



# **Aquatic Animal Welfare – a review of guidance documents and legislation**

**FINAL REPORT**

**Dr Paul Hardy-Smith, Dr Joy A. Becker and Dr Robert Jones**

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**Researcher Contact Details**

Name: Dr Paul Hardy-Smith  
Address: 140 Fairbank Road, Arawata, VIC, 3951  
(PO Box 243, Hawthorn, VIC, 3122)  
Phone: 0404 121 996  
Email: paul@panaquatic.com

**FRDC Contact Details**

Address: 25 Geils Court  
Deakin ACT 2600  
Phone: 02 6122 2100  
Email: frdc@frdc.com.au  
Web: www.frdc.com.au

In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

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### Northern Territory

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### Queensland

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### South Australia

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### Tasmania

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## Abbreviations

Abbreviations	Full Name	Jurisdiction (if applicable)
ACPAB 2022	<i>Animal Care and Protection Amendment Bill 2022</i>	QLD
ACPA 2001	<i>Animal Care and Protection Act 2001</i>	QLD
APA 2018	<i>Animal Protection Act 2018</i>	NT
ARA 1985	<i>Animal Research Act 1985</i>	NSW
ARMA 2016	<i>Aquatic Resources Management Act 2016</i>	WA
ARR 2021	<i>Animal Research Regulations 2021</i>	NSW
AWA 1985	<i>Animal Welfare Act 1985</i>	SA
AWA 1992	<i>Animal Welfare Act 1992</i>	ACT
AWA 1993	<i>Animal Welfare Act 1993</i>	TAS
AWA 1999	<i>Animal Welfare Act 1999</i>	NT
AWA 2002	<i>Animal Welfare Act 2002</i>	WA
FA 1994	<i>Fisheries Act 1994</i>	QLD
FAA 1991	<i>Fisheries Administration Act 1991</i>	CWTH
FMA 1994	<i>Fisheries Management Act 1994</i>	NSW
FMA 2007	<i>Fisheries Management Act 2007</i>	SA
FRMA 1994	<i>Fish Resources Management Act 1994</i>	WA
IFA 1995	<i>Inland Fisheries Act 1995</i>	TAS
LMRMA 1995	<i>Living Marine Resources Management Act 1995</i>	TAS
NPWA 1972	<i>National Parks and Wildlife Act 1972</i>	SA
POCTA Act 1979	<i>Prevention of Cruelty to Animals Act 1979</i>	NSW
POCTA Act 1986	<i>Prevention of Cruelty to Animals Act 1986</i>	VIC

<b>Abbreviations (cont.)</b>	<b>Full Name</b>	<b>Jurisdiction (if applicable)</b>
AAWS	Australian Animal Welfare Strategy	
AAWSG	Australian Animal Welfare Standards and Guidelines	
AAWWG	Aquatic Animal Welfare Working Group	
ACT	Australian Capital Territory	
AEC	Animal Ethics Committee	
AFMA	Australian Fisheries Management Authority	
AFS	American Fisheries Society	
AFZ	Australian Fishing Zone	
AGSOC	Agricultural Senior Officials' Committee	
AHA	Animal Health Australia	
ASC	Aquaculture Stewardship Council	
ASEL	Australian Standards for the Export of Livestock	
AWTG	Australian Welfare Task Group	
BAP	Best Aquaculture Practices	
CCAC	Canadian Council on Animal Care	
DITT	Department of Industry Tourism and Trade	NT
DPIRD	Department of Primary Industries and Regional Development	WA
EFSA	Primary Industries and Regions South Australia	SA
EFSA 2005	European Food Safety Authority Report 2005	
EPA	Environment Protection Authority	
EU	European Union	
FELASA	Federation of European Laboratory Animal Science Associations	
FRDC	Fisheries Research and Development Corporation	

Abbreviations (cont.)	Full Name	Jurisdiction (if applicable)
MRFAC	Minister's Recreational Fishing Advisory Council	
NHMRC	National Health and Medical Research Council	
NHMRC Code	Australian Code for the Care and Use of Animals for Scientific Purposes	
NM	Nautical Miles	
NSW	New South Wales	NSW
NSW DPI	NSW Department of Industry	NSW
NT	Northern Territory	NT
NTDPIR	NT Department of Primary Industry and Resources	NT
OCS	Offshore Constitutional Settlement	
PETA	People for the Ethical treatment of Animals	
PIRSA	The Department of Primary Industries and Regions, South Australia	SA
QLD	Queensland	QLD
RSPCA	Royal Society for the Protection of Cruelty to Animal	
SA	South Australia	SA
SGC	Standards, guidelines and codes of practice	
TAS	Tasmania	TAS
VIC	Victoria	VIC
VFA	Victorian Fisheries Authority	VIC
WA	Western Australia	WA
WOAH	World Organisation for Animal Health (formerly OIE)	
WSPA	World Society for the Protection of Animals	

## Executive Summary

This report provides a contemporary review of aquatic animal welfare in Australia, focussing on fish, crustaceans and cephalopods that are captured or farmed in the commercial wild capture, aquaculture and recreational fishing sectors in Australia. It also reviews the welfare of aquatic animals used in teaching or research.

Aquatic animals, like all animals, play an important role in maintaining a healthy environment. Many aquatic animals are valuable sources of nutrition for humans and other animals and contribute significantly to Australia's primary industry in both domestic and international trade. Other aquatic animals have cultural and economic importance to our tourism and recreational industries. For aquatic animals, as with other animals, better health through improved welfare can increase productivity and can have beneficial impacts on sustainability.

The last review of aquatic animal welfare arrangements in Australia was conducted in 2006. Community understanding of animal welfare, including aquatic animal welfare, has increased since then. Having a sound understanding of animal welfare laws and any changes that may be happening to those laws is important to industries that work with aquatic animals.

The key objectives of this project were to:

1. Conduct a contemporary stocktake of Australia's current aquatic animal welfare policies, programs, and procedures as expressed in legislation, Codes of Practice, Standards or other relevant guidance documents as applicable to the commercial wild capture, aquaculture and recreational fishery sectors;
2. Develop potential case studies to assess the suitability and practicality of the Codes of Practice, Standards or other relevant guidance documents to align with industry practice and the legislative animal welfare requirements in the commercial wild capture, aquaculture and recreational fishery sectors;
3. Make recommendations to improve the alignment of industry practice with legislation for improved outcomes for aquatic animal welfare in the commercial wild capture, aquaculture and recreational fishery sectors.

There have been a number of initiatives progressing aquatic animal welfare since 2006. These have included work conducted through the Australian Animal Welfare Strategy and the Fisheries Research and Development Corporation (FRDC) funded projects 2013-049 and 2019-023. A brief summary of these initiatives and projects is included in this report.

This report also includes a discussion on aquatic animal welfare and the science around sentience and pain. Defining aquatic animal welfare is not a simple task. The definition of animal welfare as given in the World Organisation for Animal Health's Terrestrial Animal Health Code (WOAH 2022) has been used in this report, with the word "aquatic" being added i.e.

*'the physical and mental state of an aquatic animal in relation to the conditions in which it lives and dies'.*

While the scientific evidence supporting fish (and crustaceans and cephalopods) as being sentient has continued to expand, evidence supporting these animals as not being sentient has changed little since 2006.

In the absence of any federal legislation governing animal welfare, animal welfare legislation is governed independently by each state and territory in Australia. This means that there are eight separate state and territory legal frameworks for animal welfare in Australia. Each of these contains a primary piece of legislation (e.g. Acts) and subordinate legislation (e.g. Regulations).

The animal welfare legislation in any particular state or territory only applies to animals in that state or territory. The key determinant as to whether protection is afforded to animals under the animal welfare legislation is whether that animal is defined as an “animal” in that jurisdiction’s animal welfare legislation<sup>1</sup>. The first step was to review each state and territory’s legislation and determine the extent to which it applied to aquatic animals.

In Australia, *fish* are included in the definition of *animal* in animal welfare legislation in the Australian Capital Territory, New South Wales, Northern Territory, Queensland, Tasmania and Victoria. The exact wording detailing this is not consistent between these jurisdictions.

<b>Jurisdiction</b>	<b>Wording as it appears in the definition of “animal” in animal welfare legislation</b>
Australian Capital Territory	<i>“a live member of a vertebrate species, including a fish”</i>
New South Wales	<i>“a member of a vertebrate species including any fish”</i>
Northern Territory	<i>“a live fish in captivity or dependent on a person for food”</i>
Queensland	<i>“a live member of a vertebrate animal taxon; Examples - a fish”</i>
Tasmania	<i>“any live vertebrate other than a human being”</i>
Victoria	<i>“a live member of a vertebrate species including fish that is capable of self feeding”</i>

In South Australia, the definition of animal specifically excludes vertebrate fish from its definition. In Western Australia, the definition of animal under that state’s animal welfare legislation does not include fish. However, aquatic animal welfare legislation will be the responsibility of the Fisheries legislation in that state (*Aquatic Resources Management Act 2016*) but only when the Regulations for this Act are published. The date for this is uncertain.

Where fish are included in the definition of an animal in animal welfare legislation, it does not necessarily mean that the animal welfare legislation applies to all activities involving fish in each jurisdiction. For example, in Victoria, animal welfare laws do not apply to activities that are authorised by and conducted in accordance with the *Fisheries Act 1995*. This exclusion, however, does not exclude people from prosecution under animal welfare legislation for acts of cruelty towards fish. In Tasmania,

<sup>1</sup> The sections in this report detailing state and territory animal welfare legislation have all been reviewed by government officers in each particular jurisdiction to confirm accuracy.



there is a specific exclusion regarding fish taken through commercial and recreational fishing activities where Sections 8 (Cruelty to animals), 9 (Aggravated cruelty) and 10 (Baiting and shooting) do not apply to these activities in that state’s animal welfare legislation. do not apply provided the activities are done in a usual and reasonable manner and without causing excess suffering.

For *crustaceans* and *cephalopods*, there are even greater inconsistencies in whether they are included (or not included) in the definition of *animal* and greater variation in the wording used. States and territories that do include reference to either crustaceans or cephalopods or both in the definition of animal are the Australian Capital Territory, New South Wales, Northern Territory, Queensland and Victoria. The wording is again inconsistent. For example:

<b>Jurisdiction</b>	<b>Wording as it appears in the definition of “animal” in animal welfare legislation</b>
Australian Capital Territory	<i>“a live cephalopod or a live crustacean intended for human consumption”</i>
New South Wales	<i>“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”</i>
Northern Territory	<i>“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”</i>
Queensland*	<i>“a live invertebrate creature of a species, or a stage of the life cycle of a species, from the class Cephalopoda or Malacostraca prescribed under a regulation for this paragraph”</i>
Victoria <sup>2</sup>	<i>“a live adult decapod crustacean, that is a lobster; or a crab; or a crayfish”</i>

\*class Cephalopoda are prescribed under a regulation in Queensland but not class Malacostraca

In Tasmania, Class Cephalopoda are not included in the definition of animal, but are prescribed under Regulations. However, they are only prescribed (and hence protected) for the purposes of animal research and not for other purposes. Both South Australia and Western Australia have neither crustaceans nor cephalopods included in current animal welfare legislation.

A very important section in the primary animal welfare legislation in each state and territory are the sections defining an act of cruelty and an aggravated act of cruelty and whether or not these sections apply to aquatic animals. Remembering, if the aquatic animal was not included in the definition of animal then these sections did not apply. There is variability here with these sections applying to aquatic animals in some jurisdictions but not applying to aquatic animals due to there being exemptions. It is important for commercial and recreational fishers and aquaculturalists to be aware of these sections of their jurisdictional legislation and particularly how an activity could be considered to be “cruel” to an animal.

<sup>2</sup> Information on Victoria’s new animal welfare laws indicate that cephalopods will be included in the general definition of animal.

Having noted these inconsistencies with animal welfare legislation in Australia, there is one area in which there is reasonable consistency between states and territories. With one small exception, animal welfare legislation in all states and territories defers to observance of the requirements of the National Health and Medical Research Council *Australian Code for the Care and Use of Animals for Scientific Purposes* (NHMRC Code) when animals are being used for scientific and teaching purposes. The exception is in New South Wales, where the requirement for observing the NHMRC Code sits under the animal research legislation and not animal welfare legislation in that state. Under the NHMRC Code, fish and cephalopods are included under the definition of animal.

This project reviewed almost forty standards, guidelines, and codes of practice (SGCs) in the commercial and recreational capture sectors and in aquaculture in Australia and internationally to assess their application to support aquatic animal welfare outcomes directly or indirectly. Of note, only one code of practice concerning recreational fishing was found to be prescribed under legislation in the Australian Capital Territory. None of the remaining SGCs reviewed were prescribed under animal welfare legislation and policy frameworks and as such serve as voluntary guidance documents. There is considerable variation between the content of these documents in the extent to which aquatic animal welfare is addressed.

There are a number of teaching and training courses conducted around Australia which involve the welfare of fish and aquatic invertebrates. A survey was conducted across teaching and training establishments. The degree/course programs reported to teach aspects of aquatic animal welfare were veterinary science, animal science, marine science, fisheries management and law. While there is no uniform approach taken to the teaching of aquatic animal welfare, all survey respondents indicated they were interested in being involved in a discussion group and sharing learning materials about aquatic animal welfare curriculum in Australia. This is a potential project to follow on from this project.

After the review of aquatic animal welfare legislation, workshops were held where the findings of the jurisdictional review could be explained and discussed. Over 300 invitations were sent out to stakeholders inviting them to attend one of the four on-line workshops. Stakeholders invited to participate included government agencies, aquaculture, commercial wild harvest and recreational fishers and animal welfare advocate groups (e.g. Royal Society for the Prevention of Cruelty to Animals, Animals Australia).

Approximately sixty stakeholders attended the workshops, which allowed for discussion about industry-wide animal welfare concerns regarding legislation and gathered information from stakeholders that could potentially be used to develop aquatic animal welfare case studies.

The key messages which came out of discussions held during the workshop included:

- It is community values that influence legislation so a continued debate within the fisheries industries about whether or not fish are sentient is not considered constructive;
- Respecting the animal is central to ensuring a quality product;
- Animal welfare was identified by some industries as their next sustainability challenge;

- There is still considerable confusion regarding animal welfare legislation. This is in part due to it varying so considerably between states and territories (as has been identified in this review);
- There is a paucity of measurable animal welfare indicators for aquatic animals compared to terrestrial animals;
- Concerns from some stakeholders in the recreational fishing sector that issues around aquatic animal welfare could limit, reduce or shut down their fishing activities;
- Uncertainty regarding how animal welfare legislation applies when live aquatic animals are moved across jurisdictional lines within Australia (e.g. live trade of decapods);
- Whether changes to animal welfare requirements in overseas markets may impact or limit the growth of Australian export markets. This was considered an unknown element and stakeholders were unsure how to resolve;
- The development of standards/guides/codes appears to be a reasonable approach to demonstrating compliance with aquatic animal welfare legislation and to ensure industry resilience.

Out of these workshops four potential case studies were identified that were considered important to industry<sup>3</sup>. The four potential case studies identified were:

- i. Production of a Responsible Fishing Guideline for animal welfare in the Australian wild prawn sector;
- ii. Assessment of how current commercial wild harvest practices align with the existing national wild capture animal welfare guidelines in the Northern Territory;
- iii. Welfare Legislation and Its implications for domestic and international trade in Rock Lobsters; and
- iv. Methods for improving understanding of aquatic animal welfare in the recreational fisher sector.

Aquatic animal sectors including the commercial wild capture, aquaculture and recreational fishing sectors currently command good social license in Australia. The community is becoming more aware of the evidence of sentience in fish and other aquatic animals. Public sentiment is beginning to be more influential in driving legislative change as it pertains to aquatic animal welfare.

Legislation has changed little with the protection afforded to fish and remains inconsistent in protection afforded to crustaceans. Cephalopods are provided protection if being used in research or teaching but generally are not if outside of teaching and research. However, there are indications that changes are now happening as evidenced, for example, in new laws that are being proposed in both Victorian and New South Wales. As a specific example, Victoria is proposing that all animals, including fish, crustaceans and cephalopods in that state, be openly declared as sentient in the new animal

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<sup>3</sup> It was not the intent of this project to deliver the actual case studies rather to work with stakeholders to identify future potential aquatic animal welfare projects.

welfare laws. Animal welfare legislation in the Australian Capital Territory has, until now, been the only jurisdiction to have stated that animals are sentient within the legislation.

With regards to documents containing guidance on aquatic animal welfare, many such documents, emanating from both government and private organisations, association and individual operations were identified in this review. As noted in the 2006 review, having so much information available is to be commended. However, there still is little information available showing how much uptake there was of this information and in particular how much was being used in day to day activities where aquatic animal welfare is being impacted. The final report for FRDC Project 2019-023 (<https://www.frdc.com.au/sites/default/files/products/2019-023-DLD.pdf>) found that the uptake and adoption of this information across industry appears to be low and there is a need to build trust amongst industry members, state/territory extension officers and the public. The outcomes of this project agree and support the recommendations of FRDC Project 2019-023

This project did not find any obvious gaps or inconsistencies between the information being published by industry and legislative requirements. However, it is acknowledged that the exact interpretation of legislation is generally only determined when prosecution occurs and the matter is judged through the courts. This is considered particularly important for the interpretation of *acts of cruelty* and *aggravated acts of cruelty*. Fortunately, as far as the project team are aware, there has not been any major prosecution of individuals or organisations on aquatic animal welfare-based matters in Australia.

The project team considers there to be an opportunity for all aquatic animal industries to rigorously review practices to ensure that there are no ongoing practices that would be deemed to not be acceptable from an animal welfare perspective including those practices that may limit international trade. If such practices exist, sectors should work to determine how practices could be modified or replaced and embark on an education campaign within the sector to ensure transition from these practices to better welfare-based practices, acknowledging the difficulties already noted regarding achieving uptake. The case studies identified in this report are examples of a process by which this could be done.

The recommendations from this project are:

1. That industry sectors consider a process to refine their standard/guidelines/codes (SGCs) (where present) or to develop SGCs (where not already present) that detail and support positive animal welfare outcomes and investigate the potential to have these then prescribed under animal welfare legislation. This will help ensure operators adhering to the SGCs are protected under the legislation.
2. That FRDC continues to take a leading role in addressing aquatic animal welfare and to consider the development of national model aquatic animal welfare standards or codes for the various industry sectors.
3. That a more consistent approach to aquatic animal welfare be pursued by state and territory welfare agencies including the adoption of more consistent terminology;
4. That a review of aquatic animal welfare arrangements in the ornamental (aquarium) sector be conducted to complement this review;

5. To explore which state and territory legislation is relevant and applies to live aquatic animals that are traded within the value chains in Australian and overseas.
6. That ways to improve welfare of fish and other aquatic animals across Australia through increased education and extension work be examined. This project agrees and supports the five recommendations made by FRDC Project 2019-023 that promote practice change to improve aquatic animal welfare.
7. That the four potential case studies identified from the industry workshops held during this project be progressed.

## 1. Introduction

### 1.1. Background

Aquatic animals, like all animals, play an important role in maintaining a healthy environment. Many aquatic animals are valuable sources of nutrition for humans and other animals and contribute significantly to Australia's primary industry in both domestic and international trade. Other aquatic animals have cultural and economic importance to our tourism and recreational industries.

Animal welfare principles for terrestrial animals have captured, and quite often have been driven, by community awareness and a greater understanding in the community around animal welfare issues. The awareness in the community of the need to look after the welfare of aquatic animals is increasing. Some general animal welfare practices are already included in quality assurance requirements of commercial aquatic industries that are designed to ensure food safety and quality of the end product.

In 2006, the Aquatic Animal Welfare Working Group (AAWWG) of the Australian Animal Welfare Strategy (AAWS) commissioned a report titled "*A Review of Current Welfare Arrangements for Finfish in Australia*" ("the 2006 Review") (Panaquatic 2006). The 2006 Review summarised finfish<sup>4</sup> welfare arrangements in place across Australia at that time. It included consideration of codes of practice or guidelines that existed in the four sectors in which fish were prominent i.e. the aquaculture, wild capture fishery, ornamental (aquarium) and recreational fishing sectors. The 2006 Review also summarised the animal welfare legislation in place across Australia at both the Federal and state/territory level that was relevant to fish as well as reporting on a number of prominent organisations internationally that at that time were addressing issues in aquatic animal welfare. These organisations included the World Organisation for Animal Health (WOAH, formerly known as the OIE), the World Society for the Protection of Animals (WSPA) and People for the Ethical Treatment of Animals (PETA).

The 2006 Review identified both beneficial welfare practices but also gaps in aquatic animal welfare arrangements, namely where aquatic animal welfare was not being addressed, but possibly should have been. The AAWWG proceeded to build on the work and recommendations of the 2006 Review to address these gaps. It developed a set of overarching aquatic animal welfare principles (Appendix A) and undertook a number of specific projects including developing welfare codes of practice for the commercial wild capture and recreational fishing sectors in Australia and improving killing methods for aquatic animals that were harvested or captured to be consumed.

The 2006 Review was written seventeen years ago. Community understanding of animal welfare, including aquatic animal welfare, issues has increased. Public sentiment can drive legislative change, which leads to the creation of law in our society. This changing landscape has implications for aquatic animal industries and the commercial wild capture, aquaculture and recreational fishing sectors need to understand the implications of this changing landscape and particularly to ensure that their practices remain compliant with legislation, if such compliance is necessary now or in the future.

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<sup>4</sup> The term "finfish" was used in the 2006 Review to denote bony and cartilaginous vertebrate fish. For the remainder of this report the term "fish" is used instead to denote this group of animals.

It was therefore considered important that a contemporary review of aquatic animal welfare arrangements be conducted. It was also considered desirable that the scope of this updated review was not limited to fish but was expanded to include crustaceans and cephalopods.

This project documents and analyses the legislative framework as it applies to aquatic animal welfare in each state and territory in Australia. Through the holding of four workshops, the project also identified key areas of concern for commercial wild capture, aquaculture and recreational sectors. Out of this, four potential case studies have been developed for future funding consideration.

## 1.2. Objectives

The Objectives of the project were:

1. To conduct a contemporary stocktake of Australia's current aquatic animal welfare policies, programs, and procedures as expressed in legislation, Codes of Practice, Standards or other relevant guidance documents as applicable to the commercial wild capture, aquaculture and recreational fishery sectors.
2. To develop potential case studies<sup>5</sup> to assess the suitability and practicality of the Codes of Practice, Standards or other relevant guidance documents to align with industry practice and the legislative animal welfare requirements in the commercial wild capture, aquaculture and recreational fishery sectors.
3. Make recommendations to improve the alignment of industry practice with legislation for improved outcomes for aquatic animal welfare in the commercial wild capture, aquaculture and recreational fishery sectors.

## 1.3. Method and scope

### 1.3.1. Initial stage – information gathering

The initial stage of this project was to conduct an updated stocktake of aquatic animal welfare arrangements across Australia. This has included a complete review of all state and territory legislation applicable to aquatic animal welfare. This review has built on and included changes that have occurred since the 2006 review. In addition, aquatic animal welfare arrangements in training facilities and institutions involved with the aquatic animal industries in Australia were assessed and current training and education practices relevant to aquatic animal welfare in these facilities identified.

The project also examined and compiled a repository of aquatic animal welfare information that was readily available in industry guidelines, codes of practices, certification programs and food safety information. The relevance and applicability of the welfare information contained in this material has been assessed and summarised as part of the initial stage of the project.

A literature review has also been completed to provide context to the current science around aquatic animal welfare and sentience and practices in Australia and other developed countries.

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<sup>5</sup> It was not the intention of this project to deliver the potential case studies but rather to identify them.

### 1.3.2. Second stage – workshops to identify and develop potential case studies

Animal welfare is dealt with at the state and territory level, with animal welfare legislation a state and territory based responsibility. The initial stage of this project examined and summarised current state and territory legislation, primarily as it pertains to aquatic animals.

The second stage of this project was to hold industry focused workshops to present and discuss the findings of this review of jurisdictional legislation to stakeholders at the state and territory level and to develop potential aquatic animal welfare case studies.

Originally, three face to face industry-focused workshops were originally planned as part of the second stage of this project. However, due to the Covid pandemic, having face to face meetings as planned proved untenable and instead four online workshops were held. A benefit of holding the workshops on-line was that a larger number of stakeholders could be invited. Fisheries, aquaculture and seafood industry representatives, previous participants in AAWS-AAWG activities and other stakeholders as appropriate were invited to participate in one of the workshops as well as representatives from animal welfare advocacy groups (e.g. Royal Society for the Prevention of Cruelty to Animals and Animals Australia).

Each on-line workshop was two hours in duration and presented information relating to two jurisdictions. On completion of the workshops the project team collated and assembled the ideas and viewpoints shared by stakeholders during the workshops and developed four potential case studies.

## 1.4. Project team

The Principal Investigator for this Project is Dr Paul Hardy-Smith, of Panaquatic Health Solutions Pty Ltd. Dr Hardy-Smith is the Managing Director of Panaquatic. Dr Hardy-Smith has been working in aquaculture and aquatic animal health in Australia and overseas for over 28 years. He was the project leader for the original aquatic animal welfare stocktake in 2006 and has been actively engaged in this area as an independent veterinary scientist ever since. He was a member of the Aquatic Animal Working Group of the Australian Animal Welfare Strategy and has managed and participated in projects in this topic area under both the Commonwealth Department of Agriculture, Fisheries and Forestry and the FRDC. He has extensive knowledge in numerous fisheries and aquaculture sectors.

Co-investigator Dr Robert Jones is a veterinary scientist with over 20 years of experience in aquatic animal medicine. He has a Masters in Aquaculture (2005) and is a member of the Australian and New Zealand College of Veterinary Scientists in Aquatic Animal Health by examination (2008). For many years, Dr Jones has been the consulting veterinarian for Aquarium Industries and Melbourne Aquarium. He has been an advocate for improving aquatic animal welfare across sectors as a co-author of the 2006 stocktake and workshops that were held. He has presented at many international conferences on aquatic animal welfare.

Co-investigator Dr Joy Becker is an Associate Professor at the University of Sydney and holds a PhD in Fish Health from the Atlantic Veterinary College (Canada). Dr Becker's research program is focused on understanding and controlling production-limiting diseases affecting global aquaculture. Her research program has a strong industry focus on “real world” problems faced by fish farmers and deals with areas of fish disease, health and welfare. Dr Becker is an Associate Editor for the Journal of Aquatic



Animal Health and BMC Veterinary Research and along with Dr Hardy-Smith, was a member of the scientific advisory committee for the FRDC-funded National Carp Control Program.

Project advisor Dr Hugh Millar is also involved in an advisory capacity because of his expertise on state and territory based legislation. Dr Millar has over 40 years experience as a veterinarian and biosecurity professional, in areas including animal and plant health, animal welfare, veterinary public health, and biosecurity management in the invasive pests sector. Hugh is a former Chief Veterinary Officer for Victoria serving in that role for 12 years and was the Executive Director for Biosecurity Victoria.

In addition, Dr Michael Grima (The Aquarium Vet) and Dr Shari Cohen have provided valuable contributions to this Project.

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## 2. The Australian Animal Welfare Strategy

### 2.1. Background

The Australian Animal Welfare Strategy (AAWS) was an Australian Government initiative which aimed to protect and promote the welfare of all Australian animals, including aquatic animals. It was first endorsed in May 2004 by what was then the Primary Industries Ministerial Council. It began as a partnership that was developed with extensive stakeholder consultation including government, community and animal industries. It was adopted and endorsed by all state and territory governments.

AAWS recognised that animals are sentient and that sentience is the reason that animal welfare matters.

The AAWS provided a more consistent and coordinated national approach to animal welfare by developing, adopting and promoting sound standards and practices and enhancing existing animal welfare arrangements. It was developed to provide the national and international communities with an appreciation of animal welfare arrangements in Australia and to assist industries and the community in outlining directions for future improvements in the welfare of animals. Critically, the AAWS provided a framework for sustainable improvement in animal welfare outcomes based on scientific evidence and social, economic and ethical considerations.

The Aquatic Animal Welfare Working Group (AAWWG) was one of six Working Groups formed under AAWS to progress the strategy in each of the six sectors. It was made up of representatives from the commercial capture fishing, ornamental, recreational and aquaculture sectors, state government and Not for Profit organisations (Animals Australia, Royal Society for the Protection of Cruelty to Animals). It also had technical experts (fish health professionals) including the Principal Investigator of this Project.

AAWS continued until the withdrawal of operational funding by the incoming government in 2013.

### 2.2. Aquatic animal welfare stocktake - 2006

One of the first tasks the AAWWG undertook was to undertake a review of existing fish welfare arrangements in Australia. The 2006 Review (Panaquatic. 2006), commissioned by the Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF), was essentially a stocktake of fish welfare in Australia in 2006 and contained an inventory of what was then relevant animal welfare documentation and information that had fish welfare implications and considerations. The 2006 Review limited itself to welfare of **fish** (vertebrates) and focused on the four key fish sectors in Australia i.e. the aquaculture, ornamental, recreational and the commercial capture fishing sectors.

The 2006 Review identified a number of welfare practices in the various industries that were considered desirable for reinforcing. These included:

#### Aquaculture:

- The use of humane killing techniques (e.g. percussion stunning and Aqu-i-S®);
- Specific industry Codes of Practice.

#### Commercial wild harvest:

- 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.

#### Recreational:

- The Recfish National Code and its overall 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.

The 2006 Review also identified a number of welfare “gaps” and concerns. These included:

#### Aquaculture:

- 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 then being used.

#### Commercial wild capture:

- The absence of specific animal welfare guidelines in some of the individual sectors.

#### Recreational:

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

### 2.3. Welfare workshops - 2007

Following on from the 2006 Review, the AAWWG then obtained further funding to organise and conduct a workshop for each of the four key fish sectors. These workshops were held in August 2007. The key objective of each workshop was to bring together a representative group of sector stakeholders to consider and discuss issues of fish welfare. The underlying principle applied regarding fish welfare was that what constitutes minimum “acceptable” fish welfare should be the same irrespective of whether that fish is farmed or kept in a household aquarium or captured wild from the sea.

### 2.4. Aquatic Animal Welfare - Overarching Principles - 2013

In 2013, the AAWWG established a set of “overarching principles” for aquatic animal welfare against which the various sectors could assess and review existing specific best practice guidelines practiced by their respective sector stakeholders. These initial Overarching Principles were limited to fish and did not include crustaceans or cephalopods.

The “overarching principles” supported the overall aim of the aquatic sector (fish that are farmed, being transported, kept in aquaria, captured from the wild both commercial and recreational, or in aquaria in restaurants) which should be to minimise suffering within the constraint of practices inherent to that sub-sector. These “overarching principles” are provided in Appendix A of this Report.

## 2.5. Aquatic animal welfare in perspective – Fisheries Research and Development Corporation Project No. 2013-049

The Final Report of Fisheries Research and Development Corporation (FRDC) Project 2013-049, *Aquatic Animal Welfare in Perspective – An initiative of the Aquatic Animal Welfare Working Group of the Australian Animal Welfare Strategy*<sup>6</sup> was published in July 2017.

This report provides a comprehensive summary of the work done by the AAWWG under AAWS through this period. It also summarises work done after the demise of AAWS in 2013 and during the period up until the end of 2015 when members of the AAWWG continued on a ‘voluntary basis’, to complete projects that were already underway or had funding approved and were about to commence.

These projects included the development of six specific vessel operator fish welfare guidelines for the commercial wild capture sector that acknowledged both the economics and welfare aspects of commercial wild capture. The guidelines were practical and applicable at the operator level as well as meeting welfare standards and covered haul seining, set mesh netting, hand-lining and trawling. These guidelines were developed by the Principal Investigator of this Project after accompanying various commercial fishers on board their vessels conducting fishing operations.

## 2.6. Practicing aquatic animal welfare – Fisheries Research and Development Corporation Project No. 2019-023

The Final Report of Fisheries Research and Development Corporation (FRDC) Project 2019-023, *Practicing aquatic animal welfare – Identifying and mitigating obstacles to uptake and adoption by the Australian Seafood Industry*<sup>7</sup> was published in March 2022.

As noted in the Executive Summary of this report, this research focussed on the obstacles to, and drivers of, positive practice change relating to aquatic animal welfare in Australia’s wild-catch commercial fishing and finfish aquaculture sectors. It was conducted in response to growing societal expectations that production animals, including fish and crustaceans, be treated humanely and the need to understand how the Australian seafood industry can, and should, respond.

The project’s findings supported results from other recent Australian seafood industry research and policy initiatives, which have found that more appropriately designed and consistently funded extension programs can help improve aquatic animal welfare uptake and adoption. The report, however, does concede that aquatic animal welfare is a complex issue, and requires more than just extension. It recommends a range of carefully conceived and integrated policy instruments (e.g. market instruments, regulations) are required to achieve substantive and lasting aquatic animal welfare practice change.

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<sup>6</sup> Available at <https://www.frdc.com.au/sites/default/files/products/2013-049-DLD.pdf>

<sup>7</sup> Available at <https://www.frdc.com.au/sites/default/files/products/2019-023-DLD.pdf>

### 3. Aquatic animal welfare

#### 3.1. Introduction

It has already been noted that it is important for the commercial wild capture, aquaculture and recreational fishing sectors to understand the implications of the changing landscape of aquatic animal welfare, particularly jurisdictional legislation which may pertain to their operations. Definitions and requirements under legislation are mandatory and these definitions and requirements are often driven by public sentiment. In the socially connected society in which we live, there are many avenues through which the public is informed and has access to the increasing amount of evidence-based science that is being published regarding the welfare of animals and aquatic animals.

As this report is a contemporary review of current aquatic animal welfare arrangements in Australia, it was considered important to include a section on animal welfare and more specifically aquatic animal welfare. It is, though, acknowledged that this issue is complex and multifaceted.

Better health of animals through improved welfare can also increase productivity and can impact sustainability. The releasing of a fish that has been inadvertently captured can result in that fish surviving or dying, depending on the nature of the capture and the understanding of the fisher on how the capture and release process can impact the fish. Likewise, better understanding of how the flesh quality of aquatic animals can be affected by stressors prior to and at the point of harvest can significantly improve overall quality of fish being grown and/or captured for human consumption.

While the science around animal welfare is of course important, ultimately it is how the science is interpreted by society, in light of the many other dimensions of welfare including ethical, cultural, social and religious aspects, that will influence the laws that are created.

#### 3.2. Defining animal welfare

As noted, animal welfare is a complex and multi-faceted subject with scientific, ethical, economic, cultural, social, religious and political dimensions as is noted by the World Organisation for Animal Health<sup>8</sup>.

Broadly, the term ‘animal welfare’ encompasses not only the health of the animal and its biological functioning, but also the animal’s subjective internal mental or emotional state (Fraser, 2003; Fraser, Weary, Pajor, & Milligan, 1997).

Defining animal welfare is not a simple task. Some definitions of animal welfare consider natural living, and the ability to perform natural or normal behaviours, as an important part of animal welfare (Fraser, 2003; Fraser et al., 1997). While natural living is often highly valued by consumers and the public, it can be difficult to define what ‘natural’ means for domesticated or captive bred animals. As well as this, some natural behaviours, such as aggressive encounters and fleeing predators, are likely to be unpleasant and contribute to poor welfare. There are, however, likely to be some natural

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<sup>8</sup> Available at <https://www.woah.org/en/what-we-do/animal-health-and-welfare/animal-welfare/>

behaviours that animals are highly motivated to perform. Stress and a negative emotional or mental state may occur if they are prevented from doing so (Dawkins, 1988; Špinka, 2006).

For the purpose of this report, the definition of animal welfare as given in the World Organisation for Animal Health's Terrestrial Animal Health Code (WOAH 2022) has been used. This definition states that *animal welfare* means:

*“the physical and mental state of an animal in relation to the conditions in which it lives and dies”.*

Animal welfare assessment frameworks such as the Five Domains (Mellor & Beausoleil, 2015) incorporate all of the core animal welfare concepts (biological functioning, feelings and normal behaviour) within the domains of nutrition, environment, health, behaviour and mental state. Considering all of these domains when thinking about or assessing animal welfare gives a more comprehensive picture of welfare than just considering some of them. However, the 'weight' or value given to particular aspects of welfare may vary depending on the individuals' beliefs and values. These beliefs and values inform all animal welfare assessments.

### 3.2.1. Sentience

A variety of definitions of sentience exist in the literature. It can simply be considered as the ability of an animal to feel. Mellor (2019) expanded on this, putting forward that sentience is the ability to 'consciously perceive by the senses' and to 'experience subjectively' i.e. a sentient animal has the capacity to experience negative emotional or mental states, such as pain and distress, and positive emotional or mental states, such as contentment and excitement.

However, sentience cannot be proven in animals (even mammals), only in humans. It is therefore about examining the evidence and making an informed decision about the likelihood of an animal being sentient.

It is reasonable to say that the broader community now generally accepts that terrestrial animals such as dogs, cats, cows, chickens and pigs are likely to be sentient. There has been and still is, to a lesser degree, debate in the scientific literature about whether fish and other aquatic invertebrates are 'sentient' animals. This debate mostly centres around the ability, or lack thereof, of fish and aquatic invertebrates to experience pain and distress.

This is, though, important as experiencing pain and distress is one of the key drivers on deciding whether or not to protect an animal under legislation.

Regardless of an individual's personal philosophical views on sentience and whether or not animals, including aquatic animals, are sentient, it is the broader community expectations that are important. As noted in Section 4.7, the Australian Capital Territory has considered animals (including aquatic animals) sentient for some time in its *Animal Welfare Act 1992*, stating that a main object is to recognise that 'animals are sentient beings that are able to subjectively feel and perceive the world around them'. The definition of 'animal' in ACT welfare legislation includes fish.

Changes are also occurring in other jurisdictions which are reflecting community expectations and understanding. In Victoria, for example, the recently released *Plan for Victoria's new animal care and protection laws* (discussed in Section 4.4.4.1) notes the following:

*“Scientific studies over many decades have concluded that animals are sentient – that is, they have the capacity to feel, perceive their environment, and to have positive and negative experiences like pleasure and pain. Community research undertaken to inform the development of the new laws identified that most Victorians agree that animals have these experiences”.*

With respect to sentience and these animals, the Victorian Plan states:

*“The new laws are intended to cover all animals where there is scientific agreement that they are capable of positive and negative experiences (that is, they are sentient)”.*

Fish, decapod crustaceans and cephalopods are all included under the definition of animal in the new Victorian laws.

### 3.3. Defining aquatic animal welfare

When we consider aquatic animal welfare, there is much we still need to learn about the behavioural and mental requirements for good welfare of aquatic animals, and these are expected to be species specific. Importantly, there are also the issues of sentience and pain as has been discussed.

It also becomes quite clear when reviewing the literature on this topic that the debate involving scientific and philosophical arguments is sometimes confused by emotional responses (Turnbull, 2010).

Defining aquatic animal welfare is not a simple task. The 2006 Review (Panaquatic 2006) contained a discussion on fish welfare which included the following:

*“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’*

*Human beings may affect the welfare 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)”.*

Today, the definition of ‘animal welfare’ as provided in Section 3.2 is very applicable to aquatic animals and could be written as:

*“the physical and mental state of an aquatic animal in relation to the conditions in which it lives and dies”.*

### 3.3.1. Welfare and sentience in fish

There is still much to be learnt about fishes' behavioural and mental requirements for good welfare. It has already been noted there continues to be debate about whether fish feel pain and are sentient, much of which it is fair to say is based on semantics i.e. debate on the meaning of the words being used.

Having an understanding of the debate in the scientific literature on whether or not fish are 'sentient' is considered worthwhile, but it must be noted that public sentiment and legislation are already moving beyond this with fish already being considered sentient in at least one jurisdiction in Australia, with evidence that more will follow.

It is also suggested that getting into a debate on issues of pain, sentience and consciousness in fish is not necessary to be able to take actions to minimise fish being exposed to *unnecessary distress*<sup>9</sup>.

For completeness, this report includes further a discussion on fish welfare, including the issue of pain and sentience, in Appendix B.

### 3.3.2. Welfare and sentience in decapod crustaceans

Currently, decapod crustaceans are considered sentient under welfare legislation in the Australian Capital Territory and will be considered sentient if Victoria's new animal welfare legislation is adopted.

As in other animals, there are two components that are important when discussing the concept of pain and sentience in decapod crustaceans. The first is nociception which is a response to a noxious stimulus (heat, cold, pressure, chemical etc.) and is a reflex response that requires no central (brain) processing. This occurs immediately in response to the stimulus. The second component involves central processing that there has been a negative experience (indicative of pain).

It has been argued that responses to noxious stimuli in decapod crustaceans are purely reflexive thereby rendering the notion of pain perception as irrelevant. However, Passantino *et al.*, (2021) note that the possibility of pain perceptive responses in crustaceans must extend beyond examining simple reflexes.

There are four criteria that might indicate pain rather than simple nociception in decapod crustaceans. They are avoidance learning, physiological responses, protective motor reactions and motivational trade-offs (Elwood 2012). The evidence from various experiments suggests that all four criteria are met in decapod crustaceans.

Further discussion of welfare in decapod crustaceans is provided in Appendix C.

### 3.3.3. Welfare and sentience in cephalopods

The Phylum Mollusca contains the Class Cephalopoda (cephalopods) and within this class are the octopus, squid, cuttlefish and nautilus.

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<sup>9</sup> The term *unnecessary distress* is increasingly being used to replace the term *unnecessary suffering*, a term which is considered subjective. The term *unnecessary distress* is considered more objective and easier to define.



As noted in Section 4.3.3, the Australian Government established the National Health and Medical Research Council (NHMRC), which produces the *Australian Code for the Care and Use of Animals for Scientific Purposes*, now in its 8th edition (2013 and updated in 2021) (“NHMRC Code”)<sup>10</sup>. The NHMRC Code applies to the care and use of all live non-human vertebrates (that is, fish, amphibians, reptiles, birds and mammals encompassing domestic animals, purpose-bred animals, livestock, wildlife) and includes cephalopods. Any use of cephalopods for teaching or scientific purposes in Australia must follow the NHMRC Code.

In 2005, the European Food Safety Authority (EFSA) produced a report (EFSA 2005) that stated there is evidence that cephalopods have adrenal and pain systems and a relatively complex brain similar to many vertebrates and significant cognitive ability, including good learning ability and memory retention especially in octopuses. Evidence also indicated that cuttlefish and squid can show rapid emotional colour changes, may live in social groups and have complex social relationships.

Based upon the EFSA 2005 report, the European Union (EU) Directive 2010<sup>11</sup> altered their animal legislation to include the term “live cephalopods” in their definition of an animal. This was the first time invertebrate class (covering approximately 700 known species of Cephalopoda) was included in EU laboratory animal legislation. The justification for this change was primarily based on evidence suggesting that cephalopods have the capacity to experience pain, suffering, distress and lasting harm. Further discussion of welfare in cephalopods is provided in Appendix D.

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<sup>10</sup> Available at <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

<sup>11</sup> Available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02010L0063-20190626&from=EN>

## 4. Current aquatic animal welfare arrangements in Australia - Government

### 4.1. Introduction

As noted in the 2006 Review (Panaquatic, 2006), Australia is a federation of six sovereign states and two self-governing territories. The *Commonwealth of Australia Constitution Act 1901* (“the Constitution”) does not mention animals or their welfare nor does it include a “head of power” for animal welfare.

In the absence of any federal legislation governing animal welfare, animal welfare protection is consequently a state and territory responsibility with individual states and territories legislating independently of each other (Dale and White, 2013). This means that there are eight separate state and territory legal frameworks for animal welfare in Australia. Each of these contains a primary piece of legislation which are laws made by Parliament (e.g. the *Animal Welfare Act*) and subordinate legislation (e.g. regulations), which are laws made by powers conferred by an Act. Acts are also called “statutes”. While subordinate legislation is enabled under the primary Act, it still has the full force of the law (Morton and Whittaker, 2022).

States and territories responsibilities also include:

- preparing and enforcing animal welfare legislation in their jurisdiction;
- providing suitable institutional and legislative frameworks, appropriate policies and programs, and promoting and making these readily accessible to the public.

The Australian Government<sup>12</sup> still deals with animal welfare in the context of trade and international agreement and works with exporters to maintain international export standards. It has specific powers in relation to external trade and treaties that encompasses some animal welfare issues which include:

- representing Australia’s overall position on animal welfare;
- providing legislation with regard to the import and export of animals and animal products and promoting these to the public.

State and territory and Australian governments also have a responsibility to:

- work toward consistency of approach in state and territory legislation;
- identify, encourage and resource appropriate scientific research activities to provide scientific understanding of animal welfare issues that will underpin developments in the implementation of improved and sustainable animal welfare;
- enforce agreed animal welfare standards and encourage best animal husbandry practices;
- contribute to the development of animal welfare strategies across local, regional and state levels;
- facilitate consultation with all stakeholders on animal welfare issues and the ongoing development and revision of acceptable animal welfare outcomes through legislation, codes

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<sup>12</sup> Also called the Federal or Commonwealth government

of practice, standards and quality assurance programs that are based on sound scientific evidence.

Local governments have responsibility for some areas of domestic animal control, and public health that has a significant impact on animal welfare. This includes the provision of feedback to state and territory governments in order to change legislation.

In this Chapter, specific areas relevant to animal welfare and more particularly aquatic animal welfare in government are discussed. This includes a detailed discussion of the primary and subordinate legislation in each state and territory as it is this legislation that is of most relevance to the commercial and recreational wild capture and the aquaculture sectors.

## 4.2. Commonwealth fisheries

While the Commonwealth is not specifically responsible for animal welfare, aquatic animal welfare can be indirectly impacted by how fisheries are managed. For this reason, a brief discussion about Australia's Commonwealth fisheries management is included here.

In Australia, fisheries management responsibilities are spread across multiple jurisdictions. Under the Offshore Constitutional Settlement (OCS)<sup>13</sup>, state and Northern Territory governments are generally responsible for managing fisheries out to three nautical miles (NM) from the coast.

The Commonwealth is generally responsible for managing fisheries from 3 NM to the 200 NM limit of Australia's exclusive economic zone (Commonwealth waters). However, these default management responsibilities can be varied through instruments known as OCS arrangements. OCS arrangements allow a fishery that exists wholly or partly in waters that are the responsibility of one jurisdiction, to be managed in accordance with the law of the other jurisdiction.

Recreational and Indigenous customary fishing have historically taken place closer to the shoreline and are, therefore, regulated by the state and territory governments.

Commonwealth legislation covering fisheries in Australia includes:

- *Fisheries Management Act 1991*
- *Fisheries Management Regulations 2019*
- *Fisheries Administration Act 1991*
- *Section 91 ministerial direction to AFMA (2005)*
- *Torres Strait Fisheries Act 1984*
- *Torres Strait (Fisheries) Regulations 1985*

There is an indirect reference to fish welfare in Part 2, Section 13 of the *Fisheries Management Act 1991*. This section deals with the banning of driftnet fishing in the Australian Fishing Zone (AFZ) for persons, and outside the AFZ for Australian citizens. Such a ban, while likely not based primarily on

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<sup>13</sup> Information available at <https://www.ag.gov.au/international-relations/international-law/offshore-constitutional-settlement>

welfare considerations but more likely to prevent the indiscriminate catch of non-target species, does have welfare implications.

#### 4.2.1. Australian Fisheries Management Authority

The Federal Government Australian Fisheries Management Authority (AFMA)<sup>14</sup> was established under the *Fisheries Administration Act 1991* (“FAA 1991”) following a comprehensive review of the way Commonwealth fisheries were managed.

AFMA is responsible for the efficient management and sustainable use of Commonwealth fish resources on behalf of the Australian community. Management plans for fisheries are established under the FAA 1991, and this Act also sets out the legislative basis for Statutory Fishing Rights, licences and permits. Links to all Fisheries Legislation and Regulations are available at their website.

AFMA has produced and made available a number of documents which, while again not written primarily from a welfare perspective, do contain welfare considerations. These documents include:

- Handling Practices Guide for Commonly Caught Bycatch Species<sup>15</sup>;
- Shark and Ray Handling Practices: A guide for commercial fishers in southern Australia<sup>16</sup>;

Abiding by the information presented in these documents is voluntary and not mandatory.

#### Commonwealth fishing concessions

Currently all Commonwealth fishing concessions include the following condition:

*“The concession holder (or a person acting on the holder’s behalf) must not mistreat bycatch”.*

Mistreat here means taking, or failing to take, any reasonable action or actions, which results, or is likely to result, in the;

- death of, or
- injury to, or
- causing of physiological stress to any bycatch.

The definition of bycatch here means any species that physically interact with fishing vessels and/or fishing gear (including auxiliary equipment) and which are not usually kept by commercial fishers and notes that bycatch species may include fish, crustaceans, sharks, molluscs, marine mammals, reptiles and birds.

There are exceptions to this, the section noting that ‘mistreat’ does not include the taking, or failing to take, action where it is reasonably necessary to take, or not take, the action;

- to ensure the safety of the boat and or its crew; or
- to comply with the requirements of any AFMA approved bycatch management plan(s) (these may include Seabird Management Plans, Vessel Management Plans etc.).

<sup>14</sup> See <https://www.afma.gov.au/>

<sup>15</sup> See <https://www.afma.gov.au/sites/default/files/uploads/2018/04/9853R-AFMA-Handling-Practices-Guide-Tagged.pdf>

<sup>16</sup> See <https://www.afma.gov.au/shark-handling-guide>

### 4.3. National Model Codes of Practice for the Welfare of Animals

Codes of Practice<sup>17</sup> are guidance documents written for specific animal industries (commonly farming industries) that detail the forms of “acceptable” uses of animals. As well as providing guidance to animal industries, they also allow ‘cruelty’ to be defined by specialists within industry in line with advancement in animal welfare science rather than relying on the sometimes-inconsistent interpretations of the judiciary (Dale and White, 2013, Morton and Whittaker, 2022).

The *Model Codes of Practice for Welfare of Animals* (Model Codes) were originally produced and reviewed on behalf of the then Primary Industries Ministerial Council by the Animal Welfare Working Group, which reports through Animal Health Committee. Since the 1980s, multiple Model Codes been developed which support the welfare of livestock in Australia<sup>18</sup>

The Codes were designed to function as voluntary guides for those engaged in the welfare and husbandry of livestock species with the intention that compliance with new or revised Codes would be made mandatory in the various jurisdictions by adopting their ‘minimum standards’ as regulations (Dale and White, 2013). Some examples of the Model codes are:

- Model Code of Practice for the Welfare of Animals: Pigs
- Australian Standard for the Hygienic Production of Wild Game Meat for Human Consumption
- Australian Standard for Hygienic Rendering of Animal Products
- Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption
- Model Code of Practice for the Welfare of Animals: Husbandry of Captive Bred Emus
- Model Code of Practice for the Welfare of Animals: The Camel
- Australian Standard for the Construction of Premises and Hygienic Production of Poultry Meat for Human Consumption
- Model Code of Practice for the Welfare of Animals: Farming of Ostriches
- Model Code of Practice for the Welfare of Animals: Domestic Poultry

There are currently no Codes that are relevant to the commercial or recreational wild capture or aquaculture sectors.

A review of the Model Codes in 2005 recommended converting them into the Australian Animal Welfare Standards and Guidelines (AAWSG)<sup>19</sup>. Under the previous Australian Animal Welfare Strategy (AAWS), Animal Health Australia (AHA) facilitated the development of these welfare standards and guidelines for livestock with the aim to “*harmonise and streamline livestock welfare legislation in Australia, ensuring that it results in improved welfare outcomes and is practical for industry*”.

<sup>17</sup> Note that Codes can either be compulsory or voluntary; those that are compulsory are legally enforceable and adopted under regulations. Voluntary codes are, however, not incorporated under regulations, giving industries discretion over whether they adopt them or not.

<sup>18</sup> These codes are available at <https://www.publish.csiro.au/foodandagriculture/livestockcodes>

<sup>19</sup> Available at <https://www.animalwelfarestandards.net.au/>

The Australian Government is working together with states and territories to develop and implement nationally consistent standards and guidelines for farm animal welfare<sup>20</sup>. The Australian Animal Welfare Standards and Guidelines update and replace the Model Code of Practice for the Welfare of Animals, for particular animal industries. The standards are designed to be implemented in state and territory legislation. The standards are accompanied by voluntary guidelines that set out recommended practice for the care and husbandry of animals.

The standards and guidelines are being developed under the direction of an Animal Welfare Task Group.

#### 4.3.1. Animal Welfare Task Group

The Animal Welfare Task Group<sup>21</sup> (AWTG) resolves animal welfare policy and regulatory matters which have national and inter-jurisdictional scope. It delivers on animal welfare priorities of national interest referred to it by the Agricultural Senior Officials' Committee (AGSOC) and oversees the development and review of nationally consistent standards and guidelines for production animal welfare.

The AGSOC comprises all department heads and CEOs of Australian/state/territory and New Zealand Government agencies responsible for primary industries policy issues. It is chaired by the Secretary of the Australian Government Department of Agriculture and Water Resources.

Membership of the AWTG is made up of representatives from each of the state and territory government departments responsible for animal welfare, the Department of Agriculture, Water and the Environment and the New Zealand Ministry of Primary Industries in an observer capacity.

The AWTG is responsible for:

- Maintaining the Australian Animal Welfare Standards and Guidelines Development Framework;
- The coordination of reviews of Model Codes of Practice for the Welfare of Animals and conversion to Australian Animal Welfare Standards and Guidelines; and
- Delivery of animal welfare priorities of national interest as referred by AGSOC.

Current members of the AWTG can be found at <https://www.agriculture.gov.au/agriculture-land/animal/welfare/awtg>.

#### 4.3.2. National Health and Medical Research Council and its Code

The National Health and Medical Research Council (NHMRC) produces the *Australian Code for the Care and Use of Animals for Scientific Purposes* (“NHMRC Code”). NHMRC is an independent statutory agency within the portfolio of the Australian Government Minister for Health and Ageing and operates under the *National Health and Medical Research Council Act 1992*.

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<sup>20</sup> Available at <https://www.agriculture.gov.au/agriculture-land/animal/welfare/standards-guidelines>

<sup>21</sup> Available at <https://www.agriculture.gov.au/agriculture-land/animal/welfare/awtg>

The NHMRC Code is now in its 8th edition (2013 and updated in 2021) (“the NHMRC Code”)<sup>22</sup>. According to the NHMRC<sup>23</sup>:

*The purpose of the Australian Code is to promote the ethical, humane and responsible care and use of animals used for scientific purposes. the ethical framework and governing principles set out in the Code provide guidance for investigators, teachers, institutions, animal ethics committees and all people involved in the care and use of animals for scientific purposes.*

The Code is endorsed by the National Health and Medical Research Council (NHMRC), the Australian Research Council, the Commonwealth Scientific Industrial Research Organisation (CSIRO) and Universities Australia.

The NHMRC Code applies to the care and use of all live non-human vertebrates (that is, fish, amphibians, reptiles, birds and mammals encompassing domestic animals, purpose-bred animals, livestock, wildlife) and cephalopods. Care and use of animals includes the following areas - research, teaching associated with an educational outcome in science, field trials, product testing, diagnosis, the production of biological products and environmental studies. The NHMRC Code applies throughout the animal’s involvement in activities and projects, including acquisition, transport, breeding, housing, husbandry, the use of the animal in a project, and the provisions for the animal at the completion of their use. For at least 15 years, higher order invertebrates, now defined as cephalopods, have been covered by the NHMRC Code. The NHMRC Code is an example of a Code of Practice that is nationally recognised in state and territory welfare legislation.

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<sup>22</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

<sup>23</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes/australian-code-care-and-use-animals-scientific-purposes-code>

## 4.4. Victorian government animal welfare legislation

### 4.4.1. The *Prevention of Cruelty to Animals Act 1986*

The *Prevention of Cruelty to Animals Act 1986* (“POCTA Act 1986”) is the primary legislation in Victoria concerning the welfare of animals. Secondary (subordinate) legislation to the POCTA Act 1986 is the *Prevention of Cruelty to Animals Regulations 2019*.

The stated **purpose** of the POCTA Act 1986 is to:

- (a) prevent cruelty to animals; and
- (b) to encourage the considerate treatment of animals; and
- (c) to improve the level of community awareness about the prevention of cruelty to animals

#### 4.4.1.1. The definition of the term “animal” in the *Prevention of Cruelty to Animals Act 1986*

While the POCTA Act 1986 concerns the welfare of animals in Victoria and protecting animal welfare, it only applies to animals that fall within the definition of “animal” within this Act. If a species is not contained within the definition of an animal, then it is not protected under the POCTA Act 1986.

Given this, the general definition of “animal”, as it appears in Part 1, Section 3 of the POCTA Act 1986 and which defines which animals are protected under this legislation is as follows:

- (a) a live member of a vertebrate species including any—
  - (i) fish or amphibian that is capable of self-feeding; or
  - (ii) reptile, bird or mammal, other than any human being or any reptile, bird or other mammal that is below the normal mid-point of gestation or incubation for the particular class of reptile, bird or mammal; or
- (b) a live adult decapod crustacean, that is—
  - (i) a lobster; or
  - (ii) a crab; or
  - (iii) a crayfish.

#### 4.4.1.2. Scientific procedures

There is a further step in complexity under the POCTA Act 1986 which relates to what is defined as an “animal” and this relates to whether or not an animal is being used for scientific purposes in Victoria. If an animal is being used for scientific purposes (addressed in Part 3 of the POCTA Act 1986), then the definition of the term “animal” is expanded to include cephalopods. That is, the definition of “animal” when being used for scientific purposes includes parts (a) and (b) of the general definition of the term “animal” as provided above and also includes a part (c) i.e.

- (c) a live adult cephalopod including—
  - (i) an octopus; or
  - (ii) a squid; or
  - (iii) a cuttlefish; or



- (iv) a nautilus;

Given the definition of the term “animal”, the POCTA Act 1986 therefore:

- i. Does apply to vertebrate fish and adult lobsters, crabs and crayfish crustacea that are kept as pets;
- ii. Does apply to vertebrate fish and adult lobsters, crabs and crayfish crustacea that are farmed and captured commercially and recreationally except where those activities that are covered by specific exclusions. These are discussed below.
- iii. Does not apply to adult cephalopods unless they are being used for scientific procedures.
- iv. Does not apply to non-decapod crustaceans nor to early life stages of decapod crustaceans or cephalopods.
- v. Does apply to activities relating to transport, handling, display and sale of live fish and crustacea unless specifically referenced in the *Fisheries Act 1995*. This includes live fish and crustacea being sold at markets or in restaurants.

#### 4.4.1.3. Definition of cruelty to animals in the *Prevention of Cruelty to Animals Act 1986*

The term “cruelty” is defined in the POCTA Act 1986 as a person who:

- (a) wounds, mutilates, tortures, overrides, overdrives, overworks, abuses, beats, worries, torments or terrifies an animal; or
- (b) loads, crowds or confines an animal where the loading, crowding or confinement of the animal causes, or is likely to cause, unreasonable pain or suffering to the animal; or
- (c) does or omits to do an act with the result that unreasonable pain or suffering is caused, or is likely to be caused, to an animal; or
- (d) drives, conveys, carries or packs an animal in a manner or position or in circumstances which subjects or subject, or is likely to subject, it to unnecessary pain or suffering; or
- (e) works, rides, drives or uses an animal when it is unfit for the purpose with the result that unreasonable pain or suffering is caused to an animal; or
- (f) is the owner or the person in charge of an animal which is confined or otherwise unable to provide for itself and fails to provide the animal with proper and sufficient food, drink or shelter; or
- (g) sells, offers for sale, purchases, drives or conveys an animal that appears to be unfit (because of weakness, emaciation, injury or disease) to be sold, purchased, driven or conveyed; or
- (h) abandons an animal of a species usually kept in a state of confinement or for a domestic purpose; or
- (i) is the owner or the person in charge of a sick or injured animal and unreasonably fails to provide veterinary or other appropriate attention or treatment for the animal; or
- (j) other than in accordance with the Catchment and Land Protection Act 1994, the Wildlife Act 1975 or the Drugs, Poisons and Controlled Substances Act 1981, intentionally administers to an animal or lays a bait for the animal containing—
  - (i) a poison; or

- (ii) any other substance which, when administered to that type of animal, has a harmful effect on the animal; or
- (k) uses spurs with sharpened rowels on an animal; or
- (l) carries out a prohibited procedure on an animal

#### 4.4.1.4. A further note on scientific procedures

Requirements for animals being used in Victoria for “scientific procedures” including the requirement for licensing of both facilities and field work is detailed in Part 3 of the POCTA Act 1986. As noted, cephalopods are included in the definition of “animal” in this section.

It is prescribed under the *Prevention of Cruelty to Animals Regulations 2019* that any use of animals for “scientific procedures” done under a scientific premises license or a scientific procedures field work license and must be carried out in accordance with the “*Australian Code and the Laboratory Animals Code of Practice*”. This is the NHMRC Code<sup>24</sup>, which is discussed in Section 4.3.3 of this report. It also includes a requirement for such a license to have in place an Animals Ethics Committee.

#### 4.4.1.5. Application of the *Prevention of Cruelty to Animals Act 1986*

The POCTA Act 1986 does not apply to fishing activities that are authorised by and conducted in accordance with the *Fisheries Act 1995*. This enables licenced commercial and recreational fishers to catch fish in the manner prescribed under the *Fisheries Act 1995*, without concern about if an activity might be subject to prosecution under the POCTA Act 1986. However, this exclusion does not exclude fishers (commercial and recreational fishing, aquaculture and fishing by traditional owners) from prosecution under the POCTA Act 1986 for acts of cruelty towards fish. Such acts would still be illegal under the POCTA Act 1986 and people acting in a cruel manner towards fish could still be prosecuted under this Act. This is also consistent with the *Fisheries Act 1995*.

#### 4.4.2. The *Fisheries Act 1995* and *Fisheries Regulations 2019*

As already noted, the *Fisheries Act 1995* is important with respect to fish welfare in Victoria. The regulations associated with this Act are the *Fisheries Regulations 2019*.

The objectives of the *Fisheries Act 1995* are:

- (a) to provide for the management, development and use of Victoria's fisheries, aquaculture industries and associated aquatic biological resources in an efficient, effective and ecologically sustainable manner;
- (b) to protect and conserve fisheries resources, habitats and ecosystems including the maintenance of aquatic ecological processes and genetic diversity;
- (c) to promote sustainable commercial fishing and viable aquaculture industries and quality recreational fishing opportunities for the benefit of present and future generations;
- (d) to facilitate access to fisheries resources for commercial, recreational, traditional and non-consumptive uses;
- (e) to promote the commercial fishing industry and to facilitate the rationalisation and restructuring of the industry;

<sup>24</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

- (f) to encourage the participation of resource users and the community in fisheries management.

While the objectives do not specifically mention fish welfare, as noted by Scott Lawrence, Manager, Fisheries Policy, Victorian Fishing Authority (personal communication, April 2012):

*While the word “welfare” is not explicitly stated in the Fisheries Act or Regulations, a wide range of regulatory provisions are relevant to welfare or have been implemented for welfare reasons, although this may not be the only reasons for implementation. For example, most commercial fisheries have restrictions on net and mesh sizes to ensure non-target species (or certain size target fish) are not caught in the net and subject to drowning. Other examples include limits on the amount of equipment that can be used at any one time, closed seasons on fishing during breeding periods when certain species may be more vulnerable, prohibitions on the use of bow and arrows to take fish, commercial fishers not being permitted to drag or draw a seine net onto dry land or into water less than 60 centimetres deep and eel fishers being required to check and clear nets every 48 hours.*

#### 4.4.2.1. The definition of the term “fish” in the *Fisheries Act 1995*

In the *Fisheries Act 1995*, the term “fish” is defined rather than “animal”. The definition of what are “fish” in this Act includes:

- (a) all species of vertebrate aquatic fauna other than mammals, reptiles, birds and amphibians;
- (b) sharks, rays, lampreys and other cartilaginous fish;
- (c) oysters and other aquatic molluscs;
- (d) aquatic crustaceans;
- (e) echinoderms;
- (f) any other species of aquatic invertebrate declared to be fish under subsection (2).

In addition, the Governor in Council may by Order in Council declare a species of aquatic invertebrate to be fish for the purposes of this Act. The term “aquatic invertebrate” is defined as invertebrate that lives in water for the whole or part of its life cycle.

A reference in this Act to fish is noted as also including a reference to:

- (a) fish in any form whether—
  - (i) alive or dead;
  - (ii) raw, cooked, preserved or processed in any manner whatsoever;
- (b) fish of either sex;
- (c) fish ova;
- (d) part of a fish.

A reference to fish in this Act may also be made by reference to the species, geographical location, number, weight or other description or classification of the fish.

#### 4.4.2.2. Regulation making powers

The *Fisheries Act 1995* allows for the prescription of regulations that can, if needed, address welfare issues of farmed and caught fish. This can be facilitated through the Victorian Fisheries Authority

(VFA), which has extensive powers to regulate fishing activities, including the ability to regulate activities to ensure animal (fish) welfare is not compromised (Scott Lawrence, personal communication). However, any new regulation would need to go through a formal regulatory process and pass through Parliament before it could become law.

Examples of what can be regulated are include in Schedule 3 – Regulation Making Powers of the *Fisheries Act 1995* and including the regulation of fishing activities e.g.

- Prohibiting or regulating the taking, receiving, handling, keeping, possession, landing, processing, storage, transporting, distribution, preparation, marketing, presentation and sale of fish, fishing bait, protected aquatic biota or noxious aquatic species.
- The orderly fishing and preservation of good order and safety among fishers in Victorian waters.
- Prohibiting or regulating methods for taking fish.
- Prohibiting or regulating the marking, branding or tagging of fish.
- Prohibiting or regulating the mutilation of, interference with, shucking of, removal of eggs from, removal of shells from or fin clipping of fish.

It also includes the regulation of boats and equipment e.g.

- Prescribing equipment to be installed in or carried on fishing boats for the handling or storage of fish.
- Prohibiting or regulating the use, possession or sale of specified fishing or aquaculture equipment and prescribing specifications for such equipment.
- Prohibiting or regulating the leaving, setting or removal of commercial fishing equipment and commercial aquaculture equipment.

#### 4.4.2.3. Issuing of licenses

In Division 2, Section 51 – Issue of fishery licences, item (5) notes that if there is no relevant management plan, the VFA may refuse to issue a fishery licence if it considers that the issue of the fishery licence would be *harmful to the welfare of a fishery*.

This does not necessarily mean that the issuing of the license could be refused if the welfare of individual fish was considered to be harmed but there is the possibility for that interpretation.

#### 4.4.2.4. The *Fisheries Regulations 2019*

As noted, current regulations prescribed under the *Fisheries Act 1995* are set out in the *Fisheries Regulations 2019*. There are several regulatory provisions that have been implemented in the *Fisheries Regulations 2019* in whole or part for welfare reasons according to S. Lawrence (personal communication).

For example, in Part 2 which covers commercial fishery licenses, Section 61 concerns getting fish back into the water as quickly as possible and with the least damage possible i.e.

- A licence holder who takes a fish that is not of a noxious aquatic species, and that is not to be retained by the licence holder, must immediately return that fish to the water with the least possible injury or damage.
- A licence holder must ensure that any animal taken incidentally while undertaking fishing activities is immediately returned to its natural habitat with the least possible injury or damage or is

otherwise dealt with in accordance with the *Flora and Fauna Guarantee Act 1988*, the *Wildlife Act 1975* and any regulations, orders, licences or authorisations under those Acts.

Another regulation concerns the use of seine nets in commercial fishing i.e.

- The licence holder must not take fish by dragging or drawing a seine net containing fish on to dry land or into water less than 60 centimetres deep.

The need to return unwanted fish to the water as quickly as possible is also regulated under Part 6 of the Regulations, which covers the general restrictions and prohibitions relating to fishing, fishing equipment, fishing methods, boats and signage i.e.

- A person who takes a fish that is not of a noxious aquatic species, and that is not to be retained by the person, must immediately return that fish to the water with the least possible injury or damage.

However, as can be confusing in legislation this regulation in Part 6 has noted exemptions, including that it does not apply to a holder of a commercial fishery licence or a person acting on behalf of a holder of a commercial fishery licence when acting under that licence.

It is also an offence to tag or mark a fish under Part 6 i.e.

- A person must not tag, brand, mark or fin clip any fish.

Again, there are a number of exemptions given where this does not apply, including, for example, if it is done under an aquaculture license or under a permit that authorises the taking of fish for research, fisheries/wildlife management or scientific purposes.

Various other offences listed in Part 2 that have welfare implications include the use of a coff or cage to hold live fish and it being an offence to tether live fish. An interesting exemption here is that the offence to tether a live fish does not apply if the live fish is being used as bait.

#### 4.4.2.5. The *Fisheries Act 1995* and *Fisheries Regulations 2019* from the perspective of fish welfare

Currently, conducting fishing activities, including aquaculture activities, in accordance with legislation contained in the *Fisheries Act 1995* and the *Fisheries Regulations 2019* provides exemption from prosecution under the POCTA Act 1986. However, if any such activities fall under the definition of cruelty under the POCTA Act 1986 and if the cruelty involves a fish that is included in the definition of “animal” under the POCTA Act 1986 then the activity can still be potentially prosecuted under this Act.

There are also a number of regulatory provisions made in the *Fisheries Act 1995* and *Fisheries Regulations 2019* that address the welfare of farmed and wild caught fish and the Victorian Fisheries Authority has extensive powers to regulate fishing activities, including the ability to regulate activities to ensure fish welfare is not compromised.

One particular activity which could potentially be considered cruel is the use by fishers of live bait, which itself is a form of tethering fish. While tethering fish is an offence under *Fisheries Regulations 2019*, it is not an offence if the fish being tethered is being used as live bait.

#### 4.4.3. Other aquatic activities

The POCTA Act 1986 applies to vertebrate fish and decapod crustacea used or kept for other purposes aside from the *Fisheries Act 1995* activities. For example, the POCTA Act 1986 applies

where fish are being kept as pets, held in pet shops, markets or restaurants or used in entertainment activities in Victoria.

There is a “Code of Practice for the Operation of Pet Shops” made under the *Domestic Animals Act 1994*. This Act does not include a definition of “animal”.

The POCTA Act 1986 also applies to activities relating to transport, handling, display and sale of live vertebrate fish and decapod crustacea unless activities are authorised by and conducted in accordance with the *Fisheries Act 1995*.

Animal Welfare Victoria (AWV)<sup>25</sup> is an initiative by the state government that aims to bring together “all aspects of domestic animal and animal welfare research, policy, education and compliance”. AWV also has a web page entitled “Caring for your pet fish”<sup>26</sup>. This addresses a number of aspects of caring for pet fish, including welfare considerations such as “Environment for your fish”, “Covering the aquarium”, “Shelter and refuge”, “Feeding your fish”, “Health problems” and “Handling of fish”. It does mention humane killing of unwanted pet fish in its introduction; however, no further details are provided as to how to perform this.

#### 4.4.4. A New Animal Welfare Act for Victoria - Directions Paper

On 20 October 2020, the Victorian Government released a Directions Paper<sup>27</sup> for public feedback which set out 12 high-level proposals for a new animal welfare Act. The Direction Paper points out that the POCTA Act 1986 is out of date and no longer meets the needs of animal industries, the community or government. It considers that a new Act would “help maintain Victoria’s reputation for a high standard of animal welfare and increase community trust in our animal-based industries and in activities involving animals”.

The focus of the POCTA Act 1986 was to respond to cruelty once it has occurred which limits the options for early intervention and response. A proposal for the new legislation is to introduce a requirement for people to provide a minimum standard of care for animals. The need to recognise the science that animals are sentient and recognising that in the new legislation is also stated as being important for any new legislation.

The Honorary Jaclyn Symes MP, Minister for Agriculture, makes the following comment in the Foreword to the Directions Paper:

*We want our laws to better safeguard animal welfare and to reflect today’s scientific understanding of animals as well as changing community expectations for animal welfare. Just as importantly, the laws must maintain the ability for people to conduct lawful activities involving animals and not create unnecessary regulatory burden for our animal-based industries.*

<sup>25</sup> Available at <https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria>

<sup>26</sup> Available at <https://agriculture.vic.gov.au/livestock-and-animals/animal-welfare-victoria/other-pets/caring-for-your-pet-fish>

<sup>27</sup> Available at <https://engage.vic.gov.au/new-animal-welfare-act-victoria>

The policy proposals for new animal welfare legislation are grouped under three themes in the Directions Paper:

1. Safeguarding animal welfare
2. A simplified and flexible framework
3. A better compliance and enforcement model.

Under Theme (1), policy proposal topic 1.1 is animal sentience. The Directions Paper notes that “*the science tells us that animals are sentient*”. It also notes that the Victorian Government has committed to recognising sentience in Victoria’s new animal welfare Act. It provides three options to recognising animal sentience which are to refer to sentience:

1. In the Objects of the Act;
2. In the Principles of the Act; or
3. In the Definition of animals covered by the Act.

It does not, however, make any specific reference to fish as being sentient. If the definition of “animal” in the new legislation includes fish as it does the definition under the POCTA Act 1986 and animals are considered sentient, then it is assumed that those fish included in the definition of “animal” will also be considered sentient.

Policy proposal topic 1.2 is minimum standards of care. The Direction Paper proposes to introduce a requirement for people to provide a minimum standard of care for animals. This generally requires people to provide the basic needs of an animal as defined by animal welfare science. If introduced this could require operators to provide an acceptable level of care for farmed fish including “*an appropriate environment*” which could be inclusive of water quality, stocking densities and other husbandry factors. The change could apply also to wild caught fish as there is a proposed requirement for “*acceptable handling*” extending to any person interacting with an animal including wildlife and pest species.

In Theme 2, a simplified and flexible legislative framework, the Directions Paper acknowledges that the current POCTA Act 1986 does not apply in all situations where an animal is being used, handled or managed. This is because of the exemptions that are contained in this Act, including as has been pointed out the exemptions relating to activities authorised under the *Fisheries Act 1995* and *Fisheries Regulations 2019*.

There are two options being proposed here for the new Act:

1. Continue to allow some broad exemptions to the application of the Act where they meet the objectives of the new Act.
2. Apply the requirements of the new animal welfare Act to all animals and activities, with appropriate exceptions for lawful activities

Hence the exemptions currently in place under the POCTA Act, 1986 could remain or the new Act may not contain any of these exemptions meaning that fishing activities authorised under the *Fisheries Act 1995* and *Fisheries Regulations 2019* would not automatically protect fishers from prosecution. However, as noted under option (2) there would still be exceptions for lawful activities.

An important initiative is noted under Policy proposal Topic 2.4 - The role of co-regulation in the framework. The option being proposed here is to allow for the recognition of appropriate co-

regulatory schemes in the new Act which includes the recognition and adoption of industry best-practice standards for animal welfare in place of direct government regulation.

This is relevant to the fishing and aquaculture sectors as it would allow for operators to develop best practice welfare guidelines in their sectors and to have these recognised and to have these recognised or for a best practice scheme to be recognised (e.g. BAP - Best Aquaculture Practices<sup>28</sup>).

The Directions Paper notes that:

*“The cruelty provisions in the current POCTA Act generally work well but they can be limiting as they list specific actions or behaviours (but not everything that could be cruel). The way the current offences are drafted can also make it difficult to establish the pain or suffering that an animal has experienced.”*

The Paper proposes a move to the provision of a set of general offence categories rather than a list of specific actions. For example, it could be an offence under the new POCTA Act to:

*“engage in conduct causing or likely to cause unreasonable harm, pain or distress to an animal.”*

An Engagement Report summarising public feedback on the proposals for the new Act was released in April 2021. Regarding the proposed changes to exemptions to the POCTA Act it was noted:

*“Individuals and stakeholders involved with activities currently provided an exemption to the POCTA Act universally want those exemptions retained in the new Act. These include agricultural organisations and people who work in agriculture, who are wary of regulatory burden and unintentional impacts. Survey respondents involved with hunting and fishing also strongly argued that ‘things work well now’ and that change will create confusion.”*

#### 4.4.4.1. Victoria’s new animal care and protection laws - Plan

In September 2022 the Plan for Victoria’s new animal care and protection laws was released for public consultation<sup>29</sup>. The Plan sets out 16 policy positions for the new laws with each policy being explained, along with what would change from how the current laws work, and what would not change.

The consultation asked for feedback on how the policies would be achieved and in particular was seeking views about potential unintended consequences of the policies, or potential gaps that will impact achieving the objectives of the policies. To provide some indication of the content of the Plan and how this information is presented, two pages from the Plan are shown in Figure 1 and Figure 2.

A summary of the changes to Victoria’s welfare laws is also provided in Appendix E.

The Plan confirms that the objectives of the new laws will recognise that animals have the capacity to feel, perceive their environment, and to have positive and negative experiences like pleasure and pain – that is, that animals are sentient. Previously this was only implied. As noted in the Section 1 – *Recognising Sentience* in the Plan:

<sup>28</sup> More information about BAP is available at <https://www.bapcertification.org/>

<sup>29</sup> Available at <https://engage.vic.gov.au/new-animal-welfare-act-victoria>



*Scientific studies over many decades have concluded that animals are sentient – that is, they have the capacity to feel, perceive their environment, and to have positive and negative experiences like pleasure and pain. Community research undertaken to inform the development of the new laws identified that most Victorians agree that animals have these experiences.*

The definition of animal in the new legislation includes crustaceans and cephalopods as an ‘animal’ covered by the new laws would be:

- a) Any live member of a vertebrate species including any:
  - Fish or amphibian that is capable of self-feeding
  - Reptile, bird or mammal other than a human being that is above the normal midpoint of gestation or incubation for the particular class of reptile, bird or mammal
- b) A live adult decapod crustacean that is a lobster, a crab or a crayfish
- c) A live adult cephalopod that is an octopus, squid, cuttlefish or a nautilus
- d) Any other species prescribed in regulations.

It is not certain whether the practice of live baiting would be given an exemption as is being proposed under NSW legislation.

While consultation on the Plan has now closed, further information is available at <https://engage.vic.gov.au/new-animal-welfare-act-victoria>.

# 1. Recognising sentience

**Animal sentience** will be **recognised explicitly** for the first time in Victorian law.

Previously, it was only implied.

## What is animal sentience?

Animals have the capacity to:

- feel**
- perceive** their environment
- experience** positive and negative sensations

## SENTIENCE

Sentience does not mean that animals think or feel the same as humans.

Recognising animal sentience in the law does not give animals legal rights, nor does it mean they can't be owned or used for legal purposes.

## Why?

Scientific studies have concluded animals **are sentient**. Research shows the vast majority of Victorians agree.

## RECOGNISING ANIMAL SENTIENCE

means policy is based on the care and protection of animals, safeguarding welfare before cruelty occurs.

PURPOSE AND APPLICATION

Figure 1 - Page 13 from Victoria's new animal care and protection laws Plan. Available at <https://engage.vic.gov.au/download/document/28580>



Figure 2 - Page 83 from Victoria's new animal care and protection laws Plan. Available at <https://engage.vic.gov.au/download/document/28580>

Table 1 - Summary of Victoria's animal welfare legislation as it applies to aquatic animals

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
Victoria	<i>Prevention of Cruelty to Animals Act 1986</i>	<i>Prevention of Cruelty to Animals Act 1986</i>	Considered to be implied, not stated	Yes. General definition includes the following with reference to aquatic animals: (a) a live member of a vertebrate species including any fish or amphibian that is capable of self-feeding; and (b) a live adult decapod crustacean, that is— (i) lobster; or (ii) crab; or (iii) crayfish. Note: this definition is expanded in Part 3 of Act ("Scientific procedures") to not only include parts (a) and (b) provided above but also cephalopods i.e. (c) live adult cephalopod including— (i) an octopus; or (ii) squid; or (iii) cuttlefish; or (iv) nautilus;	(a) wounds, mutilates, tortures, overrides, overdrives, overworks, abuses, beats, worries, torments or terrifies an animal; or (b) batters, crowds or confines an animal where the loading, crowding or confinement of the animal causes, or is likely to cause, unreasonable pain or suffering to the animal; or (c) does or omits to do an act with the result that unreasonable pain or suffering is caused, or is likely to be caused, to an animal; or (d) drives, conveys, carries or packs an animal in a manner or position or in circumstances which subjects or subject, or is likely to subject, it to unnecessary pain or suffering; or (e) works, rides, drives or uses an animal when it is unfit for the purpose with the result that unreasonable pain or suffering is caused to an animal; or (f) is the owner or the person in charge of an animal which is confined or otherwise unable to provide for itself and fails to provide the animal with proper and sufficient food, drink or shelter; or (g) sells, offers for sale, purchases, drives or conveys an animal that appears to be unfit (because of weakness, emaciation, injury or disease) to be sold, purchased, driven or conveyed; or (h) abandons an animal of a species usually kept in a state of confinement or for a domestic purpose; or (i) is the owner or the person in charge of a sick or injured animal and unreasonably fails to provide veterinary or other appropriate attention or treatment for the animal; or (j) other than in accordance with the Catchment and Land Protection Act 1994, the Wildlife Act 1975 or the Drugs, Poisons and Controlled Substances Act 1981, intentionally administers to an animal or lays a bait for the animal containing— (i) poison; or (ii) any other substance which, when administered to that type of animal, has a harmful effect on the animal; or (k) uses spurs with sharpened rowels on an animal; or (l) carries out a prohibited procedure on an animal	No	It is prescribed under the Regulations that any use of animals for "scientific procedures" must be done under a scientific premises license or a scientific procedures field work license and must be carried out in accordance with the Australian Code (NHMRC Code) and the Laboratory Animals Code of Practice. It also includes a requirement for such a license to have in place an Animals Ethics Committee.	Current welfare legislation does not apply to fishing activities that are authorised by and conducted in accordance with the <i>Fisheries Act 1995</i>	Yes. New laws currently going through public consultation. Will recognise animals as sentient. Will include cephalopods in general definition of "animal". Will allow for other species to be prescribed as "animals" in regulations.

## 4.5. Tasmanian government welfare legislation

### 4.5.1. The *Animal Welfare Act 1993*

The *Animal Welfare Act 1993* (“AWA 1993”) is the primary animal welfare legislation in Tasmania concerning the welfare of animals. Secondary (subordinate) legislation to the AWA 1993 are the *Animal Welfare (General) Regulations 2013*.

The AWA 1993 repeals the *Cruelty to Animals Prevention Act 1925* and notes in its title that it is to prevent neglect of, and cruelty to, animals and to ensure the welfare of animals.

According to Biosecurity Tasmania, Tasmanian Department of Natural Resources and Environment Tasmania the AWA 1993 applies to all animals, whether they are pets or livestock<sup>30</sup>. Under the AWA 1993, there are many classes of people deemed to be responsible for the welfare of animals. In practice, this means that in addition to the owner, other people have some responsibility if they have animals on agistment or loan, if they are a livestock carrier or livestock agent or if they have animals in their care in any other way.

#### 4.5.1.1. The definition of the term “animal” in the *Animal Welfare Act 1993*

While the AWA 1993 concerns the welfare of animals in Tasmania and protecting animal welfare, it only applies to animals that fall within the definition of “animal” within this Act. If a species is not contained within the definition of an animal, then it is not protected under the AWA 1993.

Given this, the term “animal” is defined in the AWA 1993 as meaning:

- (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;

Therefore, the AWA 1993 applies to vertebrate fish but not invertebrates, unless an invertebrate is specifically prescribed which cephalopods are in the *Animal Welfare (General) Regulations 2013*. Under these Regulations, a creature of the class Cephalopoda is prescribed as being included under the definition of “animal” in the AWA 1993 but only for the purposes of Part 4 of the AWA 1993, which concerns Animal Research.

#### 4.5.1.2. The definition of cruelty to animals in *Animal Welfare Act 1993*

In the AWA 1993, Part 2 Welfare of animals defines cruelty to animals as:

- (1) A person must not do any act, or omit to do any duty, which causes or is likely to cause unreasonable and unjustifiable pain or suffering to an animal.
- (2) Without limiting the generality of subsection (1) a person is guilty of an offence under that subsection if the person –
  - (a) wounds, mutilates, tortures, overrides, overdrives, overworks, abuses, beats, torments or terrifies an animal; or

<sup>30</sup> <https://nre.tas.gov.au/biosecurity-tasmania/animal-biosecurity/animal-welfare>

- (b) overloads or overcrowds an animal; or
- (c) drives, conveys, carries or packs an animal in a manner or position or in circumstances that subjects or subject it to unreasonable and unjustifiable pain or suffering; or
- (d) works, rides, drives or uses an animal when it is unfit for the purpose; or
- (e) has possession or custody of an animal that is confined, constrained or otherwise unable to provide for itself and fails to provide the animal with appropriate and sufficient food, drink, shelter or exercise; or
- (f) abandons an animal of a species usually kept in a state of confinement or for domestic purposes; or
- (g) has possession or custody of a sick or injured animal and fails to provide veterinary or other appropriate treatment for the animal; or
- (h) administers to or otherwise uses in respect of an animal an injurious drug or a toxic or noxious substance except for–
  - (i) medical curative purposes; or
  - (ii) scientific research purposes; or
  - (iii) normal management procedures; or
  - (iv) euthanasia; or
  - (v) the purposes of controlling a List A disease as defined in the *Animal Health Act 1995*; or
  - (vi) the purposes of controlling a pest animal in accordance with the pest register; or
- (i) in the course of any sport or public performance or in the training for any sport or public performance, applies or exposes an electronic device to an animal; or
- (j) uses a spur, or other like appliance, with sharpened rowels on an animal; or
- (k) does any other prescribed act.

Importantly, Part 2 of the AWA 1993 also outlines the definition of “Duty of care” and “Management of animals” i.e.

#### Duty of care to animals

A person who has the care or charge of an animal has a duty to take all reasonable measures to ensure the welfare of the animal.

#### Management of animals

A person who has the care or charge of an animal or group of animals must not use a method of management of the animal or group which is reasonably likely to result in unreasonable and unjustifiable pain or suffering to the animal or an animal in the group.

On the Biosecurity Tasmania’s Animal Welfare Act web page<sup>31</sup>, the following interpretation is provided regarding Duty of Care and Responsibility under the Animal Welfare Act. i.e.

*If you have animals, own animals or look after animals, you are responsible for their welfare. This applies whether your animals are pets or livestock. You may be deemed to have the care or charge of an animal if you are:*

- *The animal's owner*

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<sup>31</sup> Available at <https://nre.tas.gov.au/biosecurity-tasmania/animal-biosecurity/animal-welfare/legislation-standards-guidelines/animal-welfare-act>

- *A person with control, possession or custody of the animal*
- *An operator or manager of commercial premises involving the animal*
- *A share farmer*
- *A chief executive officer or a director of a company that owns the animal*

*Employers are liable for the actions, or inactions, of their employees in relation to the welfare of an animal.*

*If a company is convicted of an animal welfare offence, everyone in the management of the company (i.e. including directors) is deemed to have committed the same offence unless they can demonstrate the offence occurred without their knowledge or they took action to prevent the offence.*

The maximum penalties for animal welfare breaches were increased in 2015 in Tasmania. A person found guilty of aggravated cruelty can now be sentenced to up to 5 years' imprisonment and/or fined up to 200 penalty units (currently approximately \$30,000). A corporation can be fined up to 5 times this amount.

Less serious animal welfare breaches can be dealt with by infringement notices.

#### 4.5.1.3. Setting of traps

Section 12 (Traps) in the AWA 1993 outlines the prohibition of setting traps for animals and contains another exemption related to fish;

(2) This section does not apply to –

- (b) a gillnet used in accordance with any regulations or rules made under the *Living Marine Resources Management Act 1995*

#### 4.5.1.4. Application of the *Animal Welfare Act 1993*

Commercial and recreational fishing

There is a specific exclusion in Part 1, Section 4 of the AWA 1993 regarding fish that are taken through fishing activities (commercial and recreational). Fish taken by these activities are not covered under Section 8 (Cruelty to animals), Section 9 (Aggravated cruelty) and section 10 (Baiting and shooting). The specific wording in the AWA 1993 in this Section is as follows:

(2) Sections 8, 9 and 10 do not apply to practices used in –

- (a) recreational fishing; or
- (b) angling; or
- (c) commercial fishing –

done in a usual and reasonable manner and without causing excess suffering unless the practices used are prohibited by this or any other Act.

## Aquaculture

The Department of Natural Resources and Environment Tasmania states the following under Sea fishing and Aquaculture<sup>32</sup>:

*Animal welfare is the protection of the health and well-being of animals. The Tasmanian Animal Welfare Act 1993 applies to salmonid farming, the same as any industry involving animal husbandry.*

As the AWA 1993 is deemed to apply to salmonid farming in Tasmania it presumably also applies to any fish that is farmed in that state.

In Tasmania there are also Marine Farming Development Plans (Plans) which set out areas where marine farming can occur. These Plans contain management controls to mitigate and manage potential negative effects of marine farming within the plan area. Several management controls in these Plans cover both biosecurity and animal welfare. For example, to ensure areas are not overstocked, lessees are required to comply with limits on carrying capacity for leases that they operate. These limits may be set according to stocking density or biomass. For both biosecurity and animal welfare reasons, lessees are required to promptly report any significant incident of fish escapes to the Department and to the Environment Protection Authority (EPA), and recover escaped fish as directed.

Lessees must also comply with the requirements of the *Agricultural and Veterinary Chemicals (Control of Use) Act 1995*, and maintain detailed records of all chemicals used on the lease area. In relation to animal welfare, this includes therapeutants, anaesthetics, antibiotics, and hormones.

### 4.5.2. Fish used in teaching and research in Tasmania

Fish used in research are not covered by the AWA 1993 if research is conducted ethically and under a Code of Practice. The specific wording in the AWA 1993 here is:

(3) Sections 8 and 9 do not apply to any animal research carried out in a licensed institution if that research is carried out –

- (a) with the approval of the Animal Experimentation Ethics Committee; and
- (b) in accordance with any procedures approved by the Animal Experimentation Ethics Committee; and
- (c) in accordance with a Code of Practice relating to animal research.

#### 4.5.2.1. Summary from the *Animal Welfare Act 1993* as it impacts the fishing sectors

##### Aquaculture

- As noted, farmed fish are covered by the AWA 1993. This means that:
  - Fish farmers must provide a standard of care to “ensure the welfare” of farmed fish;

<sup>32</sup> Available at <https://nre.tas.gov.au/sea-fishing-aquaculture/marine-farming-aquaculture/salmon-farming/salmon-biosecurity-animal-welfare>



- Management methods must not cause reasonably cause “unreasonable and unjustifiable pain or suffering” to farmed fish;
- Any act involving farmed fish must not be “likely to cause unreasonable and unjustifiable pain or suffering”; and
- Operators could face prosecution under the Act for failing to meet the above conditions.

#### Commercial and recreational Fishing

- The AWA 1993 does not apply to activities (e.g. capture, harvest, killing) provided the practices don’t cause “excess suffering”;
  - The stipulation that fishing activities must not cause “excess suffering” is open to interpretation and could be grounds for an argument about humane handling of caught fish on a case-by-case basis. If a fishing activity could be demonstrated to be causing excess suffering, fishers could face prosecution under this Act.
- A specific exemption is provided for the use of gill nets to catch fish if use complies with the legislation laid out in the *Living Marine Resources Management Act 1995*. Why this specific exemption is included is not clear given that recreational and commercially caught fish are already exempt from the Act as laid out in Part 1, section 4.

#### 4.5.3. Fisheries legislation

The management of freshwater fisheries is presently and historically separate from marine fisheries in Tasmania this has resulted in the generation of separate Acts and separate government departments.

##### 4.5.3.1. The *Living Marine Resources Management Act 1995* and associated regulations

The primary legislation for marine fishing and fish farming is the *Living Marine Resources Management Act 1995* (“LMRMA 1995”). The associated statutory rules for this Act are shown in Table 2.

The LMRMA 1995 defines fish as:

- (1) Fish is any aquatic organism of any species, whether dead or alive, which, in the normal course of events, spends part or all of its life in the aquatic environment.
- (2) Fish includes –
  - (a) bony fishes of the class Osteichthyes; and
  - (b) sharks, rays, lampreys and other cartilaginous fishes of the classes Chondrichthyes and Agnatha; and
  - (c) aquatic reptiles; and
  - (d) sea squirts and other aquatic chordates; and
  - (e) sea-stars, sea-urchins, sea-cucumbers and other echinoderms; and
  - (f) lobsters, crabs, prawns and other aquatic arthropods; and
  - (g) bristle worms, fan worms, arrowworms and other aquatic annelids, chaetognaths, nematodes, nemerteans and platyhelminths; and

- (h) squid, oysters, abalone and other aquatic molluscs and brachiopods; and
  - (i) seafans, sponges, corals, jellyfish, salps and other bryozoans, poriferans, coelenterates and ctenophores; and
  - (j) protozoans and bacteria; and
  - (k) seagrass, seaweed and other aquatic vascular plants, algae, diatoms, euglenoids and any other marine plants.
- (3) A reference to fish includes –
- (a) the eggs, spat, spawn, seeds, spores, larvae or other offspring of an aquatic organism; and
  - (b) a shell containing fish or any other part derived from an aquatic organism; and
  - (c) raw, cooked, dismembered, frozen, preserved, salted or otherwise processed fish; and
  - (d) any other saltwater product declared by the regulations to be a fish for the purpose of any provision of this Act.

This definition excludes freshwater fish as defined in the *Inland Fisheries Act 1995*.

The LMRMA 1995 makes no specific reference to marine fish welfare but contains provisions and powers that could affect fish welfare.

Section 255 of the LMRMA 1995 does contain a provision protecting fish against the use of explosives and substances:

- (1) For the purpose of taking fish, a person must not in State waters –
- (a) use or attempt to use any explosive or any toxic or poisonous substance; or
  - (b) use or attempt to use any substance which may render fish incapable of movement; or
  - (c) cause or permit a shock, sound or vibration by the use of any means which is likely to stun, injure, kill or detrimentally affect any fish.

As this provision applies to the taking of fish, use of anaesthetics to render farmed fish incapable of movement would be exempt from this. The taking of fish through electro-fishing would be an offence under the LMRMA 1995.

There are no statutory rules or regulations currently in force that deal directly or indirectly with the welfare of marine fish.

In addition to the above provision, the LMRMA 1995 allows for the Governor to make rules or regulations that could affect the welfare of fish under the following categories:

Rules or Regulations relating to vessels and apparatus:

- (d) the prohibition or regulation of the carrying or use of apparatus in a fishery;
- (h) vessels used for carrying fish for commercial purposes;
- (m) the carrying of any firearm, explosive or toxic or poisonous substance on any vessel used for fishing.

Rules relating to fish and fishing:

- (a) the regulation of fishing in a fishery;
- (b) the possession of fish taken in a fishery;
- (c) requirements relating to any accidental or incidental taking of fish in a fishery;

Regulations relating to fish and fishing

- (b) the non-exploitative use of fish; and
- (c) the possession of –
  - (i) the flesh or other part of any specified class of fish; and
  - (ii) any specified class of mutilated or disfigured fish; and
- (d) the prevention of destruction and wastage of fish;

Regulations relating to handling:

- (a) the manner in which, and the means by which, fish may be unloaded, delivered, consigned or transported by handlers;
- (b) the manner in which fish may be exported;

#### 4.5.4. The *Inland Fisheries Act 1995* and associated statutory rules

The key legislation for freshwater fishing and fish farming is the *Inland Fisheries Act 1995* (“IFA 1995”) and the associated regulations (“statutory rules”) to this Act are shown in Table 3.

The IFA 1995 defines fish as:

- (a) any animal that throughout its ordinary life lives in water; and
- (b) the spawn, fry or young of such an animal;

The Act goes on to define Freshwater fish as:

- (a) any kind or species of fish that is ordinarily found in inland waters or during some part of its life is ordinarily found in inland waters; and
- (b) any kind or species of fish declared to be freshwater fish under section 4;

The IFA 1995 makes no direct reference to fish welfare. There are however, two provisions that could affect fish welfare:

Section 126 in the IFA 1995 contains a provision protecting freshwater fish against poisonous and chemical substances with several exemptions i.e.

- (1) A person must not put, or allow to flow, into any inland waters containing fish any liquid, gaseous or solid matter which is likely to be poisonous or injurious to fish, the spawning grounds of fish or the food of fish.
- (2) Subsection (1) does not apply –
  - (b) to any works involving rock, soil, sand, gravel, shingle, mud or muddy water carried out by the Crown, a council or the Tasmanian Ports Corporation Pty. Ltd. (ACN 114 161 938) in–
    - (i) constructing a road, bridge, ford, dam or channel; or
    - (ii) improving a river or harbour; or
    - (iii) laying an underwater pipeline or cable; or
    - (iv) reclaiming land; or
  - (c) to the discharge of sewage undertaken under an Act; or
  - (d) to anything authorised under the *Mineral Resources Development Act 1995*; or
  - (e) in relation to a registered private fishery; or
  - (f) in relation to a licensed fish farm.

- (3) A person, without the consent of the Director, must not put into any inland waters any fertiliser or any other chemical substance.

Section 138 in the IFA 1995 contains a provision protecting freshwater fish from marking, including the prohibition of mutilating a fish i.e.

(1) In this section, a person marks a live freshwater fish if he or she –

- (a) affixes an identification mark or tag to the fish; or
- (b) removes a fin from the fish; or
- (c) mutilates the fish; or
- (d) marks the fish in any other manner.

(1A) A person must not mark a live freshwater fish except where that person holds a fish farm licence or operates a registered private fishery and –

- (a) marks the fish in accordance with the licence or registration; or
- (b) marks that fish as directed by the Director.

(2) A person must not mark any salmon or other declared fish in a manner likely to deceive any person into believing that the fish is properly marked.

(3) A person must not have possession of any salmon or other declared fish marked in a manner likely to deceive any person into whose possession the fish may subsequently come that the fish has been properly marked.

(4) It is a defence in proceedings for an offence under subsection (3) for a person to prove that he or she reasonably believed the salmon or declared fish was properly marked.

#### 4.5.4.1. Summary from the *Living Marine Resources Management Act 1995* and *Inland Fisheries Act 1995* as they impact the fishing sectors

##### Aquaculture

- Neither Act addresses the welfare of farmed fish directly although when fish farmers are conducting activities authorised under Fisheries legislation, they are to a certain extent protected from animal welfare prosecution. The exception is when the activity would be considered as cruelty as is described above;
- The Fisheries legislation allows for the prescription of regulations that may impact the welfare of farmed marine fish although no regulations are currently in force;
- There is a specific exemption that allows fish farm licence holders to mark fish, which includes fin removal and mutilation, as long as it is done in accordance with the licence.

##### Commercial and recreational fishing

- Neither Act addresses the welfare of caught fish directly, however there are some provisions protecting fish from certain practices;

- Fishers are prohibited from using poisons, substances rendering fish incapable of movement, shock, sound, vibrations for the purposes of taking marine fish. There is no specification against using these methods on fish that are not to be taken;
- Fishers are prohibited from removing fins or otherwise mutilating freshwater fish under section 138 of the *Inland Fisheries Act 1995*;
- There are no statutory rules or regulations based on these Acts currently in force that relate specifically to the welfare of marine or freshwater fish. Fishers must comply with several other rules and regulations, many relating to licence and gear requirements.

#### 4.5.5. Tasmania’s animal welfare guidelines

Animal Welfare Guidelines are advisory documents that are “accepted good industry practice that should be complied with”. Animal Welfare Guidelines are approved under the *Animal Welfare Act 1993* and as such have been used to determine if certain actions or inactions are a breach of animal welfare legislation. For example, the “Code of Practice for the hunting of wild fallow deer in Tasmania” contains a section with guidelines to the killing of wounded animals i.e.

*When located, wounded animals must be killed by a method that will achieve a rapid and humane death. A shot to the brain is recommended.*

There are, however, currently no Animal Welfare Guidelines directly or indirectly addressing the welfare of fish in Tasmania.

As the *Animal Welfare Act 1995* does not apply to recreationally and commercially caught fish there is no grounds to approve a similar Code of Practice for fishing.

##### 4.5.5.1. Commercial and recreational fishing

There is no prescription in Tasmanian legislation for commercial and recreational fishers or aquaculture operators to require and adhere to a code of practice. There are, however, several voluntary guides in existence.

##### Commercial fishing

The “*Tasmanian Scalefish Fishery Code of Practice 2015*” was developed by the Tasmanian seafood industry council in conjunction with the Tasmanian scalefish fishery. Section 3 of the Code, “Generic Practices and Guidelines”, contains a segment directly addressing the welfare of both target species and bycatch:

To maximise the welfare and minimise stress on fish, operators will:

- Use capture methods designed to minimise harm to target and non-target species to maximise fish welfare;
- Kill target and by-product species in a rapid and humane way;
- Return all bycatch species to the water as soon as practical.

The Code also contains a section on live fish capture. This section does not refer to the welfare of live caught fish directly, but contains several recommendations to maximise fish quality by way of reducing stress and providing a suitable environment:

To maximise fish quality fishers will:

- store fish at acceptable and suitable stocking densities;
- regularly transfer water in the storage areas, and if possible have a system of continuous circulation; and
- closely monitor holding tank temperature during warmer months and take actions to avoid temperature stress as required (e.g. chill holding tanks and/or increase circulation).

It is noted in the introduction that the Code of Practice is voluntary, and all guidelines described within hold no legislative authority.

#### Recreational fishing

The *“Recreational Sea Fishing Guide 2021-22”* is a document prepared by the Wild Fisheries Management Branch of the DPIPW. This Guide is also available in an interactive phone app version<sup>33</sup>.

In the section titled *“Responsible Fishing”*, the guide addresses fish welfare via promoting responsible marine fishing practices under the following subheadings:

- *“Increasing Fish Survival”* – the use of circle and barbless hooks is mentioned as is not leaving rods unattended. Releasing fish while still in the water is also recommended as is avoidance of barotrauma.
- *“Handling Fish”* – return of fish quickly and gently. To use landing nets with soft knot-free mesh to reduce trauma to scales, eyes, and fins. Always to handle fish with wet hands or cloth and to avoid hot surfaces. Suggests holding large fish horizontally not via jaw or gills.
- *“Retaining Fish”* – humane euthanasia of fish via spiking in the centre of the head behind the eyes immediately with a sharp instrument once caught. The page contains a link to [ikijime.com](http://ikijime.com).
- *“Setting and Pulling the Net”* – increase survival of potential bycatch by regularly checking net. It does not, however, make any mention of regularly checking net to reduce the stress on fish that have been caught.

#### 4.5.6. The humane killing of Rock Lobsters

The Department of Natural Resources and Environment Tasmania publish information on the humane killing of Rock Lobster for the recreational fishing sector<sup>34</sup>. It notes that to avoid stress and achieve the best eating qualities Rock Lobster should be humanely killed before cooking and provides the following steps to achieve this:

<sup>33</sup> Available at <https://nre.tas.gov.au/sea-fishing-aquaculture/publications-and-products/tasmanian-sea-fishing-guide-app>

<sup>34</sup> This information is available at <https://nre.tas.gov.au/sea-fishing-aquaculture/recreational-fishing/rock-lobster-and-crab/rock-lobster-fishing>

Step 1: Freezer chill Lobster in air at deep freeze temperatures of - 13°C (5°F) for approximately 30 minutes until rendered insensible.

Step 2: After chilling, the insensible crustacean should be killed immediately. This is most easily achieved by cutting through the centreline of the head and abdomen (splitting the lobster in half) or inserting a knife into the head of the animal (spiking).

Readers are then referred to the RSPCA Guidelines on the humane killing of Rock Lobster<sup>35</sup> for more information.

The *Tasmanian Inland Fishing Code 2021-22* is produced by the Inland Fisheries Service and serves as an essential guide for licensed freshwater anglers. The Code advises that illegal equipment includes “Use of electrical, electronic, sonic or ultrasonic devices capable of influencing fish movement” but does not otherwise address the welfare of fish.

The Anglers Alliance is the peak body for freshwater anglers in Tasmania<sup>36</sup>. It provides a voluntary Code of Practice for freshwater anglers on their website. The Code address key aspects of the welfare of fish under the “Respect Your Quarry” section, advising on gentle handling techniques, gear choices to minimise damage to fish, and humane killing.

#### 4.5.7. The pet trade and restaurant industry

There are no current guidelines or codes of practice that are applicable to aquatic species kept in pet shops in Tasmania.

The restaurant industry is covered under the *Animal Welfare Act 1993*, however there are no current guidelines or codes of practice which address the welfare of live aquatic species kept in these settings for human consumption.

#### 4.5.8. The future of Tasmanian animal welfare legislation

On the 9<sup>th</sup> of September 2021, Guy Barnett, the Minister for Primary Industries and Water, published a media release titled “Strengthening animal welfare laws”. The release proposes the Government will be introducing a Bill to amend the current Animal Welfare Act “to further strengthen enforcement and support the prosecution of animal welfare breaches”. There is no mention of fish welfare in the press release and the Bill has not yet been tabled so is unavailable for scrutiny at the time of this review.

The last tabled Bill relating to animal welfare was the *Animal Welfare Amendment (Reformation) Bill 2018* and there are no references to fish welfare contained therein.

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<sup>35</sup> Available at <https://kb.rspca.org.au/wp-content/uploads/2019/01/Humane-killing-of-crustaceans-for-human-consumption-%E2%80%93-RSPCA-Information-Paper-May-2018.pdf>

<sup>36</sup> Available at <https://www.anglersalliance.org.au/>

**Table 2 - Regulations ("statutory rules") made under the *Living Marine Resources Act 1995***

*Fisheries (Abalone) Amendment Rules 2019*  
*Fisheries (Abalone) Rules 2017*  
*Fisheries (Commercial Dive) Rules 2021*  
*Fisheries (General and Fees) Amendment Regulations 2017*  
*Fisheries (General and Fees) Amendment Regulations 2018*  
*Fisheries (General and Fees) Amendment Regulations 2019*  
*Fisheries (General and Fees) Amendment Regulations (No. 4)*  
*Fisheries (General and Fees) Regulations 2016*  
*Fisheries (Giant Crab) Rules 2013*  
*Fisheries (Mackerel) Rules 2019*  
*Fisheries (Marine Plant) Rules 2017*  
*Fisheries (Penalties) Regulations 2021*  
*Fisheries (Processing and Handling) Amendment Rules 2020*  
*Fisheries (Processing and Handling) Rules 2021*  
*Fisheries (Research Area) Order 1996*  
*Fisheries (Rock Lobster) Amendment Rules 2017*  
*Fisheries (Rock Lobster) Amendment Rules 2019*  
*Fisheries (Rock Lobster) Rules 2011*  
*Fisheries Rules 2019*  
*Fisheries (Scalefish) Rules 2015*  
*Fisheries (Scallop) Rules 2020*  
*Fisheries (Shellfish) Rules 2017*



**Table 3 - Regulations ("Statutory rules") made under the *Inland Fisheries Act 1995***

*Inland Fisheries Amendment Regulations 2020*  
*Inland Fisheries (Applicable Fish) Order 1996*  
*Inland Fisheries (Controlled Fish) Order 2015*  
*Inland Fisheries (Declared Fish) Order 1996*  
*Inland Fisheries (Declared Freshwater Fish) Order 2009*  
*Inland Fisheries (Delay or Prevention of Spread of Controlled Fish) Order 2003*  
*Inland Fisheries (Destruction of Controlled Fish) Order 1996*  
*Inland Fisheries (Districts) Order 1996*  
*Inland Fisheries (Excepted Waters) Order 1996*  
*Inland Fisheries (Inland Waters) Order 1997*  
*Inland Fisheries (Protected Fish) Order 1996*  
*Inland Fisheries (Protected Fish) Order 1997*  
*Inland Fisheries (Protected Fish) Order 2019*  
*Inland Fisheries Regulations 2019*  
*Inland Fisheries (Seasons and Waters) Amendment Order 2016*  
*Inland Fisheries (Seasons and Waters) Amendment Order 2018*  
*Inland Fisheries (Seasons and Waters) Amendment Order 2019*  
*Inland Fisheries (Seasons and Waters) Amendment Order (No. 2) 2016*  
*Inland Fisheries (Seasons and Waters) Order 1996*  
*Inland Fisheries (Seaward Limits) Order 2004*

**Table 4 - Summary of Tasmania’s animal welfare legislation as it applies to aquatic animals**

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
Tasmania	<i>Animal Welfare Act 1993</i>	<i>Animal Welfare (General) Regulations 2013</i>	Not stated	Yes. General definition includes any live vertebrate animal (so vertebrate fish included) and also includes cephalopods "class Cephalopoda") which have been prescribed in regulations.	(1) A person must not do any act, or omit to do any duty, which causes or is likely to cause unreasonable and unjustifiable pain or suffering to an animal. (2) Without limiting the generality of subsection (1) a person is guilty of an offence under that subsection if the person – (a) wounds, mutilates, tortures, overrides, overdrives, overworks, abuses, beats, torments or terrifies an animal; or (b) overloads or overcrowds an animal; or (c) drives, conveys, carries or packs an animal in a manner or position or in circumstances that subjects or subject it to unreasonable and unjustifiable pain or suffering; or (d) works, rides, drives or uses an animal when it is unfit for the purpose; or (e) has possession or custody of an animal that is confined, constrained or otherwise unable to provide for itself and fails to provide the animal with appropriate and sufficient food, drink, shelter or exercise; or (f) abandons an animal of a species usually kept in a state of confinement or for domestic purposes; or (g) has possession or custody of a sick or injured animal and fails to provide veterinary or other appropriate treatment for the animal; or (h) administers to or otherwise uses in respect of an animal an injurious drug or a toxic or noxious substance except for – (i) medical curative purposes; or (ii) scientific research purposes; or (iii) normal management procedures; or (iv) euthanasia; or (v) the purposes of controlling a List A disease as defined in the Animal Health Act 1995 ; or (vi) the purposes of controlling a pest animal in accordance with the pest register; or (i) in the course of any sport or public performance or in the training for any sport or public performance, applies or exposes an electronic device to an animal; or (j) uses a spur, or other like appliance, with sharpened rowels on an animal; or (k) does any other prescribed act.	No	Animals being used in research are not covered by welfare legislation provided research is conducted ethically and under a code of practice relating to animal research. Such a code of practice would include the NHMRC code.	Sections in welfare legislation pertaining to cruelty to animals, aggravated cruelty to animals and baiting and shooting do not apply to fish taken through fishing activities (recreational fishing, angling, commercial fishing) which are done "in a reasonable manner without causing excessive suffering".	Yes. Draft <i>Animal Welfare Amendment Bill 2022</i> currently going through consultation.

## 4.6. New South Wales government welfare legislation

### 4.6.1. The *Prevention of Cruelty to Animals Act 1979*

The *Prevention of Cruelty to Animals Act 1979* (“POCTA Act 1979”) is the primary animal welfare legislation in New South Wales concerning the welfare of animals. Secondary (subordinate) legislation concerning the welfare of animals is the *Prevention of Cruelty to Animals Regulation 2012*.

The stated **objects** of the POCTA Act 1979 are—

- a) to prevent cruelty to animals, and
- b) to promote the welfare of animals by requiring a person in charge of an animal—
  - i. to provide care for the animal, and
  - ii. to treat the animal in a humane manner, and
  - iii. to ensure the welfare of the animal, and
- c) to promote the welfare of dogs and cats by requiring information about them to be provided when they are advertised for sale.

#### 4.6.1.1. Definition of the term “animal” in the *Prevention of Cruelty to Animals Act 1979*

While the POCTA Act 1979 concerns the welfare of animals in New South Wales and protecting animal welfare, it only applies to animals that fall within the definition of “animal” within this Act. If a species is not contained within the definition of an animal, then it is not protected under the POCTA Act 1979.

Given this, the general definition of “animal”, as it appears in Part 1, Section 4 of the POCTA Act 1979 is as follows:

- 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.

Hence all fish are classed as an animal under the *POCTA Act 1979*. Crustaceans are also defined as an animal, but only when they are at a building or place where food is prepared or offered for consumption.

#### 4.6.1.2. Definition of act of cruelty and aggravated cruelty to animals in the *Prevention of Cruelty to Animals Act 1979*

The POCTA Act 1979 provides the following with respect to an act of cruelty and an act of aggravated cruelty to animals:

In Section 4(2) –

For the purposes of this Act, a reference to an **act of cruelty** committed upon an animal includes a reference to any act or omission as a consequence of which the animal is unreasonably, unnecessarily or unjustifiably—

- a) beaten, kicked, killed, wounded, pinioned, mutilated, maimed, abused, tormented, tortured, terrified or infuriated,
- b) over-loaded, over-worked, over-driven, over-ridden or over-used,
- c) exposed to excessive heat or excessive cold, or
- d) inflicted with pain.

**In Section 4(3) -:**

For the purposes of this Act, a person commits an **act of aggravated cruelty** upon an animal if the person commits an act of cruelty upon the animal or (being the person in charge of the animal) contravenes section 5(3) in a way which results in—

- a) the death, deformity or serious disablement of the animal, or
- b) the animal being so severely injured, so diseased or in such a physical condition that it is cruel to keep it alive.

**Section 5** of the POCTA Act 1979 provides for an offence in relation to an *act of cruelty* i.e.

- 1) A person shall not commit an act of cruelty upon an animal.
- 2) A person in charge of an animal shall not authorise the commission of an act of cruelty upon the animal.
- 3) A person in charge of an animal shall not fail at any time—
  - a) to exercise reasonable care, control or supervision of an animal to prevent the commission of an act of cruelty upon the animal,
  - b) where pain is being inflicted upon the animal, to take such reasonable steps as are necessary to alleviate the pain, or
  - c) where it is necessary for the animal to be provided with veterinary treatment, whether or not over a period of time, to provide it with that treatment.

**Section 6** of the POCTA Act 1979 provides an offence in relation to an act of *aggravated cruelty* and **Section 8** provides an offence for failing to provide proper and sufficient food and shelter for an animal.

4.6.1.3. “Certain defences” under the *Prevention of Cruelty to Animals Act 1979*

The POCTA Act 1979 include provisions that function as ‘defences’ to provide certainty for lawful activities. Section 24 of the POCTA Act 1979 sets these defences as follows (Note - only defences relevant to aquatic animals are included here):

- 1) In any proceedings for an offence against this Part or the regulations in respect of an animal, the person accused of the offence is not guilty of the offence if the person satisfies the court that the act or omission in respect of which the proceedings are being taken was done, authorised to be done or omitted to be done by that person—
  - b) in the course of, and for the purpose of—
    - i. hunting, shooting, snaring, trapping, catching or capturing the animal, or

- ii. destroying the animal, or preparing the animal for destruction, for the purpose of producing food for human consumption, in a manner that inflicted no unnecessary pain upon the animal,
- c) in the course of, and for the purpose of, destroying the animal, or preparing the animal for destruction—
  - i. in accordance with the precepts of the Jewish religion or of any other religion prescribed for the purposes of this subparagraph, or
  - ii. in compliance with any duty imposed upon that person by or under this or any other Act<sup>37</sup>,
 and
- e) in the course of, and for the purpose of—
  - i. carrying out animal research, or
  - ii. supplying animals for use in connection with animal research, in accordance with the provisions of the *Animal Research Act 1985*.

Unlike in, for example, Victoria, the POCTA Act 1979 does not defer to any Fisheries legislation.

#### 4.6.2. Animals in research in New South Wales

Animals being used for research in NSW must abide by the *Animal Research Act 1985* (“ARA 1985”) and the *Animal Research Regulation 2021* (“ARR 2021”) with POCTA 1979 including specific provisions as noted in Section 4.6.1.3.

The ARA 1985 covers both the use of animals in research and supply of animals for research. Research includes activities for education and study.

All research needs to be approved by an animal ethics committee.

This legislation aims to ensure the humane, responsible, justified, and considerate use of animals. The ARA applies to all vertebrate animals, including fish. It does not apply to non-vertebrates such as crustaceans or cephalopods.

As with other states and territories, the National Health and Medical Research Council’s *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes* (2013 and updated in 2021) (“the NHMRC Code”)<sup>38</sup> is the Code of Practice prescribed under regulation (ARR 2021) in the ARA 1985. The NHMRC Code includes all vertebrates (except humans) and cephalopods. While the NHMRC Code is prescribed under the ARA, its application is only to the animals defined in the ARA which is all vertebrate animals (except humans). Thus, cephalopods are not considered under the ARA.

Research establishments are encouraged to follow the NHMRC Code with respect to cephalopods but are not currently legally required to do so.

<sup>37</sup> An example of Section 24(c) would be the destruction of an animal for biosecurity reasons pursuant to a duty under the *Biosecurity Act 2015*.

<sup>38</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

#### 4.6.2.1. Application of the *Prevention of Cruelty to Animals Act 1979*

##### Aquaculture

- Aquaculture as a distinct farming activity is not directly addressed in the POCTA Act 1979 nor is it prescribed as an “animal trade” under the POCTA Act 1979.
  - The term “animal trade” is defined in the POCTA Act 1979 as “a trade, business or profession in the course of which any animal is kept or used for a purpose prescribed for the purposes of this definition”. Animal trades are prescribed in the *Prevention of Cruelty to Animals Regulation 2012* and conditions relevant to an animal trade are also prescribed here.
  - Aquaculture or the farming of fish is not referred to in Schedule 1 (*Animal Trades and relevant Codes of Practice and Standards*) of the Regulations. Therefore, aquaculture is not a prescribed animal trade and does not have prescribed conditions or a Code/Standard under POCTA Act 1979.
- Fish are included in the definition of “animal” in the POCTA Act 1979 whether owned privately or commercially. So, although fish farming is not specifically prescribed, all offences in the POCTA Act 1979 concerning animals apply to fish;
  - It would, however, depend on the individual circumstances as to whether an offence has been committed, and whether or not a certain defence applies under section 24.
- Similarly, all offences in the POCTA Act 1979 concerning animals apply to crustaceans, when these are 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.
- With respect to the harvesting of fish, the term “harvest” or “killing” is not specifically used in Section 24 of the POCTA Act 1979 but Section 24 does refer to *destroying* an animal for the purpose of producing food for human consumption. Provided this is done in ‘*in a manner that inflicted no unnecessary pain upon the animals*’ then this provides a defence to an offence under the POCTA Act 1979.

##### Commercial Fishing

- With respect to the capturing and killing of fish, as already noted the POCTA Act 1979 does not use the term “killing” in Section 24, but Section 24(b) provides a defence to an offence for the purpose of hunting, catching or capturing an animal or for **destroying** an animal for the purpose of producing food for human consumption, again provided that this is done ‘*in a manner that inflicted no unnecessary pain upon the animals*’.

##### Recreational Fishing

- Again, with respect to the capturing and killing of fish, as already noted the POCTA Act 1979 does not use the term “killing” in Section 24, but Section 24(b) provides a defence to an offence for the purpose of hunting, catching or capturing an animal or for destroying

an animal for the purpose of producing food for human consumption, again provided that this is done *'in a manner that inflicted no unnecessary pain upon the animals'*.

#### 4.6.3. The *Fisheries Management Act 1994*

The stated **objects** of the *Fisheries Management Act 1994* ("FMA 1994") are as follows:

- 1) To conserve, develop and share the fishery resources of the State for the benefit of present and future generations.
- 2) In particular, the objects of this Act include—
  - a) to conserve fish stocks and key fish habitats, and
  - b) to conserve threatened species, populations and ecological communities of fish and marine vegetation, and
  - c) to promote ecologically sustainable development, including the conservation of biological diversity,

and, consistently with those objects—

- d) to promote viable commercial fishing and aquaculture industries, and to promote quality recreational fishing opportunities, and
- e) to appropriately share fisheries resources between the users of those resources, and
- f) to provide social and economic benefits for the wider community of New South Wales, and
- g) to recognise the spiritual, social and customary significance to Aboriginal persons of fisheries resources and to protect, and promote the continuation of, Aboriginal cultural fishing.

Hence while aquatic animal welfare is not specifically addressed, conservation of fish stocks and key fish habitats does have welfare implications.

Compared to the POCTA Act 1979, the term 'fish' is defined in the FMA 1994 rather than 'animal'. For interest, the definition of fish is:

- 1) In this Act, fish means marine, estuarine or freshwater fish or other aquatic animal life at any stage of their life history (whether alive or dead).
- 2) In this Act, fish includes—
  - (a) oysters and other aquatic molluscs, and
  - (b) crustaceans, and
  - (c) echinoderms, and
  - (d) beachworms and other aquatic polychaetes.
- 3) In this Act, fish also includes any part of a fish.
- 4) However, in this Act, fish does not include whales, mammals, reptiles, birds, amphibians or other things excluded from the definition by the regulations.

As previously noted, the POCTA Act 1979 does not defer to the FMA 1994 and as far as we are aware the FMA 1994 does not address any specific aquatic animal welfare issues.

#### 4.6.4. Humane harvesting of fish and crustaceans guide

While not prescribed under POCTA Act 1979, the Animal Welfare Advisory Council of NSW DPI produced a guide called *Humane harvesting of fish and crustaceans*<sup>39</sup>. This guide gives practical information on how to humanely kill finfish and crustaceans. For finfish it notes that:

It is important to be able to apply humane dispatching methods to any fish that are to be harvested. Percussive stunning is considered a good approach provided it is done swiftly and delivered to the correct area.

For crustaceans the following comment is provided:

In recent times ideas have changed about how to handle crustaceans in the restaurant and catering industries. Procedures causing pain or distress to crustaceans must be avoided.

Unacceptable methods of dispatching are also highlighted, such as transverse sectioning of lobsters and cutting crabs into sections before destroying the front and rear nerve centres.

#### 4.6.5. Pet trade

In NSW, if you operate or work in a pet shop, you must comply with the *Animal Welfare Code of Practice - Animals in Pet Shops*<sup>40</sup> which is prescribed as mandatory under POCTAA. The Code provides minimum Standards that must be complied with, and guidelines that are voluntary. Failure to comply with the Code is an offence and penalties apply (Clause 26 of POCTAA).

The Code applies to the welfare of fish and other vertebrate species sold as companion animals through retail trade. The Code describes special requirements for fish to ensure and promote high welfare outcomes including minimum water quality standards, actions to be taken for sick or moribund fish, ensuring the equipment (e.g. heaters) and filtration is adequate and ensuring proper nutrition. The Code also provides guidelines for fish euthanasia, tank cleaning and equipment disinfection for as effective biosecurity measures.

#### 4.6.6. New South Wales animal welfare reform

NSW has a *Draft Animal Welfare Bill 2022*. The draft Bill was produced from a welfare reform *Discussion paper*<sup>41</sup> and two rounds of public consultation held in 2021. The outcomes of the consultation and a response to each proposal in the Discussion paper are contained in the *NSW Animal Welfare Reform Consultation Outcomes*<sup>42</sup>. The NSW State Development Committee has completed

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<sup>39</sup> Available at <https://www.dpi.nsw.gov.au/animals-and-livestock/animal-welfare/animal-care-and-welfare/other/companion-animal-files/humane-harvesting-of-fish-and-crustaceans>

<sup>40</sup> Available at [https://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0012/1310421/Animal-welfare-code-of-practice-animals-in-pet-shops.pdf](https://www.dpi.nsw.gov.au/data/assets/pdf_file/0012/1310421/Animal-welfare-code-of-practice-animals-in-pet-shops.pdf)

<sup>41</sup> Available at [https://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0004/1324948/NSW-Animal-Welfare-Reform-Discussion-Paper.pdf](https://www.dpi.nsw.gov.au/data/assets/pdf_file/0004/1324948/NSW-Animal-Welfare-Reform-Discussion-Paper.pdf)

<sup>42</sup> Available at [https://www.dpi.nsw.gov.au/data/assets/pdf\\_file/0006/1381812/NSW-Animal-Welfare-Reform-Consultation-Outcomes.pdf](https://www.dpi.nsw.gov.au/data/assets/pdf_file/0006/1381812/NSW-Animal-Welfare-Reform-Consultation-Outcomes.pdf)



the review of the Draft Animal Welfare Bill 2022 and has published its interim report<sup>43</sup> on 15 June 2022.

4.6.6.1. Key reforms in the draft Bill from the current *Prevention of Cruelty to Animals Act 1979*

Update to the definition of an animal (Proposal 3 from the Discussion Paper)

The Bill has proposed that:

- (a) an animal means—
  - (i) a member of a vertebrate species including—
    - (A) an amphibian, and
    - (B) a bird, and
    - (C) a fish, and
    - (D) a mammal, other than a human, and
    - (E) a reptile, and
  - (ii) a cephalopod, and
  - (iii) a decapod crustacean, and
- (b) in relation to animal research—includes other animals or forms of animals prescribed by the regulations.

4.6.6.2. Meaning of “act of cruelty” and “act of aggravated cruelty”

**Division 2, Section 7**

- (1) An **act of cruelty** is an act or omission that results in an animal being—
  - (a) unreasonably or unnecessarily harmed, or
  - (b) unreasonably or unnecessarily killed, or
  - (c) abused, beaten, infuriated, kicked, maimed, mutilated, terrified, tormented, tortured or wounded, or
  - (d) overloaded, overworked, overdriven, overridden or overused, or
  - (e) unreasonably or unnecessarily exposed to excessive heat or excessive cold.
- (2) The following are also acts of cruelty –
  - (b) advertising, promoting or taking part in an activity in which an animal is released from confinement for the purposes of people catching, chasing, confining or shooting at the animal.

However, Subsection (2)(b) above does not apply to an activity that is constituted by the release of fish into a body of water so that the fish may be caught by recreational fishers. The specific example given here is the release of fish into a lake so that the fish may be caught as part of a fishing competition.

<sup>43</sup> Available at <https://www.parliament.nsw.gov.au/lcdocs/inquiries/2853/Report%20no.%2048%20-%20Standing%20Committee%20on%20State%20Development%20-%20Animal%20welfare%20policy%20in%20NSW%20-%20First%20report.pdf>

## Division 2, Section 8

An **act of aggravated cruelty** means an act of cruelty on the animal that results in—

- (a) the death, deformity or serious disablement of the animal, or
- (b) the animal being so diseased or severely injured, or in so poor a physical or psychological condition, that it is cruel to keep the animal alive.

Specific exemptions from the proposed *Animal Welfare Bill* (Proposal 8 from the Discussion Paper)

Section 199 of the Draft Bill provides for “exemptions, rather than defences to an offence as were found in the POCTA Act 1979.

Proposed specific exemptions in section 119 include the following:

- (1) A person’s act or omission in relation to an animal is not an offence under this Act or the regulations if the act or omission occurred—
  - (a) in the course of, and for the purpose of, performing prescribed animal husbandry in a way that inflicted no unnecessary harm on the animal, or
  - (b) in the course of, and for the purpose of—
    - (i) fishing, hunting, shooting, snaring, trapping, catching or capturing the animal in a way that inflicted no unnecessary harm on the animal, or
    - (ii) destroying the animal, or preparing the animal for destruction, for the purpose of producing food for human consumption in a way that inflicted no unnecessary harm on the animal, or
  - (c) in the course of, and for the purpose of, destroying the animal that is a pest, within the meaning of the *Biosecurity Act 2015*, in a way that—
    - (i) is reasonable having regard to the species of animal, and
    - (ii) causes no unnecessary harm to the animal, or
  - (d) in the course of, and for the purpose of, undertaking aquaculture, within the meaning of the *Fisheries Management Act 1994*, or
  - (e) in the course of, and for the purpose of—
    - i. carrying out animal research in accordance with a licence, or
    - ii. supplying animals for use in connection with animal research in accordance with a licence, or
  - (g) for the purpose of using a live fish, decapod crustacean or cephalopod as bait or as a lure to take, or attempt to take, fish, or
  - (h) in accordance with the precepts of—
    - (i) the Jewish religion, or
    - (ii) another religion prescribed by the regulations for this paragraph.

Lawful excuse

Section 120 of the Draft Bill provides a defence to the prosecution for an offence if the conduct of the person was authorised or required by or under the Draft Bill or another Act i.e.

It is a defence to the prosecution for an offence against this Act or the regulations if the person charged with the offence proves—

- (a) that the conduct of the person was authorised or required by or under—
  - i. this Act, including by a prescribed standard, or
  - ii. another Act, or
- (b) that the conduct of the person was authorised by or under a law of the Commonwealth.

An example of this would be acting under Biosecurity legislation to manage a disease.

#### Minimum Care Requirements

Importantly, the Draft Bill also proposes a new concept of Minimum Care Requirements (MCR). The Draft Bill proposes that responsible people<sup>44</sup> must ensure Minimum Care Requirements are met, as laid out in Part 3.

A failure to meet Minimum Care Requirements can result in an offence under proposed section 25 (cruelty) or section 26 (aggravated cruelty), depending on the seriousness of the outcome for the animal.

The minimum care requirements for an animal are—

- b) the animal has access to appropriate food and drink, and
- c) the animal has access to appropriate shelter, and
- d) the animal is kept in an appropriate environment, and
- e) the animal is provided with appropriate treatment for disease, illness or injury, including—
  - i. veterinary treatment being provided in a timely way when necessary, and
  - ii. preventative treatment being provided, and
- f) the animal is provided with appropriate opportunities to exercise, and
- g) the animal is provided with appropriate opportunities to display normal behaviour, and
- h) the animal is handled and transported in an appropriate way.

#### 4.6.6.3. Application of the Draft Bill as it impacts the fishing sectors:

##### Aquaculture

- Aquaculture is specifically mentioned in the Draft Bill and is given its meaning as per the *Fisheries Management Act 1994*;
- Aquaculture activities undertaken within the meaning of the *Fisheries Management Act 1994* are specifically exempt as per Section 119(1)(d).

##### Commercial Fishing

- The Draft Bill has no specific changes from POCTA Act 1979. There is still a specific exemption around fishing activities (including destroying a fish for human consumption) being exempt as long as the activity inflicted no unnecessary harm on the animal.

<sup>44</sup> The meaning of “responsible person” is defined in Section 12 of the Draft Bill.

## Recreational Fishing

- The Draft Bill has no changes from current POCTA. There is still a specific exemption around fishing activities being exempt as long as the activity inflicted no unnecessary harm on the animal;
- There is a specific exemption included in the Draft Bill (Section 119(1)(g)) for the use of a live fish, cephalopod or decapod crustacean as bait.

Table 5 - Summary of New South Wales' animal welfare legislation as it applies to aquatic animals

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
New South Wales	<i>Prevention of Cruelty to Animals Act 1979 (POCTA 1979)</i>	<i>Prevention of Cruelty to Animals Regulation 2012</i>	Not stated	Yes. Includes (1) vertebrate fish and (2) 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	For the purposes of POCTA 1979, a reference to an act of cruelty committed upon an animal includes a reference to any act or omission as a consequence of which the animal is unreasonably, unnecessarily or unjustifiably— a) Beaten, kicked, killed, wounded, pinioned, mutilated, maimed, abused, tormented, tortured, terrified or infuriated, b) Over-loaded, over-worked, over-driven, over-ridden or over-used, c) Exposed to excessive heat or excessive cold, or d) Inflicted with pain.	No	Animals being used in the course of "carrying out animal research" are covered under the <i>Animal Research Act 1995</i> . The Australia Code (NHMRC Code) is prescribed under the Animal Research Regulation 2021.	No	Yes. Draft <i>Animal Welfare Bill 2022</i> currently being reviewed.

## 4.7. Australian Capital Territory government welfare legislation

### 4.7.1. The *Animal Welfare Act 1992*

The *Animal Welfare Act 1992* (“AWA 1992”) is the primary legislation concerning the welfare of animals in the Australian Capital Territory (ACT). Secondary (subordinate) legislation concerning the welfare of animals in the ACT is the *Animal Welfare Regulations 2001*.

The stated main **objects** of the AWA 1992 are to recognise that—

- a) animals are sentient beings that are able to subjectively feel and perceive the world around them; and
- b) animals have intrinsic value and deserve to be treated with compassion and have a quality of life that reflects their intrinsic value; and
- c) people have a duty to care for the physical and mental welfare of animals.

This is to be achieved particularly by—

- a) promoting and protecting the welfare of animals; and
- b) providing for the proper and humane care, management and treatment of animals; and
- c) deterring and preventing animal cruelty and the abuse and neglect of animals; and
- d) enforcing laws about the matters mentioned in paragraphs (a), (b) and (c).

#### 4.7.1.1. The definition of the term “animal” in the *Animal Welfare Act 1992*

The AWA 1992 concerns the welfare of animals in the ACT, but this legislation only applies to animals that fall within the definition of “animal” within the AWA 1992. If a species is not contained within the definition of an animal, then it is not protected under the AWA 1992.

Given this, the definition of “animal”, as it appears in the Dictionary section of the AWA 1992 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.

Hence fish, cephalopods and live crustacean intended for human consumption are classed as an animal under the AWA 1992. As noted in Section 4.7.1, under AWA all animals as defined are considered sentient and hence fish, cephalopods and live crustacean intended for human consumption are also considered sentient under this legislation.

#### 4.7.1.2. Definition of act of cruelty and aggravated cruelty to animals in the *Animal Welfare Act 1992*

Cruelty, in relation to an animal, is defined in Section 7 of the AWA 1992 as including the following:

- (a) doing, or not doing, something to an animal that causes, or is likely to cause, injury, pain, stress or death to the animal that is unjustifiable, unnecessary or unreasonable in the circumstances;
- (b) abusing, terrifying or tormenting the animal.

A person commits an offence if the person commits an *act of cruelty* on an animal.

With respect to aggravated cruelty, a person commits an offence under the AWA of aggravated cruelty if:

- (a) the person commits an act of cruelty on an animal; and
- (b) the act causes the death or serious injury of the animal; and
- (c) the person intends to cause, or is reckless about causing, the death of, or serious injury to, the animal.

#### 4.7.1.3. Failure to provide appropriate care

Section 6B of the AWA 1992 notes that a person in charge of an animal commits an offence if the person fails to give the animal:

- (a) appropriate food; or
- (b) appropriate water; or
- (c) appropriate treatment for illness, disease or injury; or
- (d) appropriate shelter or accommodation; or
- (e) a clean and hygienic living environment; or
- (f) appropriate grooming and maintenance; or
- (g) appropriate exercise; or
- (h) appropriate opportunities to display behaviour that is normal for the animal; or
- (i) care that is appropriate for the animal's wellbeing.

The term "*appropriate*" in relation to an animal is defined under the AWA 1992 as meaning suitable for the needs of the animal having regard to the species, environment and circumstances of the animal.

The term "*treatment*" is defined as including veterinary treatment, including preventative treatment, if a reasonable person would expect veterinary treatment to be sought in the circumstances.

#### 4.7.1.4. Transport of animals

Section 15 of the AWA 1992 concerns the transport of animal. It notes that a person commits an offence if the person transports an animal in a way that causes, or is likely to cause, the death of or unnecessary injury, pain or stress to the animal.

#### 4.7.1.5. Violent animal activities

Section 17 of the AWA 1992 concerns “violent animal activities” and notes that a person commits an offence if the person takes part in a violent animal activity. However, this section does not apply to the catching of fish in a way authorised under a Commonwealth or territory law.

#### 4.7.1.6. Codes of Practice

Part 3 of the AWA 1992 concerns codes of practice. It notes that *a code of practice may deal with the following matters* which includes:

- Animal welfare in intensive industry
- Fishing
- the operation of pet shops and other businesses that buy or sell animals as pets.

Codes of practice are often recommended and prepared by the Animal Welfare Advisory Committee who has a key role in advising the Minister. Under the AWA 1992, the Minister may approve a Code of Practice relating to animal welfare and may make that Code of Practice mandatory. Before this happens, however, the Minister must be satisfied that adequate consultation has occurred.

In 1997, the “*We Fish for the Future – The National Code of Practice for Recreational and Sport Fishing*” was approved as a Code of Practice under the AWA 1992<sup>45</sup>. As far as we are aware, however, this particularly version of the National Code of Practice is no longer published.

Interestingly, the Australian Business Licence and Information Service (ABLIS), an Australian Government search tool for potential and existing business operators, indicates that fishing guides and those undertaking fishing tours and charters in the ACT must comply with the 2010 version of the National Code of Practice for Recreational and Sport Fishing, identifying the AWA 1992 as the Act under which this code is prescribed<sup>46</sup>.

#### 4.7.1.7. Research and teaching

As noted in Section 25 of the AWA 1992, a person must have a license if the person uses or breeds an animal for research or teaching. There are some exceptions which are prescribed in the *Animal Welfare Regulations 2021*, including if the animal is used for teaching purposes in a preschool or primary school.

As also prescribed under the Regulations, it is mandatory that a licensee must establish and maintain an animal ethics committee which is established in accordance with the National Health and Medical Research Council’s *Australian Code for the Care and Use of Animals for Scientific Purposes* (2013 and updated in 2021) (“NHMRC Code”)<sup>47</sup>. The constitution and functions of the animal ethics committee are prescribed as the constitution and functions set out in the NHMRC Code.

<sup>45</sup> Available at <https://www.legislation.act.gov.au/di/1997-28/>

<sup>46</sup> Further information can be found at <https://ablis.business.gov.au/service/act/recreational-and-sport-fishing-code-of-practice/3920>

<sup>47</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>



#### 4.7.2. The *Fisheries Act 2000* and *Fisheries Regulations 2001*

Aquaculture and recreational fishing are legislated for under the *Fisheries Act 2000* and *Fisheries Regulations 2001*.

In the *Fisheries Act 2000* “aquaculture” means the farming of fish or aquatic vegetation for trade, business or research; but does not include—

- i. keeping anything in a pet shop for sale or in an aquarium for exhibition) including an aquarium operated commercially); or
- ii. anything done in maintaining a collection of fish or aquatic vegetation that is not used for a commercial purpose; or
- iii. an activity prescribed by regulation.

Section 17 of the *Fisheries Act 2000* allows the Minister to declare fishing gear –

- (a) that may be used for taking fish; or
- (b) that is prohibited for taking fish.

##### 4.7.2.1. Fisheries License

Recreational fishing in the ACT does not require a fishing licence, however a commercial fishing licence is required if an individual intends to catch or take fish for commercial sale. The licence covers marine, estuarine and freshwater fish.

Under *the Fisheries Act 2000* only suitable persons can hold a fisheries licence.

A ***suitable person*** means a person who the *conservator* is satisfied is a suitable person to hold the licence.

When making a decision about the suitability (or not) of a suitable person, the conservator must consider *suitability information* about the person. This includes whether there has been any conviction of, or finding of guilt against, the person for an offence against a number of pieces of legislation. This includes under the AWA 1992.

#### 4.7.3. The *Animal Welfare (Sale of Animals in the ACT other than Stock and Commercial Scale Poultry) Mandatory Code of Practice 2021*

As noted above, under Section 23 of the AWA 1992, Codes of Practice relating to animal welfare can be approved and made mandatory by the Minister.

On August 1<sup>st</sup>, 2021, the *Animal Welfare (Sale of Animals in the ACT other than Stock and Commercial Scale Poultry) Mandatory Code of Practice 2021* (“the Code”) was approved by the Minister and commenced.

The purpose of the Code is to set out both mandatory standards and additional information to guide the care and management of animals sold in the ACT, including companion animals, produce animals and food animals, but excluding stock animals and commercial scale poultry.

The mandatory standards set out in the Code that apply to pet shops also act as conditions for pet business licences held by pet shops, where the condition is applicable to the particular business.

The definition of “animal” in this Code is the same as the definition of animal in the AWA 1992. Hence fish, cephalopods and crustaceans destined for human consumption are included in this Code.

The Code also defines the term “food animal” as meaning any animal, other than a stock animal or commercial scale poultry, that is being offered for sale for the purpose of slaughter for consumption.

Mandatory standards are minimum standards set out for the appropriate care and management of animals for sale. Standards listed as additional information in the Code are not mandatory.

Mandatory elements in the Code are identified by their inclusion as bolded numbered provisions, each of which is preceded by the heading ‘Mandatory standards under section 23 of the Act’.

Non-compliance with any relevant mandatory standards can constitute an offence under the Act.

Many of the Mandatory Standards in the Code are relevant to fish, cephalopods and crustaceans because they are defined as animals. These include:

**2.2 At any time when open for business, at least one staff member on duty must be experienced and knowledgeable in the care of the species of animals kept. In this provision, ‘staff member’ includes the proprietor.**

**2.5 Commercial sellers must have a nominated veterinarian who can be called upon in an emergency or for advice. The seller must be able to demonstrate that an informal or formal arrangement for veterinary care with the nominated veterinarian is established and veterinary care must be sought promptly as and when required.**

There are two specific sections that specifically address fish and crustaceans in the Code. They are Section 6 – Animals sold for consumption and Section 7 – Fish and Crustaceans.

#### 4.7.3.1. Section 6-Animals sold for consumption

Under Section 6 of the Code, Animals sold for consumption, the following provisions are provided:

Animals such as crustaceans, fish and chickens sold for consumption as food must be killed using the most humane techniques currently known and by a person skilled in these techniques.<sup>48</sup> This section deals only with how the animals are killed; the keeping of the animals up to the point where they are killed must be humane and in accordance with the other provisions of this Code. Some additional guidance is provided on keeping crustaceans, as there is currently no ACT code of practice relating to the care of crustaceans.

**6.1 Where an animal is killed prior to sale for consumption, the animal must be killed using the most humane techniques currently known and by a person skilled in these techniques.<sup>48</sup>**

**6.2 Where an animal is sold alive for human consumption, the seller must provide advice to the buyer on the most humane methods of killing the animal.<sup>49</sup>**

The sellers of a crustacean, fish or other food animal intended for human consumption should either kill the animal using these techniques before passing the carcass to the buyer or advise the buyer of these techniques and of the requirement to use them in order to avoid breaching the Act.

Crustaceans and fish offered for sale as food must be given proper care as follows:

<sup>48</sup> This standard is bolded in the Code.

<sup>49</sup> This standard is bolded in the Code.

- crustaceans for sale should not be bound to restrict the use of their legs, however, claws on crustaceans may be restricted to prevent injuries to others;
- crustaceans on sale for human consumption, unless free moving within a tank, should be placed in a slurry of ice and water (or equivalent refrigeration achieved by other means) to ensure that the animal remains in torpor; the ice/water slurry should be constantly monitored and topped up; and
- holding facilities should be appropriate for the species and the size of animal(s); stocking densities should be appropriate to the species, size and holding facility (including tanks for fish and crustaceans).

#### 4.7.3.2. Section 7- Fish and crustaceans

Under Section 7 - Fish and crustaceans of the Code, the following provisions are provided<sup>50</sup>:

- 7.1 Twenty-five per cent of the water in the aquaria must be replaced at least fortnightly or water maintained to a high quality through filtration or other technologies. Water chemistry must be checked at least weekly and appropriate measures taken to correct any imbalance.**
- 7.2 Tanks must be sheltered from excessive amounts of direct sunlight. Lids must be fitted, or appropriate measures taken to prevent fish and crustaceans from escaping tanks.**
- 7.3 Lights must be dimmed for at least eight hours a day. Filtration equipment must be working at all times.**
- 7.4 All nets must be disinfected after use. Treatment of sick or injured animals must be by medications and other preparations appropriate for aquarium use. Antibiotics must only be used on veterinary advice and according to directions.**
- 7.5 When fish are to be captured, soft wet nets must be used. Live fish must not be touched with dry hands or a dry cloth.**
- 7.6 Containers or bags for transportation of fish must be watertight and used in such a way as to ensure maximum contact between air and the water surface.**
- 7.7 If fish are to be in plastic bags for more than one hour, including during transportation, the air in the bag must be pure oxygen. Bags or containers must be transported in insulated containers if significant chilling or warming is possible.**

#### Tanks

Tank size should be in accordance with individual animals and the needs of the species and stocking rates should take account of water quality factors.

The temperature of the water should be appropriate to the requirements of the species.

All electrical equipment such as lights and heater thermostats should be checked regularly for correct performance. Lights should not be left on for more than 16 hours. At least 8 hours of darkness should be provided in each 24-hour period.

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<sup>50</sup> These standards are bolded in the Code.

Table 6 - Summary of Australian Capital Territory’s animal welfare legislation as it applies to aquatic animals

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
Australian Capital Territory	<i>Animal Welfare Act 1992</i>	<i>Animal Welfare Regulations 2001</i>	Yes. Recognises (and states in objects of Act) that animals are sentient beings	Yes. (a) a live member of a vertebrate species, including— i) a bird; and ii) a fish; and iii) a mammal (other than a human being); and iv) a reptile; or (b) a live cephalopod; or (c) a live crustacean intended for human consumption.	Cruelty, in relation to an animal, is defined as including the following: (a) doing, or not doing, something to an animal that causes, or is likely to cause, injury, pain, stress or death to the animal that is unjustifiable, unnecessary or unreasonable in the circumstances; (b) abusing, terrifying or tormenting the animal.	Yes. "We Fish for the Future – The National Code of Practice for Recreational and Sport Fishing" prescribed in 1997. <i>Animal Welfare (Sale of Animals in the ACT other than Stock and Commercial Scale Poultry) Mandatory Code of Practice 2021</i> prescribed in 2021	Persons using animals for research and teaching must be licensed and licensee must establish an animal ethics committee with functions as per the Australian Code. (NHMRC Code)	No	No.

## 4.8. South Australian government welfare legislation

### 4.8.1. The *Animal Welfare Act 1985*

The *Animal Welfare Act 1985* (“AWA 1985”) is the primary legislation in South Australia concerning the welfare of animals. The secondary (subordinate) legislation concerning the welfare of animals in South Australia are the *Animal Welfare Regulations 2012*.

The AWA 1985 is for the promotion of animal welfare and for “other purposes”.

#### 4.8.1.1. Definition of the term “animal” in the *Animal Welfare Act 1985*

The AWA 1985 concerns the welfare of animals in South Australia, but this legislation only applies to animals that fall within the definition of “animal” within the AWA 1985. If a species is not contained within the definition of an animal, then it is not protected under the AWA 1985.

Given this, the definition of “animal”, as it appears in Part 1, Section 3 of the AWA 1985 means:

A member of any species of the sub-phylum vertebrata except –

- (a) a human being; or
- (b) a fish,

and includes any prescribed animal.

The AWA 1985 therefore specifically excludes vertebrate fish from the definition of “animal” and hence fish are not protected under this Act. Invertebrates are in general also excluded so cephalopods and crustaceans, for example, are also not protected under the AWA 1985.

As far as we are aware, there are no aquatic species that have been prescribed as animals under this legislation.

The *Animal Welfare Regulations 2012* which support the AWA 1985 do not mention fish, crustaceans or cephalopods.

#### 4.8.1.2. The *Animal Welfare Act 1985* Part 4 – Teaching and research involving animals

Part 4 of the AWA 1985 is *Teaching and Research Involving Animals*.

As noted, as the AWA 1985 excludes fish as well as the invertebrate groups (which includes cephalopods and crustaceans) from its definition of “animal”, these species are not protected under Part 4.

As also noted in the AWA 1985 a person is not allowed to use an animal for the purposes of:

- a) Teaching any science
- b) Research or experimentation

Without a licence under Part 4.

Therefore, any person who intends to use animals in research or teaching must hold a licence issued by the Minister for Climate, Environment and Water (or be acting on the authority of a licence

holder)<sup>51</sup>. Each licence specifies an Animal Ethics Committee that must approve the proposed work before it commences.

On granting a licence, the Minister may specify that the license holder comply with conditions which include complying with the provisions of the National Health and Medical Research Council's *Australian Code for the Care and Use of Animals for Scientific Purposes* (2013 and updated in 2021) ("NHMRC Code")<sup>52</sup>. The definition of animal under this code includes:

any live non-human vertebrate (that is, fish, amphibians, reptiles, birds and mammals encompassing domestic animals, purpose-bred animals, livestock, wildlife) and cephalopods.

The Minister may also require the license holder to establish an animal ethics committee, who in part must ensure that all research and teaching using animals is conducted in compliance with the Code.

However, the definition of "animal" in AWA 1985 does not include fish so it is not certain whether researchers working on just fish species are required in South Australia to have a license under the AWA 1985. They may of course be required to adhere to the NHMRC Code due to this being, for example, a requirement of any animal research done in their institution.

At the time of publishing this report, it had still not been possible to confirm what exactly were the requirements regarding fish that were being used for research or teaching in South Australia.

#### 4.8.1.3. Application of the *Animal Welfare Act 1985*

The Government of South Australia Department for Environment and Water notes on-line that animals in South Australia must be treated in accordance with the AWA 1985 and the *Animal Welfare Regulations 2012*<sup>53</sup>. It also notes that the AWA 1985 applies equally to all animals regardless of their value or status but does not make any mention of the fact that the use of the term "animals" here is not inclusive of fish or aquatic invertebrates. It does, however, note that compliance with the requirements of the AWA 1985 in South Australia is mandatory, Again, it does not mention that this does not apply to any activities involving vertebrate fish or aquatic invertebrates.

The AWA 1985 therefore does not apply on a day to day level to aquaculturalists, commercial wild capture or recreational capture fishing activities as the definition of animal under AWA 1985 does not include fish or invertebrates including crustaceans or cephalopods being farmed or caught by these groups.

We are unaware of any move to review South Australian animal welfare legislation as is happening currently in several states and territories.

#### 4.8.2. The *Fisheries Management Act 2007*

As vertebrate and invertebrate aquatic animals are not covered under the AWA 1985, it is understandable that there is no reference to any Fisheries legislation in the AWA 1985, as occurs in some other jurisdictions in Australia.

<sup>51</sup> As noted at <https://www.environment.sa.gov.au/licences-and-permits/animals-in-research-and-teaching>

<sup>52</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

<sup>53</sup> Available at <https://www.environment.sa.gov.au/topics/plants-and-animals/animal-welfare/animal-welfare-legislation>

The *Fisheries Management Act 2007* (“FMA 2007”) is the current legislation which covers commercial fishing and recreational fishing in South Australia. The FMA 2007 repealed the *Fisheries Act 1982*. Aquaculture is covered by the *Aquaculture Act 2001*.

The definition of a fish in the FMA 2007 is an aquatic animal other than:

- (a) an aquatic bird, an aquatic mammal, a reptile or an amphibian; or
- (b) an aquatic animal of a kind declared by the regulations to be excluded from the ambit of this definition;

As such the FMA 2007 covers fish and aquatic invertebrates (including crustaceans and cephalopods) unless they are specifically excluded in the regulations.

Section 71 of the FMA 2007 prohibits injuring, damage or otherwise harm aquatic mammals or aquatic resources of a protected species. As far as we are aware the FMA 2007 makes no other reference, directly or indirectly, to the welfare of aquatic species.

There are multiple Fisheries Management Regulations<sup>54</sup> none of which as far as we are aware make any reference to welfare of fish.

#### 4.8.3. The *Aquaculture Act 2001*

The *Aquaculture Act 2001* covers aquaculture in South Australia. The *Aquaculture Regulations 2016* repealed the previous *Aquaculture Regulations 2002* and *2005*. The *Aquaculture Regulations 2016* have provisions to ensure mortalities are reported. There are also provisions for off-label use of veterinary medicines, both of which concern fish welfare.

Aquaculture zoning and licenses have biomass restrictions and considerations of carrying capacity to ensure environmental sustainability and fish welfare (S. Roberts, PIRSA, personal communication). The “Zoning in: South Australian Aquaculture Report 2021” has further information on this matter<sup>55</sup>.

#### 4.8.4. Recreational fishing in South Australia

The Department of Primary Industries and Regions (PIRSA) is responsible for the administration of the *Fisheries Management Act 2007*. As such it regulates recreational fishing in SA and has various webpages available to inform fishers on responsible practices including handling (see below). A fishing license is not a legal requirement for either saltwater or freshwater recreational fishing in SA.

The Minister’s Recreational Fishing Advisory Council (MRFAC) exists to represent recreational fishers in South Australia. In June 2021, the MRFAC released the *Recreational Fishing Strategy for South Australia 2021-2024*, which “lays the foundation for a prosperous future for the South Australian recreational fishing sector”<sup>56</sup>. There is no specific mention of fish welfare other than where is stated that it will work with recreational fishing groups to increase fishing skills and best practise handling.

<sup>54</sup> Available at <https://www.legislation.sa.gov.au/lz/path=%2FC%2FA%2FFisheries%20Management%20Act%202007>

<sup>55</sup> Available at [https://www.pir.sa.gov.au/\\_data/assets/pdf\\_file/0017/400274/zoning-in-south-australian-aquaculture-report-2021.pdf](https://www.pir.sa.gov.au/_data/assets/pdf_file/0017/400274/zoning-in-south-australian-aquaculture-report-2021.pdf)

<sup>56</sup> Available at <https://www.mrfac.org.au/about-mrfac>

PIRSA also have available on line two information pages. The first is titled Handling your Catch<sup>57</sup> while the second is titled Sharks and titled Recreational Fishing for Sharks and Rays<sup>58</sup>. These information pages contain a number of welfare points with regards to handling and humane euthanasia.

#### 4.8.5. Humane killing of animals in South Australia

As noted, under welfare legislation there is little if any protection afforded to the welfare of fish or aquatic invertebrates in South Australia.

In contrast, it appears that there is a considerable amount afforded to the protection of terrestrial animals in South Australia and in particular to the humane killing of animals, including wild animals.

The *National Parks and Wildlife Act 1972* (“NPWA 1972”) provides the legislative framework for dealing with native fauna in South Australia. The South Australian Government’s Department of Environment and Water administers several codes of practice which lay out minimum standards of ethical and humane behaviour when dealing with fauna. Native mammals, reptiles, most native birds and some frogs are protected in South Australia. Compliance with these codes is mandated through provision of the NPWA 1972.

The following Codes of practice for the humane destruction of native wildlife apply in South Australia<sup>59</sup>:

- Code of practice for the humane destruction of birds by shooting in South Australia
- Code of practice for the humane destruction of wombats by shooting in South Australia
- Code of practice for the humane destruction of common brushtail possums by shooting in South Australia
- Code of practice for the humane destruction of flocking birds by trapping and carbon dioxide narcosis in South Australia
- National Code of Practice for the Humane Shooting of Kangaroos and Wallabies for Commercial Purposes (kangaroo industry).

It is noted that the documents specify the most appropriate, humane method of destroying native animals to minimise pain and suffering. There is no mention of vertebrate fish or aquatic invertebrates such as cephalopods in any of these codes.

##### 4.8.5.1. Enforcement of the *Animal Welfare Act 1985* by RSPCA officers

Under Section 13 of the AWA 1985, anyone who ill-treats an animal is guilty of an offence. The Act lists the types of actions which constitute ill-treatment. The AWA 1985 is enforced by the RSPCA South Australia and in some cases the police. There are a number of other authorised persons such as

<sup>57</sup> Available at [https://www.pir.sa.gov.au/fishing/recreational\\_fishing/handling\\_your\\_catch](https://www.pir.sa.gov.au/fishing/recreational_fishing/handling_your_catch)

<sup>58</sup> Available at [https://www.pir.sa.gov.au/fishing/sharks/recreational\\_fishing\\_for\\_sharks\\_and\\_rays](https://www.pir.sa.gov.au/fishing/sharks/recreational_fishing_for_sharks_and_rays)

<sup>59</sup> Available at <https://www.environment.sa.gov.au/topics/plants-and-animals/animal-welfare/codes-of-practice/codes-of-practice-humane-destruction-wildlife>



Environment Department wardens, livestock animal health officers, biosecurity officers who are authorised by the Minister but do not specifically investigate Cruelty under normal circumstances.

The definition of animal within the AWA 1985 specifically excludes fish as noted above.

RSPCA South Australia Inspectorate do not investigate cruelty reports relating to fish and currently there is no formal referral mechanism for fish cruelty complaints in SA. (Dr. R Eyers, RSPCA, personal communication).

If the complaint, however, relates to the aquaculture industry, the RSPCA Chief inspector would refer it to PIRSA. In contrast, if the complaint related to sharks and stingrays that were noted to have, for example, their fins cut off whilst still alive or to ornamental fish in shops/private collections that were not being adequately cared for then the RSPCA Chief inspector would refer the matter to South Australia's Department of Environment and Water (Dr. R. Eyers, RSPCA, personal communication).

#### 4.8.6. Fish sold for human consumption in South Australia

The *Public Health Act 2011* addresses fish being sold for human consumption. It is primarily concerned with the spread of disease from fish to humans rather than the welfare of fish destined for human consumption.

The *Food Act 2001* defines fish and crustaceans as “*animals*” but deals with their suitability and safety as animal products for human consumption. “*The Food Act does pick up the requirements of the Australia New Zealand Food Standards Code (The Code), which does have a specific Standard for seafood*” (V. McEvoy, SA Health, *pers. comm.*, July 2021).

Standard 4.2.1 of The Code defines seafood as all aquatic vertebrates and aquatic invertebrates intended for human consumption, however, excludes amphibians, mammals, reptiles, and aquatic plants. It contains a clause relating to the appropriate storage of live seafood which is further explained in the Food Standards Australia New Zealand guideline *Safe Seafood Australia*<sup>60</sup> on page 47 i.e.

*Safe Seafood Australia* (page 53) is designed to maintain the safety and suitability of the seafood as food, by keeping the seafood in an environment that is appropriate for its welfare:

Live seafood needs to be in conditions that will minimise stress, for example, tank water should be changed frequently to prevent the accumulation of metabolites and a drop in oxygen levels. Bright lights may also stress fish. Salinity is important for some species, for example, rapid changes in salinity should be avoided for Barramundi and Silver Perch to avoid stress. Conditions should not result in tissue damage, such as bruising, to such an extent that the fish is unsuitable. For example, overcrowding of finfish in tanks should be avoided.

Signs of unsatisfactory conditions in holding tanks for live fish include cloudy water, foam on the top of water, and slime and algal growth on the tank surfaces.

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<sup>60</sup> Available at

[https://www.foodstandards.gov.au/code/primaryproduction/seafood/documents/Safe\\_Seafood\\_Aust\\_with\\_cover.pdf](https://www.foodstandards.gov.au/code/primaryproduction/seafood/documents/Safe_Seafood_Aust_with_cover.pdf)

#### 4.8.7. The pet trade

As the AWA 1985 does not define fish, crustaceans, or cephalopods as “*animals*”, the *South Australian Standards and Guidelines for Breeding and Trading Companion Animals*<sup>61</sup> (2017) does not address these species in its stipulations.

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<sup>61</sup> Available at <https://cdn.environment.sa.gov.au/environment/docs/standards-and-guidelines-for-breeding-and-trading-of-companion-animals-gen.pdf>

**Table 7- Summary of South Australia's animal welfare legislation as it applies to aquatic animals**

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
South Australia	<i>Animal Welfare Act 1985</i>	<i>Animal Welfare Regulations 2012</i>	Not stated	No	Not applicable	No	Any person who intends to use animal in research or teaching must be licensed under the Act. However, it is not certain whether this applies to animals not included under the definition of animal e.g. fish.	Not applicable as aquatic animals not included in animal definition	No

## 4.9. Western Australian government welfare legislation

### 4.9.1. The *Fish Resources Management Act 1994*

In Western Australia (“WA”), the primary legislation that is responsible for **fish**<sup>62</sup> welfare is the *Fish Resources Management Act 1994* (“FRMA 1994”). The FRMA 1994 is scheduled to be replaced by the *Aquatic Resources Management Act 2016* (“ARMA 2016”) and the powers relating to fish welfare will be transitioned to the new Act<sup>63</sup>.

The *Animal Welfare Act 2002* (“AWA 2002”) and its accompanying regulations provide the legal framework for ensuring that “animals” in Western Australia have appropriate standards of care. However, the definition of “animal” under the AWA 2002 specifically excludes “fish” and all this term covers as defined in the FRMA 1994 except for Part 2 of the AWA 2002 which covers the use of animals for scientific purposes. It is likely that the definition of “animal” for this section will include vertebrate fish and cephalopods as discussed below.

The FRMA 1994 and the ARMA 2016 are administered by the Department of Primary Industries and Regional Development (DPIRD). Under these Acts, the WA Minister of Fisheries<sup>62</sup> has the power to prescribe regulations to prevent cruelty to fish and to provide for their health, safety, and welfare through development of codes of practice safeguarding the use, care, welfare, safety, and health of aquatic organisms. DPIRD is currently developing such regulations relating to fish welfare which are anticipated to be introduced as part of a new regulatory framework to support the implementation of the ARMA 2016.

DPIRD is an amalgamation of a number of previous WA Departments, including Agriculture and Food and Fisheries. Hence those responsible for the welfare of animals (under the AWA 2002) and those responsible for the welfare of fish (under the FRMA 1994 and ARMA 2016) now reside within the same department.

#### 4.9.1.1. Application of the *Fish Resources Management Act 1994* and *Aquatic Resources Management Act 2016* to the commercial sector

Currently, the welfare of fish (including vertebrate fish and invertebrates including prawns and lobsters) that are farmed and fish caught commercially or recreationally in WA are the responsibility of DPIRD through its FRMA 1994 and ARMA 2016 legislation.

However, there are currently no specific regulations regarding what constitutes acceptable welfare for fish nor are there specific regulations that define what would constitute cruelty towards fish in WA.

As previously mentioned, such regulations are currently being developed.

<sup>62</sup> The FRMA 1994 defines “Fish” as an aquatic organism of any species (whether alive or dead) and includes — (a) the eggs, spat, spawn, seeds, spores, fry, larva or other source of reproduction or offspring of an aquatic organism; and (b) a part only of an aquatic organism (including the shell or tail); and (c) live rock and live sand, but does not include aquatic mammals, aquatic reptiles, aquatic birds, amphibians or pearl oysters.

<sup>63</sup> Final amendments to the ARMA 2016 were passed on 19 August 2021

#### 4.9.2. Teaching and research involving animals

As mentioned above, it is likely that the definition of “animal” in Part 2 of the AWA 2002 which concerns the use of animals for scientific purposes will be expanded to include vertebrate fish and cephalopods, as was a recommendation of the Independent Review of the AWA 2002<sup>64</sup>. Hence any fish or cephalopods being used for research or teaching in Western Australia would need to be licensed under the AWA 2002 and would need to comply with what is termed in the AWA 2002 as the “scientific use code”. The “scientific use code” is prescribed under the Western Australian *Animal Welfare (Scientific Purposes) Regulations 2003* as being the latest edition of the National Health and Medical Research Council’s *Australian Code for the Care and Use of Animals for Scientific Purposes* (2013 and updated in 2021) (“NHMRC Code”)<sup>65</sup>.

#### 4.9.3. Recreational fishing

There are also a number of state and national guidelines and codes of practice relating to fish welfare which have been adopted by the WA commercial and recreational fishing sectors, the aquaculture sectors, and the live seafood and ornamental trade sectors. None of these have been adopted under legislation at this stage.

This includes DPIRDs *Code of Practice for Recreational Fishers in WA 2008*<sup>66</sup> which states that the general aims and principles behind the code are:

*“To prevent cruelty and effectively manage the welfare of fish and other aquatic organisms”.*

The Code encourages anglers to minimise stress and trauma to aquatic animals by:

- *Using appropriate legal gear.*
- *Landing the catch as quickly as possible.*
- *Handling aquatic animals appropriately.*
- *Applying humane methods of killing to aquatic animals caught for food.*
- *Applying ‘best practice’ techniques to improve the survival of fish being released.*
- *Ensuring that harm to other aquatic animals (for example seabirds, turtles and seals) is minimised as a result of fishing activities.*
- *Disposing of unwanted fishing gear and litter onshore, in a proper disposal facility.*

#### 4.9.4. Enforcement of fish welfare

Currently there are no regulations in place to enforce at this time, but once regulations are in place, Fisheries Officers (FRMA) or Compliance Officers (once ARMA is implemented) will be responsible for enforcing them. (J. Kennedy, WA Department of Primary Industries and Regional Development, personal communication).

<sup>64</sup> The WA government response to this Report is available at [https://www.agric.wa.gov.au/sites/gateway/files/AWA%20Review%20Government%20Response%20-%20final%20version\\_0.pdf](https://www.agric.wa.gov.au/sites/gateway/files/AWA%20Review%20Government%20Response%20-%20final%20version_0.pdf)

<sup>65</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

<sup>66</sup> Available at [http://www.fish.wa.gov.au/Documents/occasional\\_publications/fop051.pdf](http://www.fish.wa.gov.au/Documents/occasional_publications/fop051.pdf)

#### 4.9.5. Fish sold for human consumption in Western Australia

Previously the DPIRD has developed *Guidelines for Restaurant Owners who hold “live seafood” in Aquaria* which provide general guidelines for live seafood, aquarium operations and the humane killing of live seafood. The guidelines stated 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”*.

As far as we are aware, these guidelines are no longer available.

#### 4.9.6. The pet trade

The welfare of fish kept in aquariums as pets is the responsibility of the FMRA 1994 and AMRA 2016.

**Table 8- Summary of Western Australia's animal welfare legislation as it applies to aquatic animals**

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
Western Australia	The <i>Animal Welfare Act 2002 (AWA 2002)</i> for animals in general but this does not include aquatic animals. For fish and aquatic animals, welfare will be included in the <i>Fish Resources Management Act 1994 (FRMA 1994)</i> which is to be replaced by <i>Aquatic Resources Management Act</i>	None specific to fish	Not stated	The FRMA 1994 defines "Fish" as an aquatic organism of any species (whether alive or dead) and includes – (a) the eggs, spat, spawn, seeds, spores, fry, larva or other source of reproduction or offspring of an aquatic organism; and (b) a part only of an aquatic organism (including the shell or tail); and (c) live rock and live sand, but does not include aquatic mammals, aquatic reptiles, aquatic birds, amphibians or pearl oysters.	Currently no regulations regarding what constitutes acceptable welfare for fish and none that specify what would constitute cruelty towards fish.	No	Likely that the definition of "animal" under the <i>AWA 2002</i> will be expanded to include vertebrate fish and cephalopods but only for animals being used for research and scientific purposes.	Aquatic animal welfare will sit in Fisheries legislation.	Regulation are being drafted but uncertain of when these will come into effect.

## 4.10. Queensland government welfare legislation

### 4.10.1. The *Animal Care and Protection Act 2001*

The *Animal Care and Protection Act 2001* (“ACPA 2001”) is the primary legislation in Queensland concerning the welfare of animals. The secondary (subordinate) legislation concerning the welfare of animals in Queensland is the *Animal Care and Protection Regulation 2012*.

The stated **purpose** of the ACPA 2001 is to:

- (a) promote the responsible care and use of animals;
- (b) provide standards for the care and use of animals that—
  - (i) achieve a reasonable balance between the welfare of animals and the interests of persons whose livelihood is dependent on animals; and
  - (ii) allow for the effect of advancements in scientific knowledge about animal biology and changes in community expectations about practices involving animals;
- (c) protect animals from unjustifiable, unnecessary or unreasonable pain;
- (d) ensure the use of animals for scientific purposes is accountable, open and responsible.

#### 4.10.1.1. Definition of the term “animal” in the *Animal Care and Protection Act 2001*

While the ACPA 2001 concerns the welfare of animals in Queensland and protecting animal welfare, it only applies to animals that fall within the definition of “animal” within this Act. If a species is not contained within the definition of an animal, then it is not protected under the ACPA 2001.

Given this, the general definition of “animal”, as it appears in Chapter 1, Part 3, Division 2 of the ACPA 2001 is as follows:

- (1) An animal is any of the following—
  - (a) a live member of a vertebrate animal taxon;
    - Examples—
    - an amphibian
    - a bird
    - a fish<sup>67</sup>
    - a mammal, other than a human being
    - a reptile
  - (b) a live pre-natal or pre-hatched creature as follows if it is in the last half of gestation or development—
    - (i) a mammalian or reptilian foetus;
    - (ii) an avian, mammalian or reptilian pre-hatched young;
  - (c) a live marsupial young;

<sup>67</sup> It must be noted that while the broad definition of animal under ACPA does include vertebrate fish, it specifically excludes the eggs, spat or spawn of a fish.



- (d) a live invertebrate creature of a species, or a stage of the life cycle of a species, from the class Cephalopoda or Malacostraca prescribed under a regulation for this paragraph.

Hence species from the class Cephalopoda or Malacostraca are only classed as an animal under the ACPA 2001 if they are ‘prescribed under a regulation’. Species from the class Malacostraca are not prescribed under a regulation, therefore under the ACPA 2001 they are not classed as an animal. However, currently all species from the class Cephalopoda are prescribed under the *Animal Care and Protection Regulation 2012* Section 6 and hence are classed as an animal under ACPA 2001.

The exact wording of Section 6 of the Regulations is as follows:

**6 Prescribed species for meaning of animal—Act, s 11**

*All species of the class Cephalopoda are prescribed for section 11(1)(d) of the Act.*

*Examples of species of the class Cephalopoda— cuttlefish, nautilus, octopus, squid*

The *Animal Care and Protection Amendment Bill 2022* will, if passed, include all species of Cephalopoda as ‘animals’ in the definition of “animal” within the Act, removing the need for them to be separately prescribed in the Regulation.

Given the definition of the term “animal”, the ACPA 2001 applies to vertebrate fish and cephalopods but not to lobsters, crabs, crayfish and prawns. Because of this ability to prescribe in regulations, if it is decided that species from the class Malacostraca should be classed an animal in the future it would mean that only the regulation would need to be amended and not ACPA 2001.

4.10.1.2. Definition of cruelty to animals in the *Animal Care and Protection Act 2001*

The term “cruelty” is defined in ACPA 2001 as a person who does any of the following to an animal:

- (a) causes it pain that, in the circumstances, is unjustifiable, unnecessary or unreasonable;
- (b) beats it so as to cause the animal pain;
- (c) abuses, terrifies, torments or worries it;
- (d) overdrives, overrides or overworks it;
- (e) uses on the animal an electrical device prescribed under a regulation;
- (f) confines or transports it—
  - (i) without appropriate preparation, including, for example, appropriate food, rest, shelter or water; or
  - (ii) when it is unfit for the confinement or transport; or
  - (iii) in a way that is inappropriate for the animal’s welfare; or
 Examples for subparagraph (iii)—
  - placing the animal, during the confinement or transport, with too few or too many other animals or with a species of animal with which it is incompatible
  - not providing the animal with appropriate spells
  - confining the animal in or on a vehicle in a way that causes heat stress or other pain for the animal
- (iv) in an unsuitable container or vehicle;
- (g) kills it in a way that—
  - (i) is inhumane; or

- (ii) causes it not to die quickly; or
- (iii) causes it to die in unreasonable pain;
- (h) unjustifiably, unnecessarily or unreasonably—
  - (i) injures or wounds it; or
  - (ii) overcrowds or overloads it.

#### 4.10.1.3. Exemptions under the *Animal Care and Protection Act 2001*

One specific exemption in ACPA 2001 concerns fishing using “certain live creatures”. In section 44 of ACPA 2001, there is an exemption from being an offence the use of a live creature for bait or as a lure, including a fish or invertebrate from the Class Cephalopoda or Malacostraca, to take or attempt to take, fish and if the fishing or attempted fishing complies with any conditions prescribed under a regulation.

Similarly, in Section 45 of ACPA 2001 slaughtering an animal under a religious faith, if the animal is to be used for food and the slaughter follows the religious faith, is exempt from an offence under ACPA 2001. An exemption also applies for an animal killed in the exercise of native title rights, Aboriginal tradition or Island custom provided the act of killing is done in a way that causes the animal as little pain as possible. However, certain practices are not eligible for this exemption i.e.

- a) injuring the animal to stop it escaping after it has been caught;
- b) injuring the animal or prolonging its life to attract another animal;
- c) taking flesh from the animal for human consumption before the animal is dead;
- d) doing a thing or omitting to do a thing that causes the animal to die from dehydration or starvation.

There is also an exemption from it being an offence under ACPA 2001 for using fishing apparatus under a shark fishing contract if the act may constitute an offence under *Fisheries Act 1994*, provided the use is to protect people from shark attack and is carried out under an agreement between any person and the state for the disposal, tagging or taking of sharks.

#### 4.10.1.4. Animals used for scientific purposes.

Persons using an animal for scientific purpose must be registered under the *Animal Care and Protection Act 2001* and a person must not use an animal for a scientific purpose unless the use is approved by an animals ethics committee that, amongst other things, ensures that the provisions of the National Health and Medical Research Council’s *Australian Code for the Care and Use of Animals for Scientific Purposes* (2013 and updated in 2021) (“NHMRC Code”)<sup>68</sup> have been complied with.

#### 4.10.1.5. Codes of practice for animal welfare

The ACPA 2001 allows for codes of practice to be written into legislation. Currently, under the ACPA 2001 there are a number of compulsory codes of practice for animal welfare (prescribed in the *Animal Care and Protection Regulation 2012*). However, at this stage, there are no legislated codes of practice for aquatic animals under the ACPA 2001.

<sup>68</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

#### 4.10.1.6. Summary from *Animal Care and Protection Act 2001* as it impacts the fishing sectors

##### Aquaculture

- Because vertebrate fish are included under the definition of “animal” in ACPA 2001, farmed fish are covered by this Act. This means that any person in charge of fish owes a duty of care to the fish and also must not be cruel to a fish;
- With regards to duty of care, this means that a person must take reasonable steps to provide for the needs of the fish for the following in a way that is appropriate:
  - food and water;
  - accommodation or living conditions for the animal;
  - to display normal patterns of behaviour;
  - the treatment of disease or injury.
- A fish farmer must also ensure that any handling of fish, including any confinement or transportation of the fish, by the person, or caused by the person, is appropriate;
- With respect to “what is appropriate”, ACPA 2001 states that regard must be had to the species, environment and circumstances of the animal and the steps a reasonable person in the circumstances of the person would reasonably be expected to have taken.
- What constitutes being cruel to an animal (in this case fish) is described in Section 4.10.1.2 above and includes if a person causes the fish pain that in the circumstances is unjustifiable, unnecessary or unreasonable. It would also be considered cruel under ACPA 2001 if the fish or cephalopod is killed in such a way that is considered inhumane or causes it not to die quickly or causes it to die in unreasonable pain.

##### Commercial and recreational fishing

- Because vertebrate fish and cephalopods are included under the definition of “animal” in ACPA 2001, these animals are covered by this Act.
  - However, as noted below ACPA 2001 does not apply to activities that are authorised under the *Fisheries Act 1994*;
- The important point here is when a person is considered to be “in charge” of an animal. It is assumed that a person is not considered to be “in charge” of an animal if it is still in the wild but could be considered to be “in charge” of an animal once it has been captured (either by line, or net or some other capture device);
- Once “in charge” of a fish or cephalopod, a person owes a duty of care to the fish or cephalopod;

- If a wild fish or cephalopod is captured live and then handled, any person must ensure that the handling of fish, including any confinement or transportation of the fish, by the person, or caused by the person, is appropriate.
- With respect to “what is appropriate”, ACPA 2001 states that regard must be had to the species, environment and circumstances of the animal and the steps a reasonable person in the circumstances of the person would reasonably be expected to have taken;
- Regardless of whether or not a person is in charge of a fish or cephalopod, they must not be cruel to it (the offence of cruelty applies to a person, rather than a “person in charge”). What constitutes being cruel to an animal (in this case fish) is described in above and includes if a person causes the fish pain that in the circumstances is unjustifiable, unnecessary or unreasonable. It would also be considered cruel under ACPA 2001 if the fish or cephalopod is killed in such a way that is considered inhumane or causes it not to die quickly or causes it to die in unreasonable pain;
- However, using a live fish as bait is exempt from this offence.

#### 4.10.2. The *Fisheries Act 1994*, *Fisheries (General) Regulation 2019* and *Fisheries (Commercial Fisheries) Regulation 2019*

The *Fisheries Act 1994* (“FA 1994”) is an Act for the management, use, development and protection of fisheries resources and fish habitats, the management of aquaculture activities and helping to prevent shark attacks, and for related purposes.

The regulations associated with this Act are the *Fisheries (General) Regulation 2019* and *Fisheries (Commercial Fisheries) Regulation 2019*.

Chapter 1, Section 7 of ACPA 2001 notes that ACPA 2001 does not affect the application of the *Fisheries Act 1994*. It also notes that a person who lawfully does an act, or makes an omission, authorised under the *Fisheries Act 1994* that would constitute an offence under this Act, is taken not to commit the offence by reason only of doing the act or making the omission.

This exception does not apply if the act is the use of an animal for as scientific purpose – in that case ACPA 2001 offences stand.

Licensed commercial and recreational fishers can therefore undertake acts of fishing that are authorised under the *Fisheries Act 1994* without concern that an activity might be subject to prosecution under ACPA 2001. However, it is assumed that this exclusion does not apply to fishers (commercial and recreational fishing, aquaculture) who are doing any act in a way not specifically authorised by the *Fisheries Act 1994*. Such acts could still be illegal under the ACPA 2001 and people acting in a cruel manner towards fish could still be prosecuted under the ACPA 2001.

##### 4.10.2.1. The definition of the term “fish” in the *Fisheries Act 1994*

In the *Fisheries Act 1994*, the term “fish” is defined rather than “animal”. The definition of what are “fish” in this Act is extensive and includes both live and dead animals i.e.

- (1) Fish means an animal (whether living or dead) of a species that throughout its life cycle usually lives—

- (a) in water (whether freshwater or saltwater); or
  - (b) in or on foreshores; or
  - (c) in or on land under water.
- (2) Fish includes—
- (a) prawns, crayfish, rock lobsters, crabs and other crustaceans; and
  - (b) scallops, oysters, pearl oysters and other molluscs; and
  - (c) sponges, annelid worms, bêche-de-mer and other holothurians; and
  - (d) trochus and green snails.
- (3) However, fish does not include—
- (a) crocodiles; or
  - (b) protected animals under the Nature Conservation Act 1992 for which a wildlife authority or a protected area authority under that Act is required to take, keep, use, move or deal with the animal; or
  - (c) pests under the Medicines and Poisons Act 2019; or
  - (d) animals prescribed by regulation not to be fish.

A reference in this Act to fish is noted as also including a reference to:

- (a) the spat, spawn and eggs of fish; and
- (b) any part of fish or of spat, spawn or eggs of fish; and
- (c) treated fish, including treated spat, spawn and eggs of fish; and
- (d) coral, coral limestone, shell grit or star sand; and
- (e) freshwater or saltwater products declared under a regulation to be fish.

Freshwater and saltwater products may be declared fish only for a particular provision of this Act, or if the product is used for a particular purpose.

#### 4.10.2.2. Regulation making powers

The *Fisheries Act 1994* allows the power to make declarations that are considered subordinate legislation and may affect the welfare of fish. Examples of what can be regulated with declarations in Part 5 – Fisheries management of the *Fisheries Act 1994* include:

- A regulated fish declaration may regulate the taking, purchase, sale, possession or use of particular fish.;
- A regulated waters declaration may regulate the taking of fish, engaging in stated activities or using apparatus in particular waters;
- A regulated fishing method declaration may regulate how fish may be taken.

As noted, current regulations prescribed under the *Fisheries Act 1994* are set out in the *Fisheries (General) Regulation 2019* and *Fisheries (Commercial Fisheries) Regulation 2019*. There are regulatory provisions for each commercial fishery implemented in the Fisheries Regulations that may affect fish welfare.

For example, in Schedule 4 of *Fisheries (Commercial Fisheries) Regulation 2019* which covers commercial net fisheries, Division 9 concerns the way fish may be taken and the use of seine nets i.e.

## 26 Way fish may be taken

Fish may be taken only by using seine nets.

## 27 Use of seine nets

A seine net may be used only if the net—

(a) is no longer than 500m; and

(b) has—

(i) a mesh size of at least 12mm but no more than 70mm; and

(ii) a drop of at least 150 meshes for at least half of its length.

The *Fisheries Act 1994* contains a section for each commercial fishery (Schedules 2 through 8) with authorisation detailing the way in which fish may be taken.

The *Fisheries Act 1994* has a number of sections which deal with habitat protection. While this does not specifically address fish welfare, protecting the habitat does help look after wild fish and cephalopods in general.

#### 4.10.3. Other aquatic animal activities

##### 4.10.3.1. Pet and aquarium shops

The ACPA 2001 applies to aquatic animals kept in pet and aquarium shops.

Pet and aquarium shops and restaurants in Queensland come under the *Local Government Act 1993*. As far as we are aware this legislation does not include any provisions for animal welfare.

The Queensland Government in consultation with the pet shop industry, dog and cat interest groups, animal welfare organisations and the Australian Veterinary Association developed a voluntary “Queensland code of practice for pet shops<sup>69</sup>”. The community also provided input to this code through a public consultation process.

Compliance with the pet shop code is not compulsory, however on the Queensland government web page<sup>70</sup> it notes that it “will help demonstrate to the community that the pet shop industry is meeting community expectations for pet welfare”.

The code was released in 2008. Importantly for fish, Section 16 is titled “Special needs for fish”. Section 16.1 notes that Fish are “*capable of feeling pain, and their needs for appropriate feed, accommodation, health and behaviour should be considered*”. It also notes the need for maintaining optimal husbandry and provides advice on the humane euthanasia of fish, as well as the importance of promptly treating sick or injured aquatic animals.

<sup>69</sup> Available at [https://www.daf.qld.gov.au/\\_data/assets/pdf\\_file/0017/192410/QldCodeOfPracticeForPetShops.pdf](https://www.daf.qld.gov.au/_data/assets/pdf_file/0017/192410/QldCodeOfPracticeForPetShops.pdf)

<sup>70</sup> Available at <https://www.daf.qld.gov.au/business-priorities/biosecurity/animal-biosecurity-welfare/welfare-ethics/about-the-pet-shop-code>

#### 4.10.4. Review of the *Animal Care and Protection Act 2001* – Discussion Paper

In April 2021 the Queensland Government began a review of the ACPA 2001 through the release, on April 4, 2021, of a Discussion Paper<sup>71</sup> setting out high-level policy proposals for amendments to the *Animal Care and Protection Act 2001* for public feedback. The review aimed “to ensure the legislation keeps pace with contemporary animal welfare practices and community expectations”<sup>72</sup>.

The *Animal Care and Protection Amendment Bill 2022* (“ACPAB 2022”) was introduced to Queensland Parliament on Thursday 12 May 2022.

The ACPAB 2022 will, if passed, include all species of Cephalopoda as ‘animals’ in the definition of “animal” within the Act, removing the need for them to be separately prescribed in the Regulation.

The Bill will also provide clarity minimum standards for making codes of practice under the Act, including on the basis of scientific evidence.

As mentioned, there are currently no codes of practice legislated under ACPA 2001 that concern aquatic animals.

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<sup>71</sup> Available at <https://www.publications.qld.gov.au/dataset/review-of-the-animal-care-and-protection-act-2001/resource/0d3cd859-2f6b-4721-a054-b24671f29285>

<sup>72</sup> As noted on the Queensland government website <https://www.daf.qld.gov.au/business-priorities/biosecurity/animal-biosecurity-welfare/welfare-ethics/review-of-the-animal-care-and-protection-act-2001>

Table 9 - Summary of Queensland's animal welfare legislation as it applies to aquatic animals

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
Queensland	<i>Animal Care and Protection Act 2001 (ACPA 2001)</i>	<i>Animal Care and Protection Regulation 2012</i>	Not stated	(1) An animal is any of the following— (a) a live member of a vertebrate animal taxon; Examples— • an amphibian • a bird • a fish • a mammal, other than a human being • a reptile (b) a live pre-natal or pre-hatched creature as follows if it is in the last half of gestation or development— (i) a mammalian or reptilian fetus; (ii) an avian, mammalian or reptilian pre-hatched young; (c) a live marsupial young; (d) a live invertebrate creature of a species, or a stage of the life cycle of a species, from the class Cephalopoda or Malacostraca prescribed under a regulation for this paragraph. Cephalopoda, but not Malacostraca, have been prescribed.	(a) causes it pain that, in the circumstances, is unjustifiable, unnecessary or unreasonable; (b) beats it so as to cause the animal pain; (c) abuses, terrifies, torments or worries it; (d) overdrives, overrides or overworks it; (e) uses on the animal an electrical device prescribed under a regulation; (f) confines or transports it— (i) without appropriate preparation, including, for example, appropriate food, rest, shelter or water; or (ii) when it is unfit for the confinement or transport; or (iii) in a way that is inappropriate for the animal's welfare; or Examples for subparagraph (iii)— • placing the animal, during the confinement or transport, with too few or too many other animals or with a species of animal with which it is incompatible • not providing the animal with appropriate spells • confining the animal in or on a vehicle in a way that causes heat stress or other pain for the animal (iv) in an unsuitable container or vehicle; (g) kills it in a way that— (i) is inhumane; or (ii) causes it not to die quickly; or (iii) causes it to die in unreasonable pain; (h) unjustifiably, unnecessarily or unreasonably— (i) injures or wounds it; or (ii) overcrowds or overloads it.	No	Persons using an animal for scientific purpose must be registered under the ACPA 2001 and a person must not use an animal for a scientific purpose unless the use is approved by an animals ethics committee that, amongst other things, ensures that the provisions of the Australian code (NHMRC Code) have been complied with.	Section 7 of ACPA 2001 notes that ACPA 2001 does not affect the application of the <i>Fisheries Act 1994</i> . It also notes that a person who lawfully does an act, or makes an omission, authorised under the <i>Fisheries Act 1994</i> that would constitute an offence under this Act, is taken not to commit the offence by reason only of doing the act or making the omission.	No



## 4.11. Northern Territory government welfare legislation

### 4.11.1. The *Animal Welfare Act 1999*

The *Animal Welfare Act 1999* (“AWA 1999”) has been the primary legislation concerning the welfare of animals in the Northern Territory (NT). Secondary (subordinate) legislation concerning the welfare of animals in the NT are the *Animal Welfare Regulations 2000*.

The **stated** objectives of the AWA 1999 are:

- (a) to ensure that animals are treated humanely;
- (b) to prevent cruelty to animals; and
- (c) to promote community awareness about the welfare of animals.

#### 4.11.1.1. The definition of the term “animal” in the *Animal Welfare Act 1999*

The AWA 1999 concerns the welfare of animals in the Northern Territory, but this legislation only applies to animals that fall within the definition of “animal” within the AWA 1999. If a species is not contained within the definition of an animal, then it is not protected under the AWA 1999.

Given this, the definition of “animal”, as it appears in Part 1, Section 4 of the AWA 1999 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.

The term “animal” in the AWA 1999 therefore does not include wild vertebrate fish but does include vertebrate fish that are farmed and deemed to be “in captivity”. This also includes fish held in aquariums and held live in restaurants.

The definition of animal does not include wild crustaceans nor crustaceans that are farmed or have been captured from the wild unless the crustaceans are in premises where being prepared for retail sale or offered for retail sale. The definition of “animal” does not include cephalopods.

In Part 5 of the AWA 1999, titled *Teaching or research involving animals*, a person conducting teaching or research with animals must hold a license. A condition of that license is that the licensee must have an animal ethics committee (“AEC”).

According to the *Animal Welfare Regulations 2000*, the AEC:

- a) is to be established, constituted and maintained in accordance with; and
- b) has the powers and functions specified in, the code of practice.

The code of practice referred to in the Regulations is the National Health and Medical Research Council's *Australian Code of Practice for the Care and Use of Animals for Scientific Purposes* (2013, updated in 2021) ("NHMRC Code")<sup>73</sup>. The definition of animal under this code includes:

any live non-human vertebrate (that is, fish, amphibians, reptiles, birds and mammals encompassing domestic animals, purpose-bred animals, livestock, wildlife) and cephalopods.

As this definition includes cephalopods, it is assumed that animals being used for teaching or research in the NT would be afforded the protection of the AWA through the AEC.

#### 4.11.1.2. The definition of cruelty to animals in the *Animal Welfare Act 1999*

Cruelty to animals in the AWA 1999 is defined in Section 9 as follows:

- (1) A person commits an offence if the person is cruel to an animal.
- (2) Without limiting subsection (1), a person in charge of an animal is **cruel** to the animal if the person:
  - (a) fails to ensure the animal receives the minimum level of care; and
  - (b) intends to cause harm to the animal.
- (3) Without limiting subsection (1), a person is **cruel** to an animal (whether or not the person is in charge of the animal) if the person does any of the following:
  - (a) causes the animal unnecessary suffering;
  - (b) having caused the animal unnecessary suffering (including accidentally), fails to take reasonable action to mitigate the suffering;
  - (c) uses on the animal a device prescribed by the Regulations to be inhumane;
  - (d) subjects the animal to treatment prescribed by the Regulations to be cruel.

The Animal Welfare Branch (AWB) of the NT Department of Industry, Tourism and Trade (DITT) administers and enforces the AWA 1999.

#### 4.11.2. The *Animal Protection Act 2018*

The *Animal Protection Act 2018* ("APA 2018") was developed to build upon the *Animal Welfare Act 1999* and will replace it on October 1, 2022 (P. Phillips, Director NT Animal Welfare Branch, personal communication). The associated regulations will be the *Animal Protection Regulations 2020*.

The objectives of the APA 2018 are similar to the AWA 1999, with an additional specific reference to regulation of people using animals in scientific research. The objectives are:

- (a) to ensure that animals are treated humanely; and
- (b) to prevent cruelty to animals; and
- (c) to promote community awareness about responsibilities and legal obligations associated with the care and protection of animals; and
- (d) to regulate the activities of persons who use animals for scientific purposes.

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<sup>73</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>

#### 4.11.2.1. The definition of the term “animal” in the *Animal Protection Act 2018*

The definition of “animal” in the APA 2018 initially included cephalopods and expanded somewhat on the definition of fish as given in the AWA 1999 i.e.

- (1) An animal is a live:
  - (a) member of a vertebrate species, including an amphibian, bird, mammal and reptile; and
  - (b) bony or cartilaginous fish, cephalopod or crustacean that is in the possession or under the control of a person.
- (2) Despite subsection (1)(a), an animal does not include a human being.
- (3) For subsection (1)(b), a fish, cephalopod or crustacean is not in the possession or under the control of a person by reason only that it has been caught with fishing gear permitted under the Fisheries Act but is still in its usual aquatic or other habitat.
- (4) Examples for subsection (3)
 

A fish still in the water but caught on the end of a fishing line or a crab still in a trap would not be considered in a person’s possession or control.

However, this initial definition was subsequently changed back to be the same as the definition of “animal” as given in the AWA 1999.

The AWA 1999 (and the APA 2018) is primarily concerned with welfare of terrestrial animals including companion animals and livestock. It is understood that increasing the species of animal included in the definition would place an increased demand on the resources and expertise of the Animal Welfare Branch to deal with complaints about cruelty to aquatic animals including cephalopods.

It is also understood that NT government considers that the welfare of wild caught fish and aquatic animals is better addressed under Fisheries legislation, which has the knowledge and resources to investigate welfare issues regarding aquatic animals and in particular fish caught recreationally or commercially.

Fish that are farmed are covered under the AWA 1999 and will still be covered under the APA as farmed fish are dependent on food and hence remain under the definition of “animal” (P. Phillips, Director NT Animal Welfare Branch, personal communication)

#### 4.11.2.2. The definition of cruelty to animals in the *Animal Protection Act 2018*

“Cruelty” in relation to an animal under the APA 2018 is defined as meaning any conduct that constitutes an offence against section 24 of the APA 2018. Section 24, titled “Cruelty to an animal”, includes the following:

- (1) A person commits an offence if:
  - (a) the person intentionally causes suffering or harm to an animal or intentionally contributes to its suffering or harm; and
  - (b) the suffering or harm is unjustifiable, unnecessary or unreasonable in the circumstances.
- (2) A person commits an offence if:
  - (a) the person intentionally beats an animal; and
  - (b) the beating causes the animal pain.

- (3) A person commits an offence if the person intentionally abuses, terrifies or torments an animal.
- (4) A person commits an offence if:
  - (a) the person intentionally injures or wounds an animal; and
  - (b) that conduct is unjustifiable, unnecessary or unreasonable in the circumstances.
- (5) A person commits an offence if:
  - (a) the person intentionally engages in conduct in relation to an animal; and
  - (b) the conduct is prescribed by regulation to constitute cruelty.
- (6) A person commits an offence if:
  - (a) the person is in control of an animal; and
  - (b) the animal is suffering and the person knows that it is suffering; and
  - (c) the person intentionally fails to take action that:
    - (i) is reasonable in the circumstances; and
    - (ii) the person knows would alleviate the animal's suffering.

*Examples for subsection (6)(c)*

- 1 *The person does not obtain necessary veterinary treatment for the animal.*
- 2 *The person does not destroy a suffering animal so it dies quickly without further suffering.*

#### 4.11.2.3. Summary of the *Animal Protection Act 2018* as it impacts the fishing sectors

As the definition of “animal” now has not changed in the APA 2018, it appears that there will be little impact to aquaculture, commercial and recreational capture activities involving aquatic animals from a welfare perspective under legislation.

Division 4 of the APA 2018 is titled “Codes of Practice” and is an important part of the APA 2018. Essentially, if an industry or individual is complying with a code of practice that is adopted or prescribed by regulation it can be used as evidence as complying with a duty or obligation under the APA 2018. The APA 2018 goes further to say that if prosecution was to occur and the conduct constituting the offence, or an element of the offence was in accordance with a code of practice this is a defence to the prosecution of the offence under the APA 2018.

A code of practice can be about any of the following:

- a) the production, processing, keeping, display, treatment, handling, husbandry, management or care of animals;
- b) the transportation, sale, killing, hunting, shooting, catching, trapping, netting, marking, control or protection of animals;
- c) the use of animals, including for scientific purposes.

And may relate to any animal or class of animal.

In January 2020, the then NT Department of Primary Industry and Resources (NTDPIR) published a Fact Sheet on the APA 2018. In this Fact Sheet, NTDPIR noted the following:

It is a defence under the new Act if a person’s interaction with an animal (as defined under the Act) is in accordance with an adopted or prescribed code of practice. For example, a person can take a fish for consumption, but before processing the fish (e.g. bleeding, filleting or gutting) it needs to be humanely

killed in accordance with practices set out in a code e.g. brained spiked and/or rendered insensible with a strong blow to the head with a blunt object.

#### 4.11.3. Crustaceans sold for human consumption

The welfare of crustaceans in the NT comes under the APA 2018 in the context of retail for human consumption. Analogous to the situation in NSW, retailers cannot sell animals which are severely diseased or debilitated or those in such a condition that it is cruel to keep them alive. Animals kept alive for the purpose of sale must be housed in clean and hygienic conditions and are to be protected from interference from people, disease, distress, and injury. Rapid temperature and aberrations in water quality fluctuations are to be avoided and incompatible species are not to be kept in the same enclosure.

#### 4.11.4. Recreational fishing

No recreational fishing license is required in the NT.

The NT Government has published a page on its website (last updated in 2016) titled “*Rules for keeping your catch*” which addresses the humane killing of both recreationally caught fish and crabs. With regards to humane euthanasia of fish, the page stipulates that fish should be killed immediately after capture with either a spike to the brain or a sharp blow to the head prior to bleeding. It also states that crabs must be tied to prevent the claws from causing harm to itself or to the fisherman and that you must kill mud crabs before you cook or process them. Prior to processing, they should be cooled and then spiked or split to destroy the neural centre.

#### 4.11.5. The pet trade

The Animal Welfare Advisory Committee’s *Guidelines for the Care and Welfare of Animals in Retail Pet Shops*<sup>74</sup> sets standards expected for trade, management, and care of companion animals in these settings. These guidelines are legislated by the *Animal Welfare Act 1999*. They make direct reference to the care and welfare of aquarium fish and other aquatic animals by addressing various areas of appropriate husbandry are addressed including protection from environmental extremes, water changes, feeding, disease/illness, medications, water chemistry, filtration, education of customers and the appropriate disposal of dead animals. It goes on to supply stocking density guidelines and recommendations for the construction of glass aquaria in its appendices (Appendix III and IV respectively).

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<sup>74</sup> Available at [https://dpiir.nt.gov.au/\\_data/assets/pdf\\_file/0003/258843/guidelines-retail-pet-shops.pdf](https://dpiir.nt.gov.au/_data/assets/pdf_file/0003/258843/guidelines-retail-pet-shops.pdf)

Table 10 - Summary of NT's animal welfare legislation as it applies to aquatic animals

Jurisdiction	Current animal welfare legislation - Act	Current animal welfare legislation - Regulations	Are animals considered "sentient" in current legislation	Are aquatic animals included in definition of "animal" under current legislation	Current wording for "act of cruelty"	Any prescribed Codes of Practice (besides research) for aquatic animals?	How are animals used in research and teaching dealt with	Reference to other legislation pertaining to aquatic animals (e.g. Fisheries legislation)	Any legislation drafted to replace current legislation
Northern Territory	<i>Animal Protection Act 2018</i> (replaced <i>Animal Welfare Act 1999</i> on October 1st, 2022)	<i>Animal Protection Regulations 2020</i> (replaced <i>Animal Welfare Regulations 2000</i> on October 1st, 2022)	Not stated	An animal is a live: (a) member of a vertebrate species, including an amphibian, bird, mammal and reptile; and (b) fish in captivity or dependent on a person for food; and (c) crustacean if it is on premises where food is prepared or is offered for retail sale. (2) Despite subsection (1)(a), an animal does not include a human being.	A person commits an offence if: (a) the person intentionally engages in conduct; and (b) the conduct results in the suffering of an animal, or additional suffering of an animal, and the person is reckless in relation to that result; and (c) the suffering is unjustifiable, unnecessary or unreasonable and the person is reckless in relation to that circumstance. And: (a) the person intentionally beats an animal; and (b) the beating causes the animal harm. And: A person commits an offence if the person intentionally abuses or tortures an animal. And: (a) the person intentionally injures or wounds an animal; and (b) that conduct is unjustifiable, unnecessary or unreasonable in the circumstances. (a) the person intentionally engages in conduct in relation to an animal; and (b) the conduct is prescribed by regulation to constitute cruelty. And: (a) the person is in control of an animal; and (b) the animal is suffering and the person knows that it is suffering; and (c) the person intentionally fails to take action that: (i) is reasonable in the circumstances; and (ii) the person knows would alleviate the animal's suffering.	Not currently, however in NT DPIR published Fact Sheet (January, 2020) the following was noted: <i>It is a defence under the new Act if a person's interaction with an animal (as defined under the Act) is in accordance with an adopted or prescribed code of practice. For example a person can take a fish for consumption, but before processing the fish (e.g. bleeding, filleting or gutting) it needs to be humanely killed in accordance with practices set out in a code e.g. brained spiked and/or rendered insensible with a strong blow to the head with a blunt object.</i>	Person must be registered, or individual engaged by registered person, or student studying at an educational institution that is registered. Must have accredited animal ethics committee. Must follow NHMRC Code.	See definition of animal.	<i>Animal Protection Act 2018</i> has just replaced <i>Animal Welfare Act 1999</i>

## 5. Current aquatic animal welfare arrangements in Australia and overseas – industry

### 5.1. Introduction

There are a considerable number of aquatic animal industry documents readily available within the aquaculture, commercial and recreational wild capture sectors that directly or indirectly address aquatic animal welfare. Many are not necessarily specifically written to address aquatic animal welfare but still contain varying amounts of information that address aquatic animal welfare issues.

Initially, an online search was conducted for this information. Search terms included the following: fish, aquaculture, better management practices, best management practices, standards, guidelines, aquatic animal, lobster, scheme, organic farming, rock lobster, shrimp, sea bream, sea bass, cobia, seriola, trout, salmon, tuna, cephalopods, humane killing, humane slaughter, crab, barramundi, animal welfare, assurance, humane killing, crustaceans, trawling, fisheries, code of practice, and humane slaughter.

Online platforms utilised were Google Scholar, Victorian library service and the University of Melbourne Library Discovery Search Engines. Search terms were used in various combinations.

In addition, the authors have an extensive industry network that was utilised in the compilation of material. A selection of both Australian and international material has been investigated and is reported on here.

### 5.2. A general assessment of commercial Standards, Guidelines and Codes of Practice against defined welfare criteria

In general, the documents are either written as standards, guidelines or codes of practice. For the remainder of this section these documents are collectively referred to as SGCs.

As far as we are aware, there is only one SGC that is currently prescribed under legislation<sup>75</sup> (compared to a considerable number in the terrestrial animal industries) which affects the **recreational fishing sector**. As mentioned in Section 4.7.1.6, *We Fish for the Future – The National Code of Practice for Recreational and Sport Fishing* was prescribed under the *Animal Welfare Act 1992* in the Australian Capital Territory in 1997.

Apart from this recreational fishing code, abiding by any of the welfare conditions specified in any of the other SGCs that have been identified is currently voluntary and not a legislative requirement. Some SGCs are included in certification schemes, hence abiding by conditions in these SGCs is a requirement of being certified under such schemes but again is not a legislative requirement.

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<sup>75</sup> With respect to legislative hierarchy, Codes of Practice which are prescribed are a form of subordinate legislation and are sometimes known as “quasi-delegated legislation”, but provisions in Codes are often thought to be of a lower weight than those in regulations (Morton and Whittaker 2022).

While acknowledging that SGCs are not mandated, each SGC was evaluated according to a defined number of welfare criteria. Consideration was given as to whether the SGC contained information about these criteria and the quality and relevance of the information.

Any SGC found that was specifically written to address aquatic animal welfare was automatically included in the assessment. The expert opinion of the Project Team was used regarding the other SGCs assessed as to whether or they proclaimed to be “best practice” “code of practice” type documents. It was considered reasonable to expect aquatic animal welfare to be addressed in such documents to some degree.

The information contained in the documents specific to each criteria was then graded as being (1) absent, (2) weakly present or (3) strongly present.

The aquatic animal welfare criteria that have been used in this broad assessment were:

- a) Water quality
- b) Aquatic animal health in general
- c) Mortality rates and reduction of these rates
- d) Requirement for veterinary involvement
- e) Biosecurity
- f) Wildlife animal welfare
- g) Sustainability
- h) Animal procedures (e.g. handling)
- i) Cleaner fish welfare (only applicable to international SGCs)
- j) Stress
- k) Source of stock
- l) Breeding
- m) Training of personnel
- n) Genetically modified Organisms (GMO) escapes
- o) Fair work practices
- p) Tracing and market access
- q) Environment
- r) Transport
- s) Harvest

Table 11 provides a summary of the assessment of Australian based SGCs examined.

Table 12 provides a summary of the assessment of international based SGCs examined.



### 5.2.1. An overall comment regarding the selection of Standards, Guidelines and Codes reviewed

The majority of the aquatic animal industry SGCs that have been reviewed in the commercial sectors are not primarily focused on addressing aquatic animal welfare, but rather have as their primary focus one or more of the following:

- Sustainability;
- Environmental/wildlife impact;
- Food safety/biosecurity;
- Drug/chemical use;
- Water quality;
- Traceability;
- Animal health/stock management;
- Transport;
- Training and socio-economic integrity.

Most of the SGCs that have been identified have an aspect of sustainability and/or minimizing impacts on the environment and/or wildlife. Some SGCs do acknowledge better animal health and welfare with direct links to better production and market access and there are a number that address aspects around humane killing. There are also a few that include the requirement for cleaner fish to be managed at the same level of care and welfare as other aquatic species raised for production. These are in international documents as currently no aquaculture industries in Australia utilise cleaner fish.

The SGCs that have been reviewed here appear to in general have been developed to have some form of minimum requirements or recommendations to improve and/or guide the aquatic animal industry. In general, the documents assessed indicate an increasing acknowledgement across the aquatic animal industries that animal welfare is an important part of the aquatic animal industry. However, it appears that there is no consistent approach taken in any of these documents in addressing issues of aquatic animal welfare.

Few documents were identified that incorporated animal welfare specific requirements to address the concerns of social license for aquatic animal industries, new international trade requirements, better market access/value, and higher retailer and consumer expectations. Except for the one code in the recreational sector, no other SGCs that we are aware of have been prescribed under legislation, so none are currently mandatory.

The reduction of stress is acknowledged to be important in some SGCs as part of general good practice, but it is not a consistent theme. While improvements in fish health and management can result in better animal welfare, few have requirements focused directly on animal welfare improvements beyond humane slaughter or health.

Table 11 – Australian based Standards, Guidelines and/or Codes in the commercial sector that directly or indirectly address aquatic animal welfare.

Title	Animal Welfare Specific or Req'ments	Indirect Animal Welfare	Water Quality	Health	Mortality Rates	Vet Care	Biosecurity	Wildlife Animal Welfare	Drug use	Sustainabi lity	Animal Procedures (i.e., handling)	Cleaner fish welfare	Stress	Stock Source	Breeding	Training	GMO escapes	Fair Work Practices	Tracing and Market Access	Environm ent	Transport	Harvest	Humane killing
<i>Aquaculture Stewardship Council - ASC Seriola and Cobia Standard Version 1.1, ASC Salmon Standard</i>												n/a											
<i>FRDC/IMAS - Southern Bluefin Tuna - Code of Practice - Recreational Fishery</i>			n/a			n/a			n/a			n/a		n/a	n/a		n/a	n/a	n/a				
<i>ISS Institute, 2009. Hatchery Production of Yellowfin Tuna - G. Partridge (author)</i>												n/a					n/a						TBC
<i>RSPCA (Australia) - 2020 - RSPCA Approved Farming Scheme Standard - Farmed Atlantic Salmon</i>																							TBC
<i>Best Aquaculture Practices (BAP) - 2021 - Aquaculture Facility Certification Issue 3.0</i>																							TBC
<i>Northern Territory DPIFM - 2007 - NT Barramundi Farming Handbook</i>												n/a											TBC
<i>Panaquatic/FRDC - Vessel Welfare Guidelines</i>												n/a					n/a						TBC
<i>RSPCA Australia - 2021 - Humane killing and processing of crustaceans for human consumption</i>				n/a	n/a	n/a		n/a	n/a			n/a		n/a	n/a		n/a	n/a	n/a				
<i>Australian Marine Conservation Society (AMCS) 2021 - Australia's Goodfish Sustainable Seafood Guide - Aquaculture Assessment Criteria Version 2021A</i>																							TBC
<i>Australian Marine Conservation Society (AMCS) 2021 - Australia's Goodfish Sustainable Seafood Guide - Aldi Australia - 2019 - Corporate Responsibility - Fish and Seafood Buying Policy</i>																							TBC
<i>NSW Department of Primary Industries - 2012 - Australian Aquaculture Code of Conduct</i>												n/a											TBC
<i>Oceanwatch Australia - 2019 (and others) - NSW Code of Practice - Estuary, Trawl, Ocean Trap and National Aquaculture Council (NAC) - 2005 - Aquatic Animal Welfare Guidelines - Guidelines on welfare of fish and crustaceans in aquaculture and/or in live holding systems for human consumption</i>			n/a									n/a		n/a	n/a		n/a						TBC
<i>Panaquatic - 2006 - Review of current welfare for finfish in Australia</i>												n/a											
<i>Victorian State Government - 2017 - Animal Welfare Action Plan - Improving the welfare of animals in Futureye - 2018 - Australia's Shifting Mindset on Farm Animal Welfare</i>																							TBC
<i>Bennison - Guidelines on Aquatic Animal Welfare for Aquaculture industry in Western Australia</i>												n/a											TBC

=absent
  = weakly present
  = strongly present
  = not applicable

Table 12 - International based Standards, Guidelines and/or Codes in the commercial sector that directly or indirectly address aquatic animal welfare.

Title	Animal Welfare Specific or Req'tments	Indirect Animal Welfare	Water Quality	Health	Mortality Rates	Vet Care	Biosecurity	Wildlife Animal Welfare	Drug use	Sustainabi lity	Animal Procedures (i.e., handling)	Cleaner fish welfare	Stress	Stock Source	Breeding	Training	GMO escapes	Fair Work Practices	Tracing and Market Access	Environm ent	Transport	Harvest	Humane killing
<i>Aquaculture Stewardship Council - ASC Seriola and Cobia Standard Version 1.1, ASC Salmon Standard</i>												n/a											
<i>Marine Stewardship Council (UK) - 2019 - Sustainable Tuna Handbook</i>												n/a					n/a						TBC
<i>RSPCA (UK) - 2021 - RSPCA Welfare standards for Farmed Atlantic Salmon</i>																							TBC
<i>Best Aquaculture Practices (BAP) - 2021 - Aquaculture Facility Certification Issue 3.0</i>																							TBC
<i>World Organisation for Animal Health (WOAH, formerly OIE) - 2022 - Aquatic Animal Health Code - Chapters 7.2 (welfare during transport) and 7.3/7.4 (stunning and killing)</i>					n/a	n/a		n/a	n/a	n/a				n/a	n/a								
<i>Aquaculture Advisory Council (AAC) - 2019 - Fish Welfare at Slaughter Position Paper for EU</i>					n/a	n/a		n/a	n/a	n/a				n/a	n/a								
<i>Humane Slaughter Association (UK) - 2014 - Humane Harvesting of Fish</i>				n/a	n/a	n/a		n/a	n/a	n/a				n/a	n/a					n/a			
<i>European Commission - Welfare of farmed fish: Common practices during transport and at slaughter</i>					n/a	n/a		n/a	n/a	n/a				n/a	n/a					n/a			
<i>World Organisation for Animal Health (WOAH, formerly OIE) - 2021 - OIE Aquatic Animal Health</i>																							TBC
<i>The Association of South East Asian Nations (ASEAN) - 2015 - Guidelines on ASEAN Good Aquaculture</i>												n/a											
<i>European Commission - 2021 - Strategic Guidelines for a more sustainable and competitive EU</i>																							TBC
<i>AquaGAP - 2018 - Standard for Good Aquaculture Practices - Version 4, 16.01 AquaGAP 2018</i>																							TBC
<i>Aquatic Animal Alliance - Key Aquatic Animal Welfare Recommendations for Aquaculture</i>																							TBC
<i>Food and Agriculture Organization of the United Nations (FAO) - 1995 - Code of Conduct For Responsible Fisheries</i>																							TBC
<i>Food and Agriculture Organization of the United Nations (FAO) - 2020 - Code of Practice for Fish and EU Platform on Animal Welfare Own Initiative</i>																	n/a						TBC
<i>Group on Fish - 2020 - Guidelines on Water quality</i>																							TBC
<i>Eurogroup for Animals - 2020 - Handle with care - Lessen the suffering of the fish in EU wild capture</i>																							TBC

=absent     
  = weakly present     
  = strongly present     
  = not applicable

Table 12 (cont.) – International based Standards, Guidelines and/or Codes in the commercial sector that directly or indirectly address aquatic animal welfare.

Title	Animal Welfare Specific or Req'ments	Indirect Animal Welfare	Water Quality	Health	Mortality Rates	Vet Care	Biosecurity	Wildlife Animal Welfare	Drug use	Sustainabi lity	Animal Procedures (i.e., handling)	Cleaner fish welfare	Stress	Stock Source	Breeding	Training	GMO escapes	Fair Work Practices	Tracing and Market Access	Environm ent	Transport	Harvest	Humane killing		
<i>Huntingford, Kadri - 2014 - Defining, Assessing, and Promoting Welfare of Farmed Fish</i>																								TBC	
<i>Thai Agricultural Standard - 2009 - Good Aquaculture Practices for Freshwater Aquatic Farms</i>												n/a													TBC
<i>Nguyen - 2015 - Good Aquaculture Practices (VietGAP) and sustainable aquaculture development</i>												n/a													TBC
<i>Southern Regional Aquaculture Centre - 2017 - Good Aquaculture Practices</i>																									TBC

=absent     
  = weakly present     
  = strongly present     
  = not applicable

### 5.3. The transport of live aquatic animals

Many aquatic animals are transported live each year around Australia. Perhaps the simplest transport occurs when a customer purchases one or more aquarium fish from a retail outlet, of which there are hundreds located around Australia. Such purchases are generally transported from the retail outlet to the home of the customer, generally with the fish being in water in a plastic bag in which there is also air or oxygen.

There are, however, also significant transports of live fish in both the aquaculture and commercial wild capture industries.

Animal welfare legislation specific to each of the states and territories in Australia is reviewed in Section 4 of this report. This legislation applies to fish and crustaceans when being transported in jurisdictions where fish and crustaceans are included in the definition of animal under the animal welfare legislation.

In the aquaculture industries, live fish may be transported internally within and between business facilities or between businesses. For example, post larvae prawns may be transported from a hatchery to grow out ponds. Likewise, broodstock wild prawns may be collected at sea and then transported live to the hatchery.

In the fish aquaculture industries in Australia, which include operations farming Atlantic salmon (*Salmo salar*), rainbow trout (*Oncorhynchus mykiss*), barramundi (*Lates calcarifer*), yellowtail kingfish (*Seriola lalandi*), Murray cod (*Maccullochella peelii*), silver perch (*Bidyanus bidyanus*) and golden perch (*Macquaria ambigua*), fish are regularly transported live. Much of this movement involves moving young fish from one location to be on-grown in another location. In some aquaculture industries, farmed fish may be harvested and transported live to markets where these fish can remain live until sold to a consumer.

In the wild capture industries, there are a number of species (fish and crustaceans) that are captured live and transported live to markets. These include being transported within Australia and being exported live to overseas destinations as occurs with many Rock Lobsters.

The transportation of livestock animals has been addressed through the development of “The Australian Animal Welfare Standards and Guidelines—Land Transport of Livestock<sup>76</sup>.” The standards provide a basis for developing and implementing consistent legislation and enforcement across Australia and provide guidance for all people responsible for livestock during transport.

The standards are being regulated into law by state and territory governments. Currently, these standards do not apply to any aquatic animal. As far as we are aware, there are currently no mandated standards for the transporting of live aquatic animal within Australia.

The livestock export industry is a valuable Australian industry that is worth over \$800 million each year and supports the livelihood of many people in rural and regional Australia.

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<sup>76</sup> Available at <https://www.animalwelfarestandards.net.au/files/2021/06/Land-transport-of-livestock-Standards-and-Guidelines-Version-1.-1-21-September-2012.pdf>

As noted on the Australian Governments Department of Agriculture, Fisheries and Forestry webpage<sup>77</sup>:

*“Australia leads the world in animal welfare practices. The Australian Government does not tolerate cruelty towards animals and will not compromise on animal welfare standards. Our ongoing involvement in the livestock export trade provides an opportunity to influence animal welfare conditions in importing countries.”*

To export **livestock** from Australia, exporters must comply with The Australian Standards for the Export of Livestock<sup>78</sup> (ASEL). The ASEL sets out the minimum mandatory animal health and welfare standards exporters must meet throughout the export supply chain. The ASEL is given effect under the *Export Control Act 2020* and is referenced in the *Export Control (Animals) Rules 2021*. Exporters must comply with the ASEL to be permitted to export livestock from Australia.

However, the term **livestock** in the ASEL means the same as defined under the *Export Control (Animal) Rules 2021*, where it means cattle, sheep, goats, deer, buffalo or camelids, and includes the young of any of those animals. The term animal in the ASEL means the same as livestock. Hence aquatic animal is not included under these terms in these documents.

As far as we are aware, there are no mandatory standards for the export of live aquatic animals in Australia.

## 5.4. Aquaculture sector

### 5.4.1. The Australian aquaculture sector

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. By far the largest industry (by value and volume) is located in Tasmania, where both Atlantic salmon and rainbow trout are grown out in sea cages located in brackish and saltwater sites around the state;
3. The yellowtail kingfish industry (*Seriola lalandi*) based in South Australia;
4. The barramundi (*Lates calcarifer*) industry farming in a number of states around 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.

There are also a number of aquaculture sectors involved in the farming of crustaceans, primarily:

<sup>77</sup> Available at <https://www.agriculture.gov.au/agriculture-land/animal/welfare/export-trade>

<sup>78</sup> Available at <https://www.agriculture.gov.au/sites/default/files/documents/asel-3-2-a5.pdf>

1. The prawn farming sector growing the black tiger prawn (*Penaeus monodon*) and the banana prawn (*Fenneropenaeus merguensis*) in Western Australia, New South Wales and Queensland.
2. The freshwater yabby, marron and red claw industries located in a number of states.

As far as the authors are aware there is currently no commercial aquaculture of cephalopods in Australia although harvesting of octopus and holding these wild octopus live does occur to a limited extent.

As in terrestrial animal farming, welfare considerations in the farming of aquatic animals can be for the entire lifecycle of the animal for those industries where broodstock are used to produce the eggs which will hatch to become the fish or crustaceans that will then be grown out for human consumption.

Some industries, for example the southern bluefin tuna industry based in Port Lincoln, South Australia, capture fish at sea and tow those fish back to be grown in pontoons (grow out cages) for a number of months. While one company has successfully spawned southern bluefin tuna in captivity, there is not yet a commercial industry which is based on the progeny of these spawnings.

#### 5.4.1.1. Farm certification schemes applicable to the Australian aquaculture sector

The following provides detail of a number of the farm certification schemes that currently are in place within the aquaculture sector in Australia and how aquatic animal welfare issues are addressed (or not) in these schemes.

All of these schemes are voluntary and not prescribed in legislation. As far as we are aware, there are no aquatic animal certification schemes that are prescribed under legislation in any jurisdiction in Australia.

#### 5.4.1.2. Royal Society for the Prevention of Cruelty to Animals Australia Farmed Atlantic Salmon Scheme

There is currently one producer of farmed Atlantic salmon in Tasmania who states that they are Australia's only seafood producer in Australia's RSPCA's Approved Farming Scheme<sup>79</sup>.

**Authors:** RSPCA Australia

**Publication:** May 2020

**Synopsis:** RSPCA Approved Farming Scheme Standards are based on animal welfare science, RSPCA policy, leading farming practices in Australia and overseas and take account of the commercial realities associated with farming. Livestock industries and individual producers also provide input. The standards are reviewed every five years and are publicly available.

**Animal Welfare Related Section or Pages:** Humane management, health, facilities/equipment, mortality maximums, prohibition on mutilations, feeding, life stages, fish handling, transport, veterinary care, water quality, stocking densities, minimal grading, maximum time out of water,

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<sup>79</sup> <https://www.huonaqua.com.au/australias-only-rspca-approved-salmon/>

breeding/GMO requirements, infrastructure management, water quality, feeding frequency, maximum withholding of food (72 hours), monitoring parameters/frequency, appropriate training, health records, killing methods, biosecurity/disease management and stunning before slaughter. Includes cleaner fish in welfare requirements.

**Other:** Based on 5 freedoms vs 5 domains. The Standards states that it is a "comprehensive framework for the assessment of fish welfare". It requires that those responsible for the care of farmed Atlantic salmon provide:

- caring and responsible planning and management;
- skilled, knowledgeable and conscientious stockpersonship;
- appropriate environmental management and design;
- infrastructure management, water quality, feeding frequency, maximum withholding of food (72 hours), monitoring parameters/frequency, appropriate training, health records, killing methods, biosecurity/disease management and stunning before slaughter. Includes cleaner fish in welfare requirements;
- considerate handling and transport;
- humane slaughter.

**Jurisdictional animal welfare legislation** – According to the RSPCA, abiding by relevant state legislation is a condition of entry to the RSPCA Approved Farming Scheme farmed Atlantic salmon program. As part of RSPCA Approved salmon Producer's certification within the Scheme, the RSPCA Certification Body assesses and tests the Producers relevant licenses on a regular basis.

#### 5.4.1.3. Aquaculture Stewardship Council (ASC)

The Aquaculture Stewardship Council (ASC) is an international certification scheme for aquaculture. There are a number of aquaculture operations in Australia that are currently ASC certified.

**Publication:** July 2019

**Synopsis:** Responsible farming scheme which includes environmental, biosecurity, social and health (human and animal) aspects. At this stage, however, it does not include aquatic animal welfare standards but these are currently being developed.

**Animal Welfare Related Section or Pages:** Does not address fish or prawn welfare specifically only in relation of animal health/disease breeding and biosecurity. Focuses on water quality, survival/mortalities, disease status, veterinary care availability, sourcing of stock, breeding and treatment regimes/frequencies. Ongoing use of wild-caught prawn broodstock is not permitted. As mentioned, specific aquatic animal welfare standards are currently being developed.

**Other:** The Standard states the following:

*"There are three primary mechanisms by which fish health management on marine fish farms may negatively impact the environment: proliferation of pests and parasites on the farm may create a vehicle for increased prevalence of diseases among wild fish; use of prophylactic antibiotics or improper use of other therapeutants may result in development of resistance to*



*the treatment; and use of some therapeutants may lead to contamination of farm effluents. In keeping with the SCAD focus on those criteria which most need to be addressed, and which we can most impact, the principle of fish health therefore focuses on indicators for these three criteria. This is not to suggest that the Seriola Cobia Aquaculture Dialogue (SCAD)<sup>80</sup> is unconcerned with issues of fish welfare, or responsible overall approaches to farm biosecurity and fish health management. However, these are secondary concerns... These requirements do not seek to address all issues relating to fish welfare (for example, harvesting of fish using humane slaughter). These issues are not addressed here because the SCAD Steering Committee considered it to be outside the scope of social and environmental standards. Separate standards are available for certification of humane treatment.*

Transgenic fish are not permitted under this Standard because of concerns about their unknown impact on wild populations. Genetically enhanced fish are not considered transgenic fish – neither are triploid or all-female fish. Prophylactic treatment with antibiotics is not permitted.

The culture of transgenic prawns is prohibited by the ASC Shrimp Standard. The ASC Shrimp (prawn) Standard recognizes that there is a difference between transgenic and genetically selected shrimp and is only concerned about transgenic shrimp at this time. Biodiversity of the environment is a key focus of the standard as well.

**Jurisdictional animal welfare legislation** – ASC states that it checks that companies comply with all applicable local, national and international legal and regulatory requirements. This should include applicable animal welfare legislation.

#### 5.4.1.4. Best Aquaculture Practices

The Global Seafood Alliance is an international, non-profit trade association which runs the Best Aquaculture Practices (BAP) certification programs. Currently there are a number of aquaculture operations in Australia that are certified under BAP.

#### **Publication: 2016/17**

**Synopsis:** Global performance standards for the aquaculture supply chain that assure healthful foods produced through environmentally and socially responsible means.

**Animal Welfare Related Section or Pages:** With respect to salmon, wildlife interaction plan does not refer to salmon, only wildlife.

This Program addresses fish welfare of salmon and related cleaner fish<sup>81</sup> by acknowledging fish can feel stress and need appropriate care and health monitoring.

Fish mortality, disease, transport, harvest, slaughter, handling, good water quality and general husbandry must be considered/managed.

Specifically, fish must be stunned before slaughter, any issues must be managed, mortality managed, fish monitored, handled with care, with specific limits for stocking density and time out of the water adhered to by farms.

<sup>80</sup> This refers specifically to the Seriola/Cobia standards but is applicable to ASC standards for other species.

<sup>81</sup> As far as we are aware currently no aquaculture farms in Australia use cleaner fish.

**Other:**

- 9.1: Fish welfare shall be overseen and reported on by a designated fish health professional.
- 9.2: The farm shall be located in waters where salmon would be expected to thrive, and farm facilities shall be clean and orderly.
- 9.3: Fish shall be fed feed made by a reputable feed company and subject to the requirements for documentation.
- 9.4: Where weather conditions allow, trained staff shall make at least daily inspections and reports on the culture facility, water quality, and behaviour and condition of fish.
- 9.5: Staff status reports on the facility, water quality and fish conditions shall be documented, investigated and addressed by the fish health professional and/or farm management.
- 9.6: When impaired fish and unwanted species are removed, their number, total weight and condition shall be recorded. They shall be killed by humane techniques, with the carcasses disposed of in a manner that ensures biosecurity and in accordance with applicable local and state regulations and/or the provisions of Section 8.
- 9.7: The applicant shall exercise care in handling fish and manage them within specified limits for crowding and time out of water, and limit other sources of outside disturbances.
- 9.8: The applicant shall be able to demonstrate compliance with a written Water Quality Management Plan described in the implementation requirements above that includes provisions for water quality monitoring, staff training, mitigation measures for poor quality and procedures for the monitoring and control of dissolved oxygen during fish transport.
- 9.9: The applicant shall apply stocking density criteria based on local conditions, which shall normally be at or below an average 25 kilograms per cubic meter but may rise higher than this for 5 percent of the production cycle if the fish show other good welfare indicators, and water quality is good.
- 9.10: Fish shall be harvested and transported under conditions directed by the fish health professional and designed to minimize distress.
- 9.11: The applicant shall demonstrate that mortality rates during transport are monitored, with the numbers used to evaluate transportation methods with the aim of reducing losses.
- 9.12: Prior to slaughter, fish shall be stunned humanely.

## 5.4.2. Other Standards, Guidelines and Codes applicable to the Australian aquaculture sector

### 5.4.2.1. Northern Territory Barramundi Farming Handbook

**Authors:** DPI NT - Glenn Schipp, Jérôme Bosmans and John Humphrey

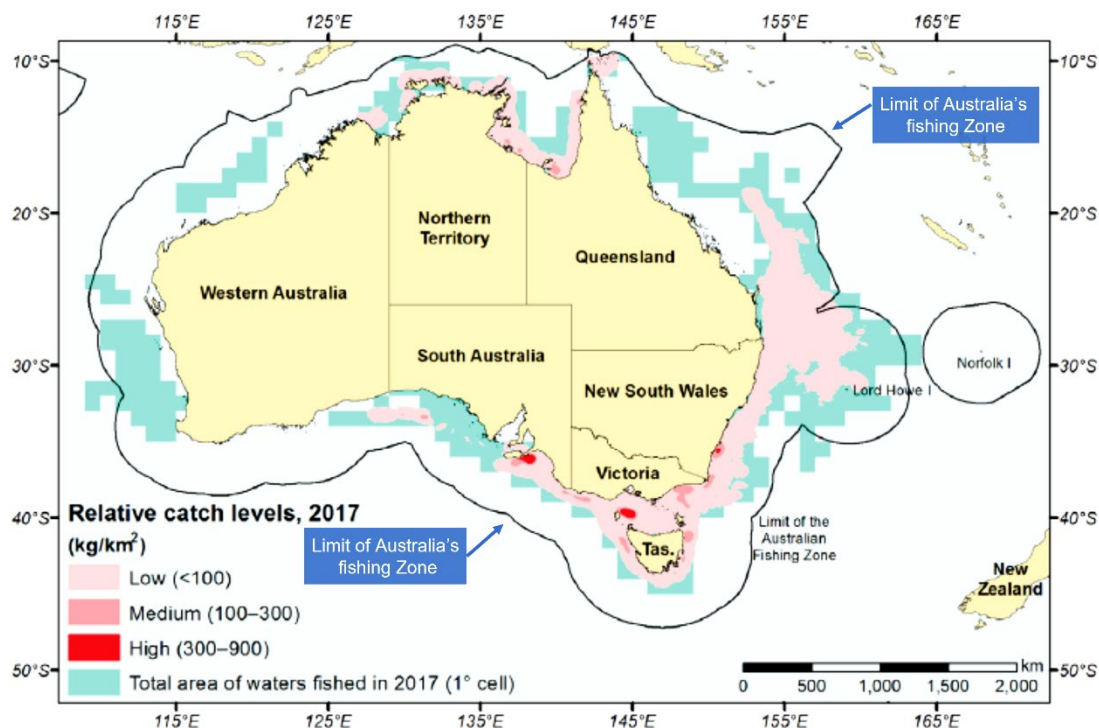
**Publication:** September 2007

**Synopsis:** Principles and Guidelines to Better Barramundi Farming and Practices. Focuses on improving fish health and optimising fish management, water quality and husbandry for production purposes;

**Animal Welfare Related Section or Pages:** Reducing stress is discussed and acknowledged especially during spawning which recommends the use of anaesthesia to improve welfare and reduce injury. Recommends optimal feeding and similar sized fish are kept together to reduce cannibalism. Grading and other activities are acknowledged to induce stress and care should be taken to mitigate effects including minimising the time spent out of water. Disease, water quality, treatment and biosecurity management practices should be appropriately developed to maintain good fish health and production but nothing specific about fish welfare.

## 5.5. Commercial Wild Capture Sector

Australia's wild capture fisheries occur across a large area of ocean. Australia has the world's third largest Exclusive Economic Zone (EEZ) and the Australian Fishing Zone straddles both the territorial sea and the EEZ. This Zone has an area of over 8 million square kilometres and is larger than the area of mainland Australia (Figure 3). This zone contains mainly Commonwealth managed fisheries. As noted in Chapter 4, state jurisdictions operate mainly in coastal waters up to the three nautical mile limit. Australia also participates in international fisheries.



**Figure 3 - Relative catch levels of all Australian Government-managed fisheries 2017 (from Patterson et al., 2018). This also shows the size of**

There are a huge number of aquatic animals captured and killed in this industry. The key welfare considerations are therefore primarily with respect to capturing and killing of aquatic animals.

As noted in Section 5.3, a small number of aquatic animals are captured live (e.g. coral trout, mudcrabs, Rock Lobsters) and transported live both within Australia and to overseas destinations. Hence there are welfare considerations in the handling of live aquatic animals in these sectors.

### 5.5.1. Uptake of aquatic animal welfare Standards, Guidelines and Codes

A selection of Standards, Guidelines and Codes that address aquatic animal welfare considerations in the commercial wild capture sector in Australia are included in Table 11 and have been included in the discussion in Section 5.2.

#### 5.5.1.1. Fisheries Research Development Corporation Project 2019-023

Fisheries Research Development Corporation (FRDC) Project 2019-023 (briefly discussed in Section 2.6 of this report and available at <https://www.frdc.com.au/sites/default/files/products/2019-023-DLD.pdf>) specifically considered the uptake of aquatic animal welfare SGCs in the commercial wild capture and aquaculture sectors.

This project also included a ‘stocktake’ of the range of international and national Codes of Practice and Guidelines that directly address aquatic animal welfare in the aquaculture and commercial wild capture sector. This included material that had been prepared through the Aquatic Animal Welfare Working Group of the Australian Animal Welfare Strategy, discussed in Section 2 of this report.

The six guidelines that were developed for specific fishing methods (Pot/trap, Rod/Handline, Purse seine, Mesh netting, Trawl and Beach seine) were developed by the Principal Investigator of this current project (Dr Paul Hardy-Smith). As far as we are aware, these are the only specific boat operator guidelines written specifically to address aquatic animal welfare issues for commercial wild capture operators in Australia.

FRDC Project 2019-023 examined the obstacles to, and drivers of, positive practice change relating to aquatic animal welfare in Australia’s wild-catch commercial fishing and finfish aquaculture sectors. As with the current project, it was conducted in response to growing societal expectations that production animals, including fish and crustaceans, be treated humanely.

The project noted that aquatic animal welfare is a complex issue. It found that appropriately designed and consistently funded extension programs can help improve aquatic animal welfare uptake and adoption but acknowledged that the insights gathered by the project were from a relatively small sample of Australian seafood industry members and noted that the findings do not fully represent the entire industry or particular sectors, or specific fisheries sectors included in the study. It therefore cautioned that some care was needed when releasing the Final Report to avoid the favourable or unfavourable findings being exaggerated.

The project made five recommendations, which included supporting those seafood business operators who are willing to take up recommended aquatic animal welfare practices as “change champions”, ensure aquatic animal welfare practices understand the benefits of adopting aquatic animal welfare practices but also ensure such practices do reduce stress on targeted and non-targeted catch, are able to afford price premiums, are safe for seafood producers and not overly difficult to use. Recommendation 5 is included here in its entirety as it refers to this current project.

*Further work could also assess what mix of policy instruments can be used in a more integrated and coordinated fashion to help improve aquatic animal welfare practice (AAW) change in Australia’s seafood industry. This Project’s findings could be synthesised with findings from FRDC Project 2020-040 to assess how well AAW government regulations and industry self-regulatory mechanisms (codes, guidelines) are or can be used better.*

## 5.6. Recreational fishing

### 5.6.1.1. Introduction

Recreational fishing in Australia is an important leisure activity. It provides economic and social benefits to the Australian community. Australia's recreational sector is the largest and most widely dispersed recreational activity that uses a natural resource<sup>82</sup>. Recreational fishing contributes to the well-being of many Australians.

Most recreational fishing occurs in state and territory waters and day-to-day management is the responsibility of these jurisdictions, as is aquatic animal welfare aspects of recreational fishing. The recreational components of some commonwealth managed commercial fisheries, such as game fishing is also the responsibility of the states and territories.

### 5.6.1.2. Outcomes of the 2006 Review

As noted in Section 1.1, the Aquatic Animal Welfare Working Group (AAWWG) of the Australian Animal Welfare Strategy (AAWS) commissioned a report in 2006 titled "A Review of Current Welfare Arrangements for Finfish in Australia" ("the 2006 Review") (Panaquatic 2006). The 2006 Review summarised finfish welfare arrangements in place across Australia at that time including any codes of practice or guidelines that existed in the four sectors examined.

The 2006 Review included information on key organisations including Recfish Australia, the Game Fishing Association and the Australian Underwater Spearfishing Federation and finfish welfare initiatives that these organisations were involved with. It included details of some of these initiatives, including discussion on the National Code of Practice for Recreational and Sport Fishing and the National Strategy for the Survival of Released Line Caught Fish.

The 2006 Review noted that there were a number of desirable welfare practices to reinforce in the recreational fishing sector, including the RecFish National Code and its awareness, research into improving the survival of fish being released by the recreational fishing sector and tournament accreditation schemes.

The 2006 Review also noted that a major issue consistently mentioned at that time was that there was a substantial amount of information on the best techniques for optimising fish welfare including handling of fish. However, the problem was disseminating this information to the anglers and ensuring that the information was being utilised by the anglers.

The 2006 Review also noted that fishing licences are not required in all states and territories of Australia and hence the opportunity to pass on information at the time of licence purchase is not available. This section provides information on what has happened in the recreational fishing sector regarding fish welfare (including cephalopods and crustaceans this time) since 2006.

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<sup>82</sup> More information available at <https://www.agriculture.gov.au/agriculture-land/fisheries/recreational>

### 5.6.1.3. National Code of Practice for Recreational and Sport Fishing

As reported in the 2006 Review (Panaquatic 2006), the National Code for Recreational and Sport Fishing (“the 1995 Code”) was written in 1995 after much consultation with members of Recfish Australia and the various state, territory and commonwealth fishery agencies. This was the first National recreational Code of Practice. It primarily addresses fishing for finfish.

At the time of writing the 2006 Review the 1995 Code was voluntary.

The National Code underwent a minor review in 2001 and then was updated in 2008 and 2010. The 2010 version of the National Code of Practice for Recreational and Sport Fishing addressed four main areas of fishing responsibility:

- i. Treating fish humanely
- ii. Looking after our fisheries
- iii. Protecting the environment
- iv. Respecting the rights of others

As such, there was a considerable welfare component to this Code.

Again, while the word “fish” is not defined in the 2010 version of the Code, it appears to primarily address vertebrate fish although some of the recommendations in the Code (e.g. “Taking no more than our immediate needs” and “Understanding and observing all fishing regulations and reporting illegal fishing activities”) are equally applicable to the catching of crustaceans and cephalopods.

In the 2010 version of the Code, the following is noted:

*The National Code is voluntary and has no formal legal status. We seek your support in promoting this Code and applying its principles in all your fishing activities.*

In 2016, Reef Ecologic Pty Ltd conducted a review of the National recreational fishing code of practice for the Australian Recreational Fishing Foundation (Smith *et al.*, 2016).

The reviewers noted that while the Code is held in high regard, it is not well known or used by Australia’s 3.5 million recreational fishers. Their estimate is that it may be known and used by between 1,000 and 10,000 fishers, scientists and managers between the period 2010 and 2015.

As far as we are aware, this is the only available estimation of how widely known any particular recreational fishing document is within the recreational fishing sector.

### 5.6.1.4. Other documents addressing aquatic animal welfare in the recreational fishing sector

Table 13 lists a considerable number of documents that are available on-line and that contain information pertaining to the welfare of aquatic animals being captured in the recreational fishing sector. This information is primarily focussed on vertebrate fish and does include crustaceans.

As can be seen from Table 13, there are a considerable number of documents that have been published. Some contain more detail than others.

As far as we are aware, there is no information available indicating how many recreational fishers read these documents, understand the information provided in these documents or utilise this information in their day to day recreational fishing.

As mentioned, the 2006 Review also noted that a major issue consistently mentioned at that time was that there was a substantial amount of information on the best techniques for optimising fish welfare including handling of fish. However, the problem was disseminating this information to the anglers and ensuring that the information was being utilised by the anglers.

We would suggest that there is now even more welfare information available for anglers. We would also suggest that the situation with respect to understanding how many anglers actually utilise this information on a day to day basis has not changed.



Table 13 - Documents available from both industry and government organisations around Australia that address aquatic animal welfare within the recreational fishing sector

Jurisdiction	Name of Organisation/Department where document available	Association	Document Name	Link	Date link accessed	PDF Link (if available as PDF)
National	Neat Fish - National Environmental Assessment of Tournament Fishing	Tournament accreditation	A Standard for National Environment Assessment of Tournament Fishing	<a href="http://www.neatfish.com/">http://www.neatfish.com/</a>	8/09/2022	<a href="http://www.neatfish.com/public/docs/neatfish-assessment.pdf">http://www.neatfish.com/public/docs/neatfish-assessment.pdf</a>
National	Gamefishing Association Australia	Peak Representative Body	GFAA Code of Conduct for a Responsible Gamefish Fishery (Webpage)	<a href="http://www.gfaa.asn.au/new/index.php/gfaa-information/gfaa-principles-code-of-practice">http://www.gfaa.asn.au/new/index.php/gfaa-information/gfaa-principles-code-of-practice</a>	7/09/2022	No PDF available
National	Australian Underwater Federation	Peak Representative Body	Australian Underwater Federation Spearfishing Code of Practice	<a href="https://auf.com.au/sports/spearfishing/spearfishing-code-of-conduct/">https://auf.com.au/sports/spearfishing/spearfishing-code-of-conduct/</a>	7/09/2022	<a href="https://auf.com.au/sports/spearfishing/spearfishing-code-of-conduct/">https://auf.com.au/sports/spearfishing/spearfishing-code-of-conduct/</a>
National	Underwater Skin Divers and Fishermen Association (USFA)	Peak Representative Body	USFA Spearfishing Code of Conduct	<a href="https://usfa.org.au/">https://usfa.org.au/</a>	7/09/2022	<a href="http://old-site.usfa.org.au/files/USFA%20Code%20of%20Conduct.pdf">http://old-site.usfa.org.au/files/USFA%20Code%20of%20Conduct.pdf</a>
National	National Recreational Fishing Code of Practice (NRFCOP)	Peak Representative Body	National Recreational Fishing Code of Practice Foundation Document	<a href="http://www.arff.net.au/">http://www.arff.net.au/</a>	8/09/2022	<a href="http://www.arff.net.au/wp-content/uploads/2019/03/Rec-Fishing-Code-of-Conduct.pdf">http://www.arff.net.au/wp-content/uploads/2019/03/Rec-Fishing-Code-of-Conduct.pdf</a>
National	Tuna Champions	Advisory association	Tuna Champions Southern Bluefin Tuna Code of Practice - Recreational Fishery	<a href="https://tunachampions.com.au/about-sbt/">https://tunachampions.com.au/about-sbt/</a>	8/09/2022	<a href="https://tunachampions.com.au/wp-content/uploads/2018/09/UTAS_Bluefin-Tuna_A4-8pp-Brochure_WEB.pdf">https://tunachampions.com.au/wp-content/uploads/2018/09/UTAS_Bluefin-Tuna_A4-8pp-Brochure_WEB.pdf</a>
NSW	Recreational Fishing Alliance of NSW (RFA)	Peak Representative Body	Australian Recreational Fishing Code of Conduct Foundation Document	<a href="http://www.rfansw.com.au/animal-welfare-and-recreational-fishing/">http://www.rfansw.com.au/animal-welfare-and-recreational-fishing/</a>	7/09/2022	<a href="http://www.arff.net.au/wp-content/uploads/2019/03/Rec-Fishing-Code-of-Conduct.pdf">http://www.arff.net.au/wp-content/uploads/2019/03/Rec-Fishing-Code-of-Conduct.pdf</a>
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Responsible Fishing Guidelines (Webpage)	<a href="https://www.dpi.nsw.gov.au/fishing/recreational/fishing-skills/responsible-fishing-guidelines">https://www.dpi.nsw.gov.au/fishing/recreational/fishing-skills/responsible-fishing-guidelines</a>	7/09/2022	No PDF available
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Recreational Fishing Catch and Release Handbook	<a href="https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/605732/nsw-recreational-fishing-catch-and-release-handbook.pdf">https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/605732/nsw-recreational-fishing-catch-and-release-handbook.pdf</a>	8/09/2022	<a href="https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/605732/nsw-recreational-fishing-catch-and-release-handbook.pdf">https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0005/605732/nsw-recreational-fishing-catch-and-release-handbook.pdf</a>
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Fishing event Code of Practice Guidelines (Webpage)	<a href="https://www.dpi.nsw.gov.au/fishing/recreational/resources/event-management/guidelines">https://www.dpi.nsw.gov.au/fishing/recreational/resources/event-management/guidelines</a>	7/09/2022	No PDF available
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Recreational Saltwater Fishing Guide 2022-2023	<a href="https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs">https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs</a>	7/09/2022	<a href="https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0012/600222/NSW-Recreational-Fishing-Guides-Saltwater-May-2022.pdf">https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0012/600222/NSW-Recreational-Fishing-Guides-Saltwater-May-2022.pdf</a>
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Saltwater Recreational Fishing in NSW Rules and Regulations Summary May 2021	<a href="https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs">https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs</a>	7/09/2022	<a href="https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0008/711890/16769-NSW-Rec-Fishing-Guide-DL-Saltwater-ENG.pdf">https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0008/711890/16769-NSW-Rec-Fishing-Guide-DL-Saltwater-ENG.pdf</a>
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Recreational Freshwater Fishing Guide 2022 - 2023	<a href="https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs">https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs</a>	7/09/2022	<a href="https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0011/600221/RecFishingGuide-Freshwater-May22.pdf">https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0011/600221/RecFishingGuide-Freshwater-May22.pdf</a>
NSW	NSW Department of Primary Industries	Government Body	NSW Government DPI Freshwater Recreational Fishing in NSW Rules and Regulations Summary 2021 - 2022	<a href="https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs">https://www.dpi.nsw.gov.au/fishing/recreational/fishing-rules-and-regs</a>	7/09/2022	<a href="https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/711868/NSW-Rec-Fishing-Guide-DL-Freshwater-16769-Screen-20210922v1.pdf">https://www.dpi.nsw.gov.au/_data/assets/pdf_file/0004/711868/NSW-Rec-Fishing-Guide-DL-Freshwater-16769-Screen-20210922v1.pdf</a>

**Table 13 (cont.) - Documents available from both industry and government organisations around Australia that address aquatic animal welfare within the recreational fishing sector (cont.)**

	Name of Organisation/Department where document available	Association	Document Name	Link	Date link accessed	PDF Link (if available as PDF )
Vic	Victorian Fisheries Authority	Government Body	Victorian Fisheries Authority Recreational Fishing Code of Conduct (Webpage)	<a href="https://vfa.vic.gov.au/recreational-fishing/recreational-fishing-guide/recreational-fishing-code-of-conduct">https://vfa.vic.gov.au/recreational-fishing/recreational-fishing-guide/recreational-fishing-code-of-conduct</a>	7/09/2022	No PDF available
Vic	Victorian Fisheries Authority	Government Body	Victorian Recreational Fishing Guide 2022 - A Guide to Fishing Rules and Practices	<a href="https://vfa.vic.gov.au/_data/assets/pdf_file/0008/864539/7176-VFA-Fishing-Guide-2022-7.0.pdf">https://vfa.vic.gov.au/_data/assets/pdf_file/0008/864539/7176-VFA-Fishing-Guide-2022-7.0.pdf</a>	7/09/2022	<a href="https://vfa.vic.gov.au/_data/assets/pdf_file/0008/864539/7176-VFA-Fishing-Guide-2022-7.0.pdf">https://vfa.vic.gov.au/_data/assets/pdf_file/0008/864539/7176-VFA-Fishing-Guide-2022-7.0.pdf</a>
VIC	VR Fish	Victorian Recreational Fishing Peak Body	VRFish Victorian Recreational Fishing Peak Body Recreational Fishing Code of Conduct	<a href="https://www.vrfish.com.au/education/code-of-conduct/">https://www.vrfish.com.au/education/code-of-conduct/</a>	8/09/2022	<a href="https://media.vrfish.com.au/wp-content/uploads/2018/10/02181145/CodeOfConductPosterV4.1.pdf">https://media.vrfish.com.au/wp-content/uploads/2018/10/02181145/CodeOfConductPosterV4.1.pdf</a>
QLD	Queensland Government	Government Body	Qld Government Queensland Recreational Boating and Fishing Guide 2015-2016 Edtn	<a href="https://www.safeboating.com.au/images/pdf/recguide201516.pdf">https://www.safeboating.com.au/images/pdf/recguide201516.pdf</a>	7/09/2022	<a href="https://www.safeboating.com.au/images/pdf/recguide201516.pdf">https://www.safeboating.com.au/images/pdf/recguide201516.pdf</a>
QLD	QLD Department of Agriculture and Fisheries	Government Body	Qld Government DAF Recreational Fishing Rules (Webpage)	<a href="https://www.daf.qld.gov.au/business-priorities/fisheries/recreational/recreational-fishing-rules">https://www.daf.qld.gov.au/business-priorities/fisheries/recreational/recreational-fishing-rules</a>	7/09/2022	No PDF available
QLD	QLD Department of Recreation, Sport and Arts	Government Body	Queensland Government Recreational Boating and Fishing Rules (Webpage)	<a href="https://www.qld.gov.au/recreation/activities/boating-fishing/rec-fishing/rules">https://www.qld.gov.au/recreation/activities/boating-fishing/rec-fishing/rules</a>	7/09/2022	No PDF available
QLD	SunFish Queensland	State's Peak Recreational Fishing Group	Sunfish Queensland Code of Angling Ethics (Webpage)	<a href="https://www.sunfishqld.com.au/display-news.php?view=13">https://www.sunfishqld.com.au/display-news.php?view=13</a>	8/09/2022	No PDF available
ACT	Australian Government - Department of Agriculture, Fisheries and Forestry	Government Body	A National Code of Practice for Recreational and Sport Fishing	<a href="https://ablis.business.gov.au/service/act/recreational-and-sport-fishing-code-of-practice/3920">https://ablis.business.gov.au/service/act/recreational-and-sport-fishing-code-of-practice/3920</a>	7/09/2022	<a href="https://www.ansaqld.com.au/wp-content/uploads/2014/06/recfish_australia_ncop_brochure.pdf">https://www.ansaqld.com.au/wp-content/uploads/2014/06/recfish_australia_ncop_brochure.pdf</a>
ACT	Australian Government - Department of Agriculture, Fisheries and Forestry	Government Body	ACT Government ABLIS Recreational and Sport Fishing Code of Practice (Webpage)	<a href="https://ablis.business.gov.au/service/act/recreational-and-sport-fishing-code-of-practice/3920">https://ablis.business.gov.au/service/act/recreational-and-sport-fishing-code-of-practice/3920</a>	7/09/2022	No PDF available
ACT	Australian National Sportfishing Association	Peak Body for Sportfishing in Australia	Australian National Sportfishing Association Ltd Rule Book	<a href="https://ansa.com.au/index.php/rules/">https://ansa.com.au/index.php/rules/</a>	8/09/2022	<a href="https://ansa.com.au/wp-content/uploads/2022/07/rule-book-2016-final.pdf">https://ansa.com.au/wp-content/uploads/2022/07/rule-book-2016-final.pdf</a>
SA	Department of Primary Industries and Regions	Government Body	SAGovernment DPIR Recreational Fishing Rules (Webpage)	<a href="https://pir.sa.gov.au/recreational_fishing/rules">https://pir.sa.gov.au/recreational_fishing/rules</a>	8/09/2022	No PDF available
SA	RecFishSA	Peak Body of Recreational Fishing SA	RecFishSA South Australian Recreational Fishing Regulations (Webpage)	<a href="https://recfishsa.org.au/fishing-regulations/">https://recfishsa.org.au/fishing-regulations/</a>	8/09/2022	No PDF available
WA	Department of Primary Industries and Regional Development	Government Body	WA Recreational Fishing Advisory Committee Code of Practice for Recreational Fishers in WA	<a href="https://www.fish.wa.gov.au/Fishing-and-Aquaculture/Recreational-Fishing/Recreational-Fishing-Rules/Pages/default.aspx">https://www.fish.wa.gov.au/Fishing-and-Aquaculture/Recreational-Fishing/Recreational-Fishing-Rules/Pages/default.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/occasional_publications/fop051.pdf">https://www.fish.wa.gov.au/Documents/occasional_publications/fop051.pdf</a>

**Table 13 (cont.) - Documents available from both industry and government organisations around Australia that address aquatic animal welfare within the recreational fishing sector (cont.)**

	Name of Organisation/Department where document available	Association	Document Name	Link	Date link accessed	PDF Link (if available as PDF )
WA	Department of Primary Industries and Regional Development	Government Body	WA Government DPIRD South-west Freshwater Angling Recreational Fishing Guide 2022	<a href="https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx">https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_freshwater_angling.pdf">https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_freshwater_angling.pdf</a>
WA	Department of Primary Industries and Regional Development	Government Body	WA Government DPIRD Marron Recreational Fishing Guide 2022	<a href="https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx">https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_marron.pdf">https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_marron.pdf</a>
WA	Department of Primary Industries and Regional Development	Government Body	WA Government DPIRD Net Fishing Recreational Fishing Guide 2022	<a href="https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx">https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_netting.pdf">https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_netting.pdf</a>
WA	Department of Primary Industries and Regional Development	Government Body	WA Government DPIRD Recreational Fishing Guide 2022	<a href="https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx">https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/recreational_fishing/rec_fishing_guide/recreational_fishing_guide.pdf">https://www.fish.wa.gov.au/Documents/recreational_fishing/rec_fishing_guide/recreational_fishing_guide.pdf</a>
WA	Department of Primary Industries and Regional Development	Government Body	WA Government DPIRD Rock Lobster Recreational Fishing Guide 2021/2022	<a href="https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx">https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_rock_lobster.pdf">https://www.fish.wa.gov.au/Documents/recreational_fishing/licences/rec_licence_rock_lobster.pdf</a>
WA	Department of Primary Industries and Regional Development	Government Body	WA Government DPIRD Crabbing for Blue Swimmer Crabs - West Coast Region	<a href="https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx">https://www.fish.wa.gov.au/About-Us/Publications/Recreational-Fishing/Pages/Recreational-Fishing-Guides.aspx</a>	8/09/2022	<a href="https://www.fish.wa.gov.au/Documents/recreational_fishing/additional_fishing_information/crabbing_for_blue_swimmer_crabs_west_coast.pdf">https://www.fish.wa.gov.au/Documents/recreational_fishing/additional_fishing_information/crabbing_for_blue_swimmer_crabs_west_coast.pdf</a>
WA	Government of Western Australia - Department of Fisheries	Government Body	WA Government DPIRD Recreational Fishing Rules (webpage)	<a href="https://www.fish.wa.gov.au/fishing-and-aquaculture/recreational-fishing/recreational-fishing-rules/pages/default.aspx">https://www.fish.wa.gov.au/fishing-and-aquaculture/recreational-fishing/recreational-fishing-rules/pages/default.aspx</a>	8/09/2022	No PDF available
WA	RecFishWA	Peak Body of Recreational Fishing WA	RecFishWest Fish Welfare Code of Conduct for Recreational Fishing in Western Australia	<a href="https://recfishwest.org.au/our-services/representation/?highlight=%22fish%20welfare%22">https://recfishwest.org.au/our-services/representation/?highlight=%22fish%20welfare%22</a>	8/09/2022	<a href="https://recfishwest.org.au/wp-content/uploads/2017/04/Fish-Welfare-Code-of-Conduct.pdf">https://recfishwest.org.au/wp-content/uploads/2017/04/Fish-Welfare-Code-of-Conduct.pdf</a>
WA	RecFishWA	Peak Body of Recreational Fishing WA	RecFishWest Code of Conduct for Recreational Fishing in the Pilbara	<a href="https://recfishwest.org.au/our-services/representation/?highlight=%22fish%20welfare%22">https://recfishwest.org.au/our-services/representation/?highlight=%22fish%20welfare%22</a>	8/09/2022	<a href="https://recfishwest.org.au/wp-content/uploads/2017/04/Code-of-Conduct-for-recreational-fishing-in-the-Pilbara.pdf">https://recfishwest.org.au/wp-content/uploads/2017/04/Code-of-Conduct-for-recreational-fishing-in-the-Pilbara.pdf</a>
TAS	Inland Fisheries Services	Government Body	Tasmania IFS River Access Responsibilities and Rights	<a href="https://www.ifs.tas.gov.au/publications/anglers-access-program-brochures">https://www.ifs.tas.gov.au/publications/anglers-access-program-brochures</a>	8/09/2022	<a href="https://www.ifs.tas.gov.au/media/publications/IFS_River_Access_-_Rights_and_Resp_Brochure_WEB.pdf">https://www.ifs.tas.gov.au/media/publications/IFS_River_Access_-_Rights_and_Resp_Brochure_WEB.pdf</a>
TAS	Inland Fisheries Services	Government Body	Tasmania Government IFS Anglers Access Program Brochures (Webpage)	<a href="https://www.ifs.tas.gov.au/publications/anglers-access-program-brochures">https://www.ifs.tas.gov.au/publications/anglers-access-program-brochures</a>	8/09/2022	No PDF available
TAS	Inland Fisheries Services	Government Body	Tasmania Government IFS Tasmanian Inland Fishing Code 2022-23 The Essential Pocket Guide	<a href="https://www.ifs.tas.gov.au/tasmanian-inland-fishing-code">https://www.ifs.tas.gov.au/tasmanian-inland-fishing-code</a>	8/09/2022	<a href="https://www.ifs.tas.gov.au/media/publications/IFS_Inland_Fishing_Code_2022-23_WEB.pdf">https://www.ifs.tas.gov.au/media/publications/IFS_Inland_Fishing_Code_2022-23_WEB.pdf</a>
TAS	Inland Fisheries Services	Government Body	Tasmania Government IFS Trout Fish Tasmania Free Guide to Trout Fishing Tasmania	<a href="https://www.ifs.tas.gov.au/fishing-from-a-boat">https://www.ifs.tas.gov.au/fishing-from-a-boat</a>	8/09/2022	<a href="https://www.ifs.tas.gov.au/static/pdf/Trout%20fish%20Tasmania.e7a2a13e6356.pdf">https://www.ifs.tas.gov.au/static/pdf/Trout%20fish%20Tasmania.e7a2a13e6356.pdf</a>
TAS	Fishing Tasmania	Government Body	Tasmania Government Recreational Sea Fishing Guide 2021 - 2022	<a href="https://fishing.tas.gov.au/recreational-fishing/rules">https://fishing.tas.gov.au/recreational-fishing/rules</a>	8/09/2022	<a href="https://fishing.tas.gov.au/Documents/Sea%20Fishing%20Guide%202021-22%20FULL.pdf">https://fishing.tas.gov.au/Documents/Sea%20Fishing%20Guide%202021-22%20FULL.pdf</a>

**Table 13 (cont.) - Documents available from both industry and government organisations around Australia that address aquatic animal welfare within the recreational fishing sector (cont.)**

	Name of Organisation/Department where document available	Association	Document Name	Link	Date link accessed	PDF Link (if available as PDF )
TAS	Anglers Alliance	Peak Body for Freshwater Anglers in Tasmania	Anglers Alliance Tasmania Code of Practice (webpage)	<a href="https://www.anglersalliance.org.au/">https://www.anglersalliance.org.au/</a>	8/09/2022	<a href="https://www.anglersalliance.org.au/code-of-practice">https://www.anglersalliance.org.au/code-of-practice</a>
NT	Department of Boating Fishing and Marine	Government Body	NT Government Recreational Fishing (Webpage)	<a href="https://nt.gov.au/marine/recreational-fishing">https://nt.gov.au/marine/recreational-fishing</a>	8/09/2022	No PDF available
NT	Department of Boating Fishing and Marine	Government Body	NT Government Know Your Limits - A Handy Reference to the Regulations Fishing in the Northern Territory	<a href="https://nt.gov.au/marine/recreational-fishing/possession-and-size-limits/possession-limits-for-fish">https://nt.gov.au/marine/recreational-fishing/possession-and-size-limits/possession-limits-for-fish</a>	8/09/2022	<a href="https://nt.gov.au/_data/assets/pdf_file/0005/275171/know-your-limits-booklet.pdf">https://nt.gov.au/_data/assets/pdf_file/0005/275171/know-your-limits-booklet.pdf</a>
NT	AFANT - Amateur Fisherman's Association of NT	Recreational Peak Body for NT	AFANT NT Fishing Rules (webpage)	<a href="https://afant.com.au/fishing-in-the-nt/nt-fishing-rules/">https://afant.com.au/fishing-in-the-nt/nt-fishing-rules/</a>	8/09/2022	No PDF available

## 6. Current aquatic animal welfare arrangements in Australia – teaching and research

### 6.1. Fish and aquatic invertebrate welfare education and training opportunities

A list of relevant tertiary education providers in Australia was developed from:

- the previous stocktake report (Panaquatic 2006);
- FRDC 2014/403 final report about the development of a national aquatic animal health curriculum;
- Animal Health Australia Subcommittee on Aquatic Animal Health – annual Member Report for Australian Universities; and
- manually adding any institutions to the list to represent all states and territories and to include all veterinary schools across Australia.

An online questionnaire was developed to capture the range of degree offerings and curriculum that involves the welfare of fish and aquatic invertebrate animals. The survey captured those interested in reigniting the conversation around sharing teaching resources dealing with fish and aquatic animal welfare. A total of 17 institutions (of which 3 were non-university institutions) were emailed with one follow up email reminder. A key contact person from each institution was identified from the above reports and prior knowledge of the project team. The number contacted from each state and territory was as follows:

Jurisdiction	Number contacted
Australian Capital Territory/New South Wales	4
Northern Territory	1
Queensland	3
South Australia	3
Tasmania	1
Victoria	2
Western Australia	3

For the purpose of the survey, we used the term "aquatic animals" to refer to:

- fish: such as finfish, sharks and rays;
- crustaceans including decapods, such as crabs, lobsters and prawns;
- molluscs such as squid, octopus and oysters.

The survey did not cover aquatic mammals or other higher vertebrates like reptiles or amphibians.

Responses were received from 8 institutions as shown in Table 14. Except for a Technical and Further Education (TAFE) facility in Western Australia, all institutions reported that aquatic animal welfare

and/or aspects of aquatic animal welfare were taught within a unit of study but there was not a specific unit/module dedicated to the topic.

The degree/course programs reported to teach aspects of aquatic animal welfare were veterinary science, animal science, marine science, fisheries management and law. University contacts also reported that animal welfare training was provided for all researchers as required their institutional animal ethics committees and general animal welfare training would apply to aquatic species. Most institutions delivered 1-3 hours of lectures dedicated to aquatic animal welfare. For a typical unit of study, this would consist of 1-4% of the teaching time.

All survey respondents indicated they were interested in being involved in a discussion group and sharing learning materials about aquatic animal welfare curriculum in Australia. At the conclusion of this project, Dr Joy Becker will contact the interested people to initiate a workshop to discuss the topic.

**Table 14 Summary of education and/or training in aquatic animal welfare at selected Australian tertiary institutions.**

State/territory	Institution	Scope of education/training <sup>1</sup>	Duration
NSW	The University of Sydney	B, C	1-3 hours lecture
NSW	Charles Sturt University	B, C	2 hours lecture
NSW	Macquarie University	B, C	1 hour lecture
QLD	James Cook University	B,C	1.5 hours lecture
SA	Flinders University	B,C	2 hours lecture; 9 hours practical
SA	University of Adelaide	B, C	1 hour lecture
TAS	University of Tasmania	B, C	2-hours lecture
WA	North Regional TAFE	D	Not applicable

<sup>1</sup> Scope of education/training was categorized as

A: Yes, we have a specific unit, course or module focused on aquatic animal welfare

B: Somewhat - aspects of aquatic animal welfare are incorporated in other units, course or modules

C: Somewhat - general animal welfare training is provided for people working with animals that could apply to aquatic animals

D: No

### 6.1.1. Seafood Industry Training Package

The Seafood Industry Training Package (SFITP) Version 2.0 was published in 2020 for vocational education training. The SFITP is a set of nationally endorsed competency standards, assessment guidelines and qualifications. It is the curriculum guide for registered training organizations (RTOs) (e.g. TAFE) to be able to provide these training programs. It sets out the specific areas of knowledge and training for each competency unit.

The process to develop and endorse the SFITP was based on:

- open and inclusive industry participation;

- strong stakeholder engagement and opportunity for industry to drive change;
- highly responsive to meeting industry needs and priorities for new skills;
- transparent arrangements for resolving contentious issues; and
- accountability of all stakeholders for their role in the process.

The SFITP described the key work and training for the seafood industry across the five relevant sectors being:

- aquaculture – offshore and onshore;
- fishing – commercial;
- seafood processing;
- fishery compliance;
- seafood wholesaling.

The SFITP states that the industry includes more than 7,186 commercial businesses with nearly 70% of these focused on fishing. This industry is represented by over 60 peak organizations at a national or state level.

The SFITP differentiates knowledge and skills training into the Australian Qualifications Framework (AQF) levels from Certificate I (Level 1) to Diploma (Level 5). Of note, the Certificate III Working with crocodiles is new this version of the training package. The summary of qualifications available in the training package are shown in Table 5.

**Table 15 - Summary of qualifications available in the Seafood Industry Training Package**

<b>AQF Level Certificate</b>	<b>Aquaculture</b>	<b>Fishing Operations</b>	<b>Seafood PostHarvest Operations</b>	<b>Fisheries Compliance</b>	<b>Seafood Industry</b>	<b>Working with Crocodiles</b>
<b>I</b>						
<b>II</b>						
<b>III</b>						
<b>IV</b>						
<b>Diploma</b>						

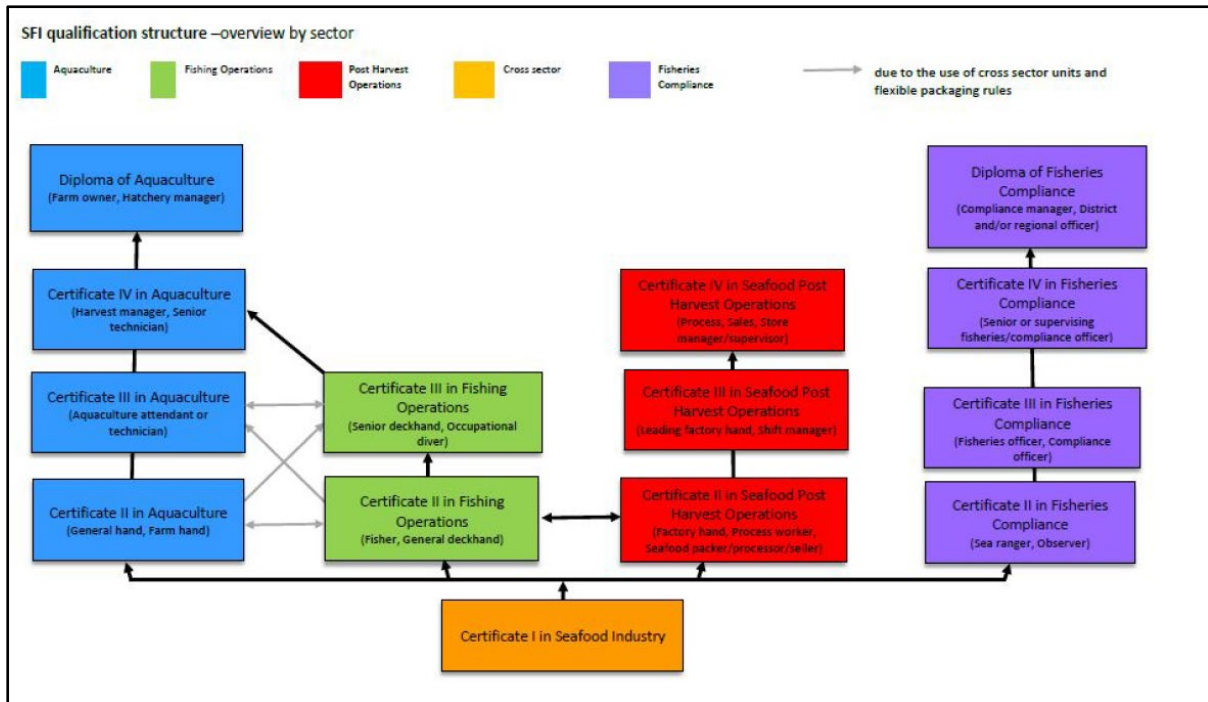


Figure 4 - Seafood industry training package structure and overview by sector (SFI 2019, page 27)

The national training website<sup>83</sup> was searched on 15 September 2021 for units of competency and skill sets relevant to aquatic animal welfare using selected keywords (e.g. welfare, health, care). There are no units of competency in the SFI training package that have the word ‘welfare’, ‘care’ or ‘health’ in the title. There were 28 units of competency in the entirety of the vocational education training website that had the word ‘welfare’ in the title. A number of these units were dealing with the welfare of animals used in agriculture (e.g. livestock, poultry, pigs) and performance animal industries (e.g. horses, dogs) as well other generic units addressing animal welfare in a veterinary context.

From the SFITP, a targeted selection of units of competency were searched for keywords such to identify units that may deal with aquatic animal welfare. Some example results are shown in Table 16. The units highlighted in yellow are from the SFI training package and have welfare incorporated in them.

### 6.1.2. The use of animals in research in Australia

As described in Chapter 4, each Australian state and territory has laws governing the use of animals in research and teaching. There is some variation across the states and territories. The National Health and Medical Research Council’s *Australian Code for the Care and Use of Animals for Scientific Purposes* (2013 and updated in 2021) (“NHMRC Code”)<sup>84</sup>, discussed in Section 4.3.2, sets the common framework of the guiding principles as well as the ethical framework and governing principles to guide decisions and actions of all those involved in the care and use of animals for scientific purposes. For example, it details the responsibilities of investigators, animal carers, institutions, and the animal ethics committees. It covers the use of animals in all aspects of research and teaching including activities associated with agriculture, field studies and industry.

<sup>83</sup> Available at [www.training.gov.au](http://www.training.gov.au)

<sup>84</sup> <https://www.nhmrc.gov.au/about-us/publications/australian-code-care-and-use-animals-scientific-purposes>



**Table 16 – Units of competency in the SFITP selected for aquatic animal welfare keywords**

<b>Unit code</b>	<b>Unit title</b>	<b>Assessment criteria</b>	<b>Note</b>
ACMGEN306	Provide advice on aquatic animal selection and general care (Release 1)	Discuss the animal's social and enrichment needs, considering those that impact on behaviour and welfare	From the Animal Care and Management Training Package
SFIAQU315	Apply control measures for diseases	No mention of welfare	
SFIAQU215	Control diseases	No mention of welfare	
SFIAQU408	Supervise harvest and post-harvest activities	No mention of welfare	Does state "Ensure stock is harvested and handled with minimal stress or damage according to the harvest schedule"
SFIBIO401	Apply aquaculture biosecurity measures (Release 1)	No mention of welfare	
<b>SFIAQU101</b>	Carry out basic aquaculture activities	Knowledge evidence of basic biological characteristics and welfare of the culture species	
<b>SFIAQU409</b>	Implement, monitor and review stock production	Knowledge evidence of welfare requirements of cultured or held stock	
<b>SFICRO301</b>	Support hatchery and juvenile crocodile care	Knowledge evidence of the principles of crocodile welfare and ethics as set out in relevant codes of practice	Most units of competency dealing with crocodiles refer to welfare
<b>SFICRO303</b>	Care for crocodiles over 1.2 metres in a controlled environment	Source information on sound crocodile husbandry and welfare processes that enhance crocodile health and prevent skin damage	
ACMCAS305	Maintain aquascapes and aquatic animals	Knowledge evidence of animal welfare and ethics	

The NHMRC Code applies to the care and use of all live non-human vertebrates and cephalopods but not to crustaceans. Individual institutions have the responsibility to determine when the use of an animal species not covered by the Code requires approval from the animal ethics committee. This should be taken into account with the emerging evidence of sentience and the ability to experience pain and distress. The NHMRC Code sets out as a guide for foetal and larval life stages, that when they have progressed beyond half of the gestation or incubation period or become capable of independent feeding, there is the potential for them to experience pain and distress and this should be taken into account.

The NHMRC Code has the governing principle that respect for animals must underpin all decisions and actions and must be subject to ethical review. This means that all institutions must ensure the care and use of animals for scientific purposes through the operation of an animal ethics committee. The guiding principle of the 3Rs – Replacement of animals with other methods; Reduction in the number of animals used and Refinement of techniques used to minimize the adverse impact on animals must be considered at all stages of animal care.

Section 5 of the NHMRC Code sets out the governing principles of dealing with complaints and non-compliance. The NHMRC Code is referred in the relevant animal welfare legislation at the state and territory level.

## 6.2. Welfare guidelines for the use of fish and aquatic invertebrates for teaching and research

### 6.2.1. NSW DPI (Fisheries)

In 2015, NSW DPI (Fisheries) published the 4th edition of *“A guide to acceptable procedures and practices for aquaculture and fisheries”*. The Guide provides a broad range of detailed information as a reference for animal ethics committees to consider when approving applications for use of fish in teaching and research. The guide describes basic fish husbandry, characteristics of common diseases, guidelines for handling and transportation as well methods for anaesthesia and euthanasia. The Guide defines an animal as a live non-human vertebrates and cephalopods.

The Guide describes some of the literature at the time of publication around the topic of do fish feel pain. The Guide does not take a position on whether fish feel pain but states that fish do respond to stressful or noxious stimuli. It recommends that considering fish welfare is valuable and removing these negative events will improve the quality of the scientific data generated and the performance and quality of the fish.

### 6.2.2. International

#### 6.2.2.1. European Union

In 2010, The European Union Directive 2010/63/EU<sup>85</sup> is the legislation for the protection of animals used for scientific purposes. This was the revision of the 1986 directive and came into effect in 2013. The 2010 Directive protected live non-human vertebrates including independently feeding larval forms and foetal forms of mammals from the last third of their normal development, and live cephalopods. An amendment in 2019 (Regulation (EU) 2019/1010) was to amend reporting requirements for better transparency so the ways and numbers of animals used in research were more accessible to the public. Member states have some flexibility to maintain national rules aimed at more extensive protection of animals in so far as they are compatible to the Directive. The Directive also sets out that each user, supplier or breeder has an animal welfare body (e.g. an animal ethics committee). The Directive sets out the composition of the animal welfare body and the terms of reference it.

It is noted that there is separate EU Directive (98/58/EC) concerning the protection of animals kept for farming purposes. This includes aquatic animals but does not pertain to invertebrates kept for farming purposes.

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<sup>85</sup> European Union directives are framework agreements across the member countries. While the Directive sets out the shared goals across member countries, each country then makes its own legislation/laws on how to achieve this goal.

#### 6.2.2.2. The Canadian Council on Animal Care

In 2005, The Canadian Council on Animal Care published “*Guidelines on: the care and use of fish in research, teaching and testing*”. These Guidelines have not been updated since the publication of the 2006 stocktake review by Panaquatic. In Canada, the legislation refers to vertebrate animals and includes cephalopods as the only invertebrate grouping. The CCAC Guidelines for fish are applicable to all bony and cartilaginous fish and includes all life stages once exogenous feeding begins. The Guidelines include fish in facilities as well as in the wild.

The Guidelines recognize the debate around fish feeling pain at the time of publication (2005). The Guidelines state a working definition as “*fish pain is a response to a noxious stimulus that results in a change in behaviour or physiology and the same noxious stimulus would be painful to humans*”.

#### 6.2.2.3. American Fisheries Society

In 2014, The American Fisheries Society (AFS) published a revision to “*Guidelines for the use of fishes in research*”. It is a joint publication with:

- American Fisheries Society;
- American Society of Ichthyologists and Herpetologists; and
- American Institute of Fishery Research Biologists.

The AFS Guidelines (2015) are based on the US Public Health Service Policy on Humane Care and Use of Laboratory Animals (2015). The definition of an animal is “*any live, vertebrate animal used or intended for use in research, research training, experimentation, or biological testing or for related purposes*” hence neither crustaceans nor cephalopods are included in this definition. The Guidelines outline safe holding, caring and handling and experimental procedures for fish in research facilities and in the natural environment (e.g. field sampling).

The AFS Guidelines (2015) summarised literature published at the time regarding the arguments around fish being capable of pain. Their conclusion was “*Overall, the weight of evidence in the fish species studied indicates that the experience of pain in mammals is not experienced in fish*”. However, the Guidelines recognize that irrespective of fish experiencing pain in the same way as a mammal does, exposure to a noxious stimuli are stressful events and should be minimized. This means that all fish under experimentation should be protected from potential physiological or behavioural disturbances and harm. The Guidelines emphasise that regardless of the individual or institutional acceptance of fish being capable of pain, it is critical to consider careful handling procedures and methods of sedation or anaesthesia.

#### 6.2.3. Common themes AFS and CCAC guidelines specific to fish were:

1. The challenges of providing guidelines for fishes because of the:
  - large number of species (>29,000);
  - breadth of the biodiversity of fish species;
  - diversity of life history, habits, and behaviour; and
  - complexity of environmental and husbandry requirements.

2. The importance to consider the naturally high mortality of the different life stages in fish relative to mammals. This was particularly noted in the early-juvenile life stages. The ecological life strategy for fish species mainly includes producing very large numbers of progeny to ensure adequate survival in the wild. For example, most species lay thousands or tens of thousands of eggs.

## 6.3. Guidelines for publishing scientific literature

### 6.3.1. ARRIVE guidelines

The ARRIVE guidelines<sup>86</sup> (Animal Research: Reporting of In Vivo experiments) are a checklist of information to include when publishing animal research for all animals. The guidelines provide the reporting requirements for publication of scientific literature using animals. For example, for basic information to be provided around study design, sample size determination, randomization, blinding methods, statistical analysis, experimental procedures, etc. The original guidelines were published in 2010 and have been endorsed by over a thousand life science journals. This means that authors must make a declaration they have followed the guidelines and must report information to fulfill the guidelines. The guidelines have also been endorsed by numerous funding agencies (including Australia's National Health and Medical Research Council) and universities. The ARRIVE 2.0 guidelines were published in 2020 in *PLOS Biology* providing more clarity around the guidelines and prioritization of required criteria. The ARRIVE guidelines are relevant to any study involving live animals, from mammals to fish, as well as invertebrates, in any area of the biosciences. The essential 10 guidelines are provided in Figure 5.

### 6.3.2. Basel declaration

The Basel Declaration was published in 2010 and is supported by an international scientific not for profit society, The Basel Declaration Society. The Basel Declaration is similar to the Helsinki declaration (World Medical Association 2013), where the researcher(s) declare that the animals' welfare has to be respected. Basel Declaration also includes other points such as the need for a well-designed experimental study with animal care consideration in alignment with the 3R's (replacement, reduction and refinement) and increased transparency in animal ethics of the research.

Since its inception, the Basel Declaration has been signed by several thousand scientists and endorsed by prominent research institutions and organisations all over the world. The Basel Declaration is done at the individual researcher level (i.e. not through a committee process). By signing the Basel Declaration, scientists commit publicly to the 3Rs and to respect the highest ethical and animal welfare standards in carrying out research using animals.

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<sup>86</sup> Further information is available at <https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000410>

ARRIVE Essential 10		
Study design	1	For each experiment, provide brief details of study design including: a. The groups being compared, including control groups. If no control group has been used, the rationale should be stated. b. The experimental unit (e.g., a single animal, litter, or cage of animals).
Sample size	2	a. Specify the exact number of experimental units allocated to each group, and the total number in each experiment. Also indicate the total number of animals used. b. Explain how the sample size was decided. Provide details of any a priori sample size calculation, if done.
Inclusion and exclusion criteria	3	a. Describe any criteria used for including and excluding animals (or experimental units) during the experiment, and data points during the analysis. Specify if these criteria were established a priori. If no criteria were set, state this explicitly. b. For each experimental group, report any animals, experimental units, or data points not included in the analysis and explain why. If there were no exclusions, state so. c. For each analysis, report the exact value of $n$ in each experimental group.
Randomisation	4	a. State whether randomisation was used to allocate experimental units to control and treatment groups. If done, provide the method used to generate the randomisation sequence. b. Describe the strategy used to minimise potential confounders such as the order of treatments and measurements, or animal/cage location. If confounders were not controlled, state this explicitly.
Blinding	5	Describe who was aware of the group allocation at the different stages of the experiment (during the allocation, the conduct of the experiment, the outcome assessment, and the data analysis).
Outcome measures	6	a. Clearly define all outcome measures assessed (e.g., cell death, molecular markers, or behavioural changes). b. For hypothesis-testing studies, specify the primary outcome measure, i.e., the outcome measure that was used to determine the sample size.
Statistical methods	7	a. Provide details of the statistical methods used for each analysis, including software used. b. Describe any methods used to assess whether the data met the assumptions of the statistical approach, and what was done if the assumptions were not met.
Experimental animals	8	a. Provide species-appropriate details of the animals used, including species, strain and substrain, sex, age or developmental stage, and, if relevant, weight. b. Provide further relevant information on the provenance of animals, health/immune status, genetic modification status, genotype, and any previous procedures.
Experimental procedures	9	For each experimental group, including controls, describe the procedures in enough detail to allow others to replicate them, including: a. What was done, how it was done, and what was used. b. When and how often. c. Where (including detail of any acclimatisation periods). d. Why (provide rationale for procedures).
Results	10	For each experiment conducted, including independent replications, report: a. Summary/descriptive statistics for each experimental group, with a measure of variability where applicable (e.g., mean and SD, or median and range). b. If applicable, the effect size with a confidence interval.

Figure 5 - Arrive Essential 10 Guidelines. Explanation and examples are provided on the website <https://www.guidelines.org>

## 7. Aquatic animal welfare workshops

### 7.1. Background

The Federal Government deals with animal welfare in the context of trade and international agreements and working with exporters to maintain international export standards. Animal welfare standards and laws addressing animal welfare and to prevent animal cruelty is the responsibility of individual state and territory governments.

The initial stage of this project was to conduct a contemporary stocktake of Australia's current aquatic animal welfare policies, programs, and procedures. This included a complete review of all state and territory legislation applicable to aquatic animal welfare. This review built on and included changes that have occurred since the initial stocktake was conducted in 2006.

The next stage of this project was to conduct a series of workshops where the information gained through the initial part of this project (and detailed in Sections 3-6 if this report) was shared with key stakeholders at the state and territory level.

Originally, three industry-focused face to face workshops were proposed to be held in Darwin, Adelaide and Brisbane with the purpose of these workshops being to present and discuss the current aquatic animal welfare legislation to stakeholders at the state and territory level.

Due to the COVID pandemic, having face to face meetings as planned proved untenable and so four on-line workshops were instead conducted with the same purpose. The on-line format provided an opportunity to invite more stakeholders.

The details of each workshop are provided in Table 17. Each workshop was two hours in duration and presented information relating to two of the eight states and territories. The information regarding the state and territory legislation covered in each workshop was circulated prior to the workshop, so that attendees had a chance to review the material before attending.

An example agenda for the workshops is provided in Figure 6.

**Table 17 - Details of the four workshops**

Workshop	Jurisdictions	Date	Time
1	Victoria, Tasmania	15 July, 2022	10am – 12pm
2	South Australia, Western Australia	15 July, 2022	2pm – 4pm
3	New South Wales, Australian Capital Territory	18 July, 2022	10am – 12pm
4	Queensland, Northern Territory	18 July, 2022	2pm – 4pm

Human ethics approval for the workshops was obtained from The University of Sydney Human Ethics Committee (approval number: 2022/260).

## 7.2. Participants

Stakeholders invited to participate included government agencies, aquaculture, commercial wild harvest and recreational fishers and animal welfare advocate groups, including the Royal Society for the Prevention of Cruelty to Animals (RSPCA) and Animals Australia.

Invitations to the workshops were sent to government agencies, wild-catch and aquaculture industries and recreational fishing sectors. In addition, the Principal Investigator liaised with the FRDC Indigenous Reference Group for guidance on indigenous representation.

<u>Meeting Agenda</u>			
Start time	End time	Moderator	Topic
09.50	10.00	ALL	Log on and check zoom connection
10.00	10.15	PHS	Welcome, introductions and workshop objective
10.15	10.30	PHS	Science on Sentience
10.30	10.50	RJ + ALL	Group Discussion
10.50	11.00		Break
11.00	11.15	PHS	Tasmania: animal welfare legislation overview
11.15	11.30	PHS	Victoria: animal welfare legislation overview
11.30	11.50	RJ + ALL	Group Discussion
11.50	12.00	JB	Wrap up next steps - case studies

ALL – All participants

PHS – Dr. Paul Hardy-Smith

RJ – Dr. Robert Jones

JB – Dr Joy Becker

Figure 6 - Example agenda for the workshops to discuss the current animal welfare legislation in Australia relevant to aquatic animal industries

The extensive network of government, industry and non-government contacts of the key investigators for this project was used to develop an invitation list. Key contacts involved in the Australian Animal Welfare Strategy (AAWS), the AAWS Aquatic Animal Welfare Working Group, government officials who had assisted with reviewing legislation were also sent an invitation.

In addition, an extensive search was conducted online for aquaculture, commercial wild capture and recreational fishing stakeholders. A due diligence process was conducted when any such organisation

was identified, which included assessing whether the organisation still operated, and if suitable contact details could be found.

For recreational and commercial sectors, an extensive on-line search was conducted to identify potential stakeholders. There is a very large number of recreational fishing clubs in Australia so again a due diligence process was used to determine which were still operational and for which there was a valid contact. It was not possible to send out invitations to all fishing clubs.

To further increase awareness of the research and the holding of the workshops, an important article on the project was published prior to the workshops in the Fisheries Research Development Corporation Fish Magazine, which was available in a printed version and on-line.

A total of 316 invitations were sent out. Of these, a total of 67 stakeholders returned consent forms (registered) necessary to attend the workshops and 56 of those that returned consent forms attended (Table 7).

Appendix F contains a complete list of the workshop registrations.

A summary of workshop invitations sent by jurisdiction and the group they represented is provided in Tables 17-19.

**Table 18 – Overall summary of workshops invitations.**

\*Confirmed delivery on either initial email or reminder email.

	Total emails Sent	Confirmed delivery*	Total Consent Forms Received	Total Attended
Victoria	60	46	5	5
Tasmania	34	21	10	6
South Australia	43	32	12	11
Western Australia	35	33	12	11
New South Wales/ Australian Capital Territory	74	63	14	11
Northern Territory	12	10	3	3
Queensland	42	37	11	9
Cross jurisdictional (e.g. peak bodies)	15	12	0	0
<b>Totals</b>	<b>315</b>	<b>254</b>	<b>67</b>	<b>56</b>

**Table 19 - Summary of workshop invitations by group**

	Peak Industry Body	NGO	Govt	Supplier	Recreational	Aquaculture	Service Provider	Wholesale/ Retail	Commercial Wild Catch	Total
Victoria	2	5	6	0	26	13	0	2	6	60
Tasmania	1	3	3	0	17	6	1	0	3	34
South Australia	0	3	4	0	18	7	1	0	10	43
Western Australia	1	2	3	0	19	4	0	1	5	35
New South Wales/Australian Capital Territory	0	6	1	1	48	12	2	1	3	74
Northern Territory	1	0	1	0	9	1	0	0	0	12
Queensland	3	2	4	0	13	17	1	1	1	42
Cross jurisdictional	4	2	0	0	0	3	1	0	5	15
<b>Totals</b>	<b>12</b>	<b>23</b>	<b>22</b>	<b>1</b>	<b>150</b>	<b>63</b>	<b>6</b>	<b>5</b>	<b>33</b>	<b>315</b>



**Table 20 - Summary of workshop participants by group**

	Peak Industry Body	NGO	Govt	Supplier	Recreational	Aquaculture	Service Provider	Wholesale/Retail	Commerical Wild Catch	Total
Victoria	1	2	0	0	1	1	0	0	0	5
Tasmania	0	2	2	0	1	0	0	0	1	6
South Australia	0	2	1	0	1	2	1	0	4	11
Western Australia	0	0	3	0	2	2	0	0	4	11
New South Wales/Australian Capital Territory	0	2	1	0	3	2	2	0	1	11
Northern Territory	1	0	1	0	1	0	0	0	0	3
Queensland	0	1	4	0	1	2	1	0	0	9
<b>Totals</b>	<b>2</b>	<b>9</b>	<b>12</b>	<b>0</b>	<b>10</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>10</b>	<b>56</b>

### 7.3. Group discussions

Each workshop was structured to have two group discussions to capture the perspectives of the participants. For the first group discussion, participants were asked about their views on the advancement of animal welfare in their industry since the first stock take report published in 2006 and to give their thoughts on sentience in aquatic animals. The second group discussion was specific to the state and territory information being discussed. Participants were asked how their industry practices met the current legislation and/or proposed changes to legislation and if they had concerns about any gaps between practices and legislation or if they identify future needs for their industry in this area where FRDC could target future support.

#### 7.3.1. Thematic summary of the perspectives from participants

A thematic summary of the group discussions held during all four workshops is provided in Tables 21 and 22. Stakeholder comments were de-identified to report the type of industry being represented as:

- i. the biological species grouping as fish, decapod, crustacean or multi-species if involving more than one biological grouping;

And (more than one description can apply):

- ii. aquaculture, commercial fisheries, recreational fishing, government agency, peak body, university academic, industry or environmental consultant, and/or an organization related to animal welfare;

Or:

- iii. Comments that were captured during a workshop that were contributed two or more participants through group discussion were identified as by workshop name (e.g. New South Wales/Australian Capital Territory workshop).

**Table 21 - Group discussion 1 thematic summary: Comments and views from participants on aquatic animal welfare advancement and sentience**

Theme ID	Theme	Stakeholder industry description	Comment/summary views
1	Sentience of fish and aquatic animals	Decapod; commercial fishery; peak body	We need to move past the discussion on sentience and assume they are. Good animal welfare makes good business sense because you get better commercial outcomes. E.g.: poor handling is expensive, leads to mortality. The participant referred to a FRDC project on improving handling practices in Southern Rock Lobster (FRDC 2019-028).
1	Sentience of fish and aquatic animals	Organization related to animal welfare	The fishery industries need to move past this debate and accept sentience.
1	Sentience of fish and aquatic animals	Decapod; commercial fishery; peak body	Fish and aquatics are likely sentient as mammals.
1	Sentience of fish and aquatic animals	University academic	Sentience is defined as the capacity to feel.
1	Sentience of fish and aquatic animals	Fish; recreational fishing; peak body	We need to accept and move on. We need to be respectful to the animal and this may mean we need to modify activities.
1	Sentience of fish and aquatic animals	University academic	The research questions we are concerned with now about sentience are with respect to invertebrate animals – for example how far down the taxonomy does sentience go?
1	Sentience of fish and aquatic animals	University academic	Commercial fisheries and aquaculture industries generally have significant respect for the fish and recognize the improvements in product quality. The big gap is recreational fishing.
1	Sentience of fish and aquatic animals	Decapod; commercial fishery	There's seems to be arguments on both sides for sentience – not sure I believe the science
1	Sentience of fish and aquatic animals	University academic	The argument that fish don't feel pain hasn't changed for 20 years (i.e. no new evidence to support this argument). Yet the science on fish feeling pain and being sentient has moved forward immensely.
1	Sentience of fish and aquatic animals	Multi-species; commercial fishing; recreational fishing; government agency	Looking after aquatic animals makes good business sense and this means good commercial outcomes
1	Sentience of fish and aquatic animals	Fish; recreational fishing	The science is confusing so we're seeing people go back to ideas from 20 years ago and put their heads in the sand.
1	Sentience of fish and aquatic animals	Fish; recreational fishing; peak body	The science of sentience is the priority and caution about material from activism groups
1	Sentience of fish and aquatic animals	Fish; recreational fishing	I believe that fish can feel stress but not pain.
2	Community values and public perception drive change in legislation and practice	Multi-species, environmental consultant	We need to stay ahead of the curve with respect to public sentiment. Community values 'pot/line to plate'.

**Table 21 (cont.) - Group discussion 1 thematic summary: Comments and views from participants on aquatic animal welfare advancement and sentience**

Theme ID	Theme	Stakeholder industry description	Comment/views
2	Community values and public perception drive change in legislation and practice	Multi-species; aquaculture; peak body	We need to ensure proper debate in society.
2	Community values and public perception drive change in legislation and practice	University academic	The taxonomy of aquatic species and their anatomy may be irrelevant if society wants a change that will drive legislation.
2	Community values and public perception drive change in legislation and practice	Fish; recreational fishing; peak body	Legislation is shaped by community values.
2	Community values and public perception drive change in legislation and practice	Crustacean; commercial fishery; peak body	We need to meet community values and we need to demonstrate that we are listening to the community.
2	The influence of community values and public perception on legislation and practice	Comment from a participant of the SA/WA workshop	Community sentiment is very powerful and this is worrisome to recreational fishers.
2	The influence of community values and public perception on legislation and practice	Comment from a participant of the SA/WA workshop	Community values don't always align with Codes of Practice (i.e. Codes are often behind where society is).
2	The influence of community values and public perception on legislation and practice	FRDC RAC member	Public sentiment will drive change in the industry and legislation.
2	The influence of community values and public perception on legislation and practice	Fish; recreational fishing	The underlying worry is that all fishing will be banned.
2	The influence of community values and public perception on legislation and practice	Fish; recreational fishing	As a club, we are limiting the amount of time fish are on the line by removing any prizes/awards associated with line classes (i.e. removing the incentive for members to fish lighter lines which take longer to bring in a fish in).
3	Animal welfare is a sustainability challenge for fishery industries	Crustacean; commercial fishery; peak body	This a priority for our industry.
3	Animal welfare is a sustainability challenge for fishery industries	Decapod; commercial fishery	We are working closely with DPIRD to clarify the new legislation coming in WA and will bring concepts of animal welfare into the discussion.
3	Animal welfare is a sustainability challenge for fishery industries	Organization related to animal welfare	Our work is focused mostly on larger commercial fishers and we focus on animal welfare in training and emphasize the improvements in product quality.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; recreational fishing; peak body	The government rules and requirements make it hard for conservation groups to do their work. We need help navigating the 'red tape'.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; recreational fishing; peak body	We need support to understand new changes and how they apply to us.

**Table 21 (cont.) - Group discussion 1 thematic summary: Comments and views from participants on aquatic animal welfare advancement and sentience**

Theme ID	Theme	Stakeholder industry description	Comment/views
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; aquaculture	The legislation language isn't clear (e.g. unnecessary harm, appropriate housing) and leads to grey areas. Clear plain language is needed.
4	The legislation is complicated, hard to understand, and/or keeps changing	University academic	The wording around legislation leaves grey areas and these need to be closed.
4	The legislation is complicated, hard to understand, and/or keeps changing	FRDC RAC member	We need to be ready to engage in the discussions when new legislation is being considered.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; aquaculture	We as an industry need to be ready to engage in the discussions when new legislation is being considered.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; aquaculture; peak body	Legislative changes requiring industry practice changes can be expensive, especially for small/medium operators. We need to consider impact across all industry participants.
4	The legislation is complicated, hard to understand, and/or keeps changing	Multi-species; aquaculture and commercial fishery; peak body	We need to ensure legislation changes requiring changes to industry practice are resourced and supported. Many fisheries are unique and need to build relationships with extension officers and fishers.
4	The legislation is complicated, hard to understand, and/or keeps changing	Organization related to animal welfare	The wording is confusing about when the duty of care starts for marine recreational fishing.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; recreational fishing	How will the NT legislation changes affect tagging – for example the “barra classic” and million-dollar fish?
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; recreational fishing; peak body	The consequences of doing the wrong thing need to be spelled out and then applied.
4	The legislation is complicated, hard to understand, and/or keeps changing	University academic	The draft bill in NSW has more specific defenses to allow for things like catch and release fishing and restocking.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; recreational fishing; peak body	How do international agreements integrate with state/territory legislation? For example, shark finning?
4	The legislation is complicated, hard to understand, and/or keeps changing	Comment from a participant of the SA/WA workshop	The WA regulations are expected to come out March 2023-March 2024.
4	The legislation is complicated, hard to understand, and/or keeps changing	Fish; recreational fishing	The language isn't clear if catch and release fishing is an allowable defense in NSW under current legislation.
4	The legislation is complicated, hard to understand, and/or keeps changing	Organization related to animal welfare	Question around how animal welfare legislation applies to bycatch in commercial fisheries.
4	The legislation is complicated, hard to understand, and/or keeps changing	Comment from a participant of the SA/WA workshop	Are cultural practices exempt from compliance with legislation?
5	Funding to support extension and education	Multi-species; aquaculture and commercial fishery; peak body	I don't think there's been much adoption since 2006. We struggle to get funding to get out on boats – which is what is needed to do extension. We need the education at the grass roots level.
5	Funding to support extension and education	Multi-species; aquaculture; commercial fisheries, peak body	Need ways to define and measure the success of extension work.

**Table 22 - Group discussion 2 thematic summary: Comments and views on current and/or proposed legislation and areas of importance to fisheries industries as related to animal welfare**

Theme ID	Theme	Stakeholder industry description	Comment
1	Animal-based welfare indicators in aquatic species	Multi-species; aquaculture; commercial fisheries, peak body	Relative to terrestrial animal production, we have very few science-based animal welfare indicators that can be used for tracking improvements.
1	Animal-based welfare indicators in aquatic species	Fish; aquaculture; peak body	We need animal welfare indicators that are defined and can be measured so we know we are getting better.
1	Animal-based welfare indicators in aquatic species	Fish; aquaculture; peak body	Animal welfare indicators need to be industry-specific and must take into consideration the entire process (e.g. not just at the moment of slaughter but the entire harvest/slaughter process).
1	Animal-based welfare indicators in aquatic species	FRDC RAC member	Must have animal welfare indicators that are measurable.
1	Animal-based welfare indicators in aquatic species	Aquaculture, commercial fisheries, industry consultant	Welfare indicators need to be science-based.
1	Animal-based welfare indicators in aquatic species	Fish; aquaculture; peak body	It would be ideal for welfare indicators to be linked to improved product quality.
1	Animal-based welfare indicators in aquatic species	Comment from the participants of the QLD/NT workshop	We need to better capture the animal welfare things we do now that aren't labelled as 'animal welfare' but do contribute to improved animal welfare outcomes.
2	Concerned about access to markets could be limiting if our industries do not meet welfare standards	Decapod; commercial fishery, peak body	Industries want to be able to access European Union (EU) markets and need to meet EU requirements for animal welfare.
2	Concerned about access to markets could be limiting if our industries do not meet welfare standards	Multi-species, environmental consultant	A guide about how to access EU or America markets with respect to animal welfare requirements is needed.
2	Concerned about access to markets could be limiting if our industries do not meet welfare standards	Fish; aquaculture; peak body	Concerned about the EU phasing out ice slurry. We need science to support an industry practice change to know that the new method is actually better.
2	Concerned about access to markets could be limiting if our industries do not meet welfare standards	Decapod; Commercial fishery; peak body	What legislation applies as animals are moved in live traded within Australia?

**Table 22 (cont.) - Group discussion 2 thematic summary: Comments and views on current and/or proposed legislation and areas of importance to fisheries industries as related to animal welfare**

2	Concerned about access to markets could be limiting if our industries do not meet welfare standards	Comments from participants of the NSW/ACT workshop	What legislation applies as animals are moved in live traded within Australia?
3	Inconsistencies in state/territory legislation	Organization related to animal welfare	In Victoria, why are adult cephalopods listed as animals but not early life stages?
3	Inconsistencies in state/territory legislation	Organization related to animal welfare	The draft NSW legislation has inconsistencies and needs clarification (e.g. crustaceans in a restaurant are covered as animals but not when being fished).
4	Changing practice to meet legislative requirements	Multi-species; commercial fishery; state government	Even if legislation changes and Codes are developed, how can we change human behaviour? Need to support extension/education programs with a focus at point of care (e.g. on farms, boats, jetties).
4	Changing practice to meet legislative requirements	Fish; recreational fishing; peak body	Recreational fishers contribute to a large number of human-wildlife interactions. Respect for fish cannot be legislated. It has to be a grass roots effort and maybe education would help this.
4	Changing practice to meet legislative requirements	Fish; recreational fishing	There has been big change in attitudes and behaviours over the last 20 years. This has been a grass roots uprising and maybe more education would help.
4	Changing practice to meet legislative requirements	Fish; recreational fishing	A one size fits all approach is not good here. We need techniques that are species specific. For example, iki jime works for some species but not all.
4	Changing practice to meet legislative requirements	Fish; recreational fishing; peak body	Live baiting is a personal choice.
4	Changing practice to meet legislative requirements	Comments from participants at the SA/WA workshop	Not really a priority need because there's no legislation driving this need in SA/WA.
5	Need for community education and training	Organization related to animal welfare	There is a need to increase education that fish and some aquatic animals are recognized as 'animals' in legislation.
5	Need for community education and training	Fish; recreational fishing; peak body	Suggest having online videos/modules for humane killing, handling and releasing of fish with signage and QR codes at boat ramps/jetties, etc.
5	Need for community education and training	Fish; recreational fishing; peak body	Not really a call for community education and training.
5	Need for community education and training	Fish; recreational fishing; peak body	There has been a total change in attitude in the last 20 years about fish which has led to more respect for the animal. More education would advance this.
5	Need for community education and training	Fish; recreational fishing	I think improved awareness and education comes from showing good handling and practices on tv and in articles in fishing magazines.
5	Need for community education and training	Organization related to animal welfare	There is a need to target recreational fishers every once in a while (e.g. 1-2 times per year).
5	Need for community education and training	Fish; recreational fishing	Need to ensure education is accessible on paper or in other ways that is not just online requiring a smart phone/computer and good data access.

**Table 22 (cont.)- Group discussion 2 thematic summary: Comments and views on current and/or proposed legislation and areas of importance to fisheries industries as related to animal welfare**

5	Need for community education and training	Fish; recreational fishing; peak body	Sounds good in theory but not sure how it could be delivered.
6	Development and application of Codes of Practice	Fish; recreational fishing; peak body	Code of Practice is available on the website; although compliance is not mandatory.
6	Development and application of Codes of Practice	Fish; recreational fishing; peak body	A national Code of Practice for recreational fishing is available although compliance is not mandatory.
6	Development and application of Codes of Practice	Organization related to animal welfare	If Codes are to be developed, they should do more than just meet today's requirements; it would be ideal to move the dial to demonstrate industries to be progressive; Codes should drive change.
6	Development and application of Codes of Practice	University academic	Having Codes of Practice is key for industries to have a set of guidelines and then acceptable defenses under the animal welfare Acts.
6	Development and application of Codes of Practice	Fish; recreational fishing; peak body	We need a Code of Practice that is required and it should include a Code of Conduct too.
6	Development and application of Codes of Practice	Organization related to animal welfare	A good approach would be to be proactive and not reactive (when there's legislation changes). Industry doesn't need to wait for legislation changes to make improvements in practices for animal welfare.
6	Development and application of Codes of Practice	Organization related to animal welfare	Practical Codes of Practice and training is important.

## 7.4. After the workshops

One of the outcomes for the workshops was to identify and develop potential case studies where stakeholders considered there to either be a need within their industry or sector for further work on looking at alignment of industry practices with legislative requirements, or where there was a perceived gap in the understanding on what constituted good aquatic animal welfare. All participants in the workshops were emailed after the workshops for the opportunity to provide additional feedback on the content and to identify potential case studies. Potential case studies were developed in consultation with the industry stakeholder that nominated the issue.

### 7.4.1. Feedback received after the workshops

The following is a selection of the feedback received after the workshops.

Respondent #1 (Organization related to animal welfare): "...found it really interesting."

Respondent #2 (Fish; recreational fishing; peak body):

*"1. I find it impossible to progress with a discussion around whether fish, and other aquatic species that were discussed, should be 'labelled' in a similar way as others (mammals for example) without enshrining a single, shared definition of what a sentient being is.*

*2. Putting #1 aside, there is a whole swag of science already out there regarding fish and the way they perceive pain, which refutes some of the claims that were made by other stakeholders during the workshop. This leads me to my last point.*

*3. Community engagement is not the same as community expectation. I would go as far as to say that community engagement and community expectation can often be mutually exclusive. A workshop with a single representative from each of the stakeholder groups does not constitute equal representation and therefore equal community expectation, even more so if they are a select representation. For example, Queensland has 800,000+ recreational fishers, whereas a 2020 Qld Fisheries report on the commercial sector stated there were 1044 active businesses. That would mean that for every commercial fisher you would need 800 recreational fishing representatives. I use this only as an example but I'm sure you understand my concerns.*

*Again, I sincerely appreciate the opportunity."*

Respondent #3 (Organisation related to animal welfare)

Provided a seven-page submission post workshops which outlined the organisation's position with respect to aquatic animal welfare and summarised considerations and concerns of theirs regarding current aquatic animal welfare arrangements.



## 7.5. Key messages coming from the discussions

The key messages which came out of discussions held during the workshop included:

- It is community values that influence legislation so a continued debate within the fisheries industries about whether or not fish are sentient is not constructive;
- Respecting the animal is central to ensuring a quality product;
- Animal welfare was identified by some industries as their next sustainability challenge;
- There is still considerable confusion regarding animal welfare legislation. This is in part due to it varying so considerably between states and territories (as has been identified in this review);
- There is a paucity of measurable animal welfare indicators for aquatic animals compared to terrestrial animals;
- In general, stakeholders from the recreational fishing sector expressed concerns that aquatic animal welfare will limit, reduce or shut down their fishing activities;
- Concerns were raised by several stakeholders that there is confusion about how animal welfare legislation applies when product moves across jurisdictional lines within Australia (e.g. live trade of decapods);
- Concerns were raised by several stakeholders that changes to animal welfare requirements in overseas markets may impact or limit the growth of Australian export markets. This was considered an unknown element and stakeholders were unsure how to resolve;
- The development of standards/guides/codes appears to be a reasonable approach to demonstrating compliance with aquatic animal welfare legislation and to ensure industry resilience.

## 8. The development of potential aquatic animal welfare case studies

### 8.1. Background and introduction to potential case studies

As noted in Section 7, a series of four workshops were conducted to present and discuss the current aquatic animal welfare legislation to stakeholders at the state and territory level. Each workshop was two hours in duration and presented information relating to two states and territories.

Stakeholders attending the workshops included government agencies, aquaculture, commercial wild harvest and recreational fishers and animal welfare advocate groups including the Royal Society for the Prevention of Cruelty to Animals (RSPCA) and Animals Australia.

Out of these workshops a number of potential future case studies were identified, where stakeholders considered there to either be a need within their industry or sector for further work on looking at alignment of industry practices with legislative requirements, or where there was a perceived gap in the understanding on what constituted good aquatic animal welfare.

It is important to note that it was not the intention of this project to deliver the actual case studies but rather to work with stakeholders to identify potential case studies that may form the basis of future projects. Four potential case studies were identified:

- i. Production of a Responsible Fishing Guideline for animal welfare in the wild prawn sector;
- ii. Assessment of how current commercial wild harvest practices align with the existing national wild capture animal welfare guidelines;
- iii. Welfare Legislation and Its implications for domestic and international trade in Rock Lobsters; and
- iv. Methods for improving understanding of aquatic animal welfare in the recreational fisher sector.

## 8.2. Potential case study #1 – Production of a Responsible Fishing Guideline for animal welfare in the wild prawn sector

### 8.2.1. Introduction

The Australian Council of Prawn Fisheries (“ACPF”) members consist of wild prawn fishers operating around Australia. Hence even though all fishers are catching Australian wild prawns, the animal welfare legislation applicable to each fisher varies depending on the State or Territory in which they operate.

The ACPF is keen to assess its animal welfare risks, work with animal welfare stakeholders and transparently engage in the community as part of the sector's pursuit of community transparent 'ethical production'.

This potential case study is to produce a Responsible Fishing Guideline for animal welfare in the wild prawn sector.

### 8.2.2. Legislative considerations

Members of the ACPF catch wild prawns around Australia, hence the animal welfare legislation they are operating under varies from jurisdiction to jurisdiction.

This potential case study provides an excellent opportunity to consider how to develop a specific prawn welfare guideline for an industry operating in New South Wales, Northern Territory, Queensland, South Australia, Victoria, and Western Australia that ensures compliance with the different welfare legislation in those states and territories as it pertains to decapod crustaceans.

### 8.2.3. Need

Changes in animal welfare legislation around Australia present an opportunity for the Australian Wild Prawn sector to be on the front foot addressing the community's animal welfare concerns. The ACPF's members understand that current fishing practices, along with investments in on-board processing and bycatch reduction, place the wild prawn sector in a lower risk animal welfare position. The ACPF also understands that advances in these areas improve product quality.

The ACPF's members have discussed the best progressive approach to global change in animal welfare since September 2018 when it was agreed to include animal welfare in one of the ACPF's 2016-2021 Strategic Plan Actions: Implement and engage Members in a postharvest efficiency program to enhance fishery wide product handling, including animal welfare and food safety standards.

The September 2018 meeting triggered a review of the Code of Animal Welfare (relevant to prawns) which was completed in October 2019. The document highlighted the eight points in the FRDC Aquatic Animal Welfare in Perspective in 2017. This review was discussed at the ACPF's forum in 2019 and members agreed the need for an approach that considered a simple but publicly available solution, especially for media response, including an overarching policy statement with detail provided on request. The approach should also consider the fact that not all fisheries on-board (and bycatch) practices are the same. It would also work with stakeholders (e.g. RSPCA) throughout its development.

#### 8.2.4. Objectives

The key objectives of this potential case study are:

1. Assess the welfare legislation relating to prawns in each of the states and territories where wild prawn fishers operate;
2. Assess how the Australian wild prawn industry addresses animal welfare and identify risks;
3. Produce an Australian Wild Prawn Responsible Fishing Practices Guideline for animal welfare in conjunction with fisheries and having consulted relevant NGOs.

#### 8.2.5. Stakeholder(s)

The key stakeholder in this potential case study would be the Australian Council of Prawn Fisheries Ltd.

### 8.3. Potential case study #2 – Assessing how industry practices in the Northern Territory wild harvest fisheries align with wild capture animal welfare guidelines

#### 8.3.1. Introduction

It is suggested that this potential case study be conducted in two stages:

- i. The first stage would be to engage a suitably qualified professional to assess how current industry practices in the Northern Territory (NT) seafood industry's wild harvest fisheries align with the existing national wild capture animal welfare guidelines.
- ii. If gaps were identified, then the second stage would be to work with each sector to develop animal welfare guidelines that are relevant to that fishery and that support best practice animal welfare obligations.

The proponent of this potential case study is Northern Territory Seafood Council (NTSC). The NTSC is an incorporated association that focuses on the needs of its members as well as promoting and developing the Northern Territory seafood industry in accordance with its constitution.

#### 8.3.2. Legislative considerations

Currently, the key legislation concerning animals in the NT is the *Animal Welfare Act 1999* ("AWA 1999"). The associated Regulations to the AWA 1999 are the *Animal Welfare Regulations 2000*.

The term "animal" in the AWA 1999 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.

Hence vertebrate fish that are not in captivity or dependent on a person for food are not included in this definition in the AWA 1999 therefore does not apply to wild commercial fishing. Also, if a crustacean is not in or on premises where food is prepared or being offered for retail sale then likewise it does not fall under the definition of "animal" and legislation in the AWA 1999 does not apply.

The *Animal Protection Act 2018* ("APA 2018") was developed to build upon the *Animal Welfare Act 1999* and will replace it on October 1, 2022. The associated regulations will be the *Animal Protection Regulations 2020*.

Initially, the definition of "animal" under APA 2018 was expanded to include any live bony or cartilaginous fish, cephalopod or crustacean that is in the possession or under the control of a person. However, this definition was subsequently changed back to the definition of animal as it currently appears in the AWA 1999.

### 8.3.3. Need

Whilst the NT seafood industry has standards and guidelines in place with regards to best practice, it was considered important that current fishery practices be reviewed from an animal welfare perspective.

In addition, there are animal welfare codes of practice which were developed nationally for the Australian commercial fishing industry. These include guidelines on mesh netting, beach-seine, purse seine, trawling, pot, trap, rod and handline. However, these are national codes and have not had extension support specific to NT industry.

This potential case study is for a suitably qualified professional to engage with the NT professional fishing industry and to (1) review current fishing practices in each sector from an animal welfare perspective and (2) to develop new guidelines which are relevant to that sector and which are best practice and meet animal welfare obligations under current animal welfare legislation requirements.

This will be limited to reviewing the wild catch sector of the NT seafood industry and at this stage will not involve the NT aquaculture or recreational fishing sectors.

### 8.3.4. Objectives

The objective of this potential case study would be to develop industry specific Best Practice Guidelines/Codes of Practice which address animal welfare considerations. These ideally will cover all major wild harvest fisheries in the NT.

### 8.3.5. Stakeholder(s)

The key stakeholder in this potential case study would be the Northern Territory Seafood Council Inc.

## 8.4. Potential case study #3 – Aquatic animal welfare legislation and its implications for domestic and international trade in Rock Lobsters

### 8.4.1. Introduction

This potential case study would review all existing and proposed animal welfare legislation that could impact on the trade of Rock Lobsters within Australian or internationally. The development of welfare standards for all Rock Lobster fisheries within Australia would follow this review, to ensure that handling practices represented the best possible welfare for these crustaceans and satisfied any current or proposed Australian or international welfare legislative requirements.

There are three Rock Lobster fisheries in Australia. The Southern Rock Lobster fishery (*Jasus edwardsii*) operates in South Australia, Tasmania and Victoria and contributes around \$250 million in landed seafood value to the Australian economy each year. Over 3,000 tonnes of Southern Rock Lobster are landed in this fishery annually. The Western Rock Lobster fishery is based on the Western Rock Lobster (*Panulirus cygnus*) and comprises approximately 230 vessels. It is Western Australia's most valuable fishery, with an estimated value of \$400 million<sup>87</sup>. Finally, there are several northern Australia Rock Lobster fisheries based on the Ornate Rock Lobster *Panulirus ornatus*.

### 8.4.2. Legislative considerations

Decapod crustaceans are increasingly being considered as sentient animals and being provided some protection under legislation. Some examples are the *Animal Welfare Act 1992* of the Australian Capital Territory. The definition of "animal", as it appears in the Dictionary section of the *Animal Welfare Act 1992* includes "a live crustacean intended for human consumption".

In New South Wales, the *Prevention of Cruelty to Animals Act 1979* is the key legislation concerning the welfare of animals and the general definition of "animal" in this Act includes *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.*

The Victorian *Prevention of Cruelty to Animals Act 1986* includes the following in their definition of animal *a live adult decapod crustacean, that is—*

*(i) a lobster; or*

*(ii) a crab; or*

*(iii) a crayfish.*

In Western Australia, the welfare of aquatic animals will fall under Fisheries legislation when it is completed.

As a result of this changing landscape, decapod crustaceans will be increasingly protected under welfare legislation in Australia (state and territory) as well as internationally. Both the European Union (EU) and more recently the United Kingdom have recognized sentience in decapod crustaceans, which will have flow-on effects in welfare legislation.

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<sup>87</sup> See <https://westernrocklobster.org/the-western-rock-lobster/about-the-fishery/>

### 8.4.3. Need

Until the recent trade embargo, the majority of lobsters harvested within Australia were exported live to China. Currently, most lobsters are frozen and sent to other countries (particularly the EU and United States of America). The Rock Lobster industry is interested in understanding how the development of welfare legislation, involving decapod crustaceans, may impact on trade within Australia (movements across state and territory borders) and more particularly overseas to their export markets, especially the EU.

When lobsters are transported live, there are welfare implications associated with potential poor handling at any stage of the supply chain and the conditions provided during transport. When frozen, it is the handling up until the time of slaughter and the slaughter technique that is critical.

The questions are:

- i. What welfare standards will Australian Rock Lobster suppliers have to meet?
- ii. Will any new EU legislation and practices have a negative impact on the export trade from Australia?
- iii. Will overseas markets become difficult to access if our domestic welfare standards do not match those required overseas?

This potential case study would review all existing and proposed welfare legislation that could impact on the trade of Rock Lobsters either within Australian or internationally.

### 8.4.4. Objective(s)

To establish standards for all Rock Lobster fisheries within Australia to follow, so that their handling practices represent the best possible welfare for these crustaceans and thus satisfy any current or proposed Australian or international welfare legislative requirements.

### 8.4.5. Stakeholder(s)

The following stakeholder(s) attended one of the Project workshops and suggested this potential case study: Rene Hidding of the Rock Lobster Fishing Association (Tasmania) and Nicola Hutchinson of Western Rock Lobster (WA).

All Rock Lobster fishers within Australia. would be involved or affected by this potential case study.



## 8.5. Potential case study #4 – Methods for improving understanding of welfare in the recreational fishing sector

### 8.5.1. Introduction

The potential welfare issues identified in the workshops were poor handling of fish that have been captured in the recreational fishing process, particularly in a catch and release situation or for killing of any fish captured. The potential case study that came out of this is to better understand the perceptions of fish welfare by recreational fishers, as well as to examine why the uptake of available education regarding fish welfare for fishers is poor. From this, the aim would be to develop better methods for educating recreational fishers on fish welfare around Australia.

The United Nations Food and Agricultural Organization (FAO) defines recreational fishing *as fishing of aquatic animals (mainly fish) that do not constitute the individual's primary resource to meet basic nutritional needs and are not generally sold or otherwise traded on export, domestic or black markets. Recreational fishing constitutes the dominant use of wild fish stocks in all freshwaters of industrialized countries, and it is prominent in many coastal ecosystems* (FAO 2012).

### 8.5.2. Legislative considerations

There is a significant amount of animal welfare legislation that is relevant to recreational fishing in the various states and territories. There is also variation across the states and territories with regards to this legislation, and in particular whether fish, decapod crustaceans and cephalopods are protected under the legislation or not.

Recreational Fishing Licences are required in New South Wales, Tasmania and Victoria. In Western Australia, licences are required for fishing from a boat, net fishing and for freshwater angling. Licences are not required in the Australian Capital Territory, Northern Territory, Queensland (unless fishing in stocked impoundments) and South Australia.

In the states that require a recreational fishing licence, information handbooks are distributed with the license. These handbooks generally contain some information on fish welfare but there is no knowledge regarding the uptake and implementation of this information.

There are Codes of Practice that have been developed by various recreational fishing organizations. One example is the National Recreational Fishing Code of Conduct (2019). A component of these Codes often mentions “treating fish with respect” and “handling your fish carefully”. Whilst this is a good start, there is often insufficient detail provided. Also, the vast majority of recreational fishers do not belong to an organization or club and so are unlikely to see these Codes.

### 8.5.3. Need

The recreational fishing community in Australia is large and continues to grow each year.

In recreational fishing, fish, crustaceans and cephalopods are usually caught individually, which allows a fisher to provide good welfare for the animal.

However, while a proportion of fishers do provide good welfare when handling and killing the animals they catch (and releasing the animals they don't wish to keep) there is evidence that many fishers are

not aware of what good welfare is with respect to the catching, handling and releasing of fish. This is despite there being many publications which are available both on-line and in print format which provide such information (e.g. Victorian Recreational Fishing Handbook, National Recreational Fishing Code of Conduct). Even with this information available, the uptake of the information appears to be poor with a significant number of recreational fishers.

This potential case study is to better understand the perceptions of fish welfare by recreational fishers, as well as to examine why the uptake of available education regarding fish welfare for fishers is poor. From this, the aim is to develop better methods for educating recreational fishers on fish welfare around Australia.

It is important to demonstrate to fishers the benefits of treating their catch humanely and killing it appropriately. The same applies in a catch and release scenario to enhance the survival of the fish involved.

#### 8.5.4. Objective(s)

Several attendees at the workshops identified a real need for improved education of recreational anglers. One option proposed would be to incorporate some form of on-line test with the purchasing a Fishing License (for those states that require licenses). The education package would include material (ideally short videos) demonstrating best practices on how to handle, kill, and release fish. Ideally a standard Australia-wide education package would be developed.

The various state and territory authorities that currently have Fishing Licences would be approached to understand how their current systems function and whether or not a test could be attached to the license application.

It was also suggested that QR (Quick Response) codes could be available on signs at piers and other popular fishing spots. Using a smart phone, the QR code would link to the education videos used in the online test (with the same QR code being able to be used around Australia). As many piers already have signs with fish and minimum size to be caught, adding a QR code to existing signs would not be difficult. Such signage would assist in the education of both the fishers as well as the public.

Ideally, the above educational package would be developed in conjunction with recreational fishing organizations to ensure that they are completely involved and able to circulate to all their members once developed. Australian television fishing shows and fishing magazines could be approached to assist in extending the spread of the educational message.

The eventual aim would be a standard educational package around Australia that promotes the welfare of fish caught by recreational fishers. Ideally, this would be associated with purchasing a recreational fishing licence.

#### 8.5.5. Stakeholder(s)

Two stakeholders who attended the Project workshops suggested this potential case study.

All recreational anglers around Australia would be involved or affected by this potential case study.

## 9. Conclusions

The objective of this project was to conduct a stocktake of Australia's current aquatic animal welfare policies, programs, and procedures, which included a review of all state and territory legislation applicable to aquatic animal welfare.

The 2006 stocktake was limited to aquatic animal welfare of fish only. The scope of this project was expanded to include crustacean and cephalopod welfare and included examining legislation, standards, guidelines and codes relevant to commercial wild capture, aquaculture, and recreational fishery sectors. Generally, the aquarium sector was considered out of scope for the project, although some references to legislation concerning this sector were made where relevant.

There has been a considerable number of scientific papers published in the field of aquatic animal welfare since the 2006 stocktake was conducted. The scientific evidence supporting fish as being sentient has continued to expand since then whereas evidence supporting them as not being sentient has changed little. The term “unnecessary suffering” was a term that has been historically used when discussing animal welfare. Indeed, this term appears in the “overarching principles” that were established in 2013 by the Aquatic Animal Welfare Working Group of the Australian Animal Welfare Strategy. Given that the term “suffering” is subjective it has been suggested that avoidance of *unnecessary distress* may be a better term, being more objective and easier to define.

Better health of animals through improved welfare can increase productivity and can impact sustainability. While animal welfare is a complex and multi-faceted subject with scientific, ethical, economic, cultural, social, religious and political dimensions, improved productivity and sustainability can be easily measured and defined and is generally a benefit of improved animal welfare. Having a debate on issues of pain, sentience and consciousness in fish is not necessary to be able to take immediate actions to minimise fish being exposed to unnecessary distress and to benefit productivity and sustainability.

The community is becoming more aware of the evidence of sentience in fish and other aquatic animals. This is becoming evident in the reform of animal welfare legislation at the state and territory level. New South Wales and Victoria are in an active process of reviewing and drafting new policy and legislative frameworks relating to animal welfare.

This is in response to increasing scientific evidence supporting both crustaceans and particularly cephalopods as being sentient. Interestingly, the Australian Capital Territory has, since 1992, declared ‘animals’ (as defined in welfare legislation in that jurisdiction) as being sentient. This includes fish, cephalopods, and crustaceans intended for human consumption. It is also likely that the new Victorian welfare legislation will recognise animals as sentient<sup>88</sup>. Again, this new legislation includes fish, cephalopods and crustaceans in its definition of animal.

One of the planned changes to Victoria animal welfare legislation, as mentioned above, will be to declare their defined ‘animals’ (which will include fish that are capable of self-feeding, live adult decapod crustaceans and live adult cephalopods) as being sentient. New South Wales (NSW) has also indicated substantial changes to its animal welfare legislation, with it being proposed in that state that

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<sup>88</sup> It is intended that a draft animal welfare Bill will be released for public feedback in Victoria in 2023

the definition of “animal” be expanded to include both cephalopods and decapod crustaceans. Currently in NSW, cephalopods are not included in the definition of ‘animal’ under that state’s animal welfare legislation and crustaceans are only covered when at a building or place where food is prepared or offered for consumption.

In the Northern Territory, there was an initial indication that the definition of ‘animal’ would be expanded to include cephalopods under its new animal welfare legislation. However, the final definition of animal in the new legislation has remained the same as the previous definition. This includes fish in captivity or dependent on a person for food; and crustaceans if they are on premises where food is prepared or is offered for retail sale but does not include cephalopods.

Two states that have had no change in their inclusion of aquatic animals under legislation. since 2006 are South Australia and Western Australia. These two states still have no animal welfare legislation that specifically affords protection to fish, crustaceans or cephalopods, due to these not being recognised as animals under the current animal welfare legislation. In South Australia, no aquatic animals excepting marine mammals are included in the definition of “animal” in that state’s animal welfare legislation and there is no indication of there being any proposed change. In Western Australia, aquatic animals will be afforded protection under the fisheries legislation in that state but the exact details of this are still uncertain. Such detail will be included in the regulations in that state, but currently there are no regulations (draft or otherwise) available to review.

It was very evident from the review of state and territory legislation that there were considerable inconsistencies in the definitions and also the terminology used regarding animal and aquatic animal welfare. This means the welfare legislation in each state and territory had to be carefully reviewed to ensure such inconsistencies were identified and understood. The definitions of key terms including ‘cruelty’, ‘aggravated cruelty’, ‘animal’ and ‘sentience’ are examples of where inconsistencies occur. While it is acknowledged that consistent terminology in legislation across Australian jurisdictions may be a difficult task to aspire to and also may not be constructive, it would help fisheries and aquaculture industries when developing standards, guidelines and codes of practices and to focus training opportunities to support adoption of good animal welfare outcomes in those industries. Nationally consistent animal welfare standards and guidelines, as has been pursued by terrestrial animal industries, is also considered a desirable aspiration for the aquatic animal industries, particularly if eventually they are prescribed under legislation. This will ensure protection is afforded to those industries that have in place such standards, provided of course that they are being followed.

Almost forty standards, guidelines, and codes of practice (“SGCs”) in Australia and internationally were reviewed through this project to assess their application to support aquatic animal welfare outcomes directly or indirectly. Of note, only one code of practice supporting recreational fishing in the ACT was found to be prescribed under legislation. The remaining SGCs reviewed are not prescribed under the relevant state/territory animal welfare legislation and policy frameworks.

This project identified many documents, including many published by state and territory governments, that provide advice on what constitutes good (acceptable?) aquatic animal welfare. This was considered positive, but this project found very little information on which to assess the extent that SGCs are actually read and incorporated into day to day activities by those who may have a direct impact on the welfare of aquatic animals. There was one study identified that did attempt to

determine the extent to which the National Recreational Fishing Code was known about and used. This study estimated that between 1,000 and 15,000 fishers, scientists and managers knew about, and used the Code between 2010 and 2015. Apart from this, while it is commendable that there is so much information published and available publicly, there is a need to determine the extent to which such documents are actually read and followed.

It is also noteworthy that many documents containing guidelines for looking after the welfare of fish (particularly those being caught by recreational fishers) are published by state and territory governments. This includes a number that are published by South Australian and Western Australian government departments, two states in which currently there is no animal welfare legislation that protects fish. This suggests that governments still consider it important to provide educational material for fishers regarding good fish welfare.

There is also a need for industry-wide discussions to consider the development of SGCs that could be prescribed into legislation. This will mean that a sector developing such documents can have input in what is considered best practice from an animal welfare perspective. In general, if a SGC is prescribed by legislation, this will mean that operators adhering to the practices detailed in the SGC will be protected under the animal welfare legal framework.

One consistent aspect to aquatic animal welfare across Australia is the adoption of the National Health and Medical Research Council's (NHMRC) Australian Code for the Care and Use of Animals for Scientific Purposes by research and educational institutions. Following the NHMRC Code, which specifically addresses the welfare of fish and cephalopods when being used in research and teaching is a legislative requirement in all states and both territories. In New South Wales, while following the NHMRC Code is not a requirement under that State's animal welfare legislation, it is a requirement under the state's animal research legislation.

In general, the outcomes of this project found little to no evidence of obvious gaps between industry practices (as documented in SGCs) and legislative mandated requirements for aquatic animal welfare. It must be noted, however, that the scope of this project did not include reviewing what (if any) prosecutions for aquatic animal welfare violations had occurred in states and territories nor what the outcomes of such prosecutions were. The exact interpretation of legislation is often only confirmed in the courts.

While, as noted in this report, many SGCs have been developed by industry and associations, all except one of these SGCs are considered voluntary and it is not possible to say whether they would afford any protection should an individual or industry be prosecuted.

Having an SGC mandated in legislation can afford protection against prosecution to an industry or sector. This has very much been an objective of terrestrial animal industries which have been developing model welfare codes, many of which are now mandated in a number of the states and territories welfare legislation.

Consideration should therefore be given to developing and adopting SGCs across the fisheries and aquaculture industries in Australia that detail and support good animal welfare outcomes. This will help protect those industries. SGCs would of course need to be assessed against current animal

welfare legislation to ensure alignment prior to adoption. As indicated below, the potential case studies presented in this review in part address this consideration.

A second objective of this project was to consult with stakeholders in the fisheries and aquaculture industries as well as animal welfare advocate organisations to discuss the current legislative requirements and to develop potential case studies for future development. Four such potential case studies were developed.

The key messages coming from the workshops were:

- It is community values that influence legislation so a continued debate within the fisheries industries about whether or not fish are sentient is not constructive;
- Respecting the animal is central to ensuring a quality product;
- Animal welfare was identified by some industries as their next sustainability challenge;
- There is still considerable confusion regarding animal welfare legislation. This is in part due to it varying so considerably between states and territories (as has been identified in this review);
- There is a paucity of measurable animal welfare indicators for aquatic animals compared to terrestrial animals;
- In general, stakeholders from the recreational fishing sector expressed concerns that aquatic animal welfare will limit, reduce or shut down their fishing activities;
- Concerns were raised by several stakeholders that there is confusion about how animal welfare legislation applies when product moves across jurisdictional lines within Australia (e.g. live trade of decapods);
- Concerns were raised by several stakeholders that changes to animal welfare requirements in overseas markets may impact or limit the growth of Australian export markets. This was considered an unknown element and stakeholders were unsure how to resolve;
- The development of SGCs appears to be a reasonable approach to demonstrating compliance with aquatic animal welfare legislation and to ensure industry resilience.

## 10. Implications,

1. This project found there to be relatively little progress in affording protection to aquatic animals under state and territory animal welfare legislation since 2006. There is, however, indications that this is changing. While some in the commercial fishing, aquaculture and recreation fishing sectors may not be concerned by there being little change to this status quo, during this period an increasing amount of information has become available scientifically that demonstrates that fish and increasingly cephalopods and crustaceans are sentient animals. This information has also filtered down to members of the general public who increasingly see these animals as sentient. Public sentiment affects social licence and the commercial fishing, aquaculture and recreational fishing sectors need to ensure that their day to day practices are consistent with good animal welfare and importantly conform to legislative requirements in their jurisdiction. This will ensure that there is no disconnect between what is required under changing legislation and what is actually being done.
2. The opportunity exists for the commercial fishing, aquaculture and recreational fishing sectors to develop and have prescribed in legislation welfare standards that satisfy or ideally exceed legislative welfare requirements and this should support a strong social licence to continue their operations.
3. There is a continued need to enhance the improved welfare of fish and other aquatic animals and the adoption of welfare guidelines through education and extension work. There is a considerable amount of information currently available but as shown in the final report for FRDC 2019-023 (Mazur and Bodsworth 2022) the uptake is low and there is a need to build trust amongst industry members, state/territory extension officers and the public. FRDC 2019-023 has identified five recommendations to support practice change to improve aquatic animal welfare. The recommendations focus on supporting early adopters to enable change. The outcomes of this project agree and support the recommendations of FRDC 2019-023.
4. There is the potential for overseas export markets for Australian fish, crustaceans and cephalopods to be impacted if Australian welfare standards do not keep up with overseas countries, in particular the European Union.

## 11. Recommendations

This project makes the following recommendations:

1. That industry sectors consider a process to refine their standard/guidelines/codes (SGCs) (where present) or to develop SGCs (where not already present) that detail and support positive animal welfare outcomes and investigate the potential to have these then prescribed under animal welfare legislation. This will help ensure operators adhering to the SGCs are protected under the legislation.
2. That the Fisheries Research and Development Corporation, as the peak industry body that unifies all seafood/aquatic industries, research and government sectors related to aquatic animals continues to take a leading role in addressing aquatic animal welfare and to consider the development of national model aquatic animal welfare standards or codes for the various industry sectors.
3. That a more consistent approach to aquatic animal welfare be pursued by state and territory welfare agencies. While there is consistency across Australia in the welfare afforded to fish and cephalopods being used for teaching or research but as shown in this report, there is still considerable inconsistency across Australia as to how the welfare of aquatic animals are addressed in legislation where those animals are not being used for teaching or research;
  - From the workshops held as part of this project, it was identified that the various terminology and definitions in state/territory legislation was confusing and not readily accessible to industry participants and so this recommendation includes the adoption of more consistent terminology in state and territory based welfare legislation.
4. That a review of welfare arrangements in the ornamental (aquarium) sector be conducted to complement this project.
  - The scope of this project was to review the state/territory legislation relevant to commercial wild capture, aquaculture and recreational fishing sector only, whereas the 2006 Review (Panaquatic, 2006) included the aquarium sector.
5. That further work is done to explore which state and territory legislation is relevant and applies to live aquatic animals that are traded within the value chains in Australian and overseas.
6. That ways to improve welfare of fish and other aquatic animals across Australia through increased education and extension work be examined. FRDC 2019-023 has identified five recommendations to support practice change to improve aquatic animal welfare. The recommendations focus on supporting early adopters to enable change. The outcomes of this project agree and support the recommendations of FRDC 2019-023.
7. That the four potential case studies<sup>89</sup> identified from the industry workshops held during this project be progressed with industry for funding consideration i.e.
  - i. Potential case study 1: Wild prawns

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<sup>89</sup> It was not the intent of this project to conduct the potential case studies but to identify them through industry.



- The objectives of this proposed case study include production of an Australian Wild Prawn Responsible Fishing Practices Guideline for animal welfare.
- ii. Potential case study 2: Northern Territory fisheries
- The objectives of this proposed case study include the development of industry specific Best Practice Guidelines/Codes of Practice which address animal welfare considerations and ideally which cover all major wild harvest fisheries in the Northern Territory.
- iii. Potential case study 3: Rock Lobster welfare standards
- The objectives of this proposed case study include the establishment of welfare standards for all Rock Lobster fisheries within Australia.
- iv. Potential case study 4: Recreational fishing sector welfare education
- The objectives of this proposed case study include the provision of improved aquatic animal welfare education for recreational anglers.

## 12. Extension and adoption

This project conducted a stocktake of Australia's current aquatic animal welfare policies, programs, and procedures as expressed in legislation, Codes of Practice, Standards or other relevant guidance documents. It focused on aquatic animal welfare applicable to the commercial wild capture, aquaculture and recreational fishery sectors. The project considered fish, cephalopods and decapod crustaceans.

Throughout this project there was substantial consultation with FRDC and particularly with Dr Carolyn Stewardson.

With respect to the legislation aspects of this project, the project team engaged with government officers across Australia to review each jurisdiction's welfare legislation. This included consultation with welfare officers from the following departments:

- Animal Welfare Victoria, Agriculture Victoria – Department of Jobs, Precincts and Regions
- Victorian Fisheries Authority
- Biosecurity Tasmania, National Resources and Environment Tasmania
- Animal Welfare Unit, New South Wales Department of Primary Industries, Biosecurity and Food Safety
- Governance and Ministerial Services, Australian Capital Territory Government
- Fisheries and Aquaculture, Primary Industries and Regions South Australia
- Western Australia Aquatic Resource Management, Sustainability and Biosecurity, Department of Primary Industries and Regional Development
- Animal Biosecurity and Welfare, Biosecurity Queensland, Department of Agriculture and Fisheries
- Northern Territory Animal Welfare Branch, Department of Industry, Tourism and Trade

As part of this project, four virtual workshops were held. Each workshop provided an update on state and territory legislation and regulations and provided a forum to discuss aspects of animal welfare including challenges and concerns.

Because these workshops were held on-line, the project team were able to send out over 300 invitations to an extensive network of stakeholders, including to those working in government, the wild-catch and aquaculture industries and recreational fishing sectors. In addition, the Principal Investigator liaised with the FRDC Indigenous Reference Group to discuss the project and for guidance on indigenous representation. The invitations alerted the stakeholders to the project and the objectives of the project.

Over 50 stakeholders from government, welfare associations, the wild capture, aquaculture and recreational sectors attended the workshops and participated in the discussions at each workshop.

The article “*Changing perceptions drive fish welfare practices*<sup>90</sup>” was published in the March, 2022 edition of the Fisheries Research Development Corporation’s FISH magazine. This article discussed this project and a related FRDC project 2019-023. The FRDC FISH magazine is available on-line and also has an extensive mail-out list.’

The Principal Investigator presented the preliminary findings from this project at the Australian Society for Fish Biology Conference in November, 2022.

### **Scientific publications**

It is envisaged that there will be at least three scientific papers developed from this report and published. At the time of submission of this final report the first of these papers is in a final draft form.

In addition, the Principal Investigator will be presenting on the findings of this project at the World Aquaculture Society conference being held in Darwin in May, 2023. This presentation will also form the basis of the second scientific paper to be produced as a result of this project.

With respect to the four potential case studies identified through this Project, one of these studies has already been funded and has started (Potential case study #1, FRDC Project 2022-064).

### **FRDC Final Report**

This final report will be published on-line via the FRDC website to ensure it is available as a key reference document on aquatic animal welfare arrangements in Australia. It will be distributed to the Directors of Fisheries in each Australian state and territory.

### **Summary document**

A concise summary document, suitable for a broad range of audiences, will be made available for download/distribution.

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<sup>90</sup> Available at <https://www.frdc.com.au/fish-vol-30-1/changing-perceptions-drive-fish-welfare-practices>

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## Appendix A - Aquatic Animal Welfare Working Group Overarching Principles for Aquatic Animal Welfare (finfish)

### AAWWG Overarching Principles

In the context of Aquatic Sector of the Aquatic Animal Welfare Working Group under the Australian Animal Welfare Strategy (AAWS), only vertebrate finfish are considered Aquatic Animals; other aquatic vertebrates are considered under other Sectors of AAWS. **(Note 1)**

The approach taken with animal welfare to date within the Aquatic Animal sector has been to establish overarching Principles against which sub-sectors can build their specific best practice guidelines to achieve animal welfare. **(Note 2)**

The overall aim of the aquatic sector (fish that are farmed, being transported, kept in aquaria, captured from the wild both commercial and recreational, or in aquaria in restaurants) should be to minimise suffering within the constraint of practices inherent to that sub-sector. **(Note 3)**

1. For fish held in captivity, the key parameters (temperature, salinity, pH, dissolved oxygen and metabolites) of the aquatic environment in which fish are maintained should be within the species' natural range of tolerance.
2. For fish held in captivity, the holding unit in which they are normally housed should provide:
  - safety from predators;
  - refuge from environmental extremes beyond their natural range of tolerance;
  - appropriate space;
  - appropriate space and/or water flow to avoid chronic degradation of water quality parameters referred to in point 1 above. **(Note 4)**
3. For fish held in captivity the feed supplied should meet known nutritional requirements and be distributed in a manner and frequency which avoids starvation for periods longer than the species natural range of tolerance.
4. For fish held in captivity, any visibly damaged or sick fish should be assessed and either treated appropriately or promptly removed for killing by humane means suitable for the species.
5. During any handling of live fish,
  - care should be taken to avoid any damage to the fish;
  - for prolonged handling of fish out of water (e.g., health checks, vet treatment, artificial reproduction, etc), an anaesthetic appropriate for the species and frequent irrigation of skin and gills is essential;
  - fish intended to remain alive should be returned to the water promptly.
6. Any fish selected for harvest should be killed as rapidly as possible, by humane means suitable for the species.
7. For fish harvested from the wild timely handling from capture to death is essential to minimise suffering. **(Note 5)**
8. Capture methods should be designed to minimise the capture of unwanted fish.

#### Explanatory Notes

**Note 1:** The duty of care principles are couched within the Australian Animal Welfare Strategy under which these specific aquatic animal principles will be applied.

**Note 2:** As a code there is no legislative basis. Words such as 'must' hold no relevance. Animal Welfare legislation is the place for definitives and the code assists operators to meet those definitives through words such as 'should'.

**Note 3:** Suffering is inclusive of pain and other issues of animal welfare.

**Note 4:** This principle when read with principle 1 covers all aspects. The detail of parameters such as water flow, stocking density, behavioural aspects and space will be in the sub-sector code themselves depending on operational method and species.

**Note 5:** 'Capture' as defined in sub-sector codes.

## Appendix B - Consideration of the welfare of fish including pain

As many may be aware, there has been an ongoing debate in the scientific literature about whether or not fish are sentient. This debate mostly centres around the ability, or lack thereof, of fish to experience pain. Kristiansen and Bracke (2020) note that this is an ongoing controversy in fish welfare science, probably because it is an essential topic for welfare concern and legislation.

Pain has been defined as a negative sensory and emotional experience that indicates actual or potential tissue damage (International Association for the Study of Pain, 2018). In other words, pain is not only a sensory or reflex experience, but must also, by definition, include an emotional component, i.e., pain must be experienced as being unpleasant in some way in order to be classified as pain.

Scientific studies have used a combination of physiological and behavioural responses to study sentience and pain perception in fish.

An early paper that considered it to be “untenable” that fish can feel pain was a review paper written by James Rose, which was published in 2002 (Rose, 2002). This paper noted that fish lack the essential brain regions and the neural basis of consciousness and pain perception. The author of this paper still, though, had some concern for fish, noting that “*avoidance of potentially injurious stress responses is an important issue in considerations about the welfare of fishes*”.

In that same year, Lynn Sneddon (Sneddon, 2002) published a study on nociception and the trigeminal nerve of rainbow trout, documenting the presence of A delta and C fibres in fish. Further studies by the same author provided further evidence of nociceptors that respond to mechanical pressure and reported increased opercular rates and delays in consuming feed after exposure to a noxious stimulus (acetic acid) (Sneddon, 2003).

Since then, there has been increasing empirical evidence and supportive arguments that fish feel pain. These include research describing how fish react behaviourally and physiologically to noxious stimuli (Mettam, Oulton, McCrohan, & Sneddon, 2011; Newby & Stevens, 2008; Reilly, Quinn, Cossins, & Sneddon, 2008; Sneddon, 2003). Other research on the issue of pain and sentience in fish is well summarised in Kristiansen and Bracke (2020). It is also pointed out that there is a compelling and increasing body of evidence that shows that fish react to aversive stimuli in a way that is consistent with fish feeling pain. Learned avoidance of predators and other aversive stimuli has been shown to occur in fish (Seddon, 2003, Brown, 2015). It makes sense from both a biological and an evolutionary perspective that these reactions also include an emotional response, i.e. the mental perception of pain or fear as an unpleasant experience. An experience of pain as being unpleasant would help fish to reduce further injury in the present and learn to avoid damage in the future.

There has, however, been continued refuting of these studies and sentience by Rose and others. However, while evidence that fish feel pain has continued to increase, evidence that fish **don't** feel pain has changed little. The logic and arguments proposed by Rose and others have been questioned by neurobiologists (e.g. Merker, 2016).

For further information about the fish pain debate readers are referred to Chatigny (2018), Graham, von Keyserlingk, and Franks (2018), Braithwaite (2010) and Brown (2015) who provide more details

around the arguments for and against fish feeling pain, and a background to the debate, including the following comment that appears in Brown (2015):

*'it is unreasonable to separate the physical detection of pain from the emotional or cognitive response to it since they are so clearly part of an integrated system that has evolved to reduce the chances of injury.'*

## Appendix C - Welfare of decapod crustaceans

### Introduction

As with other animals, there are two components that are important when discussing the concept of “pain” in decapod crustaceans. The first is nociception which is a response to a noxious stimulus (e.g. heat, cold, pressure, chemicals) and is a reflex response that requires no central (brain) processing. This occurs immediately in response to the stimulus. The second component involves central processing that there has been a negative experience (indicative of pain).

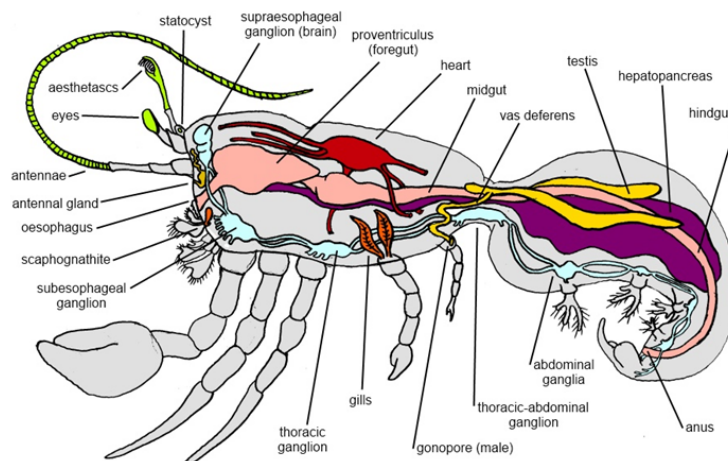
It has been argued that responses to noxious stimuli in decapod crustaceans were purely reflexive thereby rendering the notion of pain perception as irrelevant. However, the possibility of pain perceptive responses in crustaceans must extend beyond examining simple reflexes (Passantino, Elwood and Coluccio 2021).

The following discussion on the welfare of decapod crustaceans summarises some of the key research that has been conducted in this area.

### The nervous system of decapod crustaceans

While the research into the nervous system and pain in decapod crustaceans has not been studied as extensively as other animals, a brief summary is included here to highlight that it is a complex system, consisting of a central brain which is composed of converged or fused ganglia at the cranial end of the body. It is known that as the central nervous system courses down the body, it joins up with various neural ganglia which function to receive sensory inputs from receptors (mechanoreceptors and chemoreceptors).

The eyes of decapod crustaceans are complex structures which are connected to stalks, which in turn are connected to the brain via neurons (Figure 7).



**Figure 7 - General anatomy of the hermit crab. Note the sensory/nervous system. Male crab shown. The pale blue organs represent the nervous system. Image illustrated by Storm Martin 2012, with reference to Ruppert et al. 2004. Invertebrate Zoology.**

## Protective motor responses/reactions

There are many experimental examples of motor responses to noxious stimuli and pain in crustaceans. Commonly considered pain responses in vertebrate species like dogs and cats include but are not limited to; rubbing, prolonged or episodic licking and limping and analogous responses. As a matter of comparison, such responses have been demonstrated in decapod crustaceans.

Barr *et al.*, (2008) found that noxious stimuli (either 10% sodium hydroxide or 10% acetic acid) applied to a single antenna of a group of rockpool shrimp (*Palaemon elegans*) resulted in an immediate reflex tail flick response, followed by prolonged grooming, and rubbing of the treated antenna against the tank wall. This is a localised response as opposed to a generalised reflex.

Appel and Elwood (2009) showed that hermit crabs which had emerged from their shells, following an electric shock to their abdomen, displayed grooming behaviour localised at the site of the electric shock.

Dyuzen, Kotsyuba and Lamash (2012) injected 1% formalin (in artificial seawater) into the cheliped of a group of shore crabs (*Hemigrapsus sanguineus*). They found that the crabs responded with shaking and rubbing of the affected limb and that the nitric oxide system likely modulates nociceptive behaviour in this species.

McCambridge, Dick and Ellwood (2016) examined the difference between autotomy (casting off part of the body by an animal under threat) and manual declawing (a common fisheries practice) of brown crabs (*Cancer pagurus*). The crabs that were manually declawed showed a profound reduction in competitive ability, increased submission, and a protective response by the intact claw to prevent further damage by other intact crabs. This behaviour suggests an awareness of the injury/wound which can be regarded as pain perception.

The application of 10% acetic acid to the mouth parts of shore crabs (*Carcinus maenas*) resulted in a rubbing response with their claws (Elwood, Dalton and Riddell 2017). In the same study, when the acetic acid was applied to one eye, it was withdrawn into the “eye socket” for a prolonged period of time. These responses were considered longer and more complex than simple reflexes and thus, considered by the authors as consistent with a pain response.

## Physiological responses to noxious stimuli

Physiological alterations/modifications in response to noxious stimuli have been documented in several crustacean studies. Heart rate has been used as a standard physiological measure in a wide variety of vertebrate and invertebrate species as an indicator of metabolic rate and stress levels. In the green crab (*Carcinus maenas*), restrained crabs demonstrated an increase in heart rate compared with non-restrained crabs (McGaw and Nancollas 2018).

In decapod crustaceans, stress (such as handling or emersion) stimulates an increase in the production of Crustacean Hyperglycemic Hormone (CHH), epinephrine and serotonin (Webster 1996; Chung *et al.*, 2010; Adamo 2012). CHH is the crustacean equivalent of the corticosteroids (such as cortisone or cortisol) produced in most vertebrate animals, including fish, in response to stress. CHH (as its name implies) affects glucose metabolism in crustaceans, similar to other hormones in vertebrates. Moreover, CHH results in an increase in hemolymph lactate levels, a metabolic product which directly

correlates with stress (Booth and McMahon 1985; Patterson, Dick and Elwood 2007; Bakke and Woll 2014; Wang *et al.*, 2018).

McCambridge, Dick and Elwood (2016) compared the effects of induced autotomy against manual declawing in the edible crab (*Cancer pagurus*). Autotomy was induced by cutting the joint distal to the planned autotomy joint. The claw is then 'cast off' by the crab within a few seconds. Whilst the claw is shed at the same joint as when de-clawed manually, only in autotomy-induced crabs is the limb released at a pre-formed fracture plane, limiting blood loss and damage to the tissues. Unlike those crabs with induced autotomy, manual declawing in edible crabs resulted in increased haemolymph lactate and glucose levels, suggesting that tissue damage from declawing was responsible for these specific stress responses.

A study by Fossat *et al.*, (2014) triggered a stress response in the crayfish (*Procambarus clarkii*) by exposure to repetitive electrical fields. These electric fields triggered the tail-flicking escape response which was considered an aversive response. Increased haemolymph glucose levels were found, consistent with stress. Further analysis (Fossat *et al.* 2015) showed that increased brain levels of dopamine and serotonin (5-HT) were associated with the repeated electric shocks and the tail-flicking escape response. Injections of 5-HT triggered a significant increase in glucose levels consistent with a stress event.

### **Avoidance learning**

One of the effects of pain is that it functions to increase the prominence of a noxious stimulus which in turn promotes avoidance learning. Motivation to avoid a painful stimulus via learning thereby protects the animal from further injury or damage. Kawai, Kono and Sugimoto (2004) demonstrated that crayfish (*Procambarus clarkii*) associated a light turning on with an electric shock that was delivered ten seconds later. The crayfish actively moved away from the light to a safe zone to avoid being shocked. Similarly, Magee and Elwood (2013) examined whether shore crabs (*Carcinus maenas*) placed in a brightly lit chamber learnt to avoid one of the two dark shelters, when it consistently resulted in an electric shock. They demonstrated that the prior experiences (electric shock) overcame the preference for one shelter through avoidance.

Central decision-making has been demonstrated in hermit crabs (*Pagurus bernhardus*) subjected to electric shock (Appel and Elwood 2009; Elwood and Appel 2009;). Crabs inhabiting poor-quality shells were more likely to abandon their shells, when shocked, than those inhabiting good quality shells. The author's conclusion was that pain may be inferred when the responses to a noxious stimulus are not simply reflexive, but are traded off against other motivational requirements, the experience is remembered, and the situation is avoided in the future (Appel and Elwood 2009).

The scent of a predator in the surrounding water (water from a European shore crab tank was used) was a deterrent for hermit crabs (*P. bernhardus*) to abandon their shells despite being subjected to electric shock (Magee and Elwood 2016).

This series of studies show that active avoidance and learning, which are higher central processes, occurs in crustaceans as opposed to only simple reflex responses (nociception).

## Response to analgesics

Various invertebrate groups (including decapod crustaceans) have been shown to possess opioid receptors and opioid peptides (Harrison *et al.* 1994; Dyakonova 2001).

Lozada, Romano and Maldonado (1988) stimulated crabs (*Chasmagnathus granulatus*) with electric shocks via two stainless steel pins (electrodes) inserted in their dorsal carapace. There was a significant decrease in the nociceptive reaction to the electric shocks when morphine was administered, and this effect was reversed when the opioid antagonist naloxone was administered. Tomsic and Maldonado (1990) concluded that morphine reduced the escape response to a moving shadow in the same species of crab, suggesting that the initially suspected analgesic effects were associated with a reduced response to stimuli in general.

In the study by Barr and Elwood (2011) using shore crabs (*Carcinus maenas*), the crabs received a shock in a preferred dark shelter but not if they remained in an unpreferred light area. The theory was that analgesia should thus enhance movement to the preferred dark area because they should not experience 'pain'. However, morphine inhibited rather than enhanced this movement even when no shock was given. The authors concluded that morphine produces a general effect of non-responsiveness rather than a specific analgesic effect and this could also explain previous studies claiming analgesia. However, they questioned the utility of this criterion of pain in crustaceans and suggest instead that behavioural criteria be employed (see Summary below).

Local anaesthetic agents used in decapod crustaceans have been shown through a number of studies to have similar effects to those seen in vertebrate animals. For example, the pre-treatment of one antenna of rockpool shrimp (*P. elegans*) with a local anaesthetic agent (2% benzocaine) reduced aversive reactions following the application of noxious chemicals (either 10% sodium hydroxide or 10% acetic acid) to that antenna (Barr *et al.*, 2008). The noxious stimulus elicited an immediate reflex tail flick response, followed by two prolonged activities, grooming of the antenna and rubbing of the antenna against the side of the tank, with both activities directed specifically at the treated antenna. These responses were inhibited by the pre-treatment of benzocaine. However, the benzocaine application did not alter general swimming activity and thus the decline in grooming and rubbing was not due to a general anaesthesia effect.

Finally, the application of a local anaesthetic agent (5% Xylocaine gel), was found to significantly reduce aversive responses to eye-stalk ablation in freshwater prawns (*Macrobrachium americanum*) (Diarte-Plata *et al.*, 2012). Eyestalk ablation is the removal of one or both eyestalks from a female shrimp (prawn) to induce reproductive maturation to facilitate breeding.

These last two studies, utilizing local anaesthetics and with no effect on general activity, suggest that pain relief in decapod crustaceans can modify the impact of noxious stimuli.

## Summary

Elwood (2012) states that in decapod crustaceans, there are four criteria that might indicate pain rather than simple nociception. They are avoidance learning, physiological responses, protective motor reactions and motivational trade-offs. The evidence from various experiments suggests that all there is evidence supporting all four criteria in decapod crustacea.

## Appendix D - Welfare of cephalopods

### Introduction

The Phylum Mollusca contains the Class Cephalopoda (cephalopods) and within this class are the octopus, squid, cuttlefish and nautilus.

The Australian Government established the National Health and Medical Research Council (NHMRC), which produces the *Australian Code for the Care and Use of Animals for Scientific Purposes*, now in its 8th edition (2013 and updated in 2021)<sup>91</sup>. The Code applies to the care and use of all live non-human vertebrates (that is, fish, amphibians, reptiles, birds and mammals encompassing domestic animals, purpose-bred animals, livestock, wildlife) and cephalopods. Care and use of animals includes the following areas - research, teaching associated with an educational outcome in science, field trials, product testing, diagnosis, the production of biological products and environmental studies. The Code applies throughout the animal's involvement in activities and projects, including acquisition, transport, breeding, housing, husbandry, the use of the animal in a project, and the provisions for the animal at the completion of their use. For at least 15 years, higher order invertebrates and now defined as cephalopods have been covered by this Code.

In 2005, the European Food Safety Authority (EFSA) produced a report (EFSA 2005) that stated there is evidence that cephalopods have adrenal and pain systems, a relatively complex brain similar to many vertebrates, significant cognitive ability including good learning ability and memory retention especially in octopuses, individual temperaments, elaborate signalling and communication systems, especially in cuttlefish and squid that can show rapid emotional colour changes, may live in social groups and have complex social relationships.

Based upon the EFSA 2005 report, the European Union (EU) Directive 2010<sup>92</sup> altered their animal legislation to include the term “live cephalopods” in their definition of an animal. This was the first time in history a complete invertebrate class (covering approximately 700 known species of Cephalopoda) was included in EU laboratory animal legislation. The justification for this change was primarily based on evidence suggesting that cephalopods have the capacity to experience pain, suffering, distress and lasting harm

Following on from the EU directive, which had minimal details other than including cephalopods, Fiorito *et al.*, (2015) produced Guidelines for the Care and Welfare of Cephalopods in Research –A consensus based on an initiative by CephRes, FELASA and the Boyd Group). This document provided guidelines and species-specific requirements for the following:

- i. supply, capture and transport;
- ii. environmental characteristics and design of facilities (e.g. water quality control, lighting requirements, vibration/noise sensitivity);

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<sup>91</sup> <https://www.nhmrc.gov.au/guidelines-publications/ea28>

<sup>92</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:02010L0063-20190626&from=EN>



- iii. accommodation and care (including tank design), animal handling, feeding and environmental enrichment;
- iv. assessment of health and welfare (e.g. monitoring biomarkers, physical and behavioural signs);
- v. approaches to severity assessment;
- vi. disease (causes, prevention and treatment);
- vii. scientific procedures, general anaesthesia and analgesia, methods of humane killing and confirmation of death.

The following discussion on the welfare of cephalopods, summarises some of the key research that has been conducted in this area.

### **Nervous system composed of sensory receptors and brain**

Octopuses possess a peripheral nervous system that innervates the eight arms and large optic lobes which are situated outside the brain. The nervous system of the arms contains approximately two thirds of the total neuronal mass of the nervous system, while the optic lobes contain 120-180 million neurons. The brain of octopuses is contained within a cartilaginous capsule which surrounds the oesophagus. Lobes are arranged hierarchically and perform various functions including control of motor responses, memory and learning and processing of sensory inputs (Hochner, Shomrat and Fiorito 2006; Crook and Walters 2011).

A crushing injury (20 second application of serrated forceps) to one arm of the algae octopus (*Abdopus aculeatus*) was shown to sensitise low threshold mechanoreceptors and nociceptors for 24 hours post-injury (Alupay, Hadjisolomou and Crook 2014). Octopuses respond to noxious stimulation with reflex avoidance that probably does not require higher cognitive processing, but unlike squid, also engage in directed, protective behaviours that persist for considerable periods. The authors concluded that the arms and mantle contain sensory units that conduct noxious stimulation to higher processing centres (brain), although whether there is pain associated with noxious sensory input is unclear.

Although brain size does not appear to definitively correlate with functional complexity (Elwood 2011), octopus have the highest brain to mass ratio of all invertebrates and the octopus central nervous system contains around 500 million cells (Crook and Walters 2011). In fact, the octopus brain represents a higher percentage of bodyweight than that of most fish and reptiles (Broom 2007; Elwood 2011). This goes against one of the arguments that is often used against invertebrates feeling pain i.e. that their brain is too small.

Most research in cephalopods has focused on octopus as they are easy to maintain and even breed in aquariums. Squid are more difficult to maintain alive in a research setting. They have not yet been bred in an aquarium but have still been studied extensively over many years (Understanding Animal Research, 2014). Crook and Walters (2011) described nociceptors that were responsive to electrical and mechanical but not thermal stimuli in the longfin inshore squid (*Doryteuthis pealeii*, previously *Loligo pealeii*). Like vertebrates, these receptors were shown to undergo short and long-term sensitisation.

## **Opioid receptors and reduced response to noxious stimuli when local anaesthetics and analgesics are administered**

Enkephalins are peptides which regulate nociception in vertebrates. There are two known forms, met-enkephalin and leu-enkephalin which bind to opioid receptors. The common octopus has been shown to produce enkephalin-like peptides which are found in the palliovisceral lobe of the brain. Moreover, delta opioid receptors have been found in the vena cava, arms, gut and mantle of a number of octopus species. The webfoot octopus (*Amphioctopus fangsiao*) expresses leu-enkephalin and delta opioid receptors in various tissues including the mantle and arms (Martin *et al.*, 1979; Sha, Sun and Wang 2012).

Administration of naloxone, a mu-opioid receptor antagonist, to Verrill's two spot octopus (*Octopus bimaculatus*) shows similar opioid reversal effects to that which occurs in vertebrate species (Stefano *et al.*, 1981).

Prevention of nociceptive sensitisation occurs when various anaesthetic agents, namely 1% ethanol and magnesium chloride are administered, prior to inducing a crushing injury in the longfin inshore squid (*Doryteuthis pealeii*) (Crook *et al.*, 2014). Isoflurane and other anaesthetic agents (magnesium chloride, clove oil/Aqui-S, carbon dioxide and ethanol) have been shown to induce general anaesthesia in cephalopods (Gleadall 2013; Fiorito *et al.*, 2014). In giant Pacific octopus (*Enteroctopus dofleini*), the local anaesthetic agent, benzocaine has proven an effective anaesthetic agent at concentrations above 1,000 mg/l (Smith, Scimeca and Mainous 2011).

## **Avoidance learning**

In various cephalopod learning situations, electric shocks to the arms have been utilised for many years as a negative reinforcement (Crook and Walters 2011). Repetitive electric shocks in octopuses results in the development of long-term passive avoidance responses (Hanlon and Messenger 1998). Avoidance responses in longfin inshore squid (*D. pealeii*) occurs when visual and tactile stimuli are associated with a noxious stimulus. These avoidance responses persist for up to 48 hours post-injury (Crook and Walters. 2011). Therefore, behavioural responses to injury in cephalopods appear similar to that which occurs in vertebrates and as has been previously discussed in decapod crustaceans, where behavioural changes may be more indicative of a pain response than short-term nociception (Elwood 2012).

## Appendix E - Summary of Plan for Victoria's new animal care and protection laws.

## Summary of Plan for Victoria’s new animal care and protection laws

Topic	Summary of approach
<b>1. Recognising sentience</b>	<p>The Objectives of the new laws would recognise that animals have the capacity to feel, perceive their environment, and to have positive and negative experiences like pleasure and pain – that is, that animals are sentient.</p> <p>The new laws would also recognise that animals in Victoria can be owned and used for lawful purposes. This includes for activities such as farming, recreational activities and hunting.</p>
<b>2. Animals covered by the new laws</b>	<p>An ‘animal’ covered by the new laws would be:</p> <ul style="list-style-type: none"> <li>• Any live member of a vertebrate species including any: <ul style="list-style-type: none"> <li>– Fish or amphibian that is capable of self-feeding</li> <li>– Reptile, bird or mammal other than a human being that is above the normal midpoint of gestation or incubation for the particular class of reptile, bird or mammal</li> </ul> </li> <li>• A live adult decapod crustacean that is a lobster, a crab or a crayfish</li> <li>• A live adult cephalopod that is an octopus, squid, cuttlefish or a nautilus</li> <li>• Any other species prescribed in regulations.</li> </ul>
<b>3. Legislative framework</b>	<p>The new Act would be high-level and principles-based and would set out high-level offences for all species defined as animals by the Act.</p> <p>The Act would provide for the making of supporting regulations which would set out more detail on how to achieve the requirements of the Act.</p> <p>Regulations would be grouped by species or the general activity animals are used for, replacing the current POCTA Codes of Practice.</p>
<b>4. Decision-making principles</b>	<p>The new laws would include a set of principles that would need to be applied when certain decisions were being made, such as for granting licences or making a declaration.</p> <p>The decision-making principles would be:</p> <ul style="list-style-type: none"> <li>• Care requirements should be met for animals in the care or control of people</li> <li>• Unreasonable harm, pain or distress for animals should be avoided</li> <li>• Where harm, pain or distress cannot be avoided it should be minimised</li> <li>• Alternatives that reduce harm, pain or distress should be considered.</li> </ul> <p>The new laws would also include an obligation for public authorities and Ministers across government to consider the care and protection of animals.</p>
<b>5. Application of the new laws</b>	<p>To deal with circumstances where legitimate and necessary activities involving animals regulated under other legislation which potentially conflict with care and cruelty offences, clearly defined exceptions to the offences would be provided in the new laws.</p>

	<p>People could not be prosecuted for a care or cruelty offence under the new laws when undertaking:</p> <ul style="list-style-type: none"> <li>• Activities in accordance with the <i>Traditional Owner Settlement Act 2010</i></li> <li>• Veterinary treatment by a registered veterinary practitioner</li> <li>• Activities permitted by the legislation (including in regulations and licences)</li> <li>• The hunting of game and control or disturbance of wildlife permitted under and done in accordance with the <i>Wildlife Act 1975</i></li> <li>• The control of pest animals using a method authorised by and done in accordance with regulations made under the <i>Catchment and Land Protection Act 1994</i></li> <li>• Activities permitted under and done in accordance with the <i>Fisheries Act 1995</i>.</li> </ul>
<b>6. Care</b>	<p>The new laws would introduce an enforceable ‘care requirement’ for all animals under a person’s care and control in Victoria. This includes pets, animals on farms, kept in zoos or for rehabilitation, and animals being transported.</p> <p>Care requirements would be those reasonably necessary for the health and wellbeing of an animal. The requirements would include providing appropriate nutrition, physical environment, health, and behavioural interactions.</p>
<b>7. Cruelty</b>	<p>The new laws would introduce three escalating cruelty offences which include general cruelty, aggravated cruelty and a new indictable offence for the most serious cruelty that is intentional or reckless. These offences could apply to any person; they do not need to be the owner of an animal or the person in charge of an animal.</p> <p>The new laws primarily define an act of cruelty as any act or omission that causes or is likely to cause unreasonable harm, pain, or distress to an animal either physically or mentally.</p>
<b>8. Controlled conduct</b>	<p>The new laws would recognise that some conduct towards animals has no legitimate purpose that would justify the risk of causing unreasonable harm, pain or distress, hence, need a high degree of control because of this risk.</p> <ul style="list-style-type: none"> <li>• Baiting, luring, animal fighting, trap shooting, and some procedures would be prohibited under the new laws.</li> <li>• Traps and electronic devices that shock animals would be prohibited unless specifically permitted in regulations.</li> <li>• Only vets would be permitted to conduct some procedures unless regulations said otherwise.</li> </ul>
<b>9. Framework for specified classes of conduct</b>	<p>The new laws would set out a framework for specified classes of conduct. This would provide that some types of conduct are controlled so that risks to animals of harm, pain and distress are appropriately managed and that lawful and legitimate interactions with animals have clear authority to continue.</p> <p>Specified classes of conduct where regulations may prescribe requirements under the new laws would include:</p>

	<ul style="list-style-type: none"> <li>• Killing or wounding an animal</li> <li>• Using an animal for testing (other than scientific procedures)</li> <li>• Performing procedures on an animal (other than scientific procedures)</li> <li>• Administering a substance to an animal (other than scientific procedures)</li> <li>• Showing or exhibiting an animal for a commercial purpose</li> <li>• Keeping an animal in an intensive environment for a commercial purpose</li> <li>• Transporting an animal for a commercial purpose</li> <li>• Organising an event in which animals are used in sport, competition or recreation.</li> </ul> <p>Regulations could also state that a licence is required for any activity that falls within a specified class of conduct.</p>
<b>10. Scientific procedures</b>	Scientific procedures would continue to only be able to be conducted under a licence which could apply to a premise, to fieldwork, or to the breeding of animals used in scientific procedures.
<b>11. Authorised Officers</b>	Authorised Officers would be those authorised with powers under the new laws to undertake compliance and enforcement activities such as responding to complaints of animal cruelty, entering and inspecting properties and issuing notices.
<b>12. Authorised Officer powers</b>	The new laws would set out the powers (a legal permission to perform a specific action) available to monitor and enforce compliance with the laws. The powers would apply across the entire Act.
<b>13. Seizure and disposal of animals</b>	The powers and processes for what happens to animals taken into the custody of Authorised Officers would be streamlined to avoid the need to keep that animal in unsuitable conditions for a lengthy period.
<b>14. Enforcement toolkit</b>	The new laws would include enforcement tools such as notices, undertakings and orders.
<b>15. Co-regulatory approved arrangements</b>	The new laws would provide the ability to recognise co-regulatory approved arrangements which recognise that government is not the only body that regulates animal-related activity.
<b>16. Other administrative arrangements</b>	<p>The new laws would provide for a range of administrative arrangements and provisions to support the functioning of the legislation.</p> <p>The new administrative arrangements relate to:</p> <ul style="list-style-type: none"> <li>• Cost recovery</li> <li>• Review mechanisms</li> <li>• Grants and compliance funds</li> <li>• An expert advisory committee</li> </ul>

## Appendix F - Workshop registrants

Victoria/Tasmania Workshop		South Australia/Western Australia Workshop		New South Wales/Aust Capital Territory Workshop		Queensland/Northern Territory Workshop	
Organisation Represented	State	Organisation Represented	State	Organisation Represented	State	Organisation Represented	State
Salco Live Lobster	TAS	Natural Resource Management Mediation and Facilitation Services (NMAC (SA)	SA	Narrabri Fish Farm	NSW	Australian Barramundi Farmer's Association	NT
RSPCA Tasmania	TAS	SA Sardine Industry Association	SA	NSW Council of Freshwater Anglers	NSW	Fresh by Design	NSW
Animals Australia (2)	VIC	RSPCA SA (2)	SA	NSW Recreational Fishing Alliance (2)	NSW	Australian Fisheries Management Authority	WA
CSIRO - Aquaculture Health and Production	TAS	Natural Resource Management Mediation and Facilitation Services (SA)	SA	RSPCA NSW (2)	NSW	RSPCA QLD	QLD
Nautilus Collaboration	TAS	RSPCA WA	WA	Wagga Family Fishing Club	NSW	Seafarms	QLD
RSPCA Tasmania	TAS	Western Rock Lobster (2)	WA	Tuna Australia	ACT	Australian Prawn Farmers Association	QLD
Goulburn River Trout	VIC	Department of Primary Industries and Regions South Australia	SA	Retired Veterinarian	NSW	Department of Agriculture and Fisheries (2)	QLD
Tasmanian Rock Lobsters Fishermen's Association	TAS	Southern Rock Lobster	SA	Macquarie University	NSW	Private Consultant	QLD
Seafood Industry Australia	VIC	Fisheries Research and Development Corporation	WA	Aquna Murray Cod	NSW	The Company One	QLD
Native Fish Australia	Vic	Geraldton Fishermens Co-Op	WA	Fisheries Research and Development Corporation	ACT	Department of Agriculture and Fisheries	QLD
Anglers Alliance Tasmania (2)	TAS	West Coast Prawn Fishermen Association	WA	Ocean Watch	NSW	Hinchinbrook Sportfishing Club	QLD
Department of Natural Resources and Environment (2)	TAS	Rec Fish West	WA			Darwin Game Fishing Club	NT
		Australian Council of Prawn Fisheries	SA			Mainstream Aquaculture	VIC
		University of Adelaide	SA			Northern Territory Seafood Council	NT
		Clean Seas Seafood	SA			Department of Agriculture and Fisheries	QLD
		Gamefishing Association Australia	WA				
		Aquaculture Council WA	WA				
		Harvest Road	WA				
		RecFish SA	SA				
		Department of Primary Industries and Regional Development	WA				

## Appendix G - Project staff

Staff for this Project included:

Dr Paul Hardy-Smith, Panaquatic Health Solutions, Ltd Pty

Ms. Kate Gilmour, Panaquatic Health Solutions, Pty Ltd

Ms. Katie Lukis, Panaquatic Health Solutions, Pty Ltd

Dr Joy Becker, The University of Sydney

Dr Rob Jones, The Aquarium Vet

Dr Michael Grima, The Aquarium Vet

Dr Hugh Millar, Hugh Millar and Associates Pty Ltd

Dr Shari Cohen, consulting animal welfare veterinarian