



Australian Animal Welfare Strategy

Aquatic Animal Working Group

**A Review of Current Welfare
Arrangements for Finfish in Australia**

FINAL REPORT

***Panaquatic® Health Solutions Pty Ltd
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1 Executive Summary

The Australian Animal Welfare Strategy (AAWS) is an agreed blueprint for animal welfare in Australia that aims to enhance welfare outcomes for all animals. Six broad working groups have been established as part of the strategy, one of these being the Aquatic Animal Working Group (AAWG). AAWG has the responsibility to develop and implement the action plan for the aquatic animal sector.

The first stage of this project was to compile an inventory of current relevant animal welfare documentation and information that has welfare implications and considerations with respect to finfish ('fish') sectors in Australia. Relevant animal welfare arrangements for crustaceans and molluscs were not considered in this stage. Panaquatic® Health Solutions Pty Ltd ('Panaquatic') was contracted by the Department of Agriculture, Fisheries and Forestry to compile this inventory.

The four key fish sectors in Australia are the aquaculture, ornamental, recreational and wild capture sectors. The movement and handling of live fish for human consumption was also considered in this first stage.

Defining what constitutes fish welfare is difficult. Broadly, animal welfare deals with the humane treatment of animals and most of the principles of animal welfare have emerged primarily through terrestrial animals. Fish on the other hand are complex and importantly are poikilothermic, meaning that their internal body temperature is not maintained at a constant temperature as in terrestrial animals. Fish also occupy a diverse range of habitat and ecological niches.

Fish welfare is being considered internationally at a number of levels and by many organisations and associations. Some of those that are relevant to fish sectors in Australia include:

- The World Animal Health Organisation (OIE). This OIE is important with respect to international trade and the health of animals including aquatic animals. The OIE currently has two ad hoc Working Groups developing guidelines for fish welfare, these being welfare guidelines for live transport of fish and welfare guidelines for the slaughter of fish for consumption. The draft introduction to these guidelines states that there is a critical relationship between aquatic animal health and aquatic animal welfare.
- The Fisheries Department of the Food and Agricultural Organisation (FAO). FAO is the largest autonomous agency within the United Nations system with 180 Member Nations plus the European Community (Member Organization). The mission of the Fisheries Department of FAO is to facilitate and secure the long-term sustainable development and utilisation of the world's fisheries and aquaculture. FAO has developed a *Code of Conduct for Responsible Fisheries*. Within the framework of the Code, international plans of action (IPOA's) have been developed which focus on specific areas of concern. One of these areas is sharks. As far as could be determined there is little reference to welfare issues in either the Code or plans.

- The World Society for the Protection of Animals (WSPA). WSPA is an international animal protection organisation working to raise the standards of animal welfare throughout the world. WSPA believes that an international agreement on welfare standards should become a key goal for the animal welfare movement in the 21st Century. This would include fish in the definition of animals.
- The Royal Society for the Prevention of Cruelty to Animals (RSPCA). RSPCA is active in areas of fish welfare, exemplified by a document it has developed titled 'Welfare Standards for Farmed Atlantic Salmon' which gives details as to what standards the Society believe should be adhered to in the farming of Atlantic salmon. These standards include the requirement for each salmon farm to have a written Veterinary Health Plan and access to a designated fish veterinarian.
- People for the Ethical Treatment of Animals (PETA). PETA is an international animal protection organisation and has over a million members. PETA believe that animals are not ours to eat, wear, experiment on, or use for entertainment. This includes fish.
- The Marine Aquarium Council (MAC). MAC is an international, not-for-profit organization that brings marine aquarium animal collectors, exporters, importers and retailers together with aquarium keepers, public aquariums, conservation organisations and government agencies. MAC's aim is to conserve coral reefs and other marine ecosystems by creating standards and certification for those engaged in the collection and care of ornamental marine life from reef to aquarium.
- Europe. The European Commission approved a five-year plan to improve animal welfare in January 2006. This plan includes the welfare of fish. This five year plan is to cover many aspects of animal welfare and is comprehensive. The establishment of a European Union label for animal welfare is an option being explored.
- United Kingdom (UK). The UK passed the Animal Welfare Bill in October 2005. This Bill brings together and modernises welfare legislation relating to farmed and non-farmed animals. It only applies to inland waters and does not apply to the sea or to anything which occurs 'in the normal course of fishing.'
- United States (US). Existing US health regulations for fish do not directly address welfare, but health is considered one measure of welfare.
- The People's Republic of China (China). China has recently conducted press conferences and issued statements about the country's progress with respect to animal welfare. Specific mention has been made of the restocking of sturgeon fry and of the conservation of sharks. There is no specific mention made of the welfare of fish used for farming or other commercial purposes.

With respect to going forward, a watching brief over these international arrangements and liaison with international stakeholders should be maintained where possible.

Closer to home, there are a number of arrangements with respect to fish welfare in both the private and public sector and in many fish sectors in Australia.

At the national level, 'Model Codes of Practice for Animal Welfare' for the livestock industries are produced and reviewed on behalf of the Primary Industries Ministerial

Council by the Animal Welfare Working Group, which reports through Animal Health Committee. Current Model Codes do not though include any that are relevant to the aquatic animal sectors.

The Commonwealth Government (specifically the Minister for the Department of Agriculture, Fisheries and Forestry) is advised by the National Consultative Committee on Animal Welfare (NCCAW). The NCCAW considers and then makes recommendations to the Minister on animal welfare matters of national significance. There is currently no NCCAW position statement that specifically refers to aquaculture, commercial fishing and the ornamental fish sector, but there is a position statement on the animal welfare aspects of recreational fishing.

Responsibility for the management of fisheries in Australia is shared between the Commonwealth and the States. Overall and unless special arrangements are in place, States and Territories are responsible for managing fisheries inside 3 nautical miles, and the Commonwealth is responsible for seas between 3 and 200 nautical miles offshore.

Historically the Commonwealth has limited its jurisdiction to commercial (wild capture) fishing with States and Territories assuming responsibility for recreational fishing. There are only a few sections in Commonwealth Acts relevant to fisheries that indirectly relate to fish welfare. No sections relate directly to fish welfare.

A review of current State and Territory government arrangements with respect to fish welfare indicates the significant variation in different Acts and Regulations pertaining to fish welfare and indeed variation in the definition of ‘animal’ i.e. whether or not ‘fish’ are defined as ‘animals’ under the various legislation.

Perceived gaps identified in government arrangements with respect to fish welfare were the variation between States and Territories’ legislation and the uncertainty surrounding what is considered welfare as it pertains to fish.

Welfare groups in Australia with a position on fish welfare include the Royal Society for the Prevention of Cruelty to Animals (RSPCA) and Animals Australia (AA).

- RSPCA Australia develops all RSPCA Policies and Position Papers which are then endorsed by the individual State RSPCA organizations. Under jurisdictional Prevention of Cruelty to Animals (POCTA) or equivalent Acts, full-time officers of the RSPCA are delegated by the responsible Minister in each state and territory to enforce the Act. The bulk of prosecutions are undertaken by RSPCA officers. RSPCA has several Policy Papers with fish sections – Policy A refers to Companion Animals, Policy B which refers to aquaculture, Policy C which refers to recreational fishing and Policy E on Wildlife (which covers wild capture fishing).
- AA is a body representing some 38 animal advocacy organisations. AA has a number of documents and fact sheets referring to fish welfare.

Further research into humane farming of fish was identified as an important need by welfare groups.

The Australian Veterinary Association is the professional organisation representing veterinarians across Australia and has a policy on recreational fishing. The AVA also intends to develop a policy on aquaculture but has no plans for the wild capture fishery or on keeping of fish in the ornamental sector.

With respect to the aquaculture sector, the National Aquaculture Council (NAC) is the peak body representing the aquaculture industry across Australia. NAC has produced the *Fish Welfare Guidelines* which provide guidelines on welfare of fish and crustaceans in aquaculture and in live holding facilities for human consumption. In addition, some of the other fish aquaculture industry sectors either have or are in the process of developing their own Codes of Practices which specifically address fish welfare concerns.

Current practices seen as desirable for reinforcing in this sector include:

- The use of humane killing techniques (e.g. percussion stunning and Aqui-S®)
- The NAC *Fish Welfare Guidelines*
- Specific industry Codes of Practice.

Some perceived gaps and concerns in this sector included:

- The absence of specific welfare guidelines in some of the individual industries
- The extent to which Codes of Practices and guidelines have been disseminated and are known about and are then being used
- The concern regarding Codes of Practices becoming gazetted and then used for regulatory purposes

A need for more scientific research in the area of fish welfare to support the development of minimum standards was also strongly noted by this sector.

The commercial wild capture fishing industry in Australia is diverse and covers many methods of fishing and many species of wild fish. The Australian Fishing Zone (AFZ) extends 200 nautical miles offshore and covers about 10.3 million square kilometres giving an indication of the vastness of area in which wild capture fishers may operate. Some methods of fishing in this sector mean that fish are dead by the time they arrive aboard the fishing vessel.

No guidelines, codes of practice/conduct or management strategies that specifically focus on the welfare aspects of wild captured fish were identified in the preparation of this report. There were two specific issues that the commercial wild capture fisheries are currently focussing on which have welfare implications. These are the reduction of bycatch and the improvement in fish quality. By addressing these issues the wild capture fisheries are, to a certain extent, also addressing some welfare issues.

Documented methods of addressing important issues in different wild capture fisheries include Codes of Conduct (Practice) and Environmental Management Plans or Systems (EMP's or EMS's). Some of these documents were found to contain reference to how the fishery is tackling welfare issues e.g. the keeping of captured fish healthy until bycatch has successfully been released.

Current practices seen as desirable for reinforcing in this sector include:

- Codes of Practice or Environmental Management Systems which are industry driven, over which industry has ownership and which are dynamic 'living' documents
- Addressing of bycatch and fish quality issues where fish welfare is also improved
- Production of manuals that specifically address Best Practices.

Some perceived gaps and concerns in this sector included:

- That many fishers perceive ‘fish welfare’ as an issue that is far less important than other issues such as the sustainability of various fisheries.
- That many fishers are not aware that they are actually addressing welfare issues with many of their current practices.

Recfish Australia is the peak national body for recreational and sport fishing in Australia. The *National Code of Practice for Recreational and Sport Fishing* was written in 1995 after much consultation with members of Recfish Australia and the various State and Commonwealth Fishery agencies. The Code is voluntary and addresses four main areas of fishing responsibility, one of which is ‘treating fish humanely’. Other organisations, individuals and associations are actively involved in research on improving fish welfare in this sector particularly in catch and release techniques that aim to increase survivability of fish after release.

Current practices seen as desirable for reinforcing in this sector include:

- The Recfish National Code and its awareness
- The continued research into improving survival of fish being released by recreational fishers
- Advertising to raise awareness of issues in the recreational fishing sector
- Tournament accreditation schemes.

Some perceived gaps and concerns in this sector included:

- The problem of disseminating information to anglers due in part to the fact that recreational fishing licences are not required in all States or Territories and hence the opportunity to pass on information at the time of licence purchase is not always available.

The ornamental fish sector primarily uses the Code of Practice for Aquarium Operations developed by Pet Industry Association of Australia (PIAA) as its guidelines. Most retail ornamental fish businesses do not have their own written guidelines.

Current practices seen as desirable for reinforcing in this sector include:

- The National industry Code of Practice (PIAA Code of Practice)
- The increased use of captive bred versus wild caught fish.

Some perceived gaps and concerns in this sector included:

- PIAA Code of Practice lacks detail with regard fish welfare and applies to retail aquarium facilities and not to commercial aquarium producers
- The small size of containers that fish can be sold in and the potential welfare issues associated with this
- The lack of availability of captive bred (aquacultured) fish versus wild caught fish
- The concern regarding fish caught using cyanide coming from overseas.

In general, teaching and research institutions and facilities around Australia have Animal Ethics Committees (AEC’s) monitoring any teaching or research that involves fish. These AEC’s generally follow the Australian Government’s National Health and Medical Research Council’s (NHMRC) guidelines *Australian code of practice for the care and use of animals for scientific purposes* when considering applications.

The Seafood Industry Training Package and the Animal Care and Management Training Package are the two National Training Information Service approved Training Packages with relevance to the fish sector.

Current practices seen as desirable for reinforcing which address fish welfare concerns in teaching and research institutions include:

- Animal Ethics Committees (AEC) overseeing research in fish
- The NHMRC guidelines overall
- Specific guidelines such as the NSW Fisheries *Guide to acceptable procedures for Aquaculture and Fisheries Research*.

Some perceived gaps and concerns in relating to fish welfare in this area included:

- The limited information regarding fish welfare in the NHMRC guidelines
- That with the exception of aquacultures courses, very few TAFE institutions were providing the commercial fishing, recreational fishing or companion animal services courses at their institution.

There are a number of facilities around Australia where fish are held live for human consumption. Restaurants holding live seafood for human consumption were predominately found to be Asian.

Current practices seen as desirable for reinforcing in these facilities include:

- The NAC Fish Welfare Guidelines contain a section on fish and crustaceans in live holding facilities for human consumption
 - The availability of other guidelines such as the Western Australia Department of Fisheries *Guidelines for Restaurant Owners who hold 'live seafood' in Aquaria*.

Some perceived gaps and concerns in this sector included:

- There did not appear to be any guidelines or specific operating procedures being followed by restaurant owners that addressed fish welfare issues
- While facilities are regularly audited on aspects of food safety, these do not include aspects concerning the welfare of fish.

2 Introduction

Panaquatic® Health Solutions Pty Ltd ('Panaquatic') was contracted by the Department of Agriculture, Fisheries and Forestry to undertake a review of existing fish welfare arrangements in Australia.

The Australian Animal Welfare Strategy (AAWS) is an agreed blueprint for animal welfare in Australia that aims to enhance welfare outcomes for all animals. It has been developed with extensive stakeholder consultation and has been endorsed by the Primary Industries Ministerial Council (PIMC).

Six broad working groups have been established as part of the strategy, covering all animal use sectors. One of these, the Aquatic Animal Working Group (AAWG) has the responsibility to develop and implement the action plan for the fish sector.

The first stage of this project was to compile an inventory of current relevant animal welfare documentation/information that has fish welfare implications and considerations with respect to the following fish sectors in Australia:

- Farmed finfish
- Finfish captured commercially
- Finfish captured recreationally
- Commercial ornamental finfish
- Retail ornamental finfish
- Finfish being held live for human consumption

This inventory was to clearly identify fish welfare arrangements including:

- Current fish welfare policies, programs, protocols and procedures as expressed in legislation, Codes of Practice, Standards, Guidelines, Position Statements or any other relevant documents or practices
- Any overseas arrangements that may be pertinent to advancing local policies, processes, planning or operational practices
- Areas where improvements in existing welfare policy, processes, planning or operational practices would be beneficial
- Areas where policy, processes, planning or operational practices do not exist
- Training programs, current and proposed.

For the purposes of this report **'fish'** is taken to denote finfish of the categories described above.

Defining fish welfare

A definition of animal welfare is not easy to produce because the concept is complex and the word 'welfare' is used in a number of different ways (Appleby 2002). The same applies to the definition of 'well-being'. This article states that *'there is no simple answer to the question "What is well-being?"'* Broadly, animal welfare deals with the humane treatment of animals (Håstein et al 2005). Human beings may affect the well-being of fish in many ways, some easily defined as having welfare implications (e.g. how a fish is killed) whereas others are not so easily identified (e.g. whether or not an activity

can be described as causing ‘stress’ to a fish, such that the well-being of the fish is adversely affected).

The principles of animal welfare have emerged primarily in terrestrial animals, many of which have similar anatomies, physiologies and behaviours (which are often also shared by humans). Fish on the other hand are far more diverse particularly with respect to habitat and ecological niches. In contrast to terrestrial animals, fish are poikilothermic meaning that their internal body temperature is not maintained at a constant temperature but fluctuates depending on the temperature of the water in which they live. A great deal of what we need to know regarding fish welfare is yet to be discovered as the scientific study of fish welfare is at an early stage compared to research efforts on other vertebrates (FSBI 2002).

How extensive the area of fish welfare has become is indicated by the amount of information provided by *Information Resources on Fish Welfare 1970 – 2003* (Erikson 2003). This was produced by the United States Department of Agriculture Animal Welfare Centre and is comprehensive and voluminous. However, this is now three years old and does not include work done more recently.

This report provides an inventory of current relevant animal welfare documentation and information that has fish welfare implications and considerations with respect to defined fish sectors in Australia.

3 International fish welfare arrangements

In the last decade there has been much research and documentation regarding fish welfare from many international sources. Fish welfare issues are increasingly being addressed by both welfare organisations and governments. The following are considered of international importance with respect to fish welfare and trade and are pertinent to advancing local policies, processes, planning and operational practices. References to international documents and policies specific to different sectors (e.g. Section 4.8 Teaching and Research facilities) are also made in these sections.

3.1 International organisations and associations

3.1.1 World Organisation for Animal Health

The World Organisation for Animal Health (OIE) is an intergovernmental organization of 167 Member Countries. The Sanitary and Phytosanitary Measures Agreement (SPS Agreement) is the specific World Trade Organisation's (WTO) agreement on food safety and animal and plant health standards and sets out the basic rules in this area. The SPS recognises the OIE as the relevant international organisation responsible for the development and promotion of international animal health standards, guidelines, and recommendations affecting trade in live animals and animal products, whether aquatic or terrestrial in origin. Within its mandate under the SPS Agreement, the OIE publishes normative works that are relevant to aquatic animals. These are the Aquatic Animal Health Code (OIE 2006) and the Manual of Diagnostic Tests for Aquatic Animals (OIE 2003). The Code and Manual define the animal health standards that all WTO Members have to comply with. The SPS Agreement stipulates that an importing country has the right to ask for standards over and above the OIE standard only if the additional requirements are scientifically justified. Members can also to some extent apply the 'precautionary principle', a kind of safety first approach to deal with scientific uncertainty. Article 5.7 of the SPS Agreement allows temporary 'precautionary' measures to be applied.

Two *ad hoc* working groups have been established by the OIE to develop aquatic animal welfare guidelines. The two groups are working on welfare guidelines for live transport of fish and welfare guidelines for the slaughter of fish for consumption/killing of fish for disposal respectively. A set of guidelines has been proposed in both these areas as well as a draft *Introduction to aquatic animal welfare*. Professor Tore Håstein, chairman of the two ad hoc working groups (pers. comm., May 2006), noted that '*the drafts are all based on the same format as the ones for terrestrial animals, but of course in the fish language*'. These draft guidelines have been sent to OIE Member Countries for comment. While the general principles apply to all aquatic animals, these specific guidelines for transport, killing and slaughter currently cover only fish. It is intended to develop guidelines on crustacean welfare at a later stage. This work will be presented at the OIE Conference in Bergen, October 2006. It is hoped that the proposed guidelines may in one way or another be adopted at the OIE General session in 2007. The definitions in these draft guidelines are provided in Appendix A.

The ‘*Guiding principles for aquatic animal welfare*’ as presented in the proposed introduction to these guidelines are:

1. That there is a critical relationship between aquatic animal health and aquatic animal welfare.
2. That the internationally recognised ‘five freedoms’ as they apply to aquatic animals (freedom to express normal patterns, freedom from pain, injury and disease; freedom from fear and distress; freedom from physical and thermal discomfort; freedom from hunger, thirst and malnutrition) provide valuable guidance in aquatic animal welfare.
3. That the internationally recognised ‘three Rs’ (reduction in numbers of aquatic animals, refinement of experimental methods and replacement of aquatic animals with non-animal techniques) provide valuable guidance for the use of aquatic animals in science.
4. That the scientific assessment of aquatic animal welfare involves diverse elements which need to be considered together, and that selecting and weighing these elements often involves value-based assumptions which should be made as explicit as possible.
5. That the use of aquatic animals in aquaculture, harvest or capture fisheries, research and for recreation (e.g. ornamentals in aquaria), makes a major contribution to the well-being of people.
6. That the use of aquatic animals carries with it an ethical duty to ensure the welfare of such animals to the greatest extent practical.
7. That the improvements in aquatic animal welfare can often improve productivity and food safety and hence lead to economic benefits.
8. That equivalent outcome (performance criteria), rather than identical systems (design criteria), be the basis for comparison of aquatic animal welfare standards and guidelines.

3.1.2 Food and Agricultural Organisation

The Food and Agricultural Organisation (FAO) was founded in October 1945 with a mandate to raise levels of nutrition and standards of living, to improve agricultural productivity, and to better the condition of rural populations. Today FAO is the largest autonomous agency within the United Nations system with 180 Member Nations plus the European Community (Member Organization). FAO is composed of eight departments: Administration and Finance, Agriculture, Economic and Social, Fisheries, Forestry, General Affairs and Information, Sustainable Development and Technical Cooperation. FAO’s website can be found at <<http://www.fao.org/>>.

The mission of the Fisheries Department of FAO is to facilitate and secure the long-term sustainable development and utilisation of the world’s fisheries and aquaculture.

FAO's Major Programme on Fisheries aims to promote sustainable development of responsible fisheries and contribute to food security. To implement this Major Programme, the Fisheries Department focuses its activities, through programmes in Fishery Resources, Fishery Policy, Fishery Industries and Fishery Information, on three medium-term strategic objectives:

1. Promotion of Responsible Fisheries Sector Management at the Global, Regional and National Levels. Of note for this objective is the priority given to the

- implementation of the Code of Conduct for Responsible Fisheries (discussed below)
2. Promotion of Increased Contribution of Responsible Fisheries and Aquaculture to World Food Supplies and Food Security
 3. Global Monitoring and Strategic Analysis of Fisheries, with priority given to development of databases and analysis of information using modern information systems (e.g. CD-ROM, Global Information Systems [GIS]), and contributing inter alia to the publication of The State of World Fisheries and Aquaculture (SOFIA) on a biennial basis and the Digital Atlas on Agriculture, Forestry and Fisheries.

The Code of Conduct for Responsible Fisheries ('the Code') (FAO 1995) was adopted by the FAO in 1995. The Code is global in scope, and is directed toward members and non-members of FAO, fishing entities, sub-regional, regional and global organisations, whether governmental or non-governmental, and all persons concerned with the conservation of fishery resources and management and development of fisheries, such as fishers, those engaged in processing and marketing of fish and fishery products and other users of the aquatic environment in relation to fisheries. The Code consists of a collection of principles, goals and elements for action and represents a global consensus or agreement on a wide range of fisheries and aquaculture issues. Recreational fishing is currently not included. **Governments, in cooperation with their industries and fishing communities, have the responsibility to implement the Code.** FAO's role is to technically support their activities but it does not have a direct responsibility for implementation because FAO does not have a responsibility for the development and implementation of national fishery policies. Details of the objectives of the Code are provided in Appendix B.

To ensure that there is support for these policies and legislative changes governments should take steps to consult with industry and other groups to promote their support and voluntary compliance. In addition, governments should encourage fishing communities and industry to develop codes of good practice that are consistent with, and support, the goals and purpose of the Code of Conduct. These codes of good practice are another important way of promoting the implementation of the Code.

Within the framework of the Code, international plans of action (IPOA's) have been developed which focus on specific areas of concern. IPOA's are voluntary instruments and apply to all States and entities and to all fishers. Four IPOA's have been developed to date.

1. IPOA-Seabirds
2. IPOA-Sharks
3. IPOA-Capacity
4. IPOA-Illegal, unreported and unregulated (IUU) fishing

As far as the consultants could determine, there is very little reference to welfare aspects of fishing in either the Code or these documents. One comments within the shark IPOA states that fishers should '*Minimize waste and discards from shark catches in accordance with article 7.2.2.(g) of the Code of Conduct for Responsible Fisheries (for example, requiring the retention of sharks from which fins are removed)*'.

The consultants have approached FAO enquiring as to whether or not there may be future plans for an IPOA which specifically focuses on welfare issues. At the time of submission of this report there had been no response to these enquiries.

3.1.3 World Society for the Protection of Animals

The World Society for the Protection of Animals (WSPA) is an international animal protection organisation working to raise the standards of animal welfare throughout the world. The WSPA website can be found at <<http://www.wspa-international.org/>>.

WSPA campaigns for better animal protection legislation and carries out direct field projects, training, education and awareness programmes. WSPA is currently working in 90 countries in partnership with 400 member animal welfare societies.

The society is represented on many international bodies and is the only animal welfare organisation to have consultative status at the United Nations (UN) and the Council of Europe.

At this moment in time, there is no international agreement concerning the care of animals. Europe is the only region globally that has addressed the concerns of animals and their welfare with the adoption of the Protocol on Animal Welfare. This provides legal recognition of animals as sentient beings.

WSPA believes that an international agreement on welfare standards should become a key goal for the animal welfare movement in the 21st Century. WSPA believes that the first step toward achieving this end would be to secure a Universal Declaration for the Welfare of Animals at the UN. A campaign to achieve this end began at the WSPA Biennial Conference held in 2000. The objective of the Universal Declaration on Animal Welfare campaign is to achieve a global statement at the UN that recognizes animals as sentient beings, capable of experiencing pain and suffering, and animal welfare as an issue of importance as part of the social development of nations worldwide. In the Declaration *animal means any non-human mammal, bird, reptile, amphibian, fish or invertebrate capable of feeling pain or distress.*

Ultimately, the end objective is for the initiative to be accepted by the UN General Assembly. This is not expected to occur until at least 2008. However it will be discussed at the UN conference on human security and sustainable development in New York in September 2006.

A full copy of the text of the Universal Declaration for the Welfare of Animals is in Appendix C.

3.1.4 Royal Society for the Prevention of Cruelty to Animals

The Royal Society for the Prevention of Cruelty to Animals (RSPCA), based in the United Kingdom, has developed *Welfare Standards for Farmed Atlantic Salmon* (RSPCA 2006g). These Standards acknowledge that difficulties arise in specifying details in relation to several issues (e.g. in relation to maximum stocking densities) due to the lack of scientific research examining fish welfare under different commercial systems. Hence it is noted that *‘it is important to recognise that the requirements given in the Standards are made pending relevant scientific research’*. A summary of these Standards is given in Appendix D.

One specific detail given in these Standards is the requirement for each salmon farm to have drawn up a written ‘*Veterinary Health Plan*’ and that each farm must have access to a ‘*designated fish veterinary surgeon*’.

3.1.5 People for the Ethical Treatment of Animals

People for the Ethical Treatment of Animals (PETA) is a non-profit international animal welfare interest group whose goal is to end all animal exploitation. It is the largest animal rights organisation in the world and has over one million members.

As stated on the PETA website <<http://www.peta.org/>>:

‘Founded in 1980, PETA is dedicated to establishing and protecting the rights of all animals. PETA operates under the simple principle that animals are not ours to eat, wear, experiment on, or use for entertainment.’

PETA has a subsidiary website that is dedicated to fish: <<http://www.fishinghurts.com/>>. Information contained in this website is opposed to such activities as fish farming, commercial fishing and angling. The following is an example of some of the comments contained on this website:

On fish farms:

‘Aquafarms can be based on land or in the ocean. Land-based farms raise thousands of fish in ponds, pools, or concrete tanks. Ocean-based aquafarms are situated close to shorelines, and fish in these farms are packed into net or mesh cages. All fish farms are rife with pollution, disease, and suffering, regardless of their location.’

On commercial fishing:

‘Commercial fishing is cruelty to animals on an almost unimaginable scale. Fish look so unlike humans that many people don’t realize that they feel pain, just as we do and lead complex intellectual lives that rival those of dogs and some other mammals. The way that these animals are treated by the commercial fishing industry should make animal lovers everywhere give up their taste for fish flesh for good.’

On angling:

‘Imagine reaching for an apple on a tree and having your hand suddenly impaled by a metal hook that drags you—the whole weight of your body pulling on that one hand—out of the air and into an atmosphere in which you cannot breathe. This is what fish experience when they are hooked for ‘sport’.’

3.2 Countries

3.2.1 European Union

In January 2006, the European Commission approved a five-year plan to improve animal welfare. This plan includes the welfare of fish. The strategic basis for the proposed actions under this plan is outlined in the ‘*Commission Working Document on a Community Action Plan on the Protection and Welfare of Animals 2006-2010*’ (EU 2006) which notes that animal welfare is not explicitly mentioned in any World Trade Organisation (WTO) agreements and that there has not yet been a ruling under the

dispute settlement procedure. Such a ruling would clarify the position of animal welfare under the WTO.

This working documents states that *‘the lack of specific animal welfare standards for most farmed species is at present difficult to justify given the scientific evidence currently available and the progress in international fora such as the Council of Europe in addressing these issues.’* It also states that *‘information is progressively accumulating on the sentience of fish...with welfare guidelines for farmed fish also being prepared by the OIE.’*

This five year plan is to cover many aspects of animal welfare and is comprehensive. For example, **Section 3.2. An EU label for animal welfare – classifying production systems in relation to the welfare requirements applied** addresses the labelling of food and states:

‘Retailers and producers are increasingly recognising animal welfare as a fundamental aspect of product image and quality which creates a need for reliable systems for on farm monitoring of animal welfare status and providing guarantees on appropriate production conditions. Independent animal welfare audit programmes promoted by processors, retailers and multi-national corporations are becoming increasingly commonplace both in the EU and beyond. Various voluntary schemes already exist in different Member States for the labelling of products based on compliance with various parameters including animal welfare standards. EU marketing standards for both eggs and poultry meat already contains various rules relating to animal welfare labelling.’

As well as:

‘The establishment of an EU label for animal welfare is an option to be explored in the near future which could promote products elaborated under high welfare standards thus facilitating the choice of the consumers between products obtained with basic welfare standards (the minimum standards laid down in EU legislation) or with higher standards (contained in voluntary codes of practice or Member States’ legislation going beyond EU minimum rules).’

‘A clear label identifying the level of welfare applied could represent an effective marketing tool as currently used for the identification of certain agricultural products with particular regional attributes. Such a system of classification will need to be based on standardised scientific indicators well recognised both in the EU and internationally, and underpinned by research, in order to facilitate the marketing of these products. In order to support the consumers’ desire for choice with objective and scientifically based information, and in the light of numerous sometimes competing or even confusing labels and standards, a specific European quality standard should be developed based on ongoing research work.’

Importantly for trading partners, the EU has started to negotiate animal welfare standards to be incorporated into bilateral agreements between the EU and Third Country suppliers of animals and animal products (e.g. Chile and Canada).

3.2.2 United Kingdom

Animal Welfare Bill

The United Kingdom passed the *Animal Welfare Bill* in October 2005. As stated on the Department for Environment, Food and Rural Affairs (DEFRA) website

<<http://www.defra.gov.uk/animalh/welfare/bill/index.htm>>:

‘The Animal Welfare Bill marks a milestone in animal welfare legislation. It brings together and modernises welfare legislation relating to farmed and non-farmed animals, some of which dates from 1911. Among other things it introduces a duty on owners and keepers of all vertebrate animals - not just farmed animals - to ensure the welfare of animals in their care. It will mean that, where necessary, those responsible for the enforcement of welfare laws can take action if an owner is not taking all reasonable steps to ensure the welfare of their animal, even if it is not currently suffering.’

The Bill will apply to all inland waters (rivers, streams, lakes and ponds) and to estuaries but it will not apply to the sea. It will apply only to vertebrate animals, as these are currently the only demonstrably sentient animals. However, Clause 1(3) makes provision for the appropriate national authority to extend the Act to cover invertebrates in the future if they are satisfied on the basis of scientific evidence that these too are capable of experiencing pain or suffering.

However it doesn’t apply to anything that occurs ‘*in the normal course of fishing.*’

3.2.3 United States

Existing United States (US) health regulations for fish do not directly address welfare, but health is considered one measure of welfare (Burns 2005). Evolving welfare standards could change health standards, which would in turn affect any veterinarian who works with fish.

The Joint Subcommittee on Aquaculture has not included the welfare of aquatic animals as an area for consideration by the National Aquatic Animal Health Task Force. The federal and state governments have a variety of regulations on fish health, though not on fish welfare as such. Many of the regulations address disease control and food safety. Ten working groups have met so far to help develop and consolidate regulations for the National Aquatic Animal Health Plan, which has a completion deadline of early 2007 (Burns 2005).

3.2.4 People’s Republic of China

The People’s Republic of China has recently conducted press conferences and issued statements about the country’s progress with respect to animal welfare. (China 2006 a,b). Specific mention is made of the restocking of sturgeon fry and of the conservation of sharks. There is no mention made of the welfare of fish being used for farming or for other commercial purposes. A full copy of the *Profile of Animal Welfare in Livestock and Poultry Farming and Shark Conservation* (China 2006a) is provided in Appendix E.

4 Current fish welfare arrangements in Australia

4.1 Current government arrangements

Australia is a federation of six sovereign states and two self-governing territories. The original federating states ceded certain powers to the Commonwealth of Australia in the national interest and retained all others. The Australian Constitution does not mention animals or their welfare. Hence, each state and territory is responsible for its own animal welfare legislation. The Commonwealth has limited jurisdiction in this area dealing with the export of animals and animal products. There is no Commonwealth Prevention of Cruelty to Animals Act binding Commonwealth employees (such as scientific, military, environmental staff). They are subject to the provisions of the State or Territory Acts in whose region they are working.

Please note that all references for legislation (e.g. *Acts, Regulations*) are included in the reference section under **Legislation**.

4.1.1 National

National ‘Model Codes of Practice for Animal Welfare’ for the livestock industries are produced and reviewed on behalf of the Primary Industries Ministerial Council by the Animal Welfare Working Group, which reports through Animal Health Committee.

The Model Codes of Practice are currently used by the States to adapt to their particular circumstances. Compliance with Codes of Practice is important for international trade and to meet the community's expectations regarding the proper use of animals.

A new process for producing National Standards for adoption in jurisdictional legislation, based on a Business Plan developed by Animal Health Australia, is currently progressing through the Primary Industries Standing Committee and Ministerial Council.

Compliance with the provisions of the Model Codes may assist a person defending a charge of cruelty. In South Australia, Codes of Practice are incorporated fully in regulations, making non-compliance an offence against welfare legislation. In other States and Territories, demonstrated compliance with the Model Codes can form the basis of a defence against a cruelty charge.

Current Model Codes do not include any that are relevant to the aquatic animal sectors.

National Consultative Committee on Animal Welfare

The Commonwealth Government is advised by the National Consultative Committee on Animal Welfare (NCCAW). The NCCAW is a non-statutory body established in 1989 and is composed of representatives of the following groups:

- National animal welfare organisations
- National animal industry organisations
- Australian Government -Department of Agriculture, Fisheries and Forestry
- State and Territory Ministers who administer the *Prevention of Cruelty to Animals Act* or equivalent welfare legislation
- Animal Health Committee’s Animal Welfare Working Group

- National Health and Medical Research Council.

The NCCAW considers and then makes recommendations to the Commonwealth Minister on animal welfare matters of national significance. NCCAW considers that:

- A properly developed code of practice for the welfare of animals that demonstrably has the support of the relevant animal industry and the community has an important role in the overall systems in place to ensure the proper care and use of animals. This includes the welfare of fish (I Caple, NCCAW, pers. comm., May 2006)
- There is a need to better define those clauses of the *Prevention of Cruelty to Animals (POCTA) Acts* which set out certain principles associated especially with acts of omission towards animals.
- Where appropriate, State and Territory Government codes of practice should be given legal recognition via the POCTA Acts and other animal welfare legislation.

NCCAW provides position statements that are the Committee's national policy statements on animal welfare issues. One such position statement is '*Animal welfare aspects of recreational fishing*'. A full copy of this position statement is given in Appendix F. NCCAW considered specific practices related to recreational fishing and provides a number of positions on such issues as:

- Use of barbless hooks
- How quickly hooks rust
- Use of excessively light line which is discouraged as it is likely to result in longer landing times and more frequent break offs
- Humane landing and handling techniques of fish destined for release
- Captured fish which are to be kept: these must be killed as soon as possible, either by a blow to the head or by using the sharp end of a knife to destroy the brain
- The live tethering of caught fish and the use of live bait, both of which are discouraged.

The position statement also states that NCCAW recognises that the recreational fishing industry supports the need to treat fish humanely and encourages the progression of state and national Codes of Practice to specifically address animal welfare aspects of recreational fishing.

There is currently no NCCAW position statement that specifically refers to aquaculture, commercial fishing or the aquarium trade. However, Professor I Caple (Chair, NCCAW, pers. comm., May 2006) noted that NCCAW was aware of the National Aquaculture Council's aquatic animal welfare document (Johnston and Jungalwalla 2005).

Fisheries

Responsibility for the management of fisheries in Australia is shared between the Commonwealth and the States. Overall and unless special arrangements are in place, States and Territories are responsible for managing fisheries inside 3 nautical miles, and the Commonwealth is responsible for seas between 3 and 200 nautical miles offshore.

Historically, the Commonwealth has limited its jurisdiction to commercial fishing with states assuming responsibility for all recreational fishing.

The legislation covering Commonwealth Fisheries are

- *Fisheries Administration Act 1991*
- *Fisheries (Administration) Regulations 1992*
- *Fisheries Management Act 1991*
- *Fisheries Management Regulations 1992*
- *Torres Strait Fisheries Act 1984*
- *Torres Strait Fisheries Regulations 1985*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Environment Protection and Biodiversity Conservation Regulations 2000*

In these Acts there are only a few sections that indirectly relate to fish welfare. The first is in the *Fisheries Management Act 1991* which bans Driftnet fishing in Part 2, Section 13. The other is in the *Environment Protection and Biodiversity Conservation Act 1999*, which mentions humane treatment of captured animals. The word 'welfare' as it relates to fish does not appear in any of this legislation.

4.1.2 States and Territories

Australian Capital Territory

In the Australian Capital Territory (ACT) the legislation covering animal welfare is the *Animal Welfare Act 1992* and the *Animal Welfare Regulations 2001*.

The *Animal Welfare Act* states that **animal** means:

- a. *a live member of a vertebrate species, including:*
 - i. *an amphibian; and*
 - ii. *a bird; and*
 - iii. *a fish; and*
 - iv. *a mammal (other than a human being); and*
 - v. *a reptile; or*
- b. *a live cephalopod; or*
- c. *a live crustacean intended for human consumption.*

And that:

Animal welfare means the health, safety and welfare of—

- a. *animals in general; or*
- b. *one or more animals in particular.*

In the ACT the *Fisheries Act 2000* and *Fisheries Regulations 2001* provide the legislative control of aquaculture and recreational fishing. There is no mention of fish welfare or care in the *Fisheries Act* other than for fish used for scientific purposes, which are then covered under the *Animal Welfare Act*.

Environment ACT is the ACT government agency working toward a sustainable, high quality natural and cultural environment. Environment ACT is part of the Arts, Heritage and Environment Group within the ACT Government's Chief Minister's Department. Environment ACT is responsible for developing Animal Welfare Standards - Codes of

Practice. There is a gazetted Code of Practice for Recreational Fishing in the ACT, based on the National Code of Practice for Recreational and Sport Fishing (J Stekovic, Environment ACT, pers. comm., July 2006)

In the ACT there is no fishing licence required for recreational purposes. There is no commercial fishing in the ACT.

Environment ACT has a gazetted Code of Practice for Pet Shops. There is a comprehensive section on fish (Environment ACT 2006) that starts with '*These provisions will apply until a Code of Practice outlining the requirements to be met for the welfare of fish has been gazetted*'. The Animal Welfare Act 1992 under Division 7.3 (Powers of inspectors) deals with the operation of pet shops and monitoring pet shop standards

New South Wales

In New South Wales (NSW) the legislation covering animal welfare is the *Prevention of Cruelty to Animals Act (1979)* and the *Prevention of Cruelty to Animals (General) Regulations 1996*. The *Prevention of Cruelty to Animals Act* has the following definition of **animal**:

- a. *a member of a vertebrate species including any:*
 - i. *amphibian, or*
 - ii. *bird, or*
 - iii. **fish**, or
 - iv. *mammal (other than a human being), or*
 - v. *reptile, or*
- b. *a crustacean but only when at a building or place (such as a restaurant) where food is prepared or offered for consumption by retail sale in the building or place.*

There is no exclusion clause in this POCTA that refers to other legislation, such as the *Fisheries Act*.

The Animal Welfare Branch, a department of the NSW Department of Primary Industries is responsible for animal welfare. There are no Codes of Practice or Guidelines that refer to fish, other than in pet shops (see below).

In NSW, the *Fisheries Management Act 1994* and *Fisheries Management (Aquaculture) Regulations 2001* are the legislative base for recreational fishing, commercial fishing and aquaculture. In neither the *Fisheries Management Act* nor the *Fisheries Management (Aquaculture) Regulations* is the word 'welfare' mentioned nor any other specific reference to fish welfare issues.

A fishing licence is required for both freshwater and saltwater recreational fishing in NSW.

The *NSW Animal Research Act 1985* was introduced to protect the welfare of animals, by ensuring their use in research is always humane, considerate, responsible and justified. This Act includes welfare of fish. The *Animal Research Regulation 1995* incorporated the Australian Code of Practice for the Use of Animals for Scientific Purposes (NHMRC 2004) into the legislation. This is further discussed under Section 4.8.2 Animal Ethics Committees.

The Animal Welfare Branch Code of Practice No 2 is '*Animals in Pet Shops*'. Fish are included in this Code and in Item 13 there is a section '*Special Requirements of Fish*' (NSW Department of Primary Industries, 2004). This provides general information on fish care.

In New South Wales pet shops/aquarium shops and restaurants come under the *Local Government Act 1993*. There is no reference to animal welfare in this document.

The New South Wales *Companion Animals Act 1998* has no reference to fish.

The NSW Food Authority aims to ensure that food in NSW is safe and correctly labelled and that consumers are able to make informed choices about the food they eat. The *NSW Food Act 2003* makes no reference to the welfare or wellbeing of live fish in restaurants. This area is referred to the RSPCA (NSW Food Authority, pers.comm., July 2006)

Northern Territory

The Northern Territory (NT) legislation covering animal welfare is the *Animal Welfare Act 1999* and the *Animal Welfare Regulations 2000*. In the *Animal Welfare Act* an **animal** means:

- a. a live member of a vertebrate species including an amphibian, bird, mammal (other than a human being) and reptile;
- b. **a live fish in captivity or dependent on a person for food; or**
- c. a live crustacean if it is in or on premises where food is prepared for retail sale, or offered by retail sale, for human consumption.

This Act has no application to recreational or commercial fishing.

The NT *Fisheries Act 1988* and *Fisheries Regulations 1992* provide the legislative control of aquaculture, commercial and recreational fishing. There is nothing that specifically relates to fish welfare in the legislation. The only mention in the Fisheries Regulations relating to a welfare type issue is the complete ban on tethering live fish. This is Regulation number 8 (G Schipp, Acting Deputy Director, NT Fisheries, pers. comm., May 2006).

The NT Department of Primary Industry, Fisheries and Mining have a Fact Sheet called '*Handling your fish*'. This discusses safe and effective means of handling captured fish prior to release, as well as humane killing techniques. The Department has also produced a poster on the handling and release of barramundi which is included in Appendix G.

There is no recreational fishing licence required in NT.

In NT the Animal Welfare branch (Department of Local Government, Housing & Sport) administers and enforces the *Animal Welfare Act*, which provides protection for animals (D McNaught, pers.comm., July 2006).

Queensland

In Queensland the legislation covering animal welfare is the *Animal Care and Protection Act 2001* and *Animal Care and Protection Regulations 2002*. Under this legislation an **animal** is any of the following:

1. a live member of a vertebrate animal taxon;

Examples:

- i. an amphibian

- ii. a bird
- iii. a **fish**
- iv. a mammal, other than a human being
- v. a reptile.

All of the cruelty provisions of the Act as well as the duty of care obligations apply, as would the ability to make codes of practice that would define the minimal acceptable standards for handling fish and crustaceans. (N Janetzki, Animal Welfare Unit, pers.comm., July 2006)

In Division 2 of *Animal Care and Protection Act 2001*– Application - there are relationships with the *Fisheries Act 1994* i.e.

Relationship with certain other Acts

1. This Act does not affect the application of ;
 - a. the *Fisheries Act 1994*; or
 - b. the *Nature Conservation Act 1992*; or
 - c. the *Racing Act 2002*.
2. A person who lawfully does an act, or makes an omission, authorised under an Act mentioned in subsection (1) that would, but for this subsection, constitute an offence under this Act, is taken not to commit the offence by reason only of doing the act or making the omission.(3) However, subsection (2) does not apply if the act is the use of an animal for a scientific purpose.

In Division 3 of *Animal Care and Protection Act 2001* – Other Offence exemptions – fish are involved also i.e.

44 Fishing using certain live bait

It is an offence exemption for an offence if—

(a) the act that constitutes the offence involves the use of a live creature as follows for bait or as a lure to take, or attempt to take, fish:

(i) a fish;

(ii) an invertebrate of a species from the class Cephalopoda or Malacostraca; and

(b) the fishing or attempted fishing complies with any conditions prescribed under a regulation.

46 Use of fishing apparatus under shark fishing contract

It is an offence exemption for an offence if—

(a) the act that constitutes the offence is the use of fishing apparatus under the Fisheries Act 1994; and (b) the use is— (i) to protect persons from attack by sharks; and (ii) carried out under an agreement between any person and the State for the disposal, tagging or taking of sharks.

The Queensland *Fisheries Act 1994*, *Fisheries Regulations 1995* and *Fisheries Regulations 1995 Revision Notice* provide the legislative control of aquaculture, commercial and recreational fishing. There are no sections on fish welfare.

The Queensland Department of Primary Industries and Fisheries (DPIF) has a Code of practice for recreational fishers. It uses the Recfish Australia '*National Code of Practice for Recreational and Sport Fishing*' – connected via a web link.

No fishing licence is required for either freshwater or saltwater recreational fishing in Queensland.

The DPIF has an Animal Welfare Unit as well as an Animal Welfare Advisory Committee. They develop Animal Welfare Codes as intended by the Animal Care and Protection Act. There is currently no Code relating to fish.

In Queensland pet shops/aquarium shops and restaurants come under the Queensland *Local Government Act 1993*. There is no reference to animal welfare in this document. Complaints of cruelty would be directed to the Department of Primary Industries and Fisheries and the Royal Society for Protection of Cruelty to Animals (N Janetzki, Animal Welfare Unit, pers.comm., July 2006)

South Australia

In South Australia (SA), the legislation covering animal welfare is the *Prevention of Cruelty to Animals Act 1995* and *Prevention of Cruelty to Animals Regulations 2000*. The *Prevention of Cruelty to Animals Act* (POCTA) specifically excludes fish i.e.

Interpretation

In this Act, unless the contrary intention appears—

"animal" means a member of any species of the sub-phylum vertebrata except—

- a. a human being; or*
- b. a fish,*

This POCTA is currently under review and one of the suggestions is to include fish (D Kelly, Animal Welfare Unit, pers.comm., July 2006)

The *Fisheries Act 1982*, *Fisheries (Exotic Fish, Fish Farming and Fish Diseases) Regulations 2000*, *Aquaculture Act 2001*, *Aquaculture Regulations 2002* and *Aquaculture Regulations 2005* provide the legislative control of aquaculture, commercial and recreational fishing. There are no clauses in these Acts and Regulations that refer to fish welfare. With regards to noxious fish (e.g. carp) which are prohibited from being returned to the water, there is no description of the means to kill these fish humanely. (R Donovan, Department of Primary Industries and Resources of South Australia, pers. comm., May 2006).

The Department of Primary Industries and Resources, South Australia (PIRSA) controls recreational fishing in South Australia. PIRSA also recommends the Recfish Australia '*National Code of Practice for Recreational and Sport Fishing*'.

No fishing licence is required for either freshwater or saltwater recreational fishing in South Australia.

The Code of Practice for the *Care and Management of Animals in the Pet Trade* does not include fish as they are excluded from the POCTA.

The *Public and Environmental Health Act 1987* applies to conditions in which fish are kept if being sold for human consumption (whether in fish shops or restaurants) which influence tank hygiene etc. (D Kelly, Animal Welfare Unit, pers.comm., July 2006). This Act is more concerned with the spread of disease from animals to humans than for the welfare of the fish.

The *Food Act 2001*, includes fish in its definition of animal, but contains no mention of welfare or humane care of these animals. The objects of this Act include the following:

- (a) *to ensure food for sale is both safe and suitable for human consumption*
- (b) *to prevent misleading conduct in connection with the sale of food*
- (c) *to provide for the application in this jurisdiction of the Food Standards Code.*

Tasmania

In Tasmania the legislation covering animal welfare is the *Tasmanian Animal Welfare Act 1993* and the *Tasmanian Animal Welfare Regulations 1993*, with Amendments in 1994, 1995, 1996, 1997, 2001, 2003 and 2004. The *Animal Welfare Act* states that **animal** means:

- a. any **live vertebrate animal** other than a human being; or
- b. any other creature prescribed for the purposes of any or all of the provisions of this Act;

In Part 1, Section 4 states that Sections 8, 9 and 10 (Cruelty to Animals, Aggravated cruelty and Baiting and shooting) do not apply to recreational fishing, angling or commercial fishing that are '*done in a usual and reasonable manner and without causing excess suffering unless the practices used are prohibited by this or any other Act*'.

In Part 2, Section 12 there is another exemption that relates to fish: '*(b) a gillnet used in accordance with any regulations or rules made under the Living Marine Resources Management Act 1995*'.

The Tasmanian Department of Primary Industries and Water (DPIW formerly DPIWE) is currently undertaking a review of the *Animal Welfare Act*. One of the items on the agenda is to remove the fishing exemptions (M Middleton, DPIW, pers. comm., May 2006).

M Middleton (DPIW, pers. comm., May 2006) also states:

'Currently there are no Codes of Practice or Animal Welfare Standards applicable to fish. Our Animal Welfare Advisory Committee is keen to develop such codes with the specific groups and make them official – i.e. make them standards under section.44. Then the exemptions for fishing can be removed from the Animal Welfare Act.'

Fish aquaculture is the only significant animal production industry not covered by an official Code of Practice (M Middleton, DPIW, pers. comm., May 2006).

The legislation covering commercial fishing, recreational fishing and aquaculture is comprised of the

- *Inland Fisheries Act 1995*
- *Marine Farming Planning Act 1995*
- *Living Marine Resources Management Act 1995*
- *Living Marine Resources Management Amendment Act 2000*

There is no mention of fish welfare in any of these Acts or Amendments.

Tasmania is the only State or Territory in Australia where the management of freshwater fisheries is separate from marine fisheries – separate Acts and separate Government Departments. This is for historical reasons.

Interestingly, marine recreational fishing is not covered under **any** Government legislation at this stage. Marine recreational fishing is almost treated as hunting with voluntary control and not legislation (H Williams, Recreational Fisheries Management, DPIW, pers. comm., May 2006)

Commercial deep sea trawling, whereupon fish are exposed to rapid decrease in water pressure, needs to be assessed from an animal welfare viewpoint (M Middleton, DPIW, pers. comm., May 2006).

A final piece of legislation is the Tasmanian *Animal Health Act 1995* which includes fish in the definition of an animal but has no welfare consequences in its current form.

The Tasmanian Inland Fisheries Service has a Recreational Fishing Code. This document contains no reference to fish welfare and even though fish release is mentioned several times, there are no guidelines for a successful release.

In Tasmania there is no licence required for marine/sea fishing with a rod and line but an Inland Fisheries Licence is required for angling in most inland waters. Recreational sea fishing licences are required for abalone, lobsters and some netting and scallop harvesting.

The live restaurant trade is covered under the *Animal Welfare Act* but there are no guidelines at present (R Andrewartha, CVO, pers.comm., July 2006)

Victoria

The *Prevention of Cruelty to Animals Act 1986* (POCTA) and *Prevention of Cruelty to Animals Regulations 1997* define **animal** as a live member of a vertebrate species including any:

- a. **fish**; and
 - i. amphibian; and
 - ii. reptile; and
 - iii. bird; and
 - iv. mammal (other than a human being); or
- b. a live crustacean;

However, there is a POCTA exemption (Section 6) for anything that occurs in respect to the *Fisheries Act 1995*, which includes aquaculture, wild fisheries and recreational fishing. (S Tate, Bureau of Animal Welfare, Vic. DPI, pers. comm., May 2006).

There is no policy document or codes specific for the welfare of fish. The Bureau refers to *Fish Welfare Guidelines- National Aquaculture Council of Australia* (Johnston and Jungalwalla 2005) as a useful document (S Tate, Bureau of Animal Welfare, Vic. DPI, pers. comm., May 2006).

The legislative control of aquaculture, commercial and recreational fishing are under the *Fisheries Act 1995* and *Fisheries Regulations 1998*. The Department of Primary Industries (DPI) Fisheries Division have no policy documents on fish welfare. (S Tate, agency of Animal Welfare, Vic. DPI, pers. comm., May 2006). Under current fisheries legislation there is no obligation, and probably no power, to provide for management of fisheries to achieve animal welfare objectives. (J Andrews, Fisheries Victoria, pers. comm., May 2006).

Fisheries Victoria has developed a National Junior Fishing Codes Education Kit '*Its fun to fish*'. This is a primary school educational tool that contains some basic welfare aspects.

In Victoria a recreational Fishing Licence covers all forms of recreational fishing in all of Victoria's marine, estuarine and freshwaters.

With regards to commercial fishing, most welfare issues are co-incidentally related to product quality – food standards and premium price. Fish are generally placed into an ice slurry in order to dispatch quickly and retain their quality. (J Andrews, Fisheries Victoria, pers. comm., July 2006).

The document '*Victoria's Fisheries & Aquaculture Research & Development Strategy 2005-2010*' has, under Sub-program 3.B '*Social Assessments of Fisheries and Aquaculture*', a statement that Research and Development is needed for '*Investigations into humane handling and harvesting of aquatic species and development of acceptable Codes of Practice*'. (Victoria's Fisheries Co-Management Council (FCC), 2004))

Pet shops in Victoria are covered under *Domestic (Feral and Nuisance) Animals Act 1994* which excludes fish. When an animal is nominated under the Act mandatory codes can be made (S Tate, Bureau of Animal Welfare, Vic. DPI, pers. comm., May 2006). The Bureau of Animal Welfare currently has a *Code of Practice for the Operation of Pet Shops*, which at present does not mention fish (Bureau of Animal Welfare 2005).

The Victorian DPI has a document '*Guidelines on Fish and Crustacea welfare for marketing and preparation for human consumption*' (VDPI 2004). This document deals with the humane handling and killing of fish and crustacea in the catering and restaurant trade as well as the holding for retail. The document states:

'Fish and crustacea may experience pain and stress. For this reason, the humane treatment of these animals is now legally enforced. Handling and killing of fish and crustacea in the catering and restaurant trade as well as the holding for retail must be conducted humanely and penalties apply for a breach of these regulations. The handling of fish prior to killing should be kept to a minimum, and a skilled person should then kill the fish (including eels) by a fast, heavy blow to the head and/or spiking (using a narrow-bladed knife to penetrate and then destroy the brain).'

Western Australia

Initially the responsibility of welfare issues relating to fish lay with the Royal Society for the Prevention of Cruelty to Animals under the *Animal Welfare* legislation.

However, in April 2003 the *Fish Resources Management Act 1994* (FRMA) was amended to provide the Minister of Fisheries with the power to prescribe regulations to prevent cruelty to fish (i.e. 'fish' defined as an aquatic organism of any species) and provide for the welfare, safety and health of fish. (G Looby, pers. comm., May 2006). In addition the legislation change provided for the adoption of codes of practice relating to the use, care, welfare, safety or health of fish.

As a consequence of this legislative change, a Fish Welfare Position Paper was developed by the Department of Fisheries WA and distributed to key stakeholders in July 2004 (Western Australia Fisheries Department, 2004). The paper outlined the Department's responsibilities with respect to fish welfare and encouraged all sectors involved with fish-

related activities to develop codes of practice on fish welfare issues. In addition stakeholders were advised of the proposed offences and penalties that would apply under the *Fish Resources Management Regulations* (FRMR) concerning fish welfare. (G Looby, pers. comm., May 2006).

It is intended that the codes of practice will have a particular status under the FRMA. Breach of the minimum standards in a code of practice will not be an offence. Rather, any prosecution will be for failure to meet the obligations in the FRMA relating to the care of fish. Failure to adhere to the minimum standards set out in a code of practice, however, will be able to be used as evidence to support a prosecution. Conversely, it is proposed that compliance with a relevant code of practice shall be a defence when a person is charged with a welfare offence under the FRMA (G. Looby, pers. comm., May 2006).

The Department of Fisheries WA is currently considering the drafting of regulations for fish welfare. It is proposed that it will be an offence if a person in charge of fish:

- Confines or restrains fish in a manner that causes, or is likely to cause the fish unnecessary harm;
- Fails to provide fish with proper and sufficient food; or
- In any way cause the fish unnecessary harm.

It is proposed that offences may incur a maximum penalty of \$10,000 or in the case of a body corporate \$50,000. Due to the difficulty in defining ‘cruelty’ there will not be a specific definition of it contained within the legislation. It is envisaged that the majority of fish welfare cases will arise from inappropriate conditions of fish kept in aquariums, issues relating to neglect or abandonment of aquaculture fish or malicious acts of cruelty. The Minister has yet to respond to the above advice (G. Looby, pers. comm., July 2006).

The Recreational Fishing Advisory Committee (RFAC), of which Recfishwest (discussed in Section 4.6.6) is a member, is nearing finalisation of its recreational fishing code of practice. (M Pagano, Principal Policy Officer, Recfishwest, pers. comm., May 2006).

In WA fishing licences are required for recreational freshwater angling, recreational net fishing, rock lobster, abalone, crabs and marron.

Western Australia Department of Fisheries has recently developed *Guidelines for Restaurant Owners who hold ‘live seafood’ in Aquaria* (WA Department of Fisheries 2005) that includes:

- General Guidelines for Live Seafood
- Aquarium Operations
- Humane Killing of Live Seafood

These Guidelines state that ‘*stress not only affects the wellbeing of the animal concerned, but also the ultimate quality of the product, as well as that all live seafood offered for sale should be handled and displayed in a humane manner*’..

4.2 Welfare organisations

4.2.1 Royal Society for Prevention of Cruelty to Animals

The Royal Society for Prevention of Cruelty to Animals (RSPCA) is a key animal welfare organization in Australia. RSPCA Australia develops all RSPCA Policies and

Position Papers which are then endorsed by the individual State RSPCA organisations. The RSPCA website can be found at <www.rspca.org.au>.

Under jurisdictional *Prevention of Cruelty to Animals* (POCTA) or equivalent animal welfare Acts, full-time officers of the RSPCA are delegated by the responsible Minister in each state and territory to enforce the Act. Although Primary Industries and other State agency staff are involved in compliance activity in most jurisdictions, the bulk of prosecutions are undertaken by RSPCA officers.

RSPCA Policy B (RSPCA 2006b) deals with Aquaculture in Section 1.6. RSPCA Australia believes that fish farming should only occur where the husbandry procedures and environmental conditions provided are designed to minimise any associated pain, suffering or distress to the fish. This policy is very basic and is not currently under review (H Wirth, President RSPCA Australia, pers. comm., April 2006).

The RSPCA Policy C (RSPCA 2006c) refers to recreational fishing in Section 1.11. This policy states that RSPCA Australia is not opposed to fishing provided that all of the following conditions are met:

- It is conducted in a manner that minimises any associated pain, suffering or distress to the fish during capture and handling, and killing or release
- It is only conducted in waterways where free-running fish can escape
- The fish is either released immediately, provided the hook injury is minimal and will not compromise survival, or humanely killed immediately by stunning, spiking or pithing.

The policy also supports the development of codes of practice by the various recreational fishing organizations. This policy is currently under review but is unlikely to alter significantly from its present position (H Wirth, President RSPCA Australia, pers. comm., April 2006).

The RSPCA Policy E refers to Wildlife (RSPCA 2006d). Section 1.10 of this policy refers to Aquatic Wildlife and states the following:

- Fish and crustaceans are capable of experiencing pain and suffering, thus they must be accorded the same respect, consideration, compassion and care as that given to other animals
- All fish and crustaceans killed for food or other purposes must be killed humanely as soon as possible after capture. RSPCA Australia does not accept as humane the practice of allowing fish to suffocate after capture
- RSPCA Australia believes that fish and crustaceans should be uniformly protected under state and territory animal protection legislation including codes of practice.

The policy further states that RSPCA Australia:

- Is opposed to drift net and long-line fishing because these techniques result in indiscriminate non-target deaths
- Urges the implementation and enforcement through appropriate legislation of a code of conduct for the use of all types of fishing nets, with specific attention being given to the provision of escape mechanisms for marine mammals and birds and the welfare of other nontarget species

- Supports the development and promotion of any fishing techniques that will reduce the suffering of non-target animals.

RSPCA Australia is also opposed to the use of shark nets for beach protection that are inhumane to sharks and other marine animals.

The RSPCA Policy G refers to ‘*Humane killing and processing of crustaceans*’ but there is no similar policy for fish (RSPCA 2006e).

RSPCA Australia is totally opposed to the sale of live animals from pet shops as stated in their Policy A on Companion Animals (RSPCA 2006a). In this policy there is a small section on captive fish that states:

‘Captive fish must be maintained in appropriate facilities which meet their behavioural and physiological needs. Such facilities should be maintained to maximise the welfare of the fish, particularly in relationship to surface area, temperature control and water quality of the container.’

RSPCA Australia has no policy specifically related to fish in the live restaurant trade (H Wirth, President RSPCA Australia, pers. comm., July 2006).

Animal welfare legislation varies substantially from one state to another. RSPCA Australia has developed a model legislation as part of their Policy H document (RSPCA 2006f). This model legislation (*Protection of Animals Act*) has been developed to assist state and territory RSPCAs when they have the opportunity to influence the drafting or amendment of state/territory animal protection legislation in their jurisdiction. The provision of a single model would help to provide some consistency of animal welfare laws across Australia.

The primary purpose of this model legislation is to translate RSPCA Australia policy, into a legislative framework. The document is intended as a practical and achievable reform instrument.

4.2.2 Animals Australia

Animals Australia (AA) is a body representing some 38 animal advocacy organizations. The full list of these member organizations is available on their web site. AA states that their goal is to significantly and permanently improve the welfare of all animals in Australia. The AA website can be found at <www.animalsaustralia.org>.

The AA position regarding fish is that AA:

- Opposes recreational and commercial fishing of wild or farm-bred fish where it results in animal suffering
- Calls for all fish to be killed humanely and quickly
- Calls for the responsible government authorities to disseminate information to educate the public that fish are capable of suffering pain and to amend animal welfare legislation to include protection for fish.

AA has two Fact Sheets that refer to fish:

- 1) Fish and Crustaceans
- 2) Animal Exploitation

The AA *Policy Compendium* is intended to provide an indication of the views of AA on current animal welfare issues in Australia. AA’s policy on fish states:

‘Animals Australia opposes recreational and commercial fishing of wild or farm-bred fish which causes animal suffering.

Animals Australia calls for all fish to be killed humanely and quickly.

Animals Australia calls for the responsible government authorities to disseminate information to educate the public that fish are capable of suffering pain and to amend animal welfare legislation to include protection for fish. Animal Australia also states that in line fishing, suffering occurs when the hook pierces the fish's flesh; when the animal is being pulled out of the water whereupon it slowly suffocates (if not killed immediately); and when the hook is removed while the fish is still alive. Pain is further increased for large fish when gaff hooks are used to pull them out of the water.’

In addition, with respect to fish farming AA states:

‘No new fish farms should be permitted until humane research is carried out to ascertain the effect of fish farming on the welfare of the fish.’

With respect to recreational fishing AA states:

‘Fishing practices cause pain and stress for millions of fish every year. Unfortunately, due to widespread public misinformation and ignorance, fish are generally not effectively protected by animal welfare legislation and are therefore subject to inhumane fishing practices.

With respect to commercial fishing AA states:

In drag-netting, fish are subject to drastic changes in ambient pressures resulting in damage to internal organs and gills. They also suffer from compression under the weight of the other fish in nets, and from suffocation.’

Animals Australia is also opposed to

- Livebaiting as it involves additionally the suffering of the bait, a small live fish threaded onto a hook, often through both eyesockets. Live baits may be dragged in the water for long periods of time, until a predator attacks them.
- Big game fishing, as ‘playing on the line’, sometimes for hours, causes intense suffering and panic to the fish.

4.3 Other organisations of relevance to fish welfare

4.3.1 Australian Veterinary Association

The Australian Veterinary Association (AVA) is the professional organisation representing veterinarians across Australia. The AVA website can be found at <www.ava.com.au>.

The AVA has a policy on recreational fishing. The policy is only available in the AVA members section of their website and states:

‘The AVA recognises that many people in Australia undertake fishing as a recreational activity. The AVA's prime concern is with the welfare of the fish involved and requires that when fish are taken as part of a recreational activity, that pain and stress are minimised.

The AVA supports the National Code of Practice for Recreational and Sport Fishing <<http://www.recfishoz.com/about/code.html>> developed by RECFISH Australia and

believes that statutory codes of practice should be in place to ensure compliance with the code.'

Currently, the AVA does not have policies on the following fish sectors:

- aquaculture
- commercial fishing
- holding of live fish for human consumption
- ornamental fish

With the exception of aquaculture, there are no immediate intentions to develop these policies (K Doyle, AVA Veterinary Director, pers. comm., May 2006 and July 2006).

Discussion

Issues raised during discussions with the above organisations/associations include:

- Fish welfare relating to aquaculture, recreational and commercial fishing are not effectively dealt with by the Law at present. Some States do not even include fish in their *Prevention of Cruelty to Animals* (POCTA) Act or Animal Welfare Acts.
- Concern was expressed over:
 - The potential for a mass mortality if a problem occurs in salmon and tuna aquaculture where there are large numbers of fish involved
 - High stocking density which can cause stress and reduced immunity
 - Predation on aquaculture farms.
 - Inhumane treatment of fish with both recreational and commercial fishing

4.4 Aquaculture fish sectors

4.4.1 National Aquaculture Council

The National Aquaculture Council (NAC) is the peak body representing the aquaculture industry across Australia. The major industry sectors by value (salmon, pearls, tuna, prawns and edible oysters) are the main members of the NAC, with each sector being automatically allocated a position on the board of directors. The NAC allows for full membership from corporate organisations and caters for Affiliate membership. This enables memberships for companies and groups that are not in a position to become full members, but will offer a range of non-voting benefits through being part of the NAC network.

A key NAC publication with respect to fish welfare is the NAC *Fish Welfare Guidelines* (Johnston and Jungalwalla 2005). This provides guidelines on welfare of fish and crustaceans in aquaculture and in live holding facilities for human consumption. These guidelines are been endorsed by the Fish Health Unit of the Australian Government - Department of Agriculture, Fisheries and Forestry (AG-DAFF) and are designed to be a framework guidance document, from which industry sector specific Codes of Practice may be developed.

The guidelines are comprehensive and address the following issues regarding the welfare of fish in aquaculture:

1. *Water quality*
 - *Oxygen*

- *Metabolites (e.g. ammonia)*
- *Suspended solids*
- *Salinity*
- *Other water quality parameters such as hardness, pH, CO₂ etc.*
- 2. *Water temperature*
 - *Natural range and avoiding thermal shock*
- 3. *Food and feeding*
 - *Nutritional balance, safe food*
 - *Delivery to minimise aggression and wastage*
 - *Fasting regimes*
- 4. *Stocking density.*
 - *Identified as not an absolute measure of welfare*
 - *Use of water quality parameters as feedback*
 - *The need to develop welfare indices specific to each fish species*
- 5. *Equipment*
 - *Construction and maintenance*
 - *Lighting*
 - *Velocity and water flow*
 - *Protection from predators*
- 6. *Husbandry practices*
 - *Handling*
 - *Crowding and grading*
 - *Transport of live fish*
- 7. *Health*
 - *Surveillance and monitoring*
 - *Treatments*
 - *Destruction of damaged and/or sick fish*
- 8. *Humane slaughter*
 - *Methods and equipment*

There is no Quality Assurance (QA) policy at this stage.

In addition, the document also provides general and specific guidelines for fish holding systems.

4.4.2 Fish farming sectors

There are a number of aquaculture sectors in Australia that farm fish including:

1. The southern bluefin tuna (SBT) (*Thunnus maccoyii*) industry based off Port Lincoln in South Australia
2. The salmonid industry farming Atlantic salmon (*Salmo salar*), rainbow (Ocean) trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*) and brook trout (charr) (*Salvelinus fontinalis*) based in a number of southern States in Australia
3. The yellowtail kingfish industry (*Seriola lalandi*) based in South Australia
4. The barramundi (*Lates calcarifer*) industry farming baround Australia

5. The native fish industries based on silver perch (*Bidyanus bidyanus*), golden perch (*Macquaria ambigua*), murray cod (*Maccullochella peelii*), eels (*Anguilla spp*), jade perch (Barcoo grunter) (*Scortum barcoo*) and a number of other native fish.

All these industries are focused on producing high quality seafood for human consumption (S Bennison, National Aquaculture Council, May 2006).

It is in the interests of these industries to maintain good welfare since animals in 'optimum' condition grow better and give a better economic return (Sneddon 2006). As recognised by Johnston and Jungalwalla (2005) suboptimal husbandry procedures have the potential to induce robust physiological stress responses in all animals, including fish. The following is a brief summary of documentation and practices within each farmed fish sector that pertain to fish welfare:

Salmonids

Salmonids in Tasmania are farmed both on land in tanks and raceways and in the sea in floating net systems. The Tasmanian salmonid industry has its own Code of Practice (Percival 2004). This Code of Practice defines what is considered to be best industry practice with regard to the environment, fish husbandry, farming operations, and fish welfare. It is a working document and will periodically be subject to review and update as information becomes available and as the industry develops and evolves.

The Code has been developed by the Tasmanian Salmonid Growers Association in consultation with industry, regulatory authorities and other relevant government agencies. The Code is fully endorsed by all members of the TSGA. The development and production of this Code of Best Practice was fully funded by the TSGA.

The Code's introduction states that responsibility for the implementation of and adherence to the Code rests with each individual company.

This Code is also a comprehensive document, though activities specific to the hatchery production of fish are still to be completed. The following areas are specifically addressed by this Code:

1) Environmental Issues

- Organic Inputs
- Water Quality
- Benthic Conditions
- Phytoplankton
- Jellyfish
- Therapeutants and Chemicals
- Wildlife

2) Health Management and Disease Control

- Health Monitoring
- Disease Investigation
- Pharmaceutical Treatments
- Fish Movements

3) Stock Husbandry and Management

- Stocking Density

- *Site Management (Fallowing)*
- *Stock Management*
- *Mortalities – management and disposal*
- *Feeding*
 - i) Feed composition and quality*
 - ii) Feeding Operations*
 - iii) Sample Weighing/Health Checks*
- *Grading*
- *Splitting/Swim Throughs*
- *Rearing Environment*
- 4) *Equipment: Specification, Operation and Maintenance*
 - *Cages*
 - *Nets*
 - *Feeding Equipment*
 - *Oxygen Monitoring and Application Equipment*
 - *Fish Pumps*
- 5) *Harvesting*

While the above encompasses many aspects of farming that have fish implications, the Tasmanian Code of Practice also states the following specifically about fish welfare:

- *Farmers should always aim to minimise the stress and physical damage to fish associated with the growing environment and handling procedures.*
- *The growing environment should always be optimised for the fish and for the production of healthy and wholesome products.*
- *Sick, deformed or injured fish should be culled from the population and humanely destroyed wherever possible. Culling could be undertaken by dip netting such fish from the surface of cages or culling at the time of handling procedures (eg. weight/health checks, freshwater bathing or grading).*
- *Individual fish may be humanely destroyed by delivering a sharp blow to the top of the head, decapitation, or other means of rendering them rapidly insensible.*
- *Fish should be sedated/anaesthetised before significant handling procedures such as gill checks and weight checks.*
- *Where treatment of fish is indicated, the treatment should be undertaken quickly and effectively to minimise the extent of the disease problem and the chance of reinfection. Any predisposing causes should be rectified immediately.*
- *Fish should be slaughtered using a humane method (which is covered fully in a later section of the Code).*

The Victorian Trout Association (VTA) has as its members most of the main salmonid farmers in Victoria. Farming occurs in raceways and/or tanks usually with flow through water. According to E Meggitt (President, VTA, pers. comm., May 2006) while the VTA does not have a Code of Practice that specifically addresses fish welfare issues, some individual farmers have documented procedures addressing welfare issues. For example, one farm has as part of its Environmental Management Plan the following section on fish welfare:

The farm manager must recognise that by engaging in fish farming he/she has a duty of care for the welfare of the farm stock. All farm facilities and operational procedures should be planned to provide the best possible welfare for the stock in terms of the “five freedoms”. These are:

- *Freedom from malnutrition.*
- *Freedom from thermal and physical shock.*
- *Freedom from injury and disease.*
- *Freedom from fear and distress.*
- *Freedom from unnecessary restrictions of behaviour.*

The document also details some other issues directly related to welfare e.g.

- *Fish handling equipment should be chosen to minimise the stress caused by the necessary handling of trout.*
- *Sufficient back-up equipment, warning devices etc. should be installed and maintained to ensure that the welfare of the trout is not jeopardised in the case of a mechanical or electrical failure.*
- *Transportation should be performed in such a manner as to minimise stress.*
- *Harvesting should be performed in a humane manner.*

Harvesting in this industry is generally into an ice slurry containing an anaesthetic derived from clove oil (e.g. AQUI-S®) (E Meggitt, pers. comm., May 2006). This technique is known as ‘rested harvest’. Quantitative and qualitative tests performed on trout harvested in this manner show lower lactic acid accumulation in the flesh of the fish signifying the reduction in stress in this harvest method (*‘Rested Harvest with AQUI-S’*).

Southern bluefin tuna

The Southern Bluefin Tuna industry is based in Port Lincoln, South Australia. It relies on the capture of young wild fish at sea and the towing of fish in cages back to where they can be fed for three to five months before harvesting. Nearly all SBT is sold overseas, primarily to Japan. The SBT is sold either chilled or frozen. The premium price paid per kilogram (up to \$50/kg) is due to the quality of the product.

The SBT industry is currently drafting its own Code of Practice (B Jeffries, Tuna Boat Owners Association, pers. comm., May 2006). This is due for completion in the next few months. Nearly all aspects of farming in the industry will be covered by this document including any practices associated with towing of cages and feeding of fish.

The Department of Primary Industries and Resources, South Australia (PIRSA) Aquaculture has developed aquaculture policies to cover the farming areas used by the SBT industry (PIRSA 2003). These policies cover a number of aspects about farming fish, but in particular state the following:

- *This zone is primarily for the purpose of farming Southern Bluefin Tuna.*
- *Area will be allocated at a rate of one hectare for every three tonne of accessible quota.*
- *The maximum stocking density is based on 6 tonne of stock per hectare on the total hectares held by the licence holder. However farms established in an area with a depth of less than 20 metres may have reduced stocking rates which will be determined on a case by case basis by PIRSA Aquaculture.*

A key practice in this industry with welfare implications is harvesting. The basic method is by guiding the fish up to a harvesting platform where each fish is killed using the ‘*iki jima*’ method. This is the application of a spike into the brain of the fish. It is vital for the quality of the product and the welfare of the fish that death is rapid and done with the minimum amount of stress.

Yellowtail kingfish

The yellowtail kingfish industry has both on land hatcheries and floating sea cage sites. This industry has a draft Code of Practice prepared by the South Australian Marine Finfish Farmers Association Inc (SAMFFA) (M Hernen, SAMFFA, pers. comm., May 2006). The draft Code has been developed in consultation with Primary Industries and Resources South Australia (PIRSA), the Department of Environment and Heritage (DEH) and the SA Environment Protection Authority (EPA). This draft Code considers functional areas and objectives that are necessary for economically sustainable and environmentally responsible marine fish farming in South Australia and notes that good environmental management and animal welfare standards encourage consumer acceptance of culture methods and facilitate continued access to markets.

The draft Code covers many aspects of farming. Some examples of where it specifically addresses welfare issues are:

- *Fish that are too densely stocked are prone to stress, injury and disease. Densities may vary according to site conditions, and species. Therefore biomass, temperature, oxygen, nutrient levels etc should be checked regularly to ensure that the fish do not become stressed.*
- *Aquaculture animals should be graded with sufficient frequency to avoid size disparity that can lead to cannibalism and stressful interactions between animals in the facility.*
- *Animals in aquaculture should be protected as much as possible from predators.*
- *Feeding of fish should provide as near to optimal quality, quantity and frequency as possible, taking into account the stage of development.*
- *All diets should be of high or approved quality, have the correct dietary composition to meet the energy and growth requirements of the species. Pellets must be appropriate to the size of the stock.*

The draft Code also considers such aspects as harvesting, health management and treatment of fish.

Barramundi

Barramundi are currently farmed around Australia in tanks using recirculation technology, in open ponds and in sea cages. The key organisation for the barramundi farmers in Australia is the Australian Barramundi Farmers Association (ABFA). ABFA does not have an industry Code of Practice that specifically deals with welfare issues (N Halligan, ABFA, pers. comm., May 2006). An industry representative has recently completed a ‘Standards’ document for the industry. The consultant is following this up with the representative to assess whether or not this ‘standards’ document addresses welfare issues.

Like other fish farming industries, the well-being of fish is the first consideration of the farmers and tends to set the standards of what needs to be done (S McBride, Good Fortune Bay, pers. comm., May 2006). As an example, the stress status of the fish prior to harvest is very important, not only for the welfare of the fish but also to ensure good flesh quality. Procedures are therefore utilized to minimize stress to the fish and hence ensure flesh quality. For example, at harvest, fish must be handled as gently as possible to minimise stress and exertion. The fish are then harvested directly into an ice slurry (barramundi are generally grown in water at a temperature of approximately 28°C). The fish then become quickly comatose.

Some fish are also live transported. Again it is important for both the farmer and the transporter to ensure that the fish arrive at the end destination in as good a condition as possible. Registered anaesthetics are sometimes used in the transport water (N Halligan, ABFA, pers. comm., May 2006).

Hatcheries in this industry also maintain their own broodstock. These can be large fish, sometimes up to 8-10 kilograms. In order to ensure good quality fingerlings the broodstock are maintained in optimal conditions or they will not produce good quality eggs or even worse will not spawn (S McBride, Good Fortune Bay, pers. comm., May 2006).

Native fish

As far as the consultant is aware there is no industry Code of Practice for native fish farmers or industry documentation that specifically addresses welfare issues in the native fish industries. As with other fish sectors it is of the utmost importance for farmers to ensure the well being of their fish stocks and some individual farmers document welfare issues within their own operations (S Noble, Brimin Lodge Murray Cod, pers. comm., May 2006). Generally farmers in this industry are owner operators with few larger companies. Individually they are not large producers. Like other fish sectors though keeping the fish under their care healthy is vital to the well being of their business. As stated in the internal code of practice of Australian Aquaculture Products (AAP): *Growth and market returns and therefore profits depend entirely on fish well being.* (R Camm, AAP, pers. comm., May 2006).

The industry is farming species about which there is still much to learn as farmers seek to balance production issues with environmental sustainability and profitability (S Noble, pers. comm., May 2006). The selling of live fish is common in this industry and transporting of live fish occurs frequently. This can be as fingerlings from hatcheries to grow-out farms and as grown fish to final markets. Producers who do not sell fish live usually kill fish using an ice slurry or with a spike through the head. This industry is also farming species about which there is still much to learn. The selling of live fish directly to markets is common in this industry hence there the transporting of live fish occurs frequently. Producers who do not sell fish live usually kill fish using an ice slurry or with a spike through the head.

There are also operators in this industry that grow native fish not only for human consumption but also for the ornamental trade and for restocking purposes. B Sambal (Ausyfish Pty Ltd, pers. comm., April 2006) noted that growers realise that they need to care for their fish to remain profitable and to survive and that bad practices will result in

immediate losses. Mr Sambal also notes that the ornamental market demand for fish in ‘pristine’ condition requires strict attention to the way the fish are handled and packed.

4.4.3 Discussion

Current desirable practices for reinforcing:

- Humane stunning techniques
- National Aquaculture Code of Practice addressing specific fish welfare issues within each industry
- Specific industry Codes of Practice as indicated above

Perceived gaps and deficiencies:

- Lack of specific welfare guidelines in some industries
- The extent to which Codes of Practice and guidelines are known about and being used
- Concern about governments apparently seeking to gazette Codes of Practice and then use these Codes for regulatory purposes
- Need for more scientific research in this area

Other issues raised during discussions with the above organisations, associations and individuals:

- Predation by birds such as cormorants on outside ponds. Netting the ponds will protect the fish but will also catch other birds such as ducks, particularly at night when the ducks cannot see the net.
- Not having registered chemicals or treatments available that can be legally and responsibly used (this is being addressed by the Veterinary Medicines in Aquaculture Working Group).
- The problem of treating fish by bath to alleviate suffering (e.g. from infestation with a parasite) but potentially stressing fish with the treatment.
- Smaller operators that move fish by hand due to not having the capital to purchase expensive fish pumps. Moving fish by hand can take longer and may involve more stress.
- Some operators not stunning their fish prior to bleeding.
- Grading fish is important to reduce stress with some species such as Murray cod and barramundi and is an important welfare consideration. Grading may need to be repeated.

4.4.4 International welfare arrangements pertinent to farmed fish

The Department for Environment, Food and Rural Affairs

The Department for Environment, Food and Rural Affairs (DEFRA) is located in the United Kingdom. In addition to the general requirements of the Welfare of Farmed Animals (England) Regulations 2000, DEFRA is working to improve fish welfare. DEFRA’s expenditure on fish welfare research and development is considerable as indicated in Figure 1. A workshop on farmed fish welfare in October 2002 provided

information on recent research being conducted by DEFRA in this area (DEFRA 2002) and is useful as a resource.

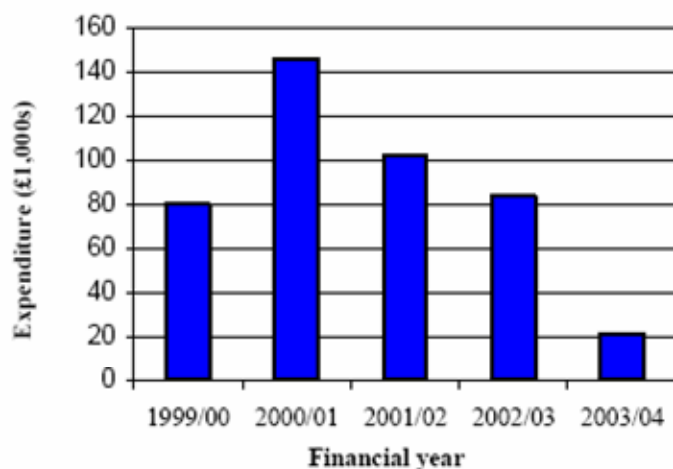


Figure 1 DEFRA expenditure on fish welfare research program

Fiskeriforskning

Norway, a major world salmon producer, is pro-active regarding fish welfare.

In January 2006, Fiskeriforskning (the Norwegian Institute of Fisheries and Aquaculture Research), produced a document 'Welfare in farmed fish' (Damsgård et al 2006). This report was financed by the Research Council of Norway. The core partners in the program were the Norwegian Institute of Fisheries and Aquaculture Research (Fiskeriforskning) in Tromsø, Institute of Marine Research (IMR) in Bergen and the Norwegian University of Life Sciences (UMB) at Ås. The program conducted research on welfare aspects of farmed fish from January 2001 to December 2005.

The general aim of the program was to increase basic competence regarding fish welfare by the integration of scientific fields such as fish behaviour, fish physiology and fish health as tools to understand welfare related topics in farmed fish, and to use these tools to evaluate fish welfare based on the animal's behavioural needs.

This report gives insight in the scientific work carried out in this strategic research program and the progress made in what Fiskeriforskning notes is this relatively new scientific field of aquaculture research. As an indication of the contents of this report:

- Chapter 3 gives a conceptual and theoretical background of animal welfare
- Chapter 4 describes the methodological progress financed in part by the program.
- Chapter 5-11 reports results and progress related to both basic and more applied fish welfare research, which gives an illustration of the interdisciplinary nature of the subject.

4.5 Commercial wild capture fisheries

The commercial wild capture fishing industry in Australia is diverse and covers many methods of fishing and many species of wild fish. The Australian Fishing Zone (AFZ) extends 200 nautical miles from the baseline of the continent and Australia's island territories. This zone is the third largest in the world, covering about 10.3 million square kilometres: one-and-a-third times the area of Australia's land mass. It contains a diverse range of aquatic species including approximately 4,500 known species of fish, though only a relatively few of these are commercially exploited.

Responsibility for the management of these fisheries rests with the Commonwealth and State/Territory governments either individually, collaboratively or by way of Commonwealth–State/Territory Joint Authorities.

As discussed in Section 4.1.1, overall and unless special arrangements are in place, States and Territories are responsible for managing fisheries inside 3 nautical miles, and the Commonwealth is responsible for seas between 3 and 200 nautical miles offshore.

About 800 marine and freshwater seafood species are wild caught and sold in Australia (under about 300 marketing names) for local and overseas consumption. It was not possible to ascertain the exact number of fish species that are currently captured from the wild in Australia. The range is exemplified by the commercial line fishery in Queensland where more than 120 fish species are caught. Only a few of these though are actively targeted by commercial fishers (QDPI 2005).

The Australian Fisheries Management Authority (AFMA) is responsible for the day-to-day management of Commonwealth fisheries resources within the AFZ and of Australians on the high seas. For administrative purposes, AFMA has grouped these resources into a total of 22 fisheries that are identified by species, fishing method and/or area. Figure 2 depicts these fisheries.

Figure 3 depicts the main fisheries in the States and Territories. This figure includes species other than fish.

The method of capture used in the commercial capture fisheries in Australia will have an impact on fish welfare. Appendix H describes some of the more common methods by which fish are commercially captured in Australia.

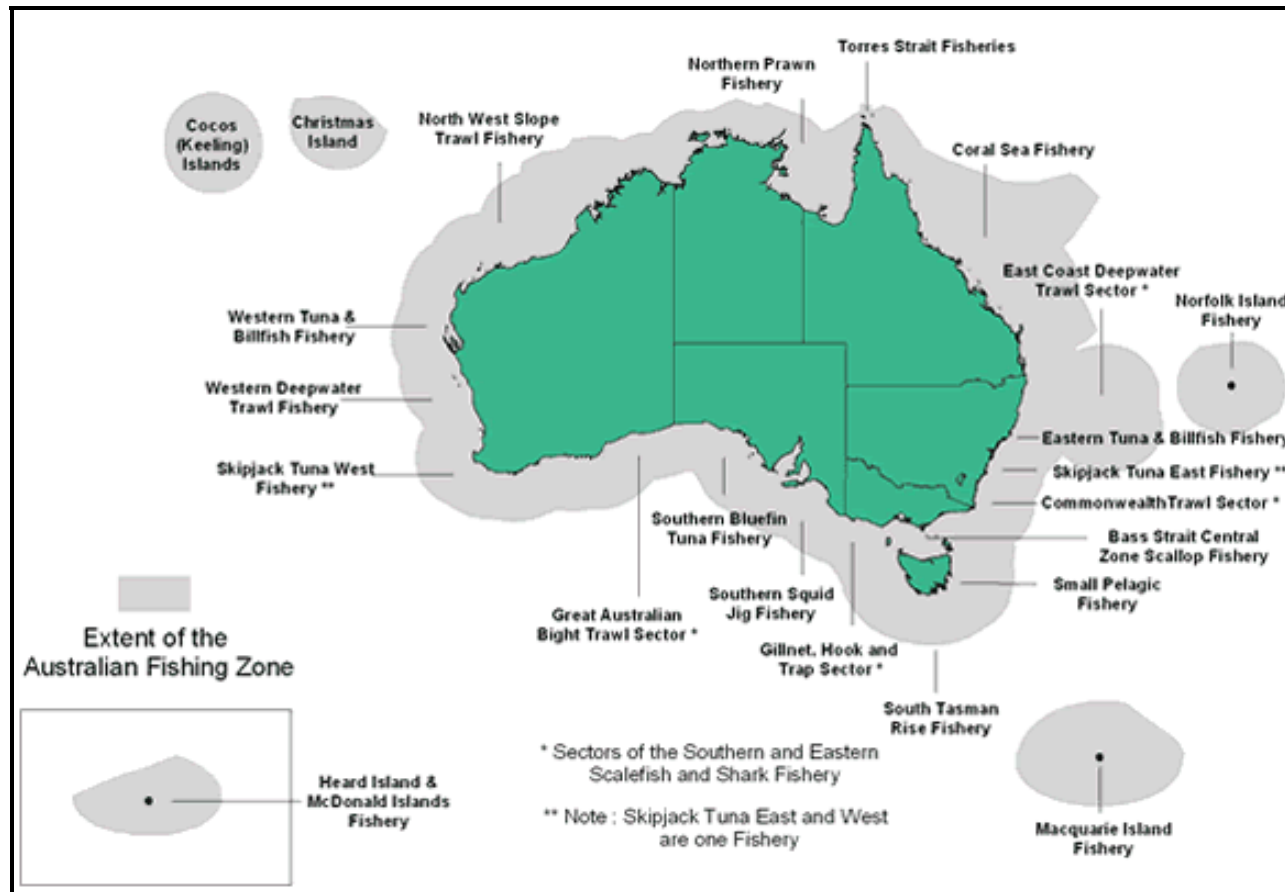


Figure 2 Australian Fishing Zone and fisheries

Source – AFMA <<http://www.afma.gov.au/information/maps/afz.htm>>

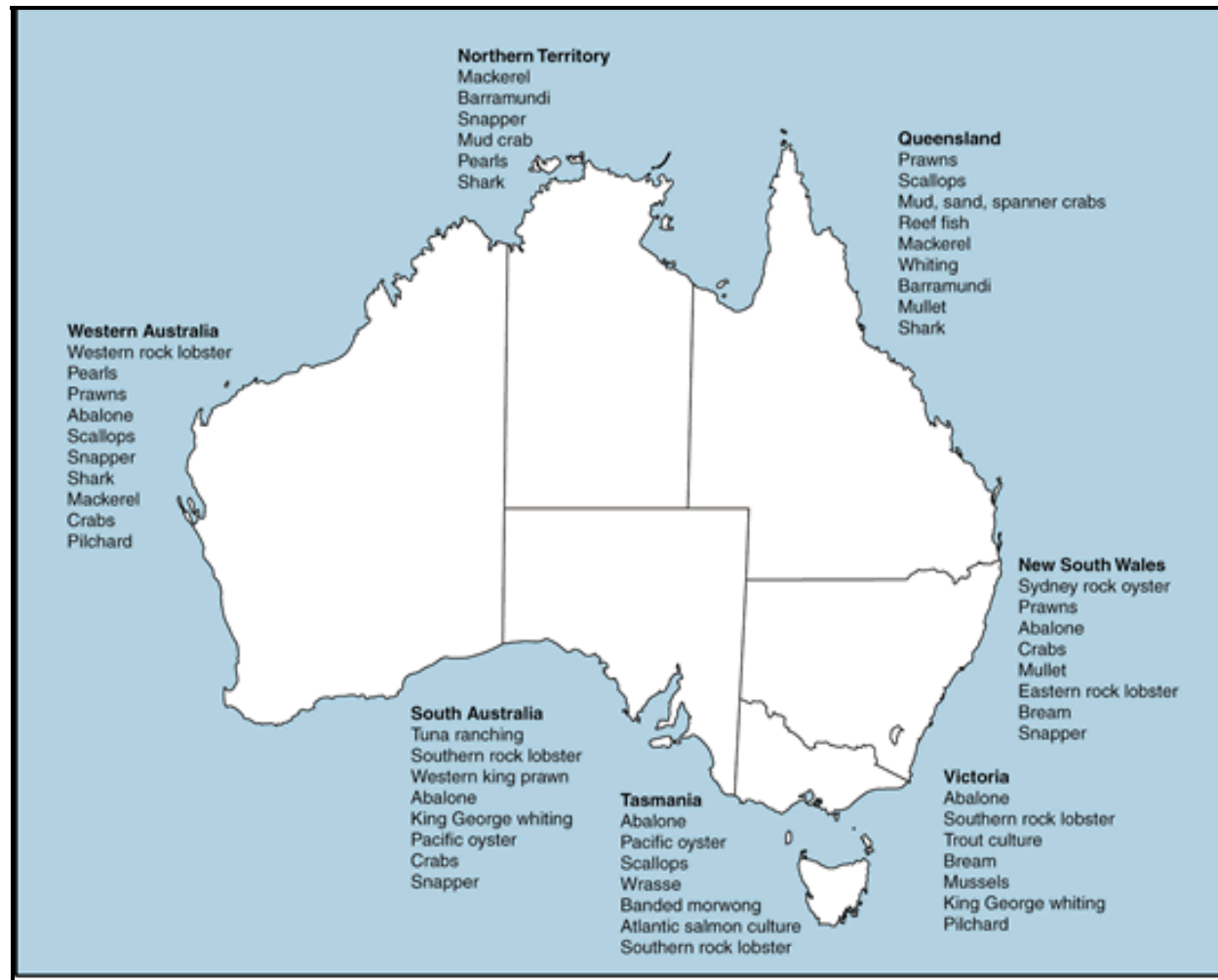


Figure 3 State/Territory fisheries summary

Source – Bureau of Rural Sciences <http://www.affa.gov.au/image3/rural_science/fish/satusrep99/managed.gif>

It was not possible to contact every fisher or wild capture fishery association for this report. However, to get a general assessment of the current fish welfare arrangements in the commercial wild capture fisheries across Australia peak industry bodies and organisations which represented key fisheries across Australia were contacted. These included:

- Tasmanian Fishing Industry Council (TFIC)
- Queensland Seafood Industry Association Inc. (QSIA)
- Western Australia Fishing Industry Council (WAFIC)
- South Australian Fishing Industry Council (SAFIC)
- Seafood Industry of Victoria (SIV)
- New South Wales Department of Primary Industries (NSW Fisheries)
- Australian Fisheries Management Authority (AFMA)
- Seafood Services Australia (SSA)
- Ocean Watch Australia Ltd (SeaNet)

Seafood Services Australia's mission is to be a catalyst for sustainable development of the seafood industry. SSA's founding members are the Fisheries Research and Development Corporation (FRDC) and the Australian Seafood Industry Council (ASIC) which was the seafood industry's peak body before going into voluntary administration this year. SSA's website can be found at <<http://www.seafood.net.au/>>.

Ocean Watch Australia Ltd. ('Ocean Watch') is an environmental, non-government organisation sponsored by the commercial seafood industry to represent the environmental interests of industry with respect to protecting and restoring fish habitats, improving water quality and promoting sustainable fisheries. The Ocean Watch website can be found at <<http://www.oceanwatch.org.au/>>.

SeaNet is an environmental fisheries extension program to the Australian seafood industry run through Ocean Watch. Through partnerships with fishers, researchers and managers, SeaNet facilitates the development and adoption of fishing gear, technology and methods aimed at minimising the catch of non-target species (bycatch) and improving the ecological sustainability of fishing. There are six extension officers across Australia, all of whom were contacted for this report.

Generally, the response from all agencies, organisations and persons contacted was consistent with respect to the fact that currently there are no known guidelines, codes of practice/conduct or management strategies that are specifically focussed on the welfare aspects of wild captured fish¹. However, there are two specific issues that the commercial wild capture fisheries are currently focussing on which have welfare implications. These are the reduction of bycatch and the improvement in fish quality. Bycatch is the part of a fisher's catch that is returned to the sea either because it has no commercial value or because regulations preclude it being retained. With respect to product quality, as noted by M Hicks (Acting CEO QSIA, pers comm., July 2006) '*the seafood market place is changing and there is an increasing demand for high quality product.*' Another

¹ At the time of the submission of this final report some of the personnel contacted were still compiling information for the consultants. This information should be available in time to be presented to the next Working Group workshop.

respondent stated that *‘fish are always handled in an appropriate manner as it is imperative to them gaining a reasonable market price.’*

By addressing these issues the wild capture fisheries are, to a certain extent, also addressing some welfare issues. The following two examples demonstrate this:

1. The use of spring loaded bolts to kill fish quickly is increasingly being used in some fisheries (e.g. the Spanish mackerel *Scomberomorous spp* fishery in Queensland)
2. In the Queensland commercial barramundi (*Lates calcarifer*) fishery, the time from putting out a gill net to bringing it in is now generally only a few hours rather than overnight, to ensure as many fish as possible come on board alive.

With respect to reducing bycatch, returning a fish back to the water live and healthy that has been captured and would count as bycatch means it no longer is a bycatch statistic. Also, reducing the use of such tools as ‘spikes’ (which have been used in the estuarine prawn industry in NSW to assist in handling of bycatch species such as rays) has a welfare impact.

A number of wild capture fisheries ² have either developed their own Codes of Conduct (Practice) or Environmental Management Plans or Systems (EMP’s or EMS’s), or both, to address these and other issues.

While the primary drivers behind the development of such documentation have not been welfare, there nevertheless are aspects of fish welfare being addressed in many of these documents. The following provide examples of this.

Victorian Bay Inlet Fisheries Association Inc. (VBIFA) Environment Management System (EMS) (VBIFA 2005).

VBIFA members developed this EMS collaboratively. It is a dynamic document that will be reviewed regularly and improved as necessary. As noted in the document itself:

‘The concept of EMS recognizes that primary producers themselves, including commercial fishers, are in the best position to develop and implement best practices that meet both environmental needs and food production needs. It also recognizes that fishers’ knowledge and expertise are assets to the community. An EMS is based on the principle of continuous improvement and follows well established steps, including:

- 1. Review of fishing practices and identification of risks and impacts;*
- 2. Development of an action plan to minimize risks and impacts; and*
- 3. Regular review of the performance of the EMS and implementation of corrective actions when necessary.’*

The document describes the current fishing methods used by the commercial fishers and the industry’s management framework. Within the VBIFA are a number of fishermen’s associations, each of which have developed their own Voluntary Codes of Practices that are identified in the EMS.

An analysis of both internal and external risks forms part of the EMS. The EMS identified internal risks such as:

² There are also a number of aquaculture industries that have also developed their own EMS

1. Death of fish bycatch before release from haul seine, mesh nets, purse seines and demersal longlines.

The EMS has ranked this risk as low due to the following:

- Fishing nets and practices are designed to keep fish alive in water and limit stress while sorting catches.
- Purse seines rarely catch bycatch.
- Longlines are selective and catch very little bycatch; if bycatch is caught, it is carefully freed and released alive.
- Low Mesh nets are size selective by design and catch little bycatch; If bycatch is caught, it is carefully unmeshed and released alive.

Despite this low ranking, the EMS also describes prevention/mitigation actions to further reduce risk.

2. Death of fish bycatch after release from haul seine and meshnet.

- The EMS has ranked this risk as low due to the following: Professional fishers have developed best handling practices to maximise the survival of released bycatch species. They:
 - a. Carefully avoid injury to fish during bunting (haul seine), unmeshing (mesh net), and measuring;
 - b. Carefully avoid predation by birds during release.

Despite this low ranking, the EMS also describes prevention/mitigation actions to further reduce risk. These include:

- Minimising stress to the fish by releasing them first (i.e. before sorting the commercial [and kept] portion of the catch)
- Minimising scale damage to the fish during handling and sorting by using gloves or shallow dip-nets
- Protecting released fish from predation by birds (eg. by using a release chute).

Eastern Tuna and Billfish Fishery (ETBF): Industry Code of Practice for Responsible Fishing (EBTF 2003)

This Code of Practice was developed as a guide to existing and improved fishing practices within the ETBF. As stated in the Code of Practice:

Fishers of the ETBF are committed to fishing practices based on the principles of Ecological Sustainable Development. This Code is a demonstration of the fishers of the ETBF's long-term commitment to ensuring it is a well managed sustainable fishery. This will ensure for the effective management and development of the fishery with due respect for the ecosystem, biodiversity, economics, community benefits and other users of the resource...Voluntary actions in the Code of Practice are an alternative to regulations being imposed by government agencies. It will enable ETBF fishers to self regulate and keep abreast of legal obligations, thus avoiding the need for legislation to take control of ETBF industry activities.

Under Section 4.2 ***Increasing the survival rates of bycatch*** the Code of Practice states:

- For animals that can be brought aboard, land them gently to avoid damage. For fish, rough handling will increase the amount of damage and create a greater risk of fungal and bacterial infection that can cause death after release. As a fish's skin

is particularly prone to injury, handling that causes a loss of scales and damage to the skin's mucus producing cells should be avoided;

- Use wet gloves when handling fish;
- Cover the fish's eyes to help settle it down as direct sunlight can damage fish eyes and ensure they are shaded during the time out of the water;
- Release fish carefully by placing them headfirst back into the water;

Under Section 4.2.3 ***Sharks***:

- i. Ensure the shark is dead before processing by cutting through the backbone behind the head;

Under Chapter 5 ***Seafood Quality Assurance and Food Safety***, Section 5.1 ***Fish quality and deterioration***:

Efficient killing and processing techniques: In the longline and minor line sector of the fishery primary species should be spiked, cored and bled immediately, and where appropriate gilled, gutted, beheaded and chilled immediately;

and Section 5.4.1 ***Fish handling on deck***:

Fishers should ensure:

- i. *That the deck is cool and clean before landing the fish on board. If the deck is hot, cool it down with a running deck hose to avoid raising the temperature of the fish as this will adversely effect fish quality and reduce shelf life;*
- ii. *Fish are landed as quickly as possible after being hooked. Prolonged struggle will result in higher body temperatures and reduced quality. When using a gaff, gaff the fish in the head or through the lower jaw, never in the body or it will damage and contaminate the edible flesh;*
- iii. *A wet rubber mat or foam is used to protect fish from a hot deck and from bruising;*
- iv. *Fish are spiked, bled immediately and cored as soon as possible where applicable;*
- v. *Knives are kept sharp to allow clean cuts to be made;*
- vi. *The sorting of the catch on deck is completed as quickly as possible in order to minimise the fish's exposure to the elements;*

Environmental Management System for the Manning River Commercial Fishery (Manning River Commercial Fisher's Association [MRCFA] 2005)

Under ***Fish hauling (captured bycatch)***:

Action 2.2. Continue to sort fish haul catches in water to minimise bycatch mortality.

With fish hauling the catch is corralled slowly by the net into shallow areas of water. Sorting of the catch takes place in the water. Unwanted fish that are not meshed are almost always alive when returned to the water because the net moves slowly during the haul, fish leave the water only momentarily, and fish are not herded densely for significant periods.

Code of Practice for the West Australian Demersal Gillnet Longline and Fishery (WAFIC 2004)

The welfare areas in this Code relate to fish quality e.g.

The eating quality of a fish will begin to deteriorate once it is caught and subjected to stress. After fish is landed, the action of bacteria, biochemical (enzymes), and chemical actions lead to an inevitable deterioration that cannot be stopped, but can be slowed. Deterioration and loss of quality can be minimised by:

- *Effective spiking that kills fish humanely and extends shelf-life of the product.*
- *Effective bleeding of product, and rapid processing and packing help prevent physical damage (e.g. bruising) to the fish.*

Consideration should be given to the condition and size of each particular fish and the variability in handling different species. Some fish are more delicate than others, while smaller fish are generally more easily damaged and warm up faster than larger fish. Live fish should be spiked or bled immediately and dead fish processed immediately. Store damaged fish separately.

For sharks:

If the shark is still alive, then immediately carry out iki jimi by spiking the rear top of the head, or by a knife cut across the rear top of the head to accelerate bleeding and death. These methods are regarded as more humane than employing a forceful blow.

Swiftly killing the shark once it is removed from the net will minimise its thrashing or struggling on the deck – keeping the crew safer and helping ensure the shark is killed humanely.

Other documents/practices

One particular type of fishery where the welfare of fish is considered a priority is the handline capture of wild fish such as coral trout (*Plectropomus spp*) in Queensland and wrasse (*Notolabrus spp*) in Victoria. With respect to coral trout, approximately 80% of the coral trout caught in Queensland go to the live fish trade (M Hicks, QSIA, pers. comm., July 2006). Live coral trout can fetch a price of up to \$55 per kilogram off the boat, compared with \$14 per kilogram if dead. There is considerable incentive to keep the fish healthy once brought onto the boat. Likewise the value of wrasse has increased considerably with the development of the live wrasse trade. Prior to this wrasse were used as lobster bait, which commanded a significantly lower price for the fish.

A Best Practice manual for the catching and handling of live reef fish was developed in the late 1990's from the range of procedures used by the two fishing vessels and the two processors which participated in the Australian Seafood Industry Quality Assurance Project (ASIQAP). The project was funded by the Department of Industry, Science and Tourism (DIST), Queensland Department of Primary Industries (QDPI), the Queensland Commercial Fishermen's Organisation (QCFO) and by the more than 20 companies that participated.

The manual is in two parts:

1. catching and handling live reef fish aboard the vessel and
2. storage of live reef fish on shore and their delivery.

Manuals are available from the Seafood Service Australia website. The consultants have a copy of each manual. An example of the topics covered in the first manual include:

1. Capture of live reef fish
 - Preparation of the dory
 - Fishing technique
 - Depressurising fish
2. Storage aboard the dory
 - Unloading from dory to mothership
 - Recovery of fish
3. Storage of live fish aboard vessel
 - Live storage tanks 1 and 2
 - Water management in live tanks at sea
 - Water management in live tanks in the estuary
 - Cleaning of the tanks
4. Unloading the vessel
 - Unloading live fish

As far as the consultants are aware there is no such manual specifically for the temperate species such as wrasse but many of the principles outlined in the Best Practice manual described above are likely to be relevant to the live capture of wrasse.

Two other publications of relevance are the *Circle of Dependence – Protected Species Handling Manual* (Ocean Watch Australia 2003) and *Bycatch solutions: A handbook for fishers in non-trawl fisheries* (Leadbitter 1999). Both these publications address issues such as the handling of fish and post harvest solutions that includes gear-specific solutions.

4.5.1 Discussion

Current desirable practices for reinforcing:

- What is important about industry Codes of Practice or Environmental Management Systems is that they are industry driven and hence the industry has ownership of what is written in them. They are also dynamic ‘living’ documents, are regularly reviewed and (particularly for EMS’s) are audited to ensure compliance. Hence they could include information that more specifically addresses welfare issues.
- Addressing of bycatch and fish quality issues where fish welfare is also improved.
- Production of manuals that specifically address Best Practice

Perceived gaps and deficiencies:

- Many fishers perceive ‘fish welfare’ as an issue that is far less important than other issues such as the sustainability of various fisheries.
- Many fishers are not aware that they are actually addressing welfare issues with many of their current practices.
- Some methods of fishing mean that fish are dead by the time they arrive aboard the boat

Other comments

- Educating fishers as to what fish welfare means and showing them where they are already addressing welfare issues to ensure they don't see welfare as something that will cause more problems to them
- Making sure that the welfare issues of the fishers are not compromised when addressing the welfare issues of the fish (e.g. manhandling large rays by hand, removing fish with poisonous spines out of nets)

4.5.2 International arrangements pertinent to wild capture fisheries

The issue of fish welfare in wild capture fisheries is gaining world prominence. Some examples of this are provided below.

European Union

Drift nets are gill nets that are allowed to drift with prevailing currents. They are not set or fixed in any way, are in fact 'mobile', and they are allowed to drift with the prevailing currents. Drift nets are used for the capture of a wide range of fish including tuna, squid and shark, and off north-east England for salmon. An EU-wide ban on all drift nets was introduced from January 2002. The ban applies to fisheries such as tuna, shark and swordfish in all EU waters except the Baltic, and to all EU vessels on the high seas. (Marine Conservation Society, 2004)

New Zealand

The National Animal Welfare Advisory Committee (NAWAC) is a ministerial advisory committee established under the *Animal Welfare Act 1999*. NAWAC is part of Biosecurity New Zealand in the Ministry of Agriculture and Forestry.

The Committee's main function is to advise the Minister of Agriculture on animal welfare matters relating to farm, companion, wild and pest animals. It has a number of other functions, including providing advice on the content of codes of welfare specifying minimum standards for animal treatment and recommendations for best practice.

NAWAC currently has a public draft document titled '*Animal Welfare (Commercial Slaughter) Code of Welfare 2006*' (New Zealand NAWAC, 2006), which has a section on Aquatic species - *Farmed and Captured Wild Finfish including Eels*. This gives quite comprehensive details on the humane slaughter of fish, both for those that are caught and immediately slaughtered and for all fish that are caught and held for killing at a later time (such as in a restaurant).

United Kingdom

The Marine Conservation Society (MCS) is the UK charity dedicated to caring for the seas, shores and wildlife of the UK. MCS has compiled a '*Sustainable Seafood Supermarket League Table*' which is available on the MCS FISHONLINE website <<http://www.fishonline.org/>>. This table is based on the performance of the ten main United Kingdom supermarkets against various criteria including the sustainability of the fish they sell. The Table indicates that supermarkets are responding to demands to increase their efforts to sell fish from sustainable sources. However, a number of vulnerable or unsustainably fished species are still on sale in several major supermarkets,

and there is often insufficient labelling of fish in-store to allow consumers to make an informed choice.

While not directly dealing with fish welfare issues, this is an example of where markets overseas are being influenced by consumer driven demands.

4.6 Recreational fishing

The Australian Government provided \$15 million over three years for a community grants program in its 2005-06 budget. The Recreational Fishing Community Grants Programme will provide grants up to \$100,000 to community groups for a range of purposes, including artificial reefs to attract fish and improvements to infrastructure like tracks and paths to fishing spots. More than three million people in Australia go fishing at least once a year, and 24 per cent of Australian households fish regularly. Australians spent more than \$1.8 billion on recreational fishing services during 2001 (Australian Government Budget 2005).

4.6.1 Recfish Australia

Recfish Australia is the peak national body for recreational and sport fishing in Australia. Recfish Australia's website can be found at <www.recfish.com.au>. Recfish Australia is comprised of the following member organisations:

AFANT	Amateur Fishermen's Association of Northern Territory
NSWACoRF	New South Wales Advisory Council on Recreational Fishing
Recfishwest	Western Australian Recreational & Sportfishing Council
Sunfish Queensland	
TARFish	Tasmanian Association for Recreational Fishing
VRFish	Victorian Recreational Fishing Peak Body
ANSA	Australian National Sportfishing Association
AUF	Australian Underwater Federation – Spearfishing Commission
NFA	Native Fish Australia
AFTA	Australian Fishing Tackle Association

Recfish Australia has several initiatives to improve the welfare of fish caught by recreational anglers.

National Code of Practice for Recreational and Sport Fishing

The *National Code of Practice for Recreational and Sport Fishing* was written in 1995 after much consultation with members of Recfish Australia and the various State and Commonwealth Fishery agencies. The Code is voluntary and addresses four main areas of fishing responsibility, one of which is 'treating fish humanely', covered in Sections 9

and 10. Many of the Clubs affiliated with Recfish Australia have adopted the Code of Practice as their own.

The Recreational Fishing Community Grants Program from Department of Agriculture, Fisheries and Forestry has approved a project to review this Code. This is due to the development of improved catch and release techniques including knotless landing nets to reduce scale loss (see Appendix G), circle hooks (see Figure 4) which are more likely to hook in the lip of the fish (rather than the throat or stomach) and enable a better post-release survival and improved release techniques (J Harrison, CEO, Recfish Australia, pers. comm., May 2006)

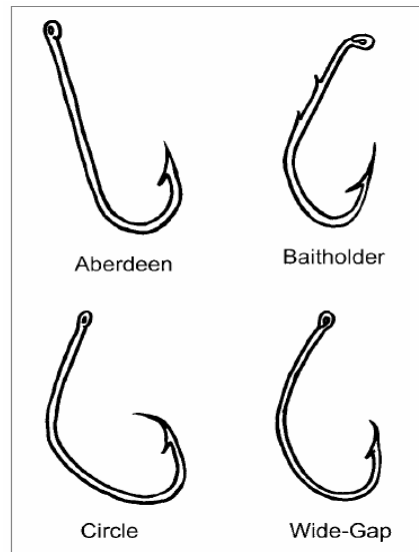


Figure 4 Hook types

‘Gently Does It’

‘*Gently Does It*’ was designed to promote and maximize the survival of line caught released fish. It utilized television advertisements and was principally funded by Fisheries Research and Development Corporation (FRDC). This program promoted such things as the use of knotless nets and barbless hooks. Surveys were taken to see if there was an increase in knowledge about fishing methods that reduced stress in the fish and increased survival after release. The survey results indicated that 35% of fishers had changed their practices after the campaign (B Sawynok, pers. comm., May 2006).

National Fishing Tournament Accreditation System

The National Fishing Tournament Accreditation System (2006) has been developed by Recfish Australia with FRDC funding. One of the aims is to address fish welfare issues by promoting:

- Improved ‘catch and release’ techniques
- Killing fish quickly and humanely in ‘catch and weigh’ situations

The basis for the proposed National Fishing Tournament Accreditation System is a questionnaire linked to a scoring system which uses a 1 to 5 star rating process. The highest ratings are achieved by fishing tournaments that:

- Are environmentally sound
- Have minimal impact on fish stocks
- Are socially acceptable
- Are economically beneficial to the communities in which they are held.

Any tournaments that achieve the highest 5 star rating would be eligible and ready to voluntarily undertake the second tier of accreditation. This is an internationally recognised ISO 17050 certification process designed specifically for fishing tournaments. The ISO standard would be developed as part of the full development of the programme.

4.6.2 Game Fishing Association of Australia

The Game Fishing Association of Australia (GFAA) has had a Code of Practice for eight years. This Code is published in '*The Official 2006 Australian Gamefishing Journal*', which is delivered to all 8,000 members of GFAA annually. See Appendix I.

The GFAA also has a set of Rules, which mesh together with the Code of Practice. These rules are available on the GFAA website < <http://www.gfaa.asn.au/>> (G Williams, President GFAA, pers. comm., May 2006)

4.6.3 Info-fish Services

Info-fish Services was established by B Sawynok in 1995, with the intention of providing quality information to the recreational fishing industry. Mr Sawynok has been involved with the *National Strategy for the Survival of Released Line Caught Fish* (Info-fish 2005).

This is an initiative of the FRDC in conjunction with the Australian National Sportfishing Association (ANSA) and Recfish Australia.

The strategy aims to improve the understanding of and increase the survival rates of released line caught fish. The strategy commenced in 2001/02 and is funded by FRDC through to 2008/09. Currently there are 15 projects under the strategy with a total funding commitment of \$6.5 million. There are now a range of information products available on best practices and the results of some of the research projects. The National Strategy is maintained as a living document providing a summary of the latest information available about products and access to research results.

Mr Sawynok has undertaken many FRDC funded studies of the survival rates of released fish after capture by recreational anglers. A summary of these is provided in Figure 5. The Info-fish website is a comprehensive resource, which provides researched information about the safe handling and release of fish. There is an excellent Code of Practice available that combines much of their research information into a very useful document.

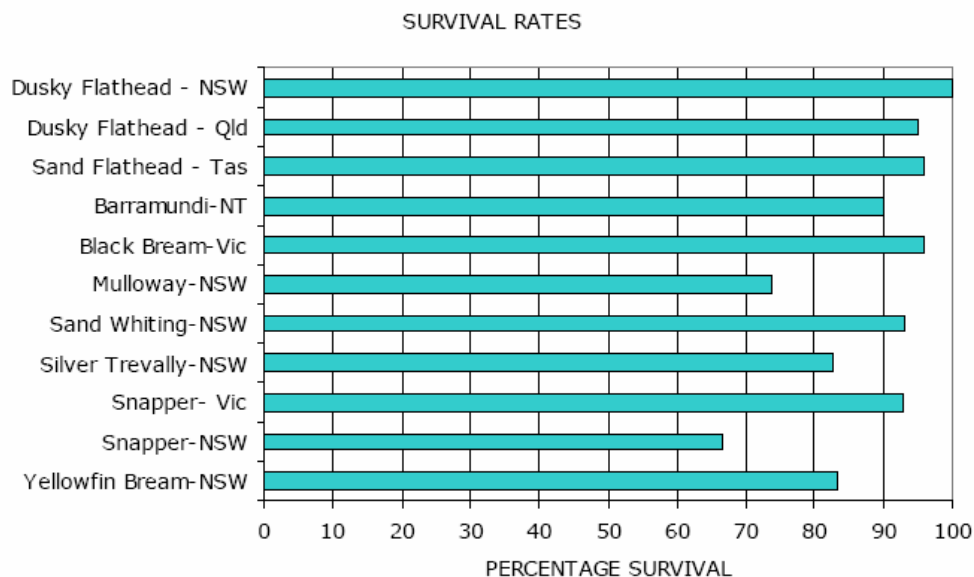


Figure 5 Summary of survival rates of released line caught fish derived from Australian research

At present Info-fish are developing a proposal for a Digital Video Disc (DVD) to promote best practices in releasing fish. This will be based on the research over the past 5 years. They are aiming to produce up to 100,000 copies of the DVD and distribute them through the fishing media and sport stores (B Sawynok, pers. comm., May 2006).

Info-fish was also involved in the ‘*Gently does it*’ program.

4.6.4 Australian National Sportfishing Association

The Australian National Sportfishing Association (ANSA) is a member of Recfish and has developed its own Code of Ethics. This Code states:

- *Fish taken should be killed quickly*
- *Fish should be prepared and preserved in such manner as to minimise spoilage and waste.*
- *Fish not wanted should be returned in such manner as maximises its chances of survival.*
- *Wanton unnecessary destruction of undesired species is unacceptable.*

There is also a link on their website to the Recfish national code.

4.6.5 Native Fish Australia

Native Fish Australia (NFA) is another member of Recfish Australia. It has been involved with the *National Strategy for the Survival of Released Line Caught Fish* (Info-fish 2005).

NFA encourages a catch and release program. Members are encouraged to use circle hooks and or wide-gap hooks, with the barbs crushed or flattened. They have a document ‘*Catch and Release Fishing; a guide to responsible angling methods*’ which explains in detail many of the techniques available to improve the survival of released fish.

A similar document ‘*How to handle fish for release*’ (Appendix J) is handed out at all their organized fishing competitions.

4.6.6 Recfishwest

Recfishwest, one of the member organizations of Recfish Australia, has a very comprehensive Catch and Release Policy that discusses in great detail the philosophical approach to catch and release, as well as the practical details.

There are several policies / codes that Recfishwest association members have with respect to fish welfare and ethics:

- Australian Anglers Association, (WA Division) Inc. Recreational Fishing Code of Conduct
- Western Australian Trout and Freshwater Angling Association Inc. *Code of Ethics*.

4.6.7 Australian Underwater Federation – Spearfishing

Spearfishing is one form of recreational fishing. The main body in Australia is the Australian Underwater Federation (AUF) which is also a member of Recfish Australia.

They have a *Code of Conduct* which is given to all new members (AUF 2006). There is no mention of fish welfare in this document.

4.6.8 Discussion

Current desirable practices for reinforcing

- Recfish National Code and its awareness
- Research into improving survival of fish being released by recreational fishers
- Advertising to raise awareness of these issues in the recreational fishing sector e.g. *Gently does it* program
- Tournament accreditation schemes

Perceived gaps and deficiencies

- One of the major issues consistently mentioned is that there is a substantial amount of information on the best techniques for handling of fish so that when released they have a very good chance of survival. However, the problem is disseminating this information to the anglers.
- Fishing Licences are not required in all States or Territories of Australia and hence the opportunity to pass on information at the time of Licence purchase is not available.
- Financial resources to promote the National Strategy for the Survival of Released Line Caught Fish are minimal. (J Harrison, CEO, Recfish Australia, pers.comm., May 2006)
- Many fishermen are transient within the sport, which compounds the issue of disseminating information (B Sawynok, pers. comm., May 2006).
- Difficult to get small sized circle hooks, which are used on many of the Australian native species (G Creed, NFA, pers. comm., May 2006).

- Banning the use of stainless steel hooks; G Creed developed a draft project but it has not been pursued (G Creed, NFA, pers. comm., May 2006). A copy of this is available if required.

4.6.9 International welfare arrangements pertinent to recreational fishing

The United States National Oceanic and Atmospheric Administration (NOAA) includes a department called the National Marine Fisheries Service (NMFS). The NMFS in 1999 developed a Code of Angling Ethics (NMFS 1999) This Code states that an ethical angler will follow a series of guidelines. The Code states that the Ethical Angler:

- Promotes, through education and practice, ethical behaviour in the use of aquatic resources.
- Values and respects the aquatic environment and all living things in it.
- Avoids spilling, and never dumps, any pollutants, such as gasoline and oil, into the aquatic environment.
- Disposes of all trash, including worn-out lines, leaders, and hooks, in appropriate containers, and helps to keep fishing sites litter-free.
- Takes all precautionary measures necessary to prevent the spread of exotic plants and animals, including live baitfish, into non-native habitats.
- Learns and obeys angling and boating regulations, and treats other anglers, boaters, and property owners with courtesy and respect.
- Respects property rights, and never trespasses on private lands or waters.
- Keeps no more fish than needed for consumption, and never wastefully discards fish that are retained.
- Practices conservation by carefully handling and releasing alive all fish that are unwanted or prohibited by regulation, as well as other animals that may become hooked or entangled accidentally.
- Uses tackle and techniques which minimize harm to fish when engaging in ‘catch and release’ angling.

Of relevance is the fact that in January 2006, a People for Ethical Treatment of Animals (PETA) spokesperson requested the Illinois Department of Natural Resources to require everyone who applied for a fishing license to adhere to this ‘Code of Angling Ethics’ Anglers are currently encouraged, but not required, to follow the code, which PETA believes must be mandatory for people who insist on catching and killing fish.

4.7 Ornamental fish

4.7.1 Commercial growers

The following list is representative of two growers in Australia.

Ausyfish Pty. Ltd.

Ausyfish Pty Ltd is a major producer of ornamental fish and Australian natives, based in Queensland. Ausyfish currently exports Australian native fish.

Ausyfish currently does not have any policies. The owner, Mr B Sambal, stated there is no need for such policies as growers realize that they need to care for their fish to remain profitable and survive. If correct practices are not followed fish die quickly (B Sambal, pers. comm., May 2006).

Aquarium Industries

Aquarium Industries (AI) is a major wholesaler of ornamental fish in Australia. According to S Willis (AI, pers. comm., May 2006) most ornamental wholesalers follow the Pet Industry Association of Australia (PIAA) *Code of Practice for Aquarium Operations* (Appendix K). In addition, AI distributes educational material when sending out its fish about which fish go together and which fish should not go together. This is an important consideration in the ornamental industry. AI does not have its own Code of Practice at the moment but has considered it.

4.7.2 Retail outlets

Pets Paradise is the largest pet store franchise business in Australia, with their main office in Melbourne, Victoria. They currently have more than 120 stores, throughout all States and Territories, with the exception of Tasmania. New stores are still being developed. They do have a Code of Practice as it relates to the keeping of fish. However, for commercial reasons, they were reluctant to supply a copy. Very few Pets Paradise stores are PIAA members.

Two other major pet shop groups are:

1. PETstock, which has thirty stores in Victoria, New South Wales, Queensland and South Australia
2. City Farmers, which has ten stores based in Western Australia.

For similar reasons to Pets Paradise they were reluctant to supply a copy of any documentation relating to fish care.

In addition, the consultants contacted twenty four randomly selected pet and aquarium shops in all States and Territories that did not belong to either of the groups identified above. Of these ten were PIAA members. Of those shops contacted that were not PIAA members, several stated that they had not heard of PIAA. Most shops did not have written Codes of Practice or policies.

The general consensus was that fish welfare equated with good care and hence profitability. If the fish were not cared for, presented in a clean aquarium, good water quality, food etc. then the shop would not stay in business for very long (most of the shops contacted had existed for many years – up to thirty years in some cases).

A selection of comments:

- ‘We have our own standards and policies that we work to. We have considered developing a new code of practise based on our methods and ideas’ (C Rout, Boronia Aquarium, pers. comm., July 2006)
- ‘No written policy, common sense and good fish keeping procedures’ (E Appiah, Reeflections (sic) Aquarium, pers. comm., July 2006)
- ‘We follow the PIAA Code of Practice, because we are members’ (A Ramsey, Auburn Aquarium, pers. comm., July 2006)

- ‘We do not have any documented guidelines, in our experience when fish are not cared for/happy, then they will stress and die, so ensuring their well being is vital for our business’ (P Slabbert, Morley Aquariums, pers. comm., July 2006)
- ‘We try and sell aquacultured fish over wild caught fish where possible’ (Liam-Manager, The Perth Aquarium and Display Centre, pers. comm., July 2006)

One concern that was raised was the selling of fish in very small containers. This mainly refers to either goldfish (*Carassius auratus*) or the Siamese fighting fish (*Betta splendens*). They are often sold with minimal advice about the correct care. The respondent stated that the perception is that if the fish last six months that is fine – a totally inappropriate approach. (C Kaweck, AquaPets, pers.comm., July 2006). The banning of such containers in Italy is discussed below.

4.7.3 Industry Associations

Pet Industry Association of Australia Ltd (PIAA)

PIAA is the major organization that represents the pet industry. PIAA’s website can be found at <www.piaa.net.au>.

PIAA members include pet shops, aquarium shops, boarding kennels, catteries, grooming services, manufacturers and distributors. PIAA has a total membership of 550, of which 140 are pet shops and aquarium shops. This represents approximately 15-20% of the potential membership (G Gower, PIAA Executive Officer, pers. comm., July 2006).

PIAA has a Members Code of Ethics that discusses humane treatment of animals and avoiding acts of cruelty etc. in general terms. The Code also advises that the correct advice be given for ongoing care at home (PIAA 2005). PIAA has also developed a *Code of Practice for Aquarium Operations* that all members agree to abide by. This *Code of Practice* discusses fish welfare in general terms, but not in specific detail. The full Code is in Appendix K. This Code is voluntary and there is no auditing process.

PIAA have a leaflet titled ‘*Don’t Dump that Fish*’ produced with the New South Wales Department of Primary Industries. Whilst the main aim of this document is to stop the spread of introduced fish and plants into our waterways, it does state that ‘*setting fish free may mean they die from starvation or disease*’. The leaflet also has a few basic fish care tips (see Appendix L).

Ornamental Growers Association

E Hicks (Spokesperson) has been growing ornamental fish for more than 50 years. He currently uses the fish *Code of Practice for Aquarium Operations* developed by Pet Industry Association of Australia (PIAA) as his policy. This *Code of Practice* discusses fish welfare in general terms, but not in specific detail. The full Code is in Appendix K.

Australia New Guinea Fish Association

The Australia New Guinea Fish Association (ANGFA) was formed in 1982 by a group of hobbyists whose interests were in the conservation, keeping, breeding and studying of the fishes of Sahul³ (*pronounced Sa-hule*).

It has a *Code of Practice* that includes the following:

- Non-destructive sampling methods to ensure minimal, if any, impact on the fish and their habitat
- Transport fish in a manner that ensures safe arrival of the specimens at their intended destination. Air transport to comply with the requirements of the International Air Transport Association (IATA)

ANGFA encourages its members to keep fish in the optimum conditions known for each species.

ANGFA also recommends that the euthanasia of fishes is carried out in accordance with the procedures documented by the National Health and Medical Research Council (NHMRC 2004).

4.7.4 Discussion

Current desirable practices for reinforcing

There is a national industry Code of Practice (*PIAA Code of Practice*).

The increased use of captive bred fish compared with wild caught fish.

Perceived gaps and deficiencies

The *PIAA Code of Practice*:

- Is not specific in what constitutes *fish welfare*.
- Applies to retail aquarium facilities and not to commercial aquarium producers.

The small size of containers that fish can be sold in.

Lack of availability of captive bred fish.

Cyanide caught fish coming from overseas.

4.7.5 International welfare arrangements pertinent to the keeping of fish in aquaria

Marine Aquarium Council

The Marine Aquarium Council (MAC) is an international, not-for-profit organization that brings marine aquarium animal collectors, exporters, importers and retailers together with aquarium keepers, public aquariums, conservation organisations and government agencies. The MAC website can be found at <<http://www.aquariumcouncil.org/>>.

MAC's mission is to conserve coral reefs and other marine ecosystems by creating standards and certification for those engaged in the collection and care of ornamental marine life from reef to aquarium. More than 3,000 aquarists, industry operators,

³ This name refers to the Australian land mass that existed between Australia, Tasmania and New Guinea when land bridges were present, up to about 10,000 years ago

conservationists and researchers in 60 countries belong to the MAC network. Involvement of a broad spectrum of interested parties and stakeholders is one of MAC's strengths

The MAC Certification system provides the marine aquarium industry with internationally approved environmental and quality standards. A growing number of collectors, wholesalers and retailers have committed to meet these standards and become MAC Certified. The MAC Core Standards outline the requirements for third-party certification of quality and sustainability in the marine aquarium industry from reef to retail. There are three MAC Core Standards covering the 'reef to retail' supply chain.

1. The Ecosystem and Fishery Management (EFM) Core Standard addresses in-situ habitat, stock and species management and conservation by verifying that the collection area is managed according to principles that ensure ecosystem health and the sustainable use of the marine aquarium fishery.
2. The Collection, Fishing and Holding (CFH) Core Standard addresses harvesting of fish, coral, live rock and other coral reef organisms, handling prior to export, holding, plus packaging and transport to ensure the health of the collection area, sustainable use of the marine aquarium fishery and optimal health of the harvested organisms.
3. The Handling, Husbandry and Transport Core Standard addresses the handling of marine life during export, import and retail to ensure their optimal health, their segregation from uncertified organisms and proper documentation to show that they pass only from one MAC Certified industry operator to another.

The Core Standards are accompanied by Best Practice Guidance documents that provide advice to industry operators on how they might be able to comply with the standards. (Marine Aquarium Council, 2006).

Banning of spherical fish bowls, Italy

The city of Rome, Italy achieved international prominence with the banning of goldfish bowls in October 2005. Under a new bylaw passed by the city council spherical fishbowls were now banned and fairgrounds are no longer allowed to give away goldfish or other animals as prizes. The new regulations also ban the use of aquaria with curved sides, as well as those with a capacity below 30 litres. (Aquarama 2006)

Another region of Italy - Emilia Romagna, has not banned the use of goldfish bowls, but has introduced minimum requirements, such as 1 litre of water for every 1cm of fish – for species which do not exceed 5cm in total length, and 2 litres for every 1cm of fish whose eventual total length exceeds 5cm. Further, the maximum length that a fish will eventually attain must not exceed 10% of the length of the aquarium (Aquarama 2006).

4.8 Teaching and research facilities

Contact was made with universities, Tertiary and Further Education (TAFE) and research institutions around Australia that undertake teaching at under-graduate or post-graduate level or conduct research with fish related to:

- aquaculture
- commercial fishing,
- recreational fishing
- ornamental industry

Fish welfare training

As a general statement, no teaching institution contacted had a specific subject on fish welfare nor did they indicate they intend to in the near future.

The Industry Skills Report of the Agri-Food Industry Skills Council (June 2005) stated that the annual seafood production in 2003-04 was estimated at \$2.3 billion. The demand for seafood products both in Australia and overseas is predicted to continue to increase. However, with wild-catch fisheries production stable, there is little opportunity to increase tonnage. There is much pressure on aquaculture to grow to meet the increasing consumer demands for fisheries products.

The report also identified three main issues confronting the seafood industry:

- Ecologically Sustainable Development (ESD)
- The Operating Environment
- People Capacity

The Report further stated that the seafood industry is experiencing specific skills shortages at all levels, as is the aquaculture sector at all levels of enterprise operation (Agri-Food Industry Skills Council, 2005).

Seafood Training Australia (STA) is the trading name for the national Seafood Industry Training Advisory Body (ITAB). ITAB was established in July 1997 under the Australian Seafood Industry Council (ASIC), which is the foremost organisation for the seafood industry (Seafood Training Australia, 2005). ASIC has recently gone into voluntary administration.

STA's primary task is to increase the skills of workers in the seafood industry. The seafood industry consists of four broad sectors: wildcatch fishing, aquaculture, processing and distribution (also called the post-harvest sector), and compliance. This training is based on the Seafood Industry Training Package (SITP), which sets out the national standards of competency, assessment guidelines and qualifications for the industry. The development of the SITP and supporting resources is one of main STA tasks. The SITP is used by the National Training Information Service (NTIS) and can be found at the following website

<<http://www.ntis.gov.au/Default.aspx?/TrainingPackage/SFI04/Qualification/SFI10104>>

The NTIS was developed by federal and state governments to provide access to current and emerging training market information, as well as products in vocational education and training. It replaced the Australian National Training Authority (ANTA) in 2005. NTIS operates under the Commonwealth Department of Education, Science and Training

(DEST). Training Packages are a key feature of vocational education and training (VET) in Australia. They are part of the National Training Framework that aims to make training and regulatory arrangements simple, flexible and relevant to the needs of industry.

Tertiary and Further Education (TAFE) facilities generally adopt the SITP as the framework for their courses. The SITP (also called Module SFI04), has five Volumes and six Qualification Streams with 23 possible Qualifications (see Figure 6)-

Volume I: SITP - Aquaculture

Volume II: SITP - Fishing Operations and Fishing Charter Operations

Volume III: SITP - Fisheries Compliance

Volume IV: SITP - Seafood Processing and Seafood Sales and Distribution

Volume V: SITP Imported Competency Standards

SEAFOOD INDUSTRY TRAINING PACKAGE RANGE OF QUALIFICATIONS						
AQF LEVEL	Aquaculture	Fishing Operations	Fishing Charter Ops	Compliance	Seafood Processing	Sales & Distribution
CERTIFICATE I						
CERTIFICATE II						
CERTIFICATE III						
CERTIFICATE IV						
DIPLOMA						

Figure 6 SITP qualifications

The NTIS provides the SITP to TAFE facilities as a framework to provide for competency standards. The individual TAFEs then develop the courses based upon the framework ready for delivery to students. The next review for the SITP is January 2007.

The Aquaculture Volume (no.1) is 818 pages long. It addresses all aspects of aquaculture production. The word 'welfare' comes up at least eighteen times in this document generally under the heading 'Ecologically Sustainable Development (ESD) principles' and in the phrase 'animal welfare ethics'. In addition, comments such as 'slaughtering animals humanely' are mentioned and 'caring' for stock.

The Fishing Operations and Fishing Charter Operations Volume (no. 2) is 902 pages long. It addresses all aspects of the commercial fishing industry. The word 'welfare' appears ten times in this document generally under the heading 'Ecologically Sustainable Development (ESD) principles' and in the phrase 'animal welfare ethics' or 'animal welfare issues'. In addition, the word 'humane' appears twice under 'humane slaughter methods' and under 'humane handling of animals' in the transport section.

The Fisheries Compliance Volume (no.3) deals predominantly with legal compliance of fishing. There are few mentions of fish welfare in this 682 page document.

The Seafood Processing and Seafood Sales and Distribution Volume (no.4) deals mainly with post-harvest training. The word ‘welfare’ is mentioned eight times mainly referring to live transport (‘apply animal welfare ethics’) and handling stock (‘welfare issues’). The word ‘humane’ is also mentioned several times with reference to transport and slaughter.

The Imported Competency Standards Volume (no.5) contains imported units from many other training packages. There are fifteen references to ‘welfare’ of animals.

In none of the volumes does the SITP go into the specific details of what animal welfare encompasses. There are many TAFE facilities around Australia that offer the Volume 1 on Aquaculture. However, there are only a few that offer Volume 2 on an intermittent basis.

There are two other individual certificates available that relate to the recreational fishing industry again provided by NTIS. Both are only available in New South Wales and were initially accredited in August 2002 and are due to expire on 30 June 2007. These two certificates are:

- Certificate II in Fishing Industry, Recreational Services
- Certificate III in Fishing Industry, Recreational Services

They are designed for people seeking employment in the recreational fishing industry, such as tackle shops, fishing equipment wholesale businesses, fishing tours and charter boat operations. Training covers fishing equipment and techniques, weather, safety and regulatory and environmental responsibilities associated with fishing.

These are not a training package course. The content about fish welfare is very similar to the SITP with relation to humane catch and release techniques and humane dispatch after catching when indicated (L Terry, North Coast TAFE NSW, pers. comm. May 2006).

With respect to non-TAFE training institutions (e.g. universities), those that have aquaculture courses generally develop these themselves. Some hold an introductory course for their students that covers the ethical and welfare issues that are associated with working with animals. However, the consensus was that a fish welfare theme ran through their course; many respondents made the comment that fish welfare was included in the teaching of various subjects such as ‘*Introduction to Aquaculture*’, ‘*Water Quality*’ and ‘*Fish Health*’.

The other NTIS approved course is the Animal Care and Management Training Package (Unit RUVO4). This course is for people who want to become animal care workers in the companion animal services industry. In Australia in 2003 there were more than 700 aquariums, 1000 pet retail shops, 1500 fixed and mobile pet grooming services, 1500 pet boarding facilities and 500 animal training facilities. In addition to these services, there are numerous specialists including bird dealers, reptile suppliers and marine aquarium maintenance services. Current figures indicate that the Companion Animal Services industry has an annual turnover of approximately \$1.2 billion and employs some 16,000 to 20,000 people in the non-grocery specialised pet care service and product providers sectors. The duties of companion animal workers vary across the different service sectors and may include the daily care of a variety of animals including feeding, maintaining hygiene, maintaining housing, grooming, observing animals and ensuring their safety. They also involve contact with the public through providing information on products and

services (NTIS, 2004). The course is located at the following website <
<http://www.ntis.gov.au/Default.aspx?/TrainingPackage/RUV04>>

The module RUV30304 is Certificate III in Companion Animal Services. There are two units that specifically relate to fish:

- RUV3502A Provide advice on selection and care of aquatic animals
- RUV3509A Maintain aquascapes and aquatic animals

In both of these units welfare and care are mentioned many times with no specific details. The Certificate III in Companion Animal Services is currently available only at the Illawarra TAFE in New South Wales (G Gower, PIAA Executive Officer, pers. comm., July 2006). The Box Hill TAFE in Victoria has declined to offer this course despite encouragement from the pet trade (R Hill, Passion for Pets, pers. comm., July 2006)

The following comments typify the general response on this topic:

‘There is no special course on Animal Welfare, but is incorporated in many areas such as the Fish Health Unit. As an example stress is disadvantageous to optimum performance and we aim for optimum conditions. In Unit 630 – Introduction to Aquaculture, there are 2-3 pages that touch on Animal Welfare.’ (S DeSilva, Faculty of Science and Technology, Deakin University, Warrnambool, Victoria, pers. comm., May 2006).

‘In the third year subject – “Aquatic Science Research Project”, there is a lecture on Animal Ethics and Intellectual Property.’ (E Tsvetnenko, Curtin University of Technology, Perth, Western Australia, pers. comm., May 2006).

‘Welfare in fish is discussed as part of the Certificate III level short course “Introduction to Aquaculture”, as well as in another Certificate III level short course entitled “Fish Health and Handling”, with particular reference to water quality and fish handling and how these areas relate to animal welfare. It is also covered in the discussion of harvesting, preparation and slaughter of fish. The topic of animal welfare occurs frequently throughout the Applied Aquaculture degree program, including in the “Biology of Fish” (unit BAA102) first year subject, and there is also further discussion in the subject “Fish Health” (unit BAA207) - a second year subject.’ (A Christie, Northern Melbourne Institute of Technology, Epping, Victoria, pers. comm., May 2006).

‘All students are instructed in sustainable fishing practices, which includes maximising the returns from products caught for profit by reducing stress to product.’ (J Menzies, Program Manager Fishing & Aquaculture, Challenger TAFE, pers. comm., July 2006)

One respondent indicated the following:

‘At this stage there is no specific welfare section. I feel that we can do even more.’ (M Powell, School of Aquaculture, Launceston, Tasmania, pers. comm., May 2006).

It is outside the scope of this initial draft to scrutinise the various training facilities course material for the quality of the information taught pertaining to fish welfare. Currently the specifics of how welfare is dealt with are at the discretion of the individual teaching institutions.

4.8.1 Animal Ethic Committees

In addition to the training material, all teaching and research institutions contacted had an Animal Ethics/Welfare Committee (AEC) or Animal Care and Ethics Committee

(ACEC) that supervised fish handling as it related to such training as well as any research being conducted in fish at that facility. As noted by Sneddon (2006) *‘Animal welfare ethos states that we have a right to use animals but we must do this humanely’*. The AEC generally use the Australian Government’s National Health and Medical Research Council’s (NHMRC) guidelines *‘Australian code of practice for the care and use of animals for scientific purposes’* (NHMRC 2004) in their decision making process when considering research on fish. Where the AEC does not have a lot of fish expertise it is important for investigators to *‘educate’* the committee when submitting their proposals (D Middleton, Australian Animal Health Laboratory, pers. comm., May 2006). Other Committees do have fish expertise such as fish biologists (P Jones, Deakin University, pers. comm., May 2006).

Generally AEC’s will adopt the view that the fish will be given the *‘benefit of the doubt’* (D Middleton, Australian Animal Health Laboratory, pers. comm., May 2006).

The NHMRC Guidelines state that *‘the purpose of the Code is to ensure the ethical and humane care and use of animals used for scientific purposes as defined in the Code. The principles set out in the Code are for the guidance of investigators, teachers, institutions, Animal Ethics Committees (AECs) and all people involved in the care and use of animals for scientific purposes.’*

The guidelines also define animal welfare as *‘an animal’s quality of life based on an assessment of an animal’s physical and psychological state as an indication of how the animal is coping with the ongoing situation as well as a judgement about how the animal feels’*.

Sections 5.2.2 and 5.2.7 of these guidelines are the only sections that specifically refer to fish as opposed to animals in general. These sections state:

5.2.2 For catching and killing fish, practices that ensure a rapid loss of consciousness should be used wherever possible.

5.2.7 Electro-fishing may be used as a capture technique only by people with training that covers both animal welfare and human safety aspects. Any impact on non-target species must be minimised.

New South Wales Fisheries

While AEC’s generally follow the NHMRC guidelines (NHMRC 2004) New South Wales (NSW) Fisheries has produced a publication for use by its researchers that is specific to aquatic animals and is consistent with the objectives of the NHMRC guidelines. This publication is titled *‘A Guide to Acceptable Procedures and Practices for Aquaculture and Fisheries Research’* (Barker et al 2002). This document was produced in response to the lack of specific guidelines for fisheries and aquaculture research in New South Wales (and in Australia generally) and to help increase awareness of committee members to fish (S Rowland, NSW Department of Primary Industries, pers. comm., May 2006). As stated in the summary of this publication:

Research with vertebrates in New South Wales, Australia, is governed by the Animal Research Act, 1985. Under this Act, all research must be covered by a current Animal Research Authority, issued by an accredited Animal Care and Ethics Committee.

Any organisation that uses or supplies vertebrate animals for research or teaching in NSW is affected by the Animal Research Act. The Act applies to all individuals, groups, institutions, organisations, schools and companies which use animals.

Organisations which conduct research with vertebrates must either (under the Animal Research Act, administered by the Animal Welfare Unit of NSW Agriculture) become an accredited research establishment or obtain an Animal Research Licence.

In addition, all research must be covered by a current Animal Research Authority. These are issued by approved animal care and ethics committees (ACECs) which in turn are administered by the Animal Welfare Unit and the Animal Research Review Panel of NSW Agriculture.

‘A Guide to Acceptable Procedures and Practices for Aquaculture and Fisheries Research’ includes a guide to procedures and practices for maintaining and collecting fish for the purpose of scientific research that are consistent with the objectives of the Australian Code of Practice for the Care and Use of Animals for Scientific Purposes (NHMRC 2004). It provides information to assist scientists complete the application form necessary to obtain an Animal Research Authority.

4.8.2 Discussion

Current desirable practices for reinforcing

- Generally institutions and facilities have Animal Ethics Committees (AEC) overseeing research and training where fish are involved.
- Most institutions believed that their AEC provided excellent guidance with respect to fish welfare.
- The NHMRC guidelines provide a good format for consideration of animal welfare issues. Barker et al (2002) provides further specific information on fish.
- Fish welfare and ethics is commonly referred to in the Seafood Industry Training Package course material

Perceived gaps and deficiencies

- The NHMRC guidelines contain limited information regarding fish welfare but are the main reference guidelines being used by most AEC's in training and research institutions in Australia (NSW Fisheries excepted).
- The Seafood Industry Training Package does not provide specific detail on what fish welfare is so this is at the discretion of the trainers and course providers. There is no separate fish welfare section in this Package.
- The fishing industry is reducing in size and surviving and so training is seen to be less important by the fisher people.
- Certificate III in Companion Animal Services is currently only taught in one TAFE college in Australia

4.8.3 International welfare arrangements pertinent to the use of fish for teaching and research

The following international arrangements are pertinent to fish:

The Canadian Council on Animal Care

The Canadian Council on Animal Care (CCAC) developed guidelines for the care and use of fish in research, teaching and testing that is entirely devoted to fish (CCAC 2005). The CCAC website can be found at <www.ccac.ca>. There was strong international support for these guidelines at the International Consensus Meeting: Harmonisation of the Care and Use of Fish in Research held in Oslo, Norway in May 2005. (G Griffin, Guidelines Program Director, October 2005).

These guidelines aim to provide information for investigators, animal care committees, facility managers and animal care staff that will assist in improving both the care given to fishes and the manner in which experimental procedures are carried out. They are extensive and comprehensive in addressing all aspects of fish welfare and care in the teaching and research environment.

The guidelines also cover research activities involving wild fish.

These guidelines may be useful for developing similar guidelines specifically for the welfare of fish used for research or teaching purposes in Australia.

The Norwegian School of Veterinary Science

In May 2005, the Norwegian School of Veterinary Science hosted the *International Consensus Meeting: Harmonisation of the Care and Use of Fish in Research*. (NSVS 2005). This meeting included three days of presentations on the care and use of fish in research. The scientific program is available in full from the following website <<http://oslovet.veths.no/dokument.aspx?dokument=155>>. These presentations and the summary document (NSVS 2005) are valuable references not only for fish in research but also for fish welfare generally.

American Fisheries Society

The American Fisheries Society (AFS) has produced a document titled '*Guidelines for the Use of Fishes in Research*' (AFS 2004). The Statement of Purpose states:

'These...guidelines were developed to provide a structure that ensures appropriate attention to valid experimental design and procedures while also ensuring humane treatment of the experimental subjects. At a practical level, the Guidelines are intended to provide general recommendations on field and laboratory activities, such as sampling, holding, and handling fishes; information on administrative matters, including regulations and permits; and advice concerning ethical questions, such as perceptions of pain or discomfort that may be experienced by experimental subjects. These Guidelines must be recognized as guidelines. They are not intended to provide detailed instructions but rather to alert researchers to a broad array of topics and concerns with which they should become familiar before they initiate studies. Also, the Guidelines were not designed for the myriad fish handling activities conducted by fisheries managers nor for aquaculture operations or commercial fishing. However, the principles upon which these Guidelines are based are broadly applicable, and many of the recommended practices can be adapted to fishery management situations.'

The guidelines also cover research activities involving wild fish.

These guidelines may be useful for developing similar guidelines specifically for the welfare of fish used for research or teaching purposes in Australia.

4.9 Fish being held live for human consumption

There are a number of facilities around Australia where fish are held live for human consumption. These facilities include commercial holding facilities where live seafood is brought in from producers (both wild capture fishers and aquaculturalists) prior to being sold on to retail outlets⁴ (e.g. restaurants) and the restaurants themselves, where live fish are kept on the premises and killed as ordered by the customer.

A number of such restaurants were visited in Queensland and Victoria as part of this review and additional restaurants in NSW and South Australia were contacted by phone. Restaurants holding live seafood for human consumption were predominately found to be Asian. Of the nine restaurants visited, a number of the live fish being held in tanks were observed to have scale loss, fin erosion and eye damage. Some fish were lying on their side with increased opercular movements. Some fish also appeared healthy. The species of fish identified in these restaurants were coral trout, Murray cod, barramundi, wrasse, eels, golden perch, jade perch (Barcoo grunter) and silver perch. The findings in these restaurants are not necessarily indicative of other restaurants holding live fish for human consumption.

The consultants were unable to determine what water quality parameters are monitored. Two of the restaurants visited said that they regularly use tap water in their tanks.

In addition, local councils and government food health and safety departments were contacted in Queensland, Victoria and New South Wales to assess whether or not there were any available guidelines or codes of practices being followed by these restaurants that specifically addressed the welfare issues of the fish. As far as the consultants were able to determine there are no such guidelines that these facilities follow.

The National Aquaculture Council (NAC) *Aquatic Animal Welfare Guidelines* (Johnston and Jungalwalla 2005) contains guidelines on the welfare of fish being kept in live holding systems for human consumption. The consultants were unable to determine whether or not any of the restaurants were aware of these guidelines.

The issue was discussed with John Hart, Chief Executive Officer, Restaurant and Catering Australia (July 2006). Most of the restaurants that kept live fish were located in major cities. He was not aware of any code of practices covering the holding of these fish in the restaurants and commented that the practice was not widespread enough in the restaurant industry to warrant the development of such guidelines by his association. The exact number of restaurants around Australia holding live fish is not known.

The Victorian Department of Primary Industries document '*Guidelines on Fish and Crustacea welfare for marketing and preparation for human consumption*' (VDPI 2004) is publicly available on the web. The Guidelines state that:

⁴ Some facilities hold finfish prior to shipment overseas

‘These Guidelines were prepared by the Victorian Animal Welfare Advisory Committee, in consultation with the Restaurant and Caterers Association of Victoria and produced and distributed by the Bureau of Animal Welfare.’

The Chief Executive Officer of Restaurant and Catering Victoria was aware of the document’s existence, but not of its content.

As mentioned in Section 4.1.2, the Western Australia (WA) Department of Fisheries has recently developed and published a document titled *Guidelines for Restaurant Owners who hold ‘live seafood’ in Aquaria* (WA Department of Fisheries 2005). This document includes ‘*General Guidelines for Live Seafood*’. WA Department of Fisheries plans to incorporate the guidelines into the Department’s Communication Strategy for Fish Welfare in WA.

The Australian Capital Territory’s Animal Welfare Advisory Committee has also produced a *Code of Practice for the Care and Welfare of Live Fish and Crustacea sold for Human Consumption*⁵.

Food Standards Australia New Zealand.

One key issue that restaurants are regularly monitored for is food safety issues. Food Standards Australia New Zealand (FSANZ) develops food standards with advice from other government agencies, input from stakeholders and food regulatory policies endorsed by the Australia and New Zealand Food Regulation Ministerial Council. The FSANZ website is located at <<http://www.foodstandards.gov.au/>>.

The *Australia New Zealand Food Standards Code* is adopted as the required standards for food produced in New Zealand and the States, Territories and Commonwealth of Australia in relation to food sold and/or imported into both countries under the following Acts -

- *Food Act 1981* (New Zealand)
- *Health Act 1911* (Western Australia)
- *Food Act 1992* (Australian Capital Territory)
- *Food Act 1981* (Queensland)
- *Food Act 1989* (New South Wales)
- *Food Act 1998* (Tasmania)
- *Food Act 1986* (Northern Territory)
- *Food Act 1984* (Victoria)
- *Food Act 1985* (South Australia)
- *Imported Food Control Act 1992* (Commonwealth)

Standard 4.2.1 of the Code covers the primary production and processing standard for seafood in Australia. This Standard applies to primary production and processing activities as defined in clause 2. The definition of ‘processing of seafood’ includes activities such as the killing, gutting, filleting, brining and shucking of seafood and the depuration of shellfish. In this Standard the only comment made in relation to live seafood is ‘A seafood business must when transporting live seafood, transport the seafood

⁵ The status of this document is still being confirmed

under conditions that will not adversely affect the safety or suitability of the seafood.’ i.e. there are no welfare aspects to this standard.

Current desirable practices for reinforcing

- Fish sold live for human consumption command a premium price in the marketplace

Perceived gaps and deficiencies

- There did not appear to be any guidelines or specific operating procedures being followed by restaurant owners
- While facilities are regularly audited on aspects of food safety, these do not include aspects concerning the welfare of fish.

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APPENDIX A: Proposed OIE Aquatic Animal Welfare guidelines

ANIMAL WELFARE DEFINITIONS

For the purposes of the *Aquatic Code*, the following definitions apply:

- **Anaesthesia** means a state whereby an *aquatic animal* is insensitive to sensory inputs.
- **Aquatic animal carcass** means the body/trunk of an *aquatic animal* subsequent to killing or death that requires safe disposal.
- **Aquatic animal offal/waste** means the whole or parts of an *aquatic animal* and *aquatic animal products* not approved for human consumption including sludge and sieve material collected during slaughtering.
- **Aquatic animal technician** means a person with knowledge regarding the behaviour and needs of live *aquatic animals* which, with appropriate experience and a professional and positive response to the welfare requirements of *aquatic animals*, results in effective management and good welfare. Their competence should be demonstrated through independent assessment and certification.
- **Aquatic animals for killing** means *aquatic animals* that are killed on site or transported to a suitable location for killing, for disease control purposes.
- **Boat** means a *vessel* constructed or adapted for the transport or temporary holding on water of live *aquatic animals* and their products, and includes well-boats, barges, and boats with tanks on deck.
- **Crustaceans** means crabs, crayfish, lobsters, prawns and shrimps.
- **Death** means irreversible loss of brain activity in fish, and demonstrable loss of sensation in crustaceans.
- **Fish** means live freshwater, estuarine or seawater finfish of any kind.
- **Harvest** means the removal of *fish* from their environment for human consumption.
- **Humane killing** means either immediate death, or death preceded either by immediate unconsciousness or by unconsciousness induced without pain, fear or adverse behaviour.
- **Killing** means any procedure which causes the death of an *aquatic animal*.
- **Mass destruction** means an emergency destruction and disposal of a population of *aquatic animals* for disposal.
- **Slaughtering** means the killing and/or processing of *fish*, with or without sedation/bleeding, for human consumption.
- **Stocking density** means, in the case of *aquatic animals*, the number or body weight of *aquatic animals* per unit area or per unit volume of water on a *vehicle* or a tank.
- **Stunning** means any mechanical, electrical, chemical or other procedure which causes the loss of consciousness which lasts until death.
- **Transport equipment** means the compartment in which live *aquatic animals* and transporting water are kept during transport (buckets, cylinders, tanks, wells, etc.), and associated equipment

such as water circulation devices, pumps, water treatment equipment, water filtration devices and systems for loading and unloading live fish, valves, tubes and pipelines.

- **Transport unit** means the combination of the transport equipment and the *vehicle/vessel*.
- **Travel means** the movement of a *vehicle/vessel* or container carrying live *aquatic animals* from one location to another.
- **Vehicle/vessel** means any train, truck, automobile, airplane, helicopter or *boat* that is used for the transport of live *aquatic animals*.
- **Visual evoked response (VER)** means test that evaluates the conduction of electrical impulses from the optic nerve to the occipital cortex of the brain.

Water quality parameters means its physical, chemical and biological characteristics.

APPENDIX B: Food and Agricultural Organisation Code of Conduct for Responsible Fisheries

The objectives of the Code are to:

- a. establish principles, in accordance with the relevant rules of international law, for responsible fishing and fisheries activities, taking into account all their relevant biological, technological, economic, social, environmental and commercial aspects;
- b. establish principles and criteria for the elaboration and implementation of national policies for responsible conservation of fisheries resources and fisheries management and development;
- c. serve as an instrument of reference to help States to establish or to improve the legal and institutional framework required for the exercise of responsible fisheries and in the formulation and implementation of appropriate measures;
- d. provide guidance which may be used where appropriate in the formulation and implementation of international agreements and other legal instruments, both binding and voluntary;
- e. facilitate and promote technical, financial and other cooperation in conservation of fisheries resources and fisheries management and development;
- f. promote the contribution of fisheries to food security and food quality, giving priority to the nutritional needs of local communities;
- g. promote protection of living aquatic resources and their environments and coastal areas;
- h. promote the trade of fish and fishery products in conformity with relevant international rules and avoid the use of measures that constitute hidden barriers to such trade;
- i. promote research on fisheries as well as on associated ecosystems and relevant environmental factors; and
- j. provide standards of conduct for all persons involved in the fisheries sector.

APPENDIX C: Universal Declaration for the Welfare of Animals

Introduction

Over the past century, the relationship between humans and animals has become a major theme of ethical concern. In the same period, an organised animal welfare movement has been established, which has achieved far reaching practical and legislative advances benefiting animals throughout the world. However, despite the progress that has been made, there is still no government-level international forum at which animal welfare concerns are discussed and ruled upon. This contrasts sharply with human welfare issues or even with the conservation movement, which is recognised and addressed in bodies such as the UN Convention on Biodiversity and the Convention on the International Trade in Endangered Species.

At the start of the new Millennium, WSPA believes that an international agreement on welfare standards should become a key goal for the animal welfare movement. The first step in achieving this would be to secure a Universal Declaration for the Welfare of Animals at the United Nations. Such a Declaration would make animal welfare an issue of global importance and would strengthen every aspect of the work of WSPA and its member organisations, ensuring that our aims were given greater attention by governments, civil servants, business, other NGOs and the media.

A Universal Declaration for the Welfare of Animals would not provide for any powers to enforce changes at national level, or sanction countries that did not conform to its principles. However, it would lay the foundations for a Convention on Animal Welfare, which could assess problems in detail and pass legally binding resolutions in the same way that the CITES operates.

The idea of achieving such a Declaration is not new. The text for a Universal Declaration for Animal Rights has been in circulation for some years, and there are some provisions covering animal welfare in the Earth Charter, a project that arose from the Rio Earth Summit and which will be presented to the United Nations in the near future. However, as yet no Charter or Declaration based on animal welfare principles has received widespread support or been adopted by any government or international agency.

The text of the Declaration contained in this document was developed through a process of consultation with members of WSPA's Executive Committee and was ratified by the WSPA Board of Directors in June 2000. Members of this Board represent many of the leading animal welfare organisations in the world. WSPA has 378 member societies in 90 countries and is now inviting all those organisations to endorse the text of the Declaration, and to generate support for this initiative amongst governments and members of the public.

Revisions to this first draft of the Declaration will be made to take account of changing circumstances and opinions, and once the initiative comes close to achieving its

objective, the final drafting of the Declaration would fall under the control of a committee of governments with which WSPA and the international animal welfare movement would liaise.

It is vital now that this campaign receives as wide support as possible and that governments are convinced of its importance. In order to make progress at the United Nations, the declaration would need to be adopted by one country or group of countries who could initiate discussions at the United Nations Economic and Social Council (ECOSOC), with which WSPA has consultative status. Once ECOSOC approves the Declaration it would then go forward to be adopted by the UN General Assembly.

The process of achieving a Declaration on animal welfare and ultimately a UN Convention will be a long one. The establishment of the Convention on the Rights of the Child, for example, took thirty years from the time at which a Declaration on the Rights of the Child was adopted by the United Nations in 1959. WSPA believes that the time is now right for a campaign for the universal recognition of animal welfare to begin.

Preamble

RECOGNISING that animals are living, sentient beings and therefore deserve special consideration and respect.

RECOGNISING that humans share this planet with other species and other forms of life and that all forms of life co-exist within an interdependent ecosystem.

RECOGNISING that, although there are significant social, economic and cultural differences between human societies, each should develop in a humane and sustainable manner.

ACKNOWLEDGING that many states already have a system of legal protection for animals both domestic and wild.

SEEKING to ensure the continued effectiveness of these systems and the development of better and more comprehensive animal welfare provisions.

NOW, THEREFORE,

THE WORLD SOCIETY FOR THE PROTECTION OF ANIMALS

PROCLAIMS this Universal Declaration for the Welfare of Animals as a common standard of achievement for all peoples and all nations, to strive by all appropriate means to promote respect for these principles and by progressive measures, national and international, to secure their universal and effective recognition and observance.

ARTICLE 1	Definitions
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- a. **animal** means any non-human mammal, bird, reptile, amphibian, fish or invertebrate capable of feeling pain or distress.
- b. **wildlife** includes any animal which has not been domesticated by humans.
- c. **human-dependent animals** means any animal whose welfare and survival is under human care and includes companion animals; animals raised for the provision of food, products, draught power, services, scientific research, or entertainment and wild animals held in captivity.
- d. **companion animals** refers to species which, within the context of the local culture, have traditionally been companions to humans and bred, whether systematically or not, for this purpose.
- e. **cruelty** means any infliction of unnecessary pain or distress on an animal whether by deliberate act or neglect.
- f. **welfare** is the degree to which the physical, behavioural and psychological needs of an animal are met.

ARTICLE 2 Fundamental Provisions

- a. Humans have a positive obligation towards the care and welfare of human-dependent animals.
- b. No animal should be killed unnecessarily or be subjected to cruel acts by a human.
- c. Cruelty to any animal should be regarded as a serious offence, recognised as such in legislation at all levels and punishable with sufficient penalties to deter the perpetrator from acting in the same way again.

ARTICLE 3 Wildlife

- a. Where it is deemed necessary to capture and kill wildlife, and in order to safeguard biodiversity, the maximum number of animals to be taken should be sustainable and determined on the basis of sound scientifically derived management practices.
- b. Where it is deemed necessary to capture and kill wildlife, only those devices and techniques should be used which do not:
 - inflict cruelty
 - harm non-target animals
 - damage natural habitat
- c. The capture and killing of wild animals for the purpose of entertainment or sport should be prohibited.
- d. To ensure the implementation of the above provisions all necessary measures shall be taken to protect habitat and ecosystems.

ARTICLE 4 Human-dependent animals

- a. Animals raised under the control of humans or taken into captivity by humans should be afforded the provisions of the basic Five Freedoms, being adopted increasingly throughout the animal welfare world, as follows:
 - Freedom from hunger and thirst: by ready access to fresh water and a diet to maintain full health and vigour
 - Freedom from discomfort: by providing an appropriate environment including shelter and a comfortable resting area
 - Freedom from pain, injury and disease: by prevention or rapid diagnosis and treatment
 - Freedom from fear and distress: by ensuring conditions and treatment which avoid mental suffering
 - Freedom to express normal behaviour: by providing sufficient space, proper facilities and company of animals' own kind
- b. Veterinary surgeons and other qualified persons should be authorised to humanely destroy any animal which is so injured, diseased or distressed that its existence involves its continued suffering.

ARTICLE 5 Animals raised for food, products and draught power

- a. Where it is deemed necessary to kill an animal for the provision of food or products, the method applied should immediately render the animal unconscious to pain until death supervenes.
- b. The process of slaughtering an animal should be carried out by a competent and well-trained individual.
- c. Animals awaiting slaughter should be unloaded, handled, housed, fed and watered in a humane manner.
- d. All appropriate steps should be taken to minimise the transportation of animals. Where such transportation does occur, animal welfare concerns should be applied.
- e. The slaughter of animals should be undertaken as close as possible to their place of rearing.
- f. All appropriate steps shall be taken to ensure that animals used to provide draught power and other work duties for humans should be entitled to a limitation on the duration and intensity of their work. Such limitations should be based on a scientific evaluation.

ARTICLE 6 Companion Animals

- a. Owners of companion animals shall be obliged to take responsibility for their care and welfare for the duration of the animals' lives or to make arrangements to pass them on to a responsible person if they can no longer care for them.
- b. Appropriate steps should be taken to promote and introduce the neutering of companion animals.

- c. Appropriate steps should be taken to implement a process of registration and identification of companion animals.
- d. The commercial trade in companion animals should be subject to strict regulation, licensing and inspection to prevent cruelty and the breeding of unwanted animals.
- e. Veterinary surgeons and other qualified persons should be authorised to humanely destroy companion animals that are abandoned and cannot be re-homed or provided with adequate care to ensure their welfare.
- f. The destruction of companion animals by inhumane and indiscriminate methods, including poisoning, shooting, beating, drowning and strangulation should be prohibited.

ARTICLE 7 Animals in Sport and Entertainment

- a. Where animals are used in legitimate sport and entertainment all appropriate steps shall be taken to prevent them being exposed to cruelty.
- b. Exhibitions and spectacles using animals which are deleterious to their health and welfare should be prohibited.

ARTICLE 8 Live animals in scientific research

- a. The use of animals for the purpose of scientific research and testing should only take place for purposes essential to human or animal welfare, including:
 - finding a cure, prevention or treatment for a specific disease
 - developing a product to alleviate suffering or promote health
 - the assessment of risk of harmful substances where no alternatives exist
- b. Where it is deemed necessary to use animals for research and testing purposes, the methods used should ensure that:
 - the number of animals used is minimised
 - pain and distress is minimised and/or alleviated
 - high standards of husbandry and care are provided throughout the animals' lives
- c. The replacement of experiments on live animals with alternative testing methods should be facilitated where possible and such alternative methods should be promoted, researched and validated.
- d. The use of animals for the purpose of scientific research and testing should be prohibited wherever:

- it is possible to obtain information of similar scientific value without using animals
- information of similar scientific value is already available

the results are not essential to human or animal welfare

APPENDIX D: Summary of RSPCA Welfare standards for farmed Atlantic salmon

- *Strict stocking density requirements must be adhered to. Why? Overcrowding fish can cause stress and injury. Lower stocking densities can contribute to improved welfare and reduced levels of disease.*
- *Water must always be well oxygenated and of the highest quality. Why? This is vital to promote good health and protect the fish from undue stress.*
- *Salmon must be observed during feeding, and food must be dispensed and distributed correctly. Why? To ensure that fish do not have to compete for food, are feeding properly and are in good health.*
- *Water and oxygen levels in fresh water tanks must be automatically monitored by an alarmed system. Why? To maintain fish welfare and comfort at all times. Automatic alarms ensure a rapid response from a trained stockman in the event of a problem.*
- *Well-boats used to transport salmon must maintain high water quality for the entire journey. Why? To ensure the welfare of the fish is not compromised while in transit.*
- *Salmon farms must be operated with respect for the natural environment. Why? To minimise ecological impact and ensure that the highest environmental standards are met.*

APPENDIX E: Animal welfare status in farming of livestock and poultry in China

Profile of Animal Welfare in Livestock and Poultry Farming and Shark Conservation

Ministry of Agriculture

January 12, 2006

I. Current animal welfare status in farming of livestock and poultry in China

In recent years, China has made tremendous efforts in protecting animals and maintaining ecological balance. As a result, a considerable improvement has been achieved in the well-beings, nutrient intake and growth environment of livestock and poultry. Particularly, a fast development has been witnessed in such fields as livestock and poultry breeding, raising, disease control, and feed production. Grazing is the main form of cattle, sheep and goats production in the pastoral areas of west China. Among the 14 billion fowls or more throughout China, more than 4 billion are free ranged in mountainous areas, courtyards and on water bodies, enjoying good living conditions. In order to improve animal welfare in the process of production, China has promulgated the *Livestock Production Law of the People's Republic of China*, which includes explicit provisions related to animal welfare.

II. Conservation of aquatic wild animals

In recent years, China has adopted a series of important measures to protect aquatic wildlife including sharks.

1. Strengthen legal system. In 1986, the National People's Congress promulgated the *Fishery Law of the People's Republic of China*, and in 1988 the *Law of the People's Republic of China on the Protection of Wildlife*. In 1993, the State Council promulgated the *Regulations of the People's Republic of China for the Implementation of the Protection of Aquatic Wildlife*.

2. Draw up conservation lists of key wildlife. In 1989, the State Council promulgated the *National Conservation List of Key Wildlife*, which covers more than 80 species (races) of aquatic wild animals, including the Chinese river dolphin (*Lipotes vexillifer*), the Chinese sturgeon (*Acipenser sinensis*) and sea turtles. And nearly 200 species (races) of aquatic wild animals, covering the Yangtze reeves shad (*Hilsa reevesii*) and river turtles, are included in the *Local Conservation List of Key Wildlife*.

3. Establish nature reserves. Currently, about 200 nature reserves for protection of aquatic wild plants and animals have been set up nationwide, which have effectively protected endangered aquatic plants and animals.

4. Release reproduced fries to increase resources, and make efforts to treat and cure aquatic wild animals. In recent years, a total of 6 million of the Chinese sturgeons have been released into the Yangtze River and the Zhujiang River, and more than 50,000 sea turtles into the South China Sea. From 1998 up to now, a total of over 10,000 key wild animals under national protection including large whales, dolphins and sea turtles have been treated, cured and released into seas or rivers.

III. Conservation of Sharks

1. Conserve shark resources. The Ministry of Agriculture (MOA) exercises supervision and governance over shark catch and maintenance in light of the domestic legislations and the international conventions in order to conserve fish resources including sharks. There are measures in place to conserve the resources while tapping them, for instance, issue of fishing permits, conservation of reproduction habitats, control of fishing efforts.

2. Exercise strict control over international shark trade in compliance with the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES). The import and export of sharks or their products as well as their re-exports must get the approval from MOA starting from January 1, 1998. Whale shark, basking shark and great white shark that are listed in the CITES annex are treated as key animals for protection in the management of wildlife.

3. Make greater efforts to protect endangered shark species. At this stage, MOA is organizing experts to amend the *National Conservation List of Key Aquatic Wildlife*, and has considered incorporating some endangered shark species into the List.

APPENDIX F: NCCAW Animal Welfare Aspects of Recreational Fishing

National Consultative Committee on Animal Welfare Animal welfare aspects of recreational fishing (NCCAW23, APRIL 1999)

■ Preamble

Consistent with an individual's responsibility to treat all vertebrate animals humanely, this PSN provides guidance on humane practices in recreational fishing and some commercial activities which involve recreational fishers.

Fish welfare should be included under the protection of State and Territory animal welfare and fisheries legislation (see NCCAW PSN 14).

Any damage to a fish will impair its ability to survive if released, and should be avoided.

NCCAW considered specific practices related to recreational fishing and provides positions on each:

■ Fishing Tackle

- The selection of hooks and their arrangement should be made on the basis of minimising damage to the fish. Barbless hooks inflict less damage to fish, so their use is encouraged, particularly if fish are to be released;
- Hooks which rust and breakdown quickly are preferable to long lasting hooks if fish are to be released, particularly in fresh water species;
- The use of excessively light line is discouraged as it is likely to result in longer landing times and more frequent break offs. Fish which break off may be compromised by attached line.

■ Landing

- If fish are to be returned to the water, handling and time out of water should be minimised as far as possible. Where practical, fish should be released without removal from the water;
- Fish should be landed quickly in order to minimise damage;
- Where a fish is damaged, such as by excessive bleeding, eye injury, or prolapse of the swim bladder, the fish should be killed immediately and not released;
- Soft knotless landing mesh nets should be used where appropriate rather than gaffs if it is expected that the fish will be released;
- The handling of live fish should be minimised. In particular, fish should not be picked up by the tail or in the gills. Generally fish over 1kg should have their belly supported to prevent damage to the spinal column;
- Wet cotton gloves (if available) or wet hands should be used to minimise damage to the fish;
- Care should be taken when removing hooks. If internal damage may result from hook removal, eg in the gills or the gut, the hook should be left in place and the line cut as short as possible;

- Captured fish which are to be kept, must be killed as soon as possible, either by a blow to the head or by using the sharp end of a knife to destroy the brain. Prompt killing protects the welfare of the fish and improves the quality of the product.

■ **Tethering of Fish**

- Tethering through the gills or mouth of live fish for any purpose is unacceptable and should be phased out.

■ **Live Baiting** (the use of live fish)

- Live baiting is to be discouraged on animal welfare grounds. While live baiting continues, it should be carried out in a way which minimises damage to the bait fish.

■ **Fishing Competitions (temporary stocking)**

- Fishing competitions involving the temporary stocking of fish in an unsuitable environment (eg public swimming pools contaminated with chlorine), and/or which involve excessive handling, inappropriate transportation, repetitive capture and/or overcrowding, should be avoided.

■ **Commercial "fish-out" recreational activities**

- Commercial "fish-out" operators are encouraged to provide unskilled fishers with instructions on humane handling and killing of captured fish. A program of instruction and monitoring is desirable.

■ **Fish tagging**

- Only identification methods which are humane and cause minimal disruption to fish should be adopted.

■ **NCCAW**

- recognises that the recreational fishing industry supports the need to treat fish humanely;
- encourages the progression of State and national Codes of Practice to specifically address animal welfare aspects of recreational fishing; and
- supports an educational approach to this issue.

APPENDIX G: Handling and release of barramundi.



knotless landing net..... 

knotted net..... 

barramundi

Handling of barramundi

The effects of two types of landing nets on injuries to large fish were experimentally assessed at the aquarium facilities of the Territory Wildlife Park, Northern Territory. The two types of net, the knotted and knotless landing net, represented two commonly available nets in the NT.

Barramundi were caught and held in the landing nets for 60 seconds and then released into a glass aquarium where injuries to the body and fins were visually scored.

All of the barramundi examined showed some skin abrasions and fin damage after being held in the landing nets but the extent of damage was much greater for those fish held in the knotted net.

Therefore the use of knotless nets is highly recommended for catch and release fishing.

Net Damage

Contact Fisheries Group 8999 2144
Visit our website at: www.fisheries.nt.gov.au

APPENDIX G: Handling and release of barramundi (continued).



barramundi

What happens to the barramundi you release?

A study was conducted by the Fisheries Group of the Northern Territory Department of Business, Industry and Resource Development to investigate the post-release survival and stress response of barramundi caught and released by anglers.

To assess the physiological stress and recovery times of angler caught barramundi, blood samples were taken from over 100 landed fish and analysed for changes in the blood chemistry.

To determine the post-release survival rate, angler caught barramundi were tagged with radio transmitters and tracked for up to 7 days.

The study found that the post-release survival rate of barramundi in a freshwater environment is about 90%. It also found that barramundi caught in the build-up were more stressed by the experience than those caught in the dry season, and consequently, the post-release survival rate in summer was lower.

Drawing blood for analysis

One that didn't survive - a post-release mortality

Recovered radio transmitter

Contact Fisheries Group 8999 2144
Visit our website at: www.fisheries.nt.gov.au

APPENDIX H: Common methods of commercially capturing fish in Australia

Purse seine

In a purse seine the top of the net is floated at the ocean's surface and the bottom of the net is held under the water by lead weights (figure 7). A wire that is threaded through the bottom of the net can be tightened to close the bottom of the net trapping the fish inside. The net is then pulled in toward the boat and the catch is either pumped or lifted out with small nets or the whole net is brought aboard. In shallower bays and estuaries the term 'haul' seining is used to denote different seining techniques. These include seining onto a beach where the catch is sorted by fishers standing in the water.

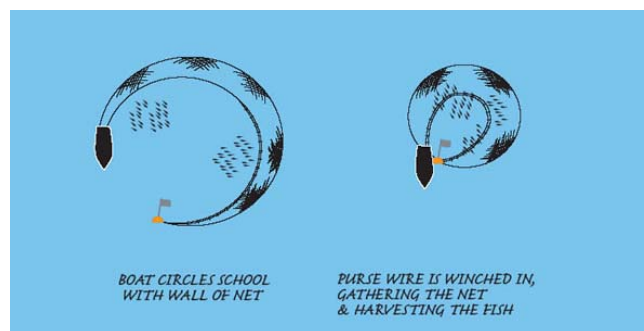


Figure 7 Purse seining (Source – AMFA)

Danish seines

Danish seines (figure 8) are similar to a small trawl net but more simply constructed with no otterboards and very long warps – the boat drags the long wire warps and the net around the fish and the action of the warps scares fish towards the central net.

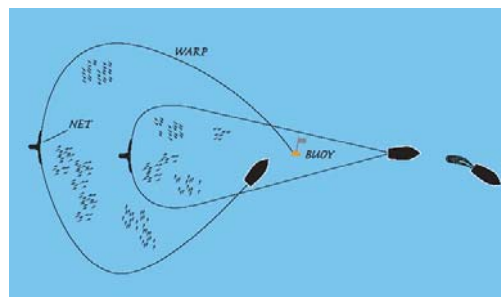


Figure 8 Danish seining (Source - AFMA)

Trawling

There are two basic types of trawls used in Commonwealth fisheries: demersal trawls (figure 9) and midwater trawls (figure 10). Midwater trawls fish in the water column and are used to catch a variety of pelagic fish species. Some fisheries may use paired trawls, where two boats pull one net. Midwater trawl nets may incorporate acoustic technology to tell the skipper the position of the net in the water column, the opening/spread of the net and the volume of fish entering the net. Additional instruments on the net can record the speed at which the net is traveling. Both demersal and midwater trawls use otterboards to keep the mouth of the net open.

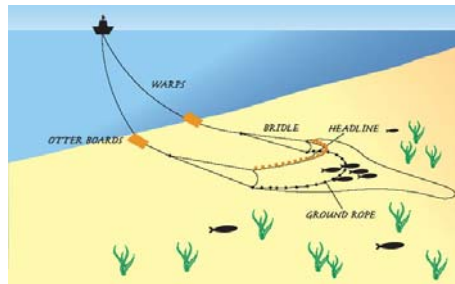


Figure 9 Demersal trawling (Source AFMA)

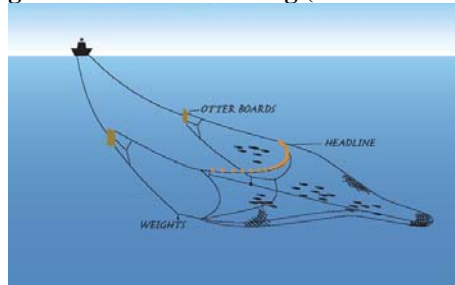


Figure 10 Midwater trawling (Source - AFMA)

Longlining

Longlines are set horizontally either on the ocean floor (demersal longlines) or near the surface of the water (pelagic longlines). Longlines can be tens of kilometres long and carry thousands of hooks. Baited hooks are attached to the longline by short lines called snoods that hang off the mainline. Auto longlining is basically demersal longlining except that some of the functions (for example baiting the hook) are automated. Pelagic longlines (figure 10) are not anchored and are set to drift near the surface of the ocean with a radio beacon attached so that the vessel can track them to haul in the catch. Pelagic longlines are usually used to catch large tuna and billfish species.

Demersal longlines (figure 11) are set horizontally on the ocean floor. They can be many kilometres long and carry thousands of hooks. Baited hooks are attached to the longline by short lines called snoods that hang off the mainline. Demersal longlines are anchored to the sea floor.

Droplines (figure 12) are similar to longlines but are set vertically either down underwater cliffs or just in the water column. They have a weight at the bottom, a series of hooks attached to snoods, and a float at the top of the line. They are not usually as long as longlines and don't have as many hooks.

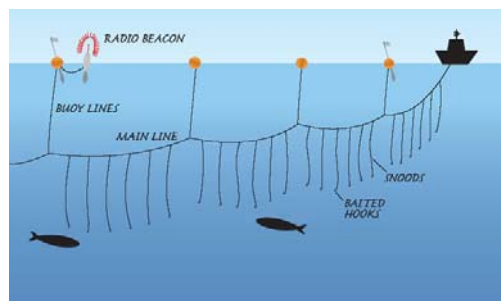


Figure 5 Pelagic longlining (Source-AFMA)

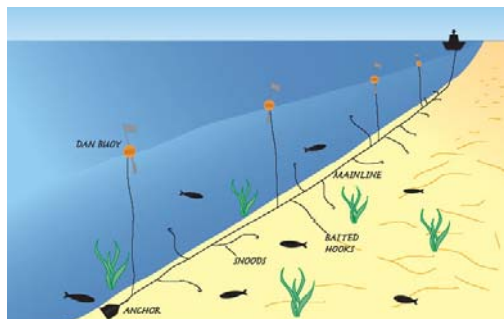


Figure 11 Demersal longlining (Source-AFMA)

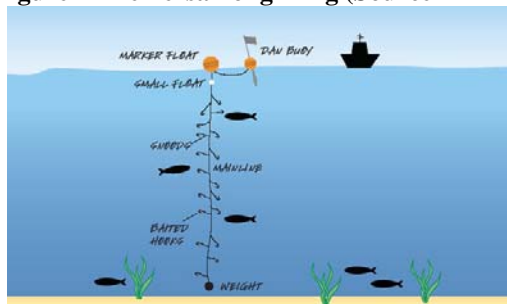


Figure 12 Dropline (Source-AFMA)

Gillnets

Gillnets (figure 13) are long rectangular panels of netting with diamond-shaped mesh that are held vertically in the water column and anchored either so that the net touches the bottom or so it is suspended above the ocean floor. Fish swim into the net and are entangled by the gills, fins and spines. The nets are kept vertical by the floats along the top and weights along the bottom.

Only demersal gillnets (touching the ocean's floor) are permitted in Australia.

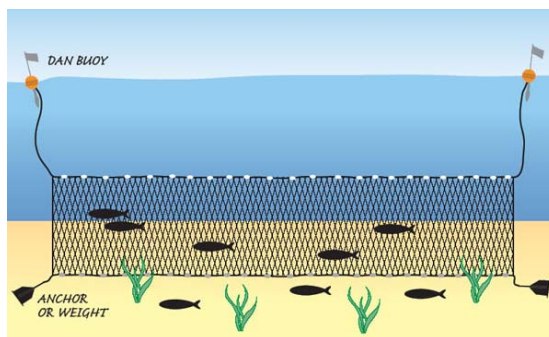


Figure 13 Demersal gill netting (Source AFMA)

Fish traps

Fish traps (figure 14) are baited so that fish are enticed to swim into them and are set up with mazes or funnel-shaped entrances so that fish cannot escape once inside the trap.

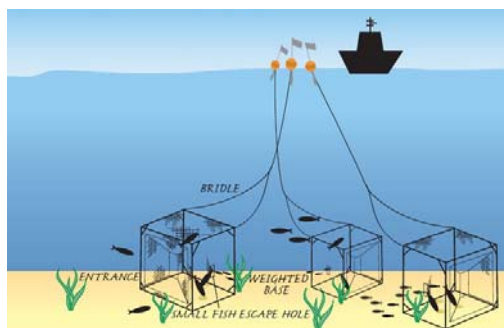


Figure 64 Fish trapping (Source-AFMA)

Bottom handlines

Bottom handlines are used for demersal fish (those that spend most of the time near the bottom, close to physical structures such as coral reefs - for example, coral trout). Hand-held lines are single lines with baited hooks or gangs of hooks lowered from a stationary boat into the water by a rod or by hand. This is a common fishing method in most of the line fisheries, with the notable exception of the Pelagic Fishery.

Trolling

Trolling is used for pelagic fish (those that swim in open water and often have a wide geographical range, such as Spanish and spotted mackerel). Trolling involves towing lures or baited hooks on lines behind a boat. Trolling is most commonly used in the Pelagic Fishery.

APPENDIX I: Game Fishing Association of Australia (GFAA) Code of Practice

Code Words

CODE OF PRACTICE FOR A RESPONSIBLE GAMEFISH FISHERY

Codes of Practice are important to set standards for organisations and have been developed for a wide range of activities and industries, including the seafood industry. Many of the principles incorporated into Codes of Practice might seem obvious or general, but they clearly demonstrate to those inside and outside the organisation that high standards do exist and are strongly encouraged.

It is important that a Code of Practice for gamefishing in Australia be promoted, especially since some sectors of the public and the media are not well informed about this form of angling.

THE PRINCIPLES OF THE GFAA

To a large extent, the GFAA has operated under a form of 'Code of Practice' for many years. The constitution of the GFAA contains a set of objects (or aims) which are a very useful starting point in this regard. Taking the relevant points from the Objects of GFAA (the ones which relate to fishing ethics, conservation and so on), it is clear that the Association has set itself high standards. That is:

- To formulate and support fair, uniform and ethical angling rules.
- To conserve gamefish and food fish resources for the recreational and economic use of present and future generations.
- To affiliate with the International Game Fish Association (IGFA) and work closely with that Association as well as scientific institutions and Government bodies interested in fisheries conservation and management.
- To encourage and further the study of recreational angling, the related fish species and the habitat requirements of such species.
- To develop and support fish tagging programs and other scientific data collection.
- To act as a data accumulation centre for fishing results and to make such information available to governments and others for furthering education in the wise use and conservation of the species.
- To analyse the pressure of recreational and commercial fishing upon the respective gamefish species.
- To disseminate information and knowledge of scientific studies of commercial fishing and gamefishing to GFAA member clubs and to the general public.
- To assist and participate in domestic

and international gamefish seminars and symposiums where the expertise, data and purposes of the Association may be helpful in assisting other organisations with similar objectives.

- To make grants to gamefish-oriented organisations or institutions for the support of research and education in the sciences related to gamefish and the sport of angling.

These objects are largely pursued through the rules and regulations of the Association. The GFAA Research & Development Foundation has also been formed to assist in funding the pursuit of many of these specific goals.

THE CODE

Principles of a Code of Practice for gamefishing in Australia (not only for members of clubs, it should be noted) include:

Gamefish anglers will strive to:

- Fish to the ethical standards espoused by the GFAA. Follow the rules and regulations set by the GFAA. Always conduct gamefishing activities in an ethical manner.
- Show due care and responsibility for the habitat of gamefish and other marine life. Don't discard anything overboard, including plastic, metal and fishing line. Report pollution. Pick up floating rubbish. Take care in anchoring over sensitive reef areas. Only use biodegradable chemicals onboard.
- Minimise direct effects on wildlife, including seabirds, marine mammals and reptiles.
- Minimise taking onboard material which will produce pollution or rubbish. Observe proper provisioning processes. Minimise packaging.
- Follow all relevant regulations by governing institutions. Adhere to bag and size limits. Respect and adhere to

protected species legislation. Be aware of zoning within marine parks and marine protected areas.

- Be informed about the biology of gamefish. For example, be aware of how to identify various gamefish species for more accurate recording of tagging and capture data.
- Tag and release fish with care. Learn the correct procedures for tag and release and catch and release to ensure maximum likelihood of survival of tagged and released fish. Record and forward accurate post-release information in a timely manner.
- Take only what is needed. Exercise restraint when taking any species of fish even if no bag limits exist. Be realistic about the amount of baitfish taken for fishing. Try to return unused live baitfish to the area in which they were caught.
- Dispatch fish quickly and humanely. All fish which are taken should be killed as quickly and humanely as possible.
- Convey the benefits of gamefishing to the public. Take opportunities to educate the non-fishing public about the benefits of gamefishing, of tag and release and support of research. Encourage others to join affiliated gamefishing clubs.
- Cooperate and participate in research and development activities which will enhance the sustainability of the resource. Offer free access to fish for recognised research programs. Participate in biological sampling programs.
- Participate and assist in the collection of catch and effort statistics.
- Consider and respect the rights of others when engaged in any aspect of gamefishing. This includes other anglers, and commercial fishers' rights to harvest common property resources.

APPENDIX J: Lowrance Native Fish Challenge How to Handle Fish for Release

NATIVE FISH AUSTRALIA(Vic) Inc

PO Box 162, Doncaster, 3108

LOWRANCE NATIVE FISH CHALLENGE

All fish have a protective slime coating which can be easily removed by handling the fish or laying it on a dry surface. The loss of this coating can result in infection and subsequent death of the fish.

As you will be releasing many fish over the weekend, the following guidelines should be followed to give the fish the best chance of survival :

REQUIREMENTS :

- We recommend the use of circle or wide gap hooks and flatten the barb. **Do not use stainless steel hooks.**
- Plastic bucket (10 l.) preferably with holes in it about 100mm below the top to allow some water to drain out making it easier to lift into the boat
- Do not land the fish by lifting it out of the water using the line
- Land the fish using a fine mesh landing net **NOTE : DO NOT USE A COARSE LANDING NET**

- Wet towell

LANDING THE FISH- Never lift the fish, irrespective of its size, into the boat by holding the line. Doing this can strain or dislocate the jaws and/or cause the hook to penetrate deeper into the fish.

Swim the fish into a large bucket if possible. Landing nets should not be used unless necessary. The net should be of a soft mesh type not a coarse one to minimise damage. With a large fish, try to leave the fish in the water and with the assistance of your companion measure it, but be very careful with two people on the one side of a small boat.

NEVER PLACE A FISH ON A HOT, DRY SURFACE

and

NEVER LIFT A FISH BY USING FINGERS IN THE GILLS

HANDLING & MEASURING THE FISH - Lift the fish from the bucket and lay it on a wet towell on to the wet ruler for measuring. If a net has been used, wet your hands first before attempting to remove the fish from the net. Remove the hook carefully if that can be done without causing damage. If there is a possibility of damage to the fish, cut the line as close to the mouth and sacrifice your hook. If you catch a fish bearing a coloured tag, record the no. on the tag beside the fish on your record sheet and release it.

RELEASING THE FISH - Lift the fish carefully with your hands under the side and fingers under the belly and lower it into the water gently - do not throw it back.

RECORDING - Record immediately the length of the fish and have your companion witness it.

APPENDIX K: PIAA Code of Practice for Aquarium Operations

- 1) Members shall ensure that all fish under their direct care shall be provided with humane treatment and correct and proper housing suitable to the well-being of the species concerned.
- 2) Members shall take any necessary action to discourage any acts of cruelty or mistreatment to fish under their care, and to protect those fish from undue stress or discomfort.
- 3) Members shall not offer for sale any fish that is known to be suffering from disease, illness or injury and shall seek proper advice as to the treatment of such fish in their care. In such cases, the fish should be placed in quarantine until treatment has been effected.
- 4) Members shall ensure that any fish under their care is provided with an adequate and proper diet in accordance with the needs of the species concerned.
- 5) Members shall not offer for sale any fish that is classified as protected fauna, other than those species under special permit, or species allowed under State and Federal laws.
- 6) Members shall ensure that employees in charge of fish shall be familiar with the care and needs of the species concerned or be under the direct supervision of a person who is knowledgeable and competent in this regard.
- 7) Members shall, wherever possible, accurately describe the needs and care of any fish sold, and provide or promote any literature relevant to the well-being of the fish concerned after purchase, e.g. the Don't Dump that Fish pamphlet.
- 8) Members shall not knowingly offer for sale any item or product that does not conform to applicable State and Federal regulations or that may endanger the safety of the user or fish.
- 9) Members shall maintain their business premises in a clean and safe condition and provide any necessary ventilation or lighting that may be required for the comfort of fish, employees and customers alike.
- 10) Members shall trade in accordance with applicable State and Federal regulations and, by example, shall strive to promote the Australian pet industry and the benefits of responsible fish ownership to potential customers and members of the general public.
- 11) The use of medications in the treatment of diseased or injured fish shall be carried out as quickly as possible and in the most humane way in order to effect a cure to the species concerned. Proper prescribed medications for the relevant disease shall be used.
- 12) Any dead fish shall be disposed of in a manner that will not render the likelihood of any disease being released into natural waterways, e.g. in garbage used as landfill, and not via storm water.
- 13) Retail/wholesale outlets shall encourage the return of any unwanted fish to their premises, for credit or cash, to prevent those same fish from being dumped into natural waterways and impacting on natural biodiversity.
- 14) Disposal of aquarium effluent from retail/wholesale outlets or home aquaria and/or ponds should be directed onto lawns or into the sewerage system, and not via storm water outlets. This is to ensure that no disease organisms are liberated into the wild.

15) Retail outlets are specifically required to hand out available fish literature in their normal course of operations that will help to educate the general public about responsible fish ownership.

16) Retailers shall not trade in any fish or plant species listed as noxious in their State.

17) This Code of Practice is specifically focused on the following aspects of animal management:

The humane concepts of the RSPCA in the treatment of animals; The protection of endangered, threatened or protected aquatic species; The prevention of possible epidemic infestation of disease and parasitic organisms among fish; Reduce feral colonies that may affect biodiversity.

PIAA members are guided by this Code to disseminate this vital information to their customers in the hope of bringing about environmental awareness.

APPENDIX L: 'Don't Dump That Fish'

FISH CARE TIPS

- ✓ **KNOW YOUR FISH.** Some need special conditions and diet. Others are aggressive and unsuitable for a community tank.
- ✓ **CHANGE THE WATER.** Replace about a quarter of the water in your aquarium at least once a month.
- ✓ **USE GOOD WATER.** Tap water may contain chemicals that harm your fish. Add a water conditioner available from your petshop.
- ✓ **REMOVE SICK FISH.** Diseased fish can contaminate others so remove them quickly.
- ✗ **DON'T OVERFEED.** Feed only as much as your fish will eat in one minute and just once a day, or as advised by your petshop.
- ✗ **DON'T OVERCROWD.** Overcrowding increases pollution and aggression problems.
- ✗ **WATCH THE SUN.** Too much sunlight on your tank encourages algae growth.

DON'T DUMP THAT FISH!

MAY 2001

NSW DEPARTMENT OF
PRIMARY INDUSTRIES

PIAA
PET INDUSTRY ASSOCIATION OF AUSTRALIA LTD

please do not release aquarium fish or plants