

AFMA states that they are not currently in a position to assess the importance of the target species to higher order predators. DEH expects that these issues will be considered in the development of management arrangements for the fishery so that precautionary management measures may be taken to mitigate this risk in the absence of comprehensive data.

Purse seine operations are not considered to have a significant impact on physical habitats and water quality. This is due to the fact that no significant interaction of the fishery gear occurs with the benthos, vessels do not generally discharge offal and all operators currently comply with a NSW Code of Conduct which requires responsible environmental practices for vessel operations. Operators are also required to adhere to MARPOL regulations which prohibit the disposal of garbage from ships and boats and require vessels to make every effort to retrieve lost or damaged fishing gear.

### **Management response**

No management arrangements are in place to minimise the impacts of the IMFP on the ecosystem. DEH considers that this risk is likely to be low, but expects that AFMA will consider these issues in the implementation of **Condition 3**.

### **Conclusion**

DEH considers that the fishery is conducted in a manner that minimises the impact of fishing operations on the ecosystem generally. The implementation of **Condition 3** should ensure that the risk of significant impact by the fishery on the marine environment generally is minimised in the longer term.

## LIST OF ACRONYMS

<b>AFMA</b>	Australian Fisheries Management Authority
<b>BAP</b>	Bycatch Action Plan
<b>DEH</b>	Australian Government Department of the Environment and Heritage
<b>EPBC</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
<b>ERA</b>	Ecological Risk Assessment
<b>IMFP</b>	Informally Managed Fishing Permits
<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships
<b>nm</b>	Nautical mile
<b>NRIFS</b>	National Recreational and Indigenous Fishing Survey
<b>NSW</b>	New South Wales
<b>OCS</b>	Offshore Constitutional Settlement
<b>PS01</b>	Purse Seine Daily Fishing Log
<b>QLD</b>	Queensland
<b>SA</b>	South Australia
<b>SPF</b>	Small Pelagic Fishery
<b>TAS</b>	Tasmania
<b>UNCLOS</b>	United Nations Convention on the Law of the Sea
<b>WA</b>	Western Australia
<b>WTO</b>	Wildlife Trade Operation