Queensland

Primary Industries and Fisheries Legislation Amendment Regulation (No. 1) 2009

Regulatory Impact Statement for SL 2009 No. 33

made under the

Fisheries Act 1994
Food Production (Safety) Act 2000

Regulatory Impact Statement

Proposed Options for the Regulation of Seafood Food Safety (Seafood Food Safety Scheme) under the *Food Production (Safety) Act 2000*

Prepared by:

Rob Keane and Phil Pond
Safe Food Production Queensland
A statutory body of the Queensland Government

Purpose

Safe Food Production Queensland (SFPQ) is seeking views from the community and stakeholders on ensuring seafood food safety in Queensland.

Ensuring seafood food safety may require the development of legislation. The development of significant subordinate legislation in Queensland requires the preparation of a Regulatory Impact Statement (RIS) in accordance with the *Statutory Instruments Act 1992*. The purpose of a RIS is to explain the need for subordinate legislation and to set out the benefits and costs potentially associated with implementation of the legislation.

How to respond to this Regulatory Impact Statement

All submissions on this RIS must be in writing and received by SFPQ no later than **5pm on MONDAY, 27 AUGUST 2007.** Submissions should be sent to:

Seafood Food Safety Scheme RIS
Safe Food Production Queensland
PO Box 440
SPRING HILL Q 4004

Email: seafood@safefood.qld.gov.au

Facsimile: 07 3253 9810

Submissions may be delivered in person to:

Safe Food Production Queensland
12 Helen Street
NEWSTEAD Q 4006

Further information can be found at www.safefood.qld.gov.au or by contacting SFPQ on 1800 300 815 (free call within Queensland only) or (07) 32539800 during business hours.

Public access to submissions

If your submission contains information that you do not wish to be disclosed to others, please mark it "Confidential". Respondents wishing to make confidential submissions should be aware of the operation of the *Freedom of Information Act 1992* (FOI Act). Under the FOI Act, the agency must, on application, grant access to documents in the possession of the agency unless an exemption provision applies. For example, if a submission contains information about a person's personal affairs (his or her experiences relevant to a matter covered by this RIS, and it is in the public interest to protect that person's privacy, the "personal" information in that submission will not be accessible under the FOI Act.

Further consultation

Following the closing date, issues raised in submissions will be considered and further consultation undertaken where appropriate. Feedback on submissions and consultation will be provided by SFPQ wherever possible, and is also ordinarily outlined in any Explanatory Notes accompanying the subordinate legislation, when and if, it is made.

Summary

Community involvement

Safe Food Production Queensland (SFPQ) is seeking the views of the community and critical stakeholders on ensuring seafood food safety in Queensland. This Regulatory Impact Statement (RIS) provides information to assist the community in providing comment on a proposed Seafood Food Safety Scheme (Seafood Scheme) for ensuring seafood food safety. SFPQ will consider all comments and implications before making a recommendation to the Queensland Government about managing seafood food safety in Queensland.

The RIS explores the feasibility of adopting one of the options proposed as a cornerstone of a Seafood Scheme. The RIS provides detail on the options proposed and possible impacts associated with each. It also includes background on the need for seafood food safety management in Queensland as well as details about the Australian Primary Production and Processing Standard for Seafood (the National Standard).

Industry, stakeholders and the community are invited to provide comment on the proposed options and to identify any issues or consequences arising from the options.

Food safety

The following issues are of potential significance to food safety in the seafood industry in Queensland:

- contamination from toxins, viruses or heavy metals
- inadequate temperature control, hygiene or premises that may result in contamination and growth of pathogens
- ensuring staff have the skills and knowledge about food safety necessary for the work they undertake
- the need for traceability to mitigate food safety impacts.

To effectively manage these issues, it is necessary to consider the risk associated with activities that relate to specific foods rather than the foods themselves. On this basis, and taking into account the nature of seafood produced in Queensland, the following activities are considered to represent higher risk activities:

- production of bivalve molluscs
- seafood processing

It is acknowledged that the retail and food service aspects of the supply chain are currently regulated and that the primary production and processing sector is a current gap in the food safety management of seafood.

Scope of the Seafood Scheme

For the purpose of the Seafood Scheme, seafood includes all aquatic vertebrates and aquatic invertebrates intended for human consumption, but excludes amphibians, mammals, reptiles and aquatic plants.

The following activities are proposed to be **included** in the scope of the Seafood Scheme:

- the growing, cultivation, picking, harvesting, collection or catching of seafood for human consumption
- the transportation of seafood at any stage, from place of production to a retailer, commercial user of seafood or manufacturer of seafood
- the freezing, packaging, refrigeration, storage (including holding), treating (treating includes enhancing appearance or dealing with seafood solely to kill bacteria or germs) or washing of seafood
- the dismembering, filleting, peeling or shucking of seafood, or adding brine to seafood
- the boiling of crustaceans
- growing food for seafood at a seafood production facility
- handling of seafood, at any stage, from place of production to a retailer, commercial user or manufacturer of seafood
- processing seafood, at any stage, from place of production to a retailer, commercial user or manufacturer of seafood
- sale of seafood from premises at which the predominant activity carried out on the premises is seafood processing, seafood production or seafood manufacturing.

It is proposed that the following activities be **excluded** from the scope of the Seafood Scheme:

- retail sale of seafood (other than from premises at which the predominant activity is seafood processing or seafood harvesting). Retail sale includes sale to the food service sector and includes restaurants, takeaway shops, markets and caterers. This exclusion would mean that health authorities, i.e. Queensland Health or local government, would retain responsibility for food safety from the retail point in the supply chain
- wild harvesting of seafood for individual consumption, i.e. recreational catch
- growing or production of ornamental aquatic vertebrates and invertebrates not for human consumption
- producing aquatic plants
- growing, transporting or storing food for seafood other than at a seafood production facility, e.g. bait
- traditional fishing for cultural or ceremonial use by traditional inhabitants.

Implementing the Seafood Scheme

As demonstrated during the Gladstone oil spill and Cyclone Larry incidents, there is a need for authorities to have appropriate measures in place to assure consumers and markets, in Queensland, interstate and overseas, that seafood produced in Queensland is safe and suitable. The proposed Seafood Scheme will seek to fulfil this need by encouraging a preventative approach to food safety management and providing authorities with the necessary means to respond to, and investigate potential food safety matters.

In this respect, the Seafood Scheme would need to:

- enable authorities to be aware of businesses producing food so that these businesses could be contacted or consulted during an incident and if necessary, provided with assistance
- allow authorities access to places to investigate potentially unsafe practices, including the taking of samples
- provide sufficient powers to authorities to protect public health and safety, including containment and management of product while issues are being investigated and resolved
- facilitate coordinated and consistent responses to an incident with measures that define, monitor and control the extent of the risks associated with the incident
- provide for action to maintain and, if necessary, restore confidence in the food supply to ensure market access.

The options for a Seafood Scheme and managing seafood food safety in Queensland are:

- Option 1 A Seafood Scheme that concentrates on land-based seafood processors and transporters
- Option 2 A Seafood Scheme limited to the through-chain production of bivalve molluscs
- Option 3 A Seafood Scheme covering all seafood businesses – initially concentrating on higher risk businesses, followed by a considered and industry-agreed strategic roll-out of risk management measures, potentially extending to boats.

During the consultation period all regulatory options will be explored.

Option 3 would initially involve a Seafood Scheme under which producers of bivalve molluscs and seafood processors would need to systematically examine their operations to identify safety hazards. Implementation of controls commensurate with the identified risk(s) and detailed records would be required in the resulting food safety program associated with this option.

In the first regulatory phase, under Option 3, specific requirements would apply to the following higher risk seafood businesses:

- producers of bivalve molluscs
- seafood processors.

Businesses falling under these categories would need to develop and provide a food safety program and obtain accreditation with SFPQ by applying and paying the relevant accreditation and application fees.

Food safety arrangements in the food safety program would be monitored by SFPQ through auditing, inspection or another appropriate means. The appropriate mechanism of monitoring is a matter that will be canvassed with industry during the consultation phase. To ensure traceability and facilitate incident response, all seafood, other than bivalve molluscs, would need to be supplied through an accredited seafood processor.

If necessary, arrangements for low risk seafood producers and transporters would be considered through a separate RIS process.

The Seafood Scheme would not restrict competition or the entry of any producer into the market, and any producer could apply to obtain accreditation. Accredited producers would only be required to meet the required food safety scheme requirements in Standards 3.2.2, 3.2.3 and 4.2.1 of the *Australia New Zealand Food Standards Code* (the Code). The Code can be accessed through the Food Standards Australia New Zealand website at: www.foodstandards.gov.au.

Fee structure

Annual accreditation fees

- $270.50 for producers of bivalve molluscs
- $1,082.00 for seafood processors.

These businesses would also be subject to monitoring arrangements through auditing, inspection or another appropriate means.

Auditing fees

Compliance auditing for other existing food safety schemes currently costs $225 per hour. During the consultation period other appropriate means of monitoring will be explored, including preferred options for providing data or records to demonstrate control of food safety hazards, e.g. histamine test data.

Buyer's Licences

All existing seafood processors already have Buyer's Licence under fisheries legislation.

To minimise the costs of implementing a Seafood Scheme for producers it is proposed that the existing requirement for Buyer's Licences be removed. Under the Fisheries Regulation 1995 the information currently gathered under this licensing scheme would be made available to the Department of Primary Industries and Fisheries (DPI&F) through the Seafood Scheme.

In essence, the preferred option maintains an equivalent to the current requirement but converts existing licensing into a food safety management framework that will include monitoring and traceability.

Export seafood approved arrangements

Food safety requirements under the proposed Seafood Scheme will be harmonised with export requirements for seafood. Extensive discussions will be held with the Australian Quarantine and Inspection Service (AQIS) to ensure arrangements are seamless.

Water quality

Water quality is an important consideration and as such some seafood monitoring arrangements would continue to be managed by DPI&F, e.g. Queensland Shellfish and Water Monitoring Program (QSWAMP).

Community comment

SFPQ would appreciate the views of the community on the costs and benefits of the proposed options and on the mechanism for ensuring seafood food safety is adequately and cost-effectively managed in Queensland.

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Seafood Food Safety Scheme - Food Production (Safety) Regulation 2000

1. Introduction

This Regulatory Impact Statement (RIS) outlines a proposal to amend the Food Production (Safety) Regulation 2002 (the FPS Regulation) to include food safety requirements for seafood produced in Queensland to be known as the Seafood Food Safety Scheme (Seafood Scheme).

The development of significant subordinate legislation in Queensland requires the preparation of a RIS in accordance with the *Statutory Instruments Act 1992*. The RIS must be consistent with all applicable legislative requirements and protocols[1].

The purpose of a RIS is to:

- explain to the community and critical stakeholders the nature and extent of the problem to be addressed
- provide an outline of the preferred options to address the problem and their expected effect
- provide a statement of alternatives to the regulation
- set out a statement of the benefits and costs associated with the identified alternatives
- provide a statement as to why the identified alternatives are not preferred

In addition, the Queensland Government is a party to the *Competition Principles Agreement* agreed to by the Council of Australian Governments (COAG) in 1995 (amended in 2000). The guiding principle[2] of this agreement is that legislation should not restrict competition unless it can be demonstrated that:

- the benefits of the restriction to the community as a whole outweigh the costs
- the objectives of the legislation can only be achieved by restricting competition

In keeping with this agreement, this RIS addresses these issues. The Queensland Government invites you to participate in the development of the proposed regulation by commenting on any of the information presented in the RIS. Comments will be considered by Safe Food Production Queensland (SFPQ) before it makes a recommendation to the Queensland Government about managing seafood food safety in Queensland.

2. Background

2.1 *Food Production (Safety) Act 2000*

The *Food Production (Safety) Act 2000* (FPS Act) was implemented by the Queensland Government as part of a new regulatory system for managing food safety. When the FPS Act and the *Food Act 2006* are read in conjunction a cohesive and purposive scheme emerges to comply with the policy intent and principles set out in the Inter-Governmental *Food Regulation Agreement* agreed by COAG on 6 December 2002.

Under this Agreement, food standards are developed nationally by Food Standards Australia New Zealand (FSANZ) in accordance with the *Food Standards Australia New Zealand Act 1991* and consistently implemented by jurisdictions. The dual regulatory arrangements in Queensland ensure a seamless approach to food safety can be implemented throughout the food supply chain in Queensland.

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1 These requirements are listed in Section 2 of this RIS.

2 Clause 5 of the *Competition Principles Agreement*

2.2 The need for food safety schemes

It is understood that the majority of food businesses produce safe and suitable food.

However, there are a small number of businesses that may inadvertently, or even deliberately, produce potentially unsafe or unsuitable food. As a result, authorities need a regulatory framework to protect consumers. A food safety scheme is a means of providing this regulatory framework and protecting public health by ensuring potential food safety risks are identified and managed.

The FPS Act provides a mechanism to develop and implement food safety schemes by incorporating specific requirements in the FPS Regulation. The FPS Regulation sets out the basic framework for each food safety scheme and new schemes are established by amending the FPS Regulation.

To date, in Queensland, food safety schemes have been developed for meat, dairy produce, and eggs and egg products.

The purpose of a food safety scheme is to:

- encourage businesses to minimise food safety risks and to ensure their produce is safe for human and/or animal consumption
- allow regulatory authorities to take appropriate preventative action against those businesses that are not adequately managing food safety risks
- where necessary, to intervene and to prevent the supply of product that may potentially be unsafe or unsuitable for consumers
- protect market access by ensuring food quality for both interstate and export markets.

As was demonstrated during the Gladstone oil spill and Cyclone Larry incidents, regulatory mechanisms need to:

- enable authorities to be aware of businesses producing food
- allow authorities access to places to investigate potentially unsafe practices
- provide sufficient powers to authorities to protect public health and safety, including containment and management of product
- facilitate coordinated and consistent responses to an incident
- take action to maintain and, if necessary, restore confidence in the food supply and to ensure market access.

The FPS Act includes extensive powers for containment and enforcement of food safety matters. However, these powers do not apply generally to all primary production processes. It is the introduction of a food safety scheme that activates the general provisions within the FPS Act and provides the regulatory mechanisms stated above. Further details are outlined under the heading *Proposed Legislation* in Section 3 of this RIS.

2.3 *Australia New Zealand Food Standards Code*

Food Standards Australia New Zealand (FSANZ) has responsibility for developing food regulatory measures that ensure a whole-of-chain approach to food safety is adopted in Australia, including measures for managing hazards at the primary production and processing end of the food chain. Food standards developed by FSANZ are included in the *Australia New Zealand Food Standards Code* (the Code).

2.4 Standard 4.2.1 - Primary Production and Processing Standard for Seafood

Proposal P265 (Primary Production and Processing Standard for Seafood) was raised by FSANZ in 2002 to develop a National Primary Production and Processing Standard for Seafood (National Seafood Standard).

Following consultation and development by industry, government and consumers, Standard 4.2.1 – Primary Production and Processing Standard for Seafood was gazetted on 26 May 2005 and commenced on 26 May 2006 (see Appendix 2). All jurisdictions are currently in the process of implementing this national standard in their regulatory frameworks.

2.4.1 Specific requirements in Standard 4.2.1

Standard 4.2.1 includes a number of general food safety and suitability requirements that apply to seafood businesses from pre-harvest production of seafood up to retail sale activities, including processing of seafood. The National Seafood Standard also contains specific provisions for businesses that handle bivalve molluscs.

The National Seafood Standard does not apply to retail or manufacturing activities, apart from provisions about manufacturing of bivalve molluscs. In addition, the National Seafood Standard does not apply to persons who harvest or catch seafood for recreational, cultural or traditional purposes, provided the activity does not come within the definition of a seafood business, that is the seafood harvested or taken is not intended for sale.

The National Seafood Standard defines the processing of seafood as:

- the killing, dismembering, filleting or cutting into portions, gill or gutting, or skinning of seafood
- the depuration of shellfish and crustaceans
- the shucking or peeling of seafood
- the cooking, including steaming or boiling, of crustaceans
- the brining of seafood
- the packing, treating, washing, freezing, refrigeration or storing of seafood
- other similar activities.

Standard 4.2.1 states seafood businesses must:

- identify potential seafood hazards and implement controls that are commensurate with the risk to food safety
- comply with controls at specific steps, such as storage and transport, in seafood operations
- maintain seafood traceability records
- follow appropriate health and hygiene practices intended to protect seafood from contamination and prevent the spread of food-borne illness
- comply with requirements for premises and equipment.

2.4.1.1 Bivalve molluscs

The National Seafood Standard contains specific provisions for businesses that handle bivalve molluscs, which are defined as:

- including cockles, clams, mussels, oysters, pipis and scallops intended for human consumption; but
- excluding scallops and pearl oysters, where the only part of the product consumed is the adductor muscle, and spat.

Seafood businesses that handle bivalve molluscs, up to the point where they are available for manufacturing or retail sale, must prevent co-mingling.

Seafood businesses that handle bivalve molluscs, including those that carry out manufacturing of bivalve molluscs, must also:

- implement a documented food safety management system
- include in the food safety management system specified conditions of the *Australian Shellfish Quality Assurance Program Operations Manual* in regard to bivalve harvesting areas and wet storage of bivalve molluscs.

2.5 Queensland fisheries

Queensland commercial fisheries contribute significantly to the Queensland and national economies and in value they rank third among Australia's fisheries and eighth among all Queensland's primary producers.

In 2004 there were 1,669 registered commercial fishing boats that fished a combined 196,229 days and caught 26,573 tonnes of seafood with a gross value of $218 million.[3]

The fisheries extend throughout Queensland's tidal waters, from river estuaries to the Queensland East Coast Offshore Constitutional Settlement Boundary near the edge of the continental shelf. Fisheries under both State and Commonwealth of Australia jurisdiction operate from the New South Wales border in South East Queensland to the Gulf of Carpentaria, covering a huge diversity of coastal waters.

A wide range of species are targeted, from crabs, scallops and prawns to reef fish, tuna, whiting and barramundi (fin fish). Among the most significant to the industry are:

- blue swimmer crabs
- mud crabs
- spanner crabs
- various species of king, tiger and other prawns
- mullet
- mackerel
- various species of reef fish, including coral trout
- seafood such as tropical rock lobster, trochus shell and sea cucumber.[4]

The commercial fishing industry is geographically diverse and represented in many coastal communities throughout Queensland. The types of fisheries include trawl fisheries (East Coast Trawl, Torres Strait Prawn Fishery and the Northern Prawn Fishery in the Gulf of Carpentaria), the Reef Line Fishery, Rocky Reef Fishery, Gulf of Carpentaria Inshore Fin Fish Fishery, East Coast Inshore Fin Fish Fishery as well as net and pot fisheries.
The seafood industry in Queensland also includes a growing and significant aquaculture industry that involves production of a variety of seafood including: prawns; barramundi; oysters; and species such as red claw crayfish, jade perch, silver perch and eels.

Seafood is caught or collected in a range of waters that are managed by Queensland authorities and the Australian Fisheries Management Authority. In addition to the harvest sector, the seafood industry includes very significant land-based functions such as seafood processing as well as seafood wholesaling, transport, commercial use (e.g. manufacturing and catering) and retailing. These activities provide substantial employment and support the tourism and hospitality industry throughout Queensland.

[3] Details of commercial fisheries in Queensland are available from the DPI&F web site http://www.dpi.qld.gov.au
[4] Details of commercial fisheries in Queensland are available from the DPI&F web site http://www.dpi.qld.gov.au

3. Proposed legislation

The proposed Seafood Scheme will encourage a preventative approach to food safety management and provide authorities with the necessary measures to respond to and investigate potential food safety matters.

The proposed Seafood Scheme would be integrated with the requirements of the Food Act that is enforced by Queensland Health and local government in Queensland. It will also give effect to the agreed National Seafood Standard in the Code.

The proposed Seafood Scheme would be risk-based with a view to minimising the incidence and cost of food-borne illness in Queensland. It would recognise the voluntary food safety arrangements that industry has adopted for lower risk seafood activities.

3.1 Policy objectives

The policy objectives of the proposed legislation are to:

- reduce the incidence of, and potential for, food-borne illness from seafood
- encourage businesses to minimise food safety risks and to ensure their produce is safe for human and/or animal consumption
- provide regulatory authorities with appropriate powers to prevent food safety risks, particularly in relation to those businesses that are not adequately managing food safety risks
- where necessary, intervene and prevent the supply of product that may potentially be unsafe or unsuitable for consumers
- protect market access by ensuring food quality for both interstate and export markets
- implement the nationally developed and agreed National Seafood Standard.

These policy objectives will be addressed by instituting measures to:

- enable authorities to be aware of businesses producing seafood so that these businesses can be contacted or consulted during an incident and if necessary, provided with assistance
- allow authorities access to seafood production places to investigate potentially unsafe practices and to take samples
- provide sufficient powers to authorities to protect public health and safety, including containment and management of seafood while issues are being investigated and resolved
- facilitate coordinated and consistent responses to an incident with measures that define, monitor and control the extent of the risks associated with the incident
- take action to maintain and, if necessary, restore confidence in the food supply and to ensure market access.

The cost of regulatory activities to the seafood industry will be minimised by ensuring the regulatory system is straightforward for industry to apply, equitable and consistent with the requirements of the National Seafood Standard. Referencing the relevant standards in the Code removes the need for detail and a high level of prescription in the regulation.

Compliance with regulatory requirements would be expected of all businesses, but flexibility would be built into the Seafood Scheme to allow a reasonable approach to meeting regulatory requirements. This will include the opportunity for businesses or industry to enter into alternative compliance arrangements where these do not compromise public health and safety.

3.2 Legislative intent

The intent of the proposed legislation is to ensure the production of seafood in Queensland is carried out in a way that makes the seafood fit for human consumption and complies with the Code.

It is proposed to implement this intent by amending the FPS Regulation to incorporate a Seafood Scheme. During the consultation, all regulatory options will be explored with an emphasis on Option 3, that is, a scheme that covers all seafood businesses, initially concentrating on higher risk businesses followed by a considered and industry-agreed strategic roll-out of risk management measures, potentially extending to boats. See Section 8 of this document for detail on the other assessed options.

Option 3 would initially involve a Scheme where producers of bivalve molluscs and seafood processors would need to systematically examine their operations to identify safety hazards and implement controls that are commensurate with the risk as well as document these details in a food safety program. Subsequently, and if necessary, arrangements for lower risk seafood producers and transporters would be considered through a separate RIS process.

The Seafood Scheme would not restrict competition or entry of any producer and any producer could apply to obtain accreditation. Accredited producers would only be required to meet the required food safety scheme requirements in Standards 3.2.2, 3.2.3 and 4.2.1 of the Code.[5]

In the first regulatory phase, under Option 3, specific requirements would apply to higher risk seafood businesses, namely:

- producers of bivalve molluscs
- seafood processors.

These businesses would need to develop and provide a food safety program, and obtain accreditation with SFPQ by applying and paying the relevant accreditation and application fees (see Section 7.3 of this document). The food safety arrangements in the food safety program would be monitored by SFPQ through auditing, inspection or another appropriate means. The appropriate mechanism of monitoring is a matter that will be canvassed with industry during the consultation phase. To ensure traceability and facilitate incident response, all seafood, other than bivalve molluscs, would need to be supplied through an accredited seafood processor.

Subject to the implementation of the initial arrangements and after two years it may be necessary to institute food safety arrangements for other seafood producers (e.g. boats and transporters). If this is considered necessary, a separate RIS would be prepared and consulted upon.

Food safety requirements under the proposed Seafood Scheme will be harmonised with export seafood requirements. Extensive discussions will occur with AQIS to ensure arrangements are seamless.

Water quality is an important consideration for some seafood and as such monitoring arrangements would continue to be managed by DPI&F (e.g. QSWAMP).

[5] Standards 3.2.2 and 3.2.3 of the Code are the food safety standards and include standards for hygiene and controls to ensure the safety and suitability of food.

3.3 Authorising legislation

The authorising legislation is the FPS Act.

The objectives of the FPS Act include:

- to ensure the production of primary produce is carried out in a way that makes the primary produce fit for human or animal consumption [s. 3(b)(i)]
- to provide for food safety measures for the production of primary produce consistent with what is being proposed in other state laws relating to food safety [s. 3(c)].

The relevant functions of SFPQ in s. 14 of the FPS Act include:

- to regulate, under Schemes, the production of primary produce to ensure primary produce is safe for human and animal consumption

- to advise, or make recommendations to, the Minister about—
  - food safety matters relating to the production of primary produce; and
  - the development or implementation of food safety schemes

- to encourage businesses engaged in the production of primary produce—
  - to minimise food safety risks by developing and maintaining food safety programs
  - to develop and adopt quality assurance measures for the primary produce

- to approve or audit quality assurance measures mentioned above.

The development of a Seafood Scheme would fall within the objectives of the FPS Act and its development and implementation is consistent with the functions of SFPQ.

Section 39 of the FPS Act provides the head of power for the making of the Seafood Scheme. Section 39(5) of the FPS Act provides that a food safety scheme is subordinate legislation.

3.4 Consistency with other legislation

3.4.1 Queensland legislation

3.4.1.1 Food Act and subordinate legislation

The proposed regulation would be consistent with and complement the Food Act and its subordinate legislation. The proposed regulation does not limit the application of the Food Act, which is administered, implemented and enforced by Queensland Health and local government.

Under the Food Act, the Food Regulation 2006 provides licence and accreditation provisions for businesses in the food service, food retail and manufacturing sectors. A business would be exempt from licensing under the Food Act where the business produces primary produce under an accreditation granted under the FPS Act.

3.4.1.2 Agricultural Standards Act 1994 and subordinate legislation

The proposed regulation would be consistent with the *Agricultural Standards Act 1994* and its associated regulations, which include requirements for contaminants in feed.

3.4.1.3 Fisheries Act 1994 and subordinate legislation

The proposed regulation does not impact upon, but instead seeks to complement, the regulatory framework of the *Fisheries Act 1994* or its associated regulations. In fact, the records required to be produced and maintained to comply with fisheries' legislation (e.g. catch and effort records) would be referred to as examples in the proposed regulation.

3.4.2 National legislation

The relevant national legislation includes:

- Model Food Bill 2000
- *Food Standards Australia New Zealand Act 1991*
- *Australia New Zealand Food Standards Code.*

The proposed regulation would seek to implement the relevant requirements in the Code in Queensland legislation. Specifically, the requirements in Standard 4.2.1 are proposed to be implemented by the proposed regulation. The requirements in Standard 4.2.1 have been developed in accordance with the Food Standards Australia New Zealand Act. The proposed regulation would therefore be consistent with this national legislation.

The Model Food Bill 2000 is consistent with the Food Act, which as stated above is consistent with the proposed regulation.

3.5 Fundamental legislative principles

The *Legislative Standards Act 1992* outlines fundamental legislative principles, which require that legislation will have sufficient regard to the rights and liberties of individuals and the institution of Parliament. The proposed Seafood Scheme is consistent with these principles and the proposed regulation would have sufficient regard to these principles.

3.6 National Competition Policy

The proposed Seafood Scheme is consistent with National Competition Policy and:

- would implement outcomes-oriented, preventative food safety standards based on the principles of risk-based analysis. Governments and industry alike recognise the principle that "prevention is better than cure" and that a risk-based approach to food safety assurance is the way of the future
- will be consistent with the National Seafood Standard and therefore applies COAG's Inter-Governmental Agreement on Food Regulation (November 2000) - national policy in the area of food safety
- participants within the Scheme will be treated the same, e.g. requirement to comply with national food safety standards and fees are applied equitably across industry sectors
- will not be anti-competitive, that is, the Scheme would not restrict competition or entry of any producer and any producer could apply to obtain accreditation. Accredited producers would only be required to meet the required Scheme requirements in Standards 3.2.2, 3.2.3 and 4.2.1 of the Code.

3.7 Risk assessment

Seafood is a staple component of the Australian diet and is a relatively safe product with many positive health benefits. However, as with most types of food, seafood may pose food safety risks under certain circumstances.

Seafood is an ideal growth media for many micro-organisms that are hazardous to humans. In addition, inappropriate growing conditions and poor food handling practices for seafood may result in contamination of seafood.

In identifying the potential food safety risks associated with seafood, the risk ranking undertaken by FSANZ as part of the development of the National Primary Production and Processing Standard for Seafood[6] has been used and supplemented with specific considerations that may be associated with seafood grown, harvested or caught in Queensland. Information gathered as part of the National Risk Validation Project Report and as part of the activities of OzFoodNet[7] has also been considered.

During the development of the National Seafood Standard it was determined that, overall, the food safety risks from seafood are usually well managed and are therefore considered relatively low. The risk ranking compared the relative risks associated with the wide variety of seafood commodities available in Australia. Chemical and biological food safety hazards were considered and each commodity or group of commodities was assigned a broad relative risk category: low, medium or high.

FSANZ estimated relative public health risks by considering the severity of any adverse health effect resulting from the presence of a particular hazard in a seafood commodity, together with the likelihood of that adverse health effect occurring (see Appendix 3).

FSANZ determined there were only a very small number of products that were considered to represent a relatively high public health and safety risk and these were:

- oysters and other bivalve molluscs (except when the consumed product is only the adductor muscle, e.g. roe-off scallops) harvested from growing environments likely to be exposed to faecal contamination and/or not under a shellfish safety management scheme
- ready-to-eat cold-smoked fin fish (and other ready-to-eat cold-smoked seafood products), when consumed by population sub-groups susceptible to invasive listeriosis.

FSANZ also determined that the vast majority of whole and filleted fin fish was ranked in the low relative risk category, but that the following groups of fish species were ranked in the medium relative risk category:

- larger specimens of certain species of tropical and sub-tropical fin fish, due to the potential for illness from the accumulation of ciguatoxins
- large, long-living or predatory fish, such as swordfish, shark/flake and some tuna, which tend to accumulate higher levels of methylmercury than other fish species. The ranking applies to the at-risk sub-population (the foetus) when the mother consumes mainly those species.

Furthermore, the national assessment highlighted that the lower risk seafood products, when grouped together, do contribute to the overall level of food-borne illness and therefore have an impact on public health and safety.

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[6] Food Standards Australia New Zealand 2005, *Proposal P265 - Primary Production and Processing Standard for Seafood*, Food Standards Australia New Zealand, Canberra

[7] OzFoodNet is a national epidemiological network that surveys food-borne disease.

Because of the continuing burden this will have on the community and the consequent costs it imposes, there is an argument for the introduction of basic measures. These measures would be low cost and implemented across the seafood industry and would be designed to have a broad impact on improving public health and maintaining the high level of consumer confidence in the consumption of seafood. Further detail concerning food safety is provided (see Appendix 3).

3.7.1 Higher risk seafood activities

In the development of Standard 4.2.1, it should be noted that risk profiling was based upon a national assessment of risk. As acknowledged in the assessment, there may be regional or state variations that increase the risk associated with certain foods.

In implementing Standard 4.2.1 in Queensland, it is necessary to consider the risk associated with activities in Queensland that relate to specific foods, rather than the foods themselves. Taking this into account and after considering the FSANZ risk ranking and the nature of the fisheries and seafood harvested in Queensland, SFPQ considers that the following issues are of potential significance to food safety in the seafood industry in Queensland:

- contamination from toxins, viruses or heavy metals
- inadequate temperature control, hygiene or premises that may result in contamination and growth of pathogens
- ensuring staff have the skills and knowledge about food safety that is necessary for the work they undertake
- the need for traceability to mitigate food safety impacts.

Managing these issues requires higher risk businesses to institute controls that are commensurate with the food safety hazards. Taking into account these hazards the following activities are considered to represent higher risk activities:

- production of bivalve molluscs
- seafood processing.

4. Stakeholders

Persons directly affected by the proposed Seafood Scheme are those who are engaged in the production of seafood for human consumption.

People who produce seafood for their own consumption are exempt from the proposed regulation. However, the proposed Seafood Scheme would apply to those who commercially supply (which includes give, sell or barter) seafood to others.

Recreational fishermen who catch fish for their own use and do not supply it to others and traditional inhabitants who supply seafood solely for cultural or ceremonial use would be exempt from the proposed Seafood Scheme. Those who keep seafood as a hobby or for non-food business purposes (e.g. ornamental fish) are also not affected.

Under the proposed Seafood Scheme it is likely that those with appropriate measures already in place will not be required to significantly alter operational procedures.

5. Consultation

Standard 4.2.1 was developed with extensive nationwide consultation over a two-year period and included initial assessment, draft assessment and final assessment phases with intervening consultation periods and regular discussions with a Standards Development Committee that included government, industry and consumer representatives.

Although consultation occurred during the development of the National Seafood Standard, specific consultation with the Queensland seafood industry is considered appropriate to identify any issues that may be unique to Queensland. Consultation will also be conducted with the Food Safety Advisory Committee (FSAC), its Seafood Sub-committee and other targeted stakeholders. To ensure stakeholders can provide comment, SFPQ will endeavour to ensure consultation on the RIS is harmonised with any seafood industry consultation.

FSAC makes recommendations on food safety matters via its Chair (presently the CEO of SFPQ) to the Minister for Primary Industries and Fisheries. The Directors-General of both DPI&F and Queensland Health are also members of FSAC.

The Seafood Sub-committee includes Queensland primary industry, retail and processing interests, and local and interstate regulators. See Appendix 1 for a full list of the members of FSAC and the stakeholder sub-committee .

6. Implementation of the scheme

In broad terms, implementing the proposed Seafood Scheme will be:

- risk-based where compliance activities are commensurate with the potential food safety risks of seafood
- developed consultatively with industry
- flexible in implementation to reflect emerging issues and the developing and seasonal nature of seafood supply chains
- reflect or be consistent with commercial supply arrangements to enhance compliance.

SFPQ will be the body responsible for administering, monitoring and enforcing the accreditation scheme. Where compliance is achieved by audit, audit activities will initially be undertaken by SFPQ, but it is anticipated that this will be devolved to approved auditors (i.e. private sector providers).

Consumers are major beneficiaries of the proposed regulation as they will benefit from the introduction of food safety procedures by producers who do not currently employ them. The Seafood Scheme will ensure traceability of high-risk product to mitigate food safety (and financial) implications in the event of a food safety incident.

The industry will derive benefits from the following:

- The majority of industry producing product under existing voluntary food safety and quality assurance arrangements should be protected from ‘guilt by association’ from the minority of producers that do not employ food safety measures in their businesses.
- There should be a lower probability of adverse reduction in sales, which an outbreak of food-borne illness would create.
- Producers not previously operating to a food safety program will be less likely to be responsible for causing food-borne illness and will be able to demonstrate their duty of care.
- Market brand recognition on food safety grounds will build consumer loyalty and result in enhanced competitive outcomes.

6.1 Scope of the Seafood Scheme

Standard 4.2.1 of the Code defines seafood as 'all aquatic vertebrates and aquatic invertebrates intended for human consumption, but excludes amphibians, mammals, reptiles and aquatic plants'.

6.1.1 Aspects of production covered under the Seafood Scheme

The following activities are proposed to be **included** in the scope of a Seafood Scheme:

- the growing, cultivation, picking, harvesting, collection or catching of seafood for human consumption
- the transportation of seafood at any stage, from place of production to a retailer, commercial user of seafood or manufacturer of seafood
- the freezing, packaging, refrigeration, storage (including holding), treating (includes enhancing appearance or dealing with seafood solely to kill bacteria or germs) or washing of seafood
- the dismembering, filleting, peeling or shucking of seafood, or adding brine to seafood
- the boiling of crustaceans
- growing food for seafood at a seafood production facility
- handling of seafood, at any stage, from place of production to a retailer, commercial user or manufacturer of seafood
- processing seafood, at any stage, from place of production to a retailer, commercial user or manufacturer of seafood
- sale of seafood from premises at which the predominant activity carried out on the premises is seafood processing, seafood production or seafood manufacturing.

6.1.2 Aspects of production not initially covered under the Seafood Scheme

It is proposed that the following activities be **excluded** from the scope of any Seafood Scheme:

- retail sale of seafood (other than from premises at which the predominant activity is seafood processing or seafood harvesting). Retail sale includes sale to the food service sector and includes restaurants, takeaway shops, markets and caterers. This exclusion would mean that health authorities, i.e. Queensland Health or local government, would retain responsibility for food safety from the retail point in the supply chain
- wild harvesting of seafood for individual consumption, i.e. recreational catch
- growing or production of ornamental aquatic vertebrates and aquatic invertebrates not for human consumption
- producing aquatic plants
- growing, transporting or storing food for seafood other than at a seafood production facility, e.g. bait
- traditional fishing for cultural or ceremonial use by traditional inhabitants.

While some activities are proposed to be excluded from the scope of the Seafood Scheme other legislation may apply to these activities, and for activities within the general scope of the FPS Act, producers may still be subject to the general serious food safety offences in ss. 77-82.

6.2 Specific requirements for seafood

The current FPS Regulation includes a general food safety scheme chapter (Chapter 2) that is applicable to all primary food production for which a scheme exists. The FPS Regulation also includes separate chapters that address sector-specific requirements, e.g. meat, dairy and eggs. This structure was specifically designed to provide a framework that could be applicable to all primary production sectors, while recognising the need of specific industry sectors.

The proposed amendment of the FPS Regulation would include a chapter of sector-specific food safety requirements for seafood and would also apply the general requirements in Chapter 2 of the FPS Regulation for higher risk activities related to seafood. These general requirements relate to:

- food safety programs, where necessary, and their amendment
- compulsory and advisory standards that apply to specific foods
- accreditation and auditing requirements
- general food safety requirements such as the skills and knowledge of persons involved in producing primary produce.

7. Costs and benefits of food safety management

7.1 Costs of food-borne illness

The Australian Government Department of Health and Ageing (DOHA) has conservatively estimated that there are 5.4 million cases of food-borne illness in Australia[8] every year costing the community more than $1.2 billion annually[9]. These costs include productivity and lifestyle costs, premature mortality, and health care service costs. The costs to business and government of public health actions and food recalls were also included in this estimate. Direct costs in lost productivity and medical expenses of a food poisoning incident were estimated to be $157 per person per day in 1999. Costs per individual hospitalised have been separately calculated to be as high as $2,470.

Indirect costs, including product recall costs, litigation and loss of consumer confidence are not necessarily restricted to the business or food sector responsible.

As with all food commodities, seafood is responsible for some of the burden of food-borne illness in the community. FSANZ has estimated the annual burden of food-borne illness that might be attributed to seafood in Australia by drawing on two studies published by the Food and Agriculture Organization (FAO)[10], which reported that:

- seafood accounted for between 4.4 and 16.1 per cent of food-borne illness outbreaks in western countries, in cases where the food vehicle for the outbreaks was known

- seafood was involved in 10-25 per cent of food-borne disease outbreaks in developed countries.

Based on this information, FSANZ estimates that ten per cent of all food-borne illness in Australia might be attributable to seafood (approximately 500,000 cases annually). Clearly, only a very small percentage of seafood meals cause food-borne illness.

The direct cost of food-borne illness to the Australian community was estimated by the Allen Consulting Group to be $350 per case[11]. Hence, taking into account the 5.4 million cases of food-borne illness annually, discounting an estimated 20 per cent of cases for in-the-home contamination, provides an estimate of $150 million per year as the cost of food-borne illness to the Australian community associated with the consumption of seafood.

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8 Australian Government Department of Health and Ageing 2004, *How much gastroenteritis in Australia is due to food?* Australian Government Department of Health and Ageing, Canberra

9 Australian Government Department of Health and Ageing 2006, *The Annual Cost of Foodborne Illness in Australia*, Australian Government Department of Health and Ageing, Canberra.

10 Martinez, I.; James, D.; Loréal, H. Application of modern analytical techniques to ensure seafood safety and authenticity. FAO Fisheries Technical Paper. No. 455. Rome,: FAO. 2005.

10 Cato, J.C. (1998) *Seafood Safety – Economics of Hazard Analysis and Critical Control Point programs*, FAO Fisheries Technical Paper – 381, Food and Agricultural Organization of the United Nations.

11 Allen Consulting Group (May 2002) *Food Safety Management Systems: costs, benefits and alternatives*.

In response to the Wallis Lakes incident (where oysters were contaminated with Hepatitis A), sales of finfish dropped by 30 per cent for several months while the 1996 Garibaldi mettwurst incident is thought to have contributed to 400-500 smallgoods businesses going out of business. The 1997 Victorian *Salmonella* contamination of smallgoods not only resulted in $16,000 in fines and a $750,000 insurance settlement, but following as it did only one year after Garibaldi, is thought to have cost the Australian smallgoods industry approximately $400 million.

7.2 Cost of food safety management

Costs associated with establishing and maintaining food safety management depend a great deal on the size and complexity of a business and what the management arrangements are intended to achieve. For instance, at present some businesses might elect to implement a basic minimal food safety regime to meet their duty of care to customers. Other businesses might introduce more complex arrangements to meet the requirements of large retail chains or export markets. Further still, some businesses might take the opportunity to combine food safety management with other non-food safety systems to improve efficiency in their business or make improvements to their product.

All businesses operate under different constraints and as such would develop food safety arrangements that meet their businesses requirements including cost and scope. SFPQ recognises this is a matter of personal choice and would not dictate to businesses how they should go about developing their food safety arrangements. However, in developing food safety arrangements, businesses have a number of options that have different costs associated with them.

Many businesses in the seafood industry already have a food safety program in place. If this program is in line with industry best practice it would likely cost very little, if anything, for producers of bivalve molluscs or seafood processors to alter it to meet any new regulatory requirements. Seafood businesses that meet food safety needs through a formal food safety program can experience additional benefits including: reduced wastage; lower maintenance costs; production savings; enhanced understanding of their own business; and improved management practices.

In relation to other seafood producers, a number of businesses supply through seafood processors and could rely on these seafood processors to ensure food safety is adequately managed with any costs and requirements of this arrangement being a private matter between the businesses involved.

Another option would be for a business to develop food safety arrangements independently. Depending on the food safety knowledge of the person developing the arrangements, some additional research or training costs might be incurred.

For example, a potentially cost-effective arrangement might be to base food safety management arrangements on an existing, appropriate, industry code of practice. Again, some form of training might have to be undertaken by the seafood producer to interpret and implement arrangements, depending on the background and skill-base of that producer. Another alternative might be to commission a professional food safety consultant. The use of such a consultant has the potential to significantly increase the cost of developing food safety arrangements. However, the experience, expert advice, training, and implementation assistance that a consultant may offer could be seen as desirable by some businesses.

It should be noted that these private costs of developing food safety arrangements, including food safety programs are quite separate from the fees charged by the government to accredit a business. It was reported during the development of the national standard that the seafood industry can readily achieve good hygiene outcomes through refinements to their work practices with minimal impact on their costs of operation[12].

Simply requiring accreditation of some producers may be an effective means of ensuring appropriate seafood is supplied, as non-compliance with this measure triggers the serious food safety offence in the legislation and therefore provides an effective barrier to market entrants who may supply unsafe or unsuitable seafood.

7.3 Costs associated with becoming accredited under a Seafood Scheme

7.3.1 Current accreditation fees for meat, dairy, and eggs and egg products

Type of dominant activity	Description of the primary activity	Examples of current businesses within the category	Proposed level of the flat fee
Wild animal harvester	Businesses that harvest animals from the wild.	Kangaroo shooters	$194.80
Retailer/wholesaler	Only applicable to meat	Butcher shops	$346.25
Delicatessen/corner store	Only applicable to meat	Delicatessens and small corner shops that sell unpackaged meat and chicken and sausages.	$194.80
Distributor/transporter	Businesses that transport primary products from farm to processor.	Game boxes, vehicles, harvester's vehicles	$194.80
Producer	Businesses that produce primary produce.	Dairy farmers and egg producers	$270.50
Processor	Businesses whose activity is the processing of primary produce.	Abattoirs, slaughter-houses, dairy factories, egg processors	$1,082.00
Exporter	Businesses that are AQIS-registered.	Export abattoirs and dairy factories	$5,411.00

The fees in the table above are indicative of the application and accreditation fees that would apply for the proposed Seafood Scheme.

All seafood processors and producers of bivalve molluscs who fall within the scope of the proposed Seafood Scheme would need to become accredited with SFPQ. All applicants for accreditation would be subject to a one-off application fee of $108.20. Accreditations must be renewed every twelve months in advance.

As part of the accreditation procedure, if required, an assessment of an applicant's proposed food safety arrangements may be required. Additionally, an inspection of the nominated facilities may be required to demonstrate proposed arrangements in operation. The entire set-up process is charged at a rate of $225 per hour or part thereof.

[12] Food Standards Australia New Zealand 2005, *Proposal P265 - Primary Production and Processing Standard for Seafood*, Food Standards Australia New Zealand, Canberra

7.3.2 Audit fees

Over and above the accreditation and initial application fees, the total cost to comply with the proposed Seafood Scheme will vary according to compliance requirements. Where relevant, audit or inspection frequency will reflect risk and compliance performance of the food safety arrangements (i.e. non-complying businesses will be subject to more audits or inspections to bring about compliance).

Where auditing is required, it is SFPQ policy that contestable private sector (i.e. third party) auditing should be an option available to relevant accreditation holders under each scheme after the first twelve months of a new scheme. This depends on the level of progress made by accreditation holders in meeting the core food safety scheme accreditation requirements.

SFPQ has approved a number of private-sector auditors who are listed on the SFPQ website (www.safefood.qld.gov.au). Accredited business involved in activities considered to be of low risk in food safety terms will have the option to use these auditors to undertake their routine compliance audits.

7.3.3 Alternative compliance arrangements and alternative verification systems

Under the FPS ACT and FPS Regulation, the option exists for businesses to enter into arrangements with SFPQ and to develop alternative systems for verifying that the business is producing safe and suitable food, including seafood. Arrangements will vary according to the business, the activities undertaken by the business and the seafood concerned.

Other appropriate means of monitoring will be explored during the development of the Seafood Scheme, including the preferred option of providing data or records to demonstrate control of food safety hazards. These arrangements may involve provision of records, testing results or inspection arrangements (e.g. histamine test data). This would dispense with the need to audit business's documentation.

In addition, SFPQ and AQIS have existing complementary arrangements in relation to meat, dairy produce and eggs and extensions to these arrangements would be negotiated in relation to seafood.

7.4 Benefits of complying with the proposed regulation

The principal benefits of the proposed Seafood Scheme are:

- a reduction in the risk of future food-borne illness from contaminated seafood
- prevention of economic loss from wasted seafood due to contamination
- the provision of sufficient powers to authorities to protect public health and safety, including containment and management of product while issues are being investigated and resolved
- facilitation of coordinated and consistent responses to an incident with measures that define, monitor and control the extent of the risks associated with the incident
- the ability to take action to maintain and, if necessary, restore confidence in the food supply and to ensure market access
- the imposition of minimum effective regulations with due regard to the level of risk of particular activities.

Food safety is a public health issue that can never be principally considered on economic grounds. This is because economically efficient options that do not adequately protect public health remain unacceptable.

There is a large public benefit by way of potential public and private savings if there are less instances of food-borne illness. DOHA estimate the cost of food-borne illness in Australia exceeds $1.2 billion annually.

When the costs to Australia of food-borne illness are allocated to Queensland on a per capita basis, the cost equates to more than $280 million per annum. Even a small percentage reduction in food-borne illness would generate substantial savings.

International literature shows that the burden of food-borne illness attributable to seafood is sourced from a broad range of products.[13] The consequence of implementing a comprehensive set of management strategies will be to significantly reduce the likelihood and severity of food-borne illness in the Australian population.

The impact of a food-borne illness goes beyond immediate consumption and extends to consumer behaviour in other areas such as tourism. For example, food safety incidents have resulted in a downturn in bookings and high profile outbreaks could impact upon the reputation of Queensland as a tourist destination. A reduction in such high profile outbreaks would be of considerable benefit to a wide cross-section of the community.

7.5 Reducing duplication of other enforcement

The proposed option would not duplicate enforcement effort because the Food Act recognises businesses accredited under the FPS Act as being exempt from its licensing provisions. This arrangement has considerable potential to benefit businesses financially by dealing with a single regulator in food safety matters.

The labelling and composition requirements of the Code would continue to apply and be enforced by either Queensland Health or local government.

7.6 The ultimate beneficiaries

The ultimate beneficiaries are consumers – both end-point and industry consumers. These beneficiaries can have confidence that the Queensland Government and its regulatory authorities are facilitating industry compliance with essential food safety measures and providing the necessary information to allow consumer choice.

Industry consumers (e.g. food services/retail and manufacturers) will benefit through enhanced food safety outcomes achieved by improving the food safety standards for primary produce because the output from the primary industry sectors are in most instances inputs into the food services, manufacturing and retail sectors. No cost benefit analysis can precisely quantify these benefits.

8. Description and likely effectiveness of options (draft public benefit test)

8.1 Cost-benefit approach used

Compiling a quantitative cost benefit analysis of food safety schemes is complex because it is analysing neither a fixed environment nor a simple equation. The environment is continually changing and with that, the profile of risk changes continually across an industry. This in turn alters the likelihood and impacts of that risk.

Many of the costs and benefits associated with the regulatory options are intangible such as loss of human life and lifetime illness. It is very difficult to attribute absolute or dollar amounts to costs and benefits of this kind. The approach taken in this RIS is to rank potential risk against which no dollar amount can be calculated while also taking into account likely costs and benefits.

[13] Martinez, James and L'oreal, *op cit*, and Cato, *op. cit*.

Compiling costs and benefits for the seafood industry is difficult as the industry is seasonal and diverse with industry participants entering and leaving the market as price and supply fluctuations dictate. On this basis, the approach taken in this RIS is to develop general options and assess these against certain criteria for effectiveness.

8.2 Options

The following four options were developed for a Seafood Scheme however option 4 (maintaining status quo) would not allow Queensland to meet COAG obligations and therefore is not considered in detail. The options are:

1. Option 1 A scheme that concentrates on land-based seafood processors and transporters.
2. Option 2 A scheme limited to the through-chain production of bivalve molluscs, involving preventative food safety arrangements.
3. Option 3 A scheme covering all seafood businesses, but initially concentrating on higher risk businesses followed by a considered and industry agreed strategic roll-out of risk management measures, potentially extending to boats.
4. Option 4 Maintain status quo, leave arrangements for seafood safety as they are at present.

Comments relating to all options are presented below.

Seafood retailing

Currently the activity of seafood retailing is covered within the scope of the Food Act under the Queensland Health portfolio. Also certain requirements within the national Food Safety Standards 3.2.2 and 3.2.3 apply to all seafood retail premises, including standards for premises, hand washing facilities, cleanliness of premises, access to potable water, ventilation and lighting, and access to toilets. These requirements will continue to apply to any establishment retailing seafood to the public (e.g. fish and chip shops) irrespective of which option is accepted.

Australia Quarantine and Inspection Service

AQIS registers and audits Australian-based food exporters under the *Export Food Control Orders*. SFPQ has entered into administrative arrangements with AQIS to minimise any duplication of food safety regulatory arrangements in the meat, dairy and egg sectors. SFPQ will develop similar arrangements with AQIS to minimise any potential duplication under the Seafood Scheme, irrespective of which option is accepted.

Seafood Buyer's Licences

Since 1992 the Fisheries section of DPI&F has issued a Seafood Buyer's Licence to businesses to buy and sell seafood. Currently, s. 48 (2) of the Food Act contains an exemption from the licensing arrangements, administered by local government, for the '*processing or sale of fisheries resources under a buyer licence issued under the Fisheries Regulation 1995*.' It is the intention that DPI&F will remove the Seafood Buyer's Licence provision from the Fisheries Regulation when a Seafood Scheme is introduced. The removal of the provision will ensure persons involved in processing seafood must comply with the requirements of the National Seafood Standard 4.2.1. This will assist with consistent application of the National Seafood Standard irrespective of which option is accepted.

8.2.1 Option 1

Under this option, land-based processors and transporters would need to systematically examine their operations to identify safety hazards and implement controls that are commensurate with the risk, as well as document these details in a food safety program. These businesses would need to provide a food safety program and obtain accreditation with SFPQ by applying and paying the relevant accreditation and application fees. The food safety arrangements in the food safety program would be monitored by SFPQ through auditing, inspection or another appropriate means. The appropriate mechanism of monitoring is a matter that will be canvassed with industry during the consultation phase.

Other seafood producers, including on-boat producers and aquaculturists, would not need to become accredited. However, to ensure traceability and facilitate incident response, all seafood would need to be supplied through an accredited seafood processor. Subject to the activities they undertake, these other producers would, under this option, also be able to become a seafood processor in their own right.

Seafood processors and transporters would also be subject to monitoring arrangements through auditing, inspection or another appropriate means. Auditing is currently undertaken at a cost of $225 per hour. However, during the consultation, other appropriate means of monitoring will be explored, including the preferred option of providing data or records to demonstrate control of food safety hazards (e.g. histamine test data). This would remove the need to audit business's documentation at a cost of $225 per hour.

8.2.2 Option 2

Under this option, only producers of bivalve molluscs would be within the scope of the Seafood Scheme and would be subject to preventative food safety arrangements. For other seafood producers, the general safety and suitability provisions under the FPS Act and the Food Act would be relied upon to protect consumers.

8.2.3 Option 3

This option would initially involve a scheme where producers of bivalve molluscs and seafood processors would need to systematically examine their operations to identify safety hazards and implement controls that are commensurate with the risk, as well as document these details in a food safety program. In the first regulatory phase, under Option 3, specific requirements would apply to the following higher risk seafood businesses:

- producers of bivalve molluscs
- seafood processors.

These businesses would need to develop and provide a food safety program, and obtain accreditation with SFPQ by applying and paying the relevant accreditation and application fees. The food safety arrangements in the food safety program would be monitored by SFPQ through auditing, inspection or another appropriate means. The appropriate mechanism of monitoring is a matter that will be canvassed with industry during the consultation phase. To ensure traceability and facilitate incident response, all seafood, other than bivalve molluscs, would need to be supplied through an accredited seafood processor.

Producers of bivalve molluscs and seafood processors would also be subject to monitoring arrangements through auditing, inspection or another appropriate means. Auditing is currently undertaken at a cost of $225 per hour. However, during the consultation, other appropriate means of monitoring will be explored, including the preferred option of providing data or records to demonstrate control of food safety hazards (e.g. histamine test data). This would remove the need to audit business's documentation at a cost of $225 per hour.

Subject to the implementation of the initial arrangements above, and after two years, it may be necessary to institute food safety arrangements for other seafood producers (e.g. boats and transporters). If considered necessary, a separate RIS process would be required.

Any seafood retailing activity conducted by a seafood processor on the same site as the seafood processing activities would be included within the scope of the Seafood Scheme in this option and would be required to be included within the business food safety program. Stand-alone seafood retailing (e.g. fish and chip shops) will continue to be managed under the Food Act

8.2.4 Option 4

Under this option, a Seafood Scheme would not be developed and the general safety and suitability provisions under the FPS Act and the Food Act would be relied upon to protect consumers. These provisions do not include preventative elements and are limited to response activities where there is a clear breach of safety or suitability of a food, i.e. they require authorities to demonstrate that a food is unsafe or unsuitable before they can be used.

8.3 Description and likely effectiveness of options

The likely effectiveness of each of the options has been assessed against the criteria for ensuring food safety risks can be adequately managed by authorities. In order to ensure food safety risks are adequately managed and to ensure authorities have access to adequate regulatory mechanisms, a food safety scheme should:

- enable information about businesses to be provided to regulatory authorities
- ensure product integrity/traceability
- encapsulate the supply of produce through-chain
- encourage business ownership of food safety
- support monitoring and surveillance activities to demonstrate the supply of safe and suitable food and to facilitate incident response
- ensure adequate records are produced and maintained
- be practical in a regulatory sense and provide authorities with sufficient powers to ‘correct’ potential market failure
- minimise compliance costs for producers by ensuring regulatory intervention is targeted to the most effective point in the supply chain that will ensure potential food safety risks are adequately managed.

The criteria stated above are the basis against which a viable food safety scheme is assessed. Where these criteria are not met, the viability of the scheme is reduced and may even become unviable.

8.3.1 Option 1 - Land-based processors and transporters

Under this option, land-based processors and transporters would need to take responsibility for the management of food safety of their suppliers and institute preventative food safety arrangements. Other seafood producers, including on-boat producers and aquaculturists, would need to provide their seafood through a seafood processor to ensure the safety and suitability of all seafood supplied to consumers is appropriately managed. Subject to the activities they undertake, these other producers would, under this option, also be able to be regarded as a seafood processor in their own right.

Under this option:

- information about seafood processors and transporters could be provided to regulatory authorities and this information could extend to other producers through record keeping requirements for processors and transporters
- product integrity/traceability would be instituted
- the supply of produce through-chain would not be completely covered, but through records, producers throughout the supply chain could be investigated, if necessary
- business ownership of food safety would be promoted
- monitoring and surveillance activities could be coordinated through processors and information collected and coordinated, if necessary, to demonstrate the supply of safe and suitable food and to facilitate incident response
- adequate records could be required to be produced and maintained
- a practical regulatory framework could be instituted to provide sufficient powers to correct potential market failure
- compliance costs for producers would be minimised as regulatory intervention would be targeted to an effective point in the seafood supply chain while still ensuring potential food safety risks are adequately managed.

8.3.2 Option 2 – Producers of bivalve molluscs

Under this option, only producers of bivalve molluscs would be within the scope of the Seafood Scheme and would be required to implement preventative food safety arrangements. For other seafood producers, the general safety and suitability provisions under the FPS Act and the Food Act would be relied upon to protect consumers.

Under this option:

- information about bivalve molluscs producers would be provided to regulatory authorities and this information would not extend to other producers
- product integrity/traceability would only be instituted for producers of bivalve molluscs
- the supply of produce through-chain would have inadequate coverage and other producers could not be investigated
- business 'ownership' of food safety would only be promoted for producers of bivalve molluscs
- monitoring and surveillance activities would only apply to producers of bivalve molluscs and information could not be collected and coordinated to demonstrate the supply of safe and suitable seafood and to facilitate incident response
- adequate records would only be required for producers of bivalve molluscs
- a practical regulatory framework would only exist for producers of bivalve molluscs and for other seafood, there would be insufficient powers to correct potential market failure
- compliance costs for producers would be minimised as regulatory intervention would only be targeted to producers of bivalve molluscs and there would be limited means for ensuring potential food safety risks are adequately managed.

8.3.3 Option 3 – All seafood businesses (but initially producers of bivalve molluscs and seafood processors)

Under this option, producers of bivalve molluscs and seafood processors would need to take responsibility for the management of food safety of their products and suppliers' and institute preventative food safety arrangements. Other seafood producers, including on-boat producers and aquaculturists, would need to provide their seafood through a seafood processor to ensure the safety and suitability of all seafood supplied to consumers is appropriately managed. Subject to the activities they undertake, these other producers would, under this option, also be able to be regarded as a seafood processor in their own right.

Under this option:

- information about producers of bivalve molluscs and seafood processors would be provided to regulatory authorities and this information could extend to other producers through record keeping requirements for producers of bivalve molluscs and processors
- product integrity/traceability would be instituted
- the supply of produce through-chain would be completely covered and through records, producers throughout the supply chain could be investigated, if necessary
- business ownership of food safety would be promoted
- monitoring and surveillance activities could be coordinated throughout the supply chain and information collected and coordinated, if necessary, to demonstrate the supply of safe and suitable food and to facilitate incident response
- adequate records could be required to be produced and maintained
- a practical regulatory framework could be instituted to provide sufficient powers to correct potential market failure
- compliance costs for producers would be minimised consistent with regulatory intervention throughout the seafood supply chain and this would ensure potential food safety risks are adequately managed.

8.3.4 Option 4 - Status quo

Under this option, a Seafood Scheme would not be developed and the general safety and suitability provisions under the FPS Act and the Food Act would be relied upon to protect consumers. These provisions do not include preventative elements and are limited to response activities where there is a clear breach of safety or suitability of a food, i.e. they require authorities to demonstrate that a food is unsafe or unsuitable before they can be used.

This option is not considered a viable option as it does not enable authorities in Queensland to ensure public health and safety is adequately protected and that Standard 4.2.1 is implemented in Queensland. It is therefore unacceptable to the Queensland Government.

8.3.5 Comparison between the options

The main difference between the options relate to:

- the type and number of businesses that would be within the scope of the regulatory framework (e.g. the range of businesses required to be accredited and subject to preventative food safety arrangements)
- how these would be managed across the entire seafood industry (e.g. impacts on supply chain restrictions).

During the consultation phase, all regulatory options will be explored with an emphasis on Option 3, that is, a scheme covering all seafood businesses, initially concentrating on higher risk businesses followed by a considered and industry agreed strategic roll-out of risk management measures, potentially extending to boats.

Option 3 is considered to offer the most comprehensive, risk-based scheme for the management of food safety risks, while minimising costs for industry.

8.4 Cost benefit analysis

Many of the hazards associated with seafood can only be effectively managed at the primary production or processing stage in the supply chain. This includes hazards such as viruses and algal biotoxins, some of which cannot be detected in end point testing regimes. Without an effective primary production and processing regulatory framework, it is difficult to manage these hazards or to expect businesses further down the supply chain to mitigate these hazards.

This is particularly the case with seafood where some seafood is consumed raw (e.g. oysters), where downstream processes will not mitigate the hazard (e.g. algal biotoxins) or where critical food safety control mechanisms occur at the primary production and processing stage (e.g. cooking of prawns). In addition, the effective management of hazards of public health significance at the primary end of the food chain makes the task of managing hazards in the later part of the food chain easier and more effective, resulting in safer food and improved public health outcomes.

As has been evidenced by past food-borne illness outbreaks, the impacts for communities, consumers, industry and governments can be severe, widespread and long lasting. These impacts can include social and financial costs and will be borne by all members of the community and not just those businesses associated with providing unsafe seafood. As stated above, these costs can extend to governments and can include protracted legal proceedings and litigation, as demonstrated by the Wallis Lakes oyster incident in New South Wales.

The Queensland seafood industry experience suggests that it currently resembles many other industries where voluntary arrangements are working well with the large-scale operations that have state-wide, or nationally, recognised brand names. In Queensland, and indeed other states, many such producers have introduced food safety or quality assurance systems while a number of smaller suppliers are appreciative of food safety or have implemented requirements required by the major retailers. Such industry initiatives are encouraged as it is clear evidence of the industry driving change and taking responsibility for food safety outcomes.

While the seafood industry has benefited from industry codes of practice and guidelines, these codes and guidelines are voluntary and a proportion of seafood businesses are not compliant with them[14]. It is generally accepted that it is the producers who are not part of voluntary arrangements who pose the greatest potential threat to food safety and to the good reputation of the large number of responsible operators within industry. For this reason it is considered that self-regulation or voluntary regulation may not deliver the food safety outcomes that are expected by the public and to which the Queensland Government has committed.

Furthermore, in time, and without positive reinforcement, it is likely that some producers currently employing food safety measures may find it difficult to financially justify maintenance of their programs if there is no sanction for non-compliance. This would place these businesses at a disadvantage to those businesses that are investing in food safety measures. A consequence of this is some form of regulation and government infrastructure to administer monitoring activities and assess compliance, and more importantly, to take action against those businesses that are found to be providing unsafe or unwholesome seafood.

[14] Information provided by industry members of the Seafood Standard Development Committee.

In order to ensure mechanisms exist to prevent the unsafe production of seafood, it is necessary to have a regulatory framework that includes sanctions against those businesses that produce, process or provide unsafe or unwholesome seafood. Furthermore, while there are food safety regulatory requirements for seafood (in the primary production sector) in the Code, currently these have not been implemented legislatively in Queensland under the FPS Act. This places Queensland at odds with other jurisdictions that have implemented food safety regulatory requirements for seafood. This has the potential to impact on the reputation of Queensland as a producer of safe seafood.

The Queensland Government is committed to implementing the nationally endorsed Standard 4.2.1 in the Code. This Standard includes outcome-based requirements for food safety management for seafood. It is expected that businesses that already have appropriate food safety arrangements in place would either meet the new requirements or would do so with minor modifications to their programs and premises.

8.4.1 Option 1 - Land-based processors and transporters

8.4.1.1 Costs

Industry

- government application and accreditation charges to seafood processors and transporters
- cost of developing food safety arrangements, including possible premises upgrade and staff training. These costs would vary depending on the complexity of the business and mechanisms that are already in place
- compliance/audit costs that would vary depending on the complexity of the business
- restrictions on supply for some businesses that would need to provide seafood through a seafood processor or become processors themselves.

Government

- cost of implementing and administering regulation that is higher than the current situation in relation to managing food safety at the primary production and processing end of the supply chain.

Consumers/community

- the price of seafood may rise slightly to cover compliance costs of implementing food safety arrangements
- a perception of a reduction in 'freedom of choice' as producers that formerly supplied the public may be unable to meet minimal food safety standards and leave the market.

8.4.1.2 Benefits

Industry

- higher consumer and industry confidence in the safety of seafood, which protects the market share of seafood in the food market and promotes investment in the seafood industry
- lower probability of legal expenses through litigation
- benefits for industry in relation to coordinated and comprehensive incident response leading to protection of market access and retention of consumer confidence in seafood
- level playing field for all participants resulting in responsible producers not being at a cost disadvantage.

Government

- potential to reduce costs associated with providing health services to consumers who become ill from food-borne illness
- enhanced coordination of incident response, to reflect community expectations
- seen to be protecting consumers from unsafe food
- compliance with nationally agreed food regulation reform obligations.

Consumers/community

- potentially lower rates of food-borne illness attributable to seafood
- greater confidence in the safety of seafood.

8.4.2 Option 2 - Bivalve molluscs

8.4.2.1 Costs

Industry

- application, accreditation and auditing costs for producers of bivalve molluscs to implement food safety arrangements
- cost of developing food safety arrangements, including, if necessary, development of food safety program, upgrade of premises and staff training for producers of bivalve molluscs. These costs would vary depending on the complexity of the business and mechanisms that are already in place
- compliance/audit costs for producers of bivalve molluscs that would vary depending on the complexity of the business
- costs for industry of inadequate incident response leading to potential loss of market access and reduced consumer confidence
- uneven playing field for producers of bivalve molluscs resulting in responsible producers being at a cost disadvantage to other seafood producers.

Government

- costs of implementing regulatory food safety arrangements for producers of bivalve molluscs
- costs associated with providing health services to consumers who potentially become ill from food-borne illness associated with seafood other than bivalve molluscs
- costs for government in the event of an incident where, other than for bivalve molluscs, voluntary arrangements would have to be relied upon to manage and coordinate an incident response.

Consumers/community

- potentially increased costs for seafood as compliance costs are passed on to consumers by producers of bivalve molluscs
- potential costs associated with consumers who potentially become ill from food-borne illness associated with seafood other than bivalve molluscs.

8.4.2.2 Benefits

Industry

- higher consumer and industry confidence in the safety of bivalve molluscs, which protects the market share of bivalve molluscs in the food market and promotes investment in that industry
- less probability of legal expenses through litigation for producers of bivalve molluscs
- minimal compliance costs for other seafood producers.

Government

- potential to reduce costs associated with providing health services to consumers who potentially become ill from food-borne illness from bivalve molluscs
- seen to be protecting consumers from unsafe bivalve molluscs
- compliance with nationally agreed food regulation reform obligations, but only in respect of bivalve molluscs.

Consumers/community

- potentially lower rates of food-borne illness attributed to bivalve molluscs
- greater confidence in the safety of bivalve molluscs.

8.4.3 Option 3 - All seafood businesses, but initially producers of bivalve molluscs and seafood processors

8.4.3.1 Costs

Industry

- application and accreditation costs for all producers of bivalve molluscs and seafood processors to implement food safety arrangements
- cost of developing food safety arrangements, including, if necessary, development of a food safety program, upgrade of premises and staff training for all producers of bivalve molluscs and seafood processors. These costs would vary depending on the complexity of the business and mechanisms that are already in place
- compliance/audit costs for all producers of bivalve molluscs and seafood processors that would vary depending on the complexity of the business and the commercial arrangements with other seafood producers
- restrictions on supply for some businesses that would need to provide seafood through a seafood processor or become processors themselves.

Government

- costs of implementing regulatory food safety arrangements for producers of bivalve molluscs and seafood processors.

Consumers/community

- potentially increased costs for seafood if compliance costs are passed on to consumers by relevant seafood businesses.

8.4.3.2 Benefits

Industry

- higher consumer and industry confidence in the safety of seafood, which protects the market share of seafood in the food market and promotes investment in the seafood industry
- lower probability of legal expenses through litigation
- coordinated and comprehensive incident response leading to protection of market access and retention of consumer confidence in seafood
- level playing field for all participants resulting in responsible producers not being at a cost disadvantage.

Government

- potential to reduce costs associated with providing health services to consumers who become ill from food-borne illness
- improved coordination of incident response to reflect community expectations
- seen to be protecting consumers from unsafe food
- compliance with nationally agreed food regulation reform obligations.

Consumers/community

- potentially lower rates of food-borne illness attributed to bivalve molluscs
- greater confidence in the safety of bivalve molluscs and seafood generally.

8.5 Summary of costs and benefits

The three options have been assessed against the following criteria:

- the potential to reduce the incidence of food-borne illness
- the ability to reduce the regulatory burden on industry
- the cost effectiveness for industry, government and consumers/community
- consistency with national standards and international best practice.

Even in the absence of mandatory food safety requirements, businesses can institute food safety measures. The main difference between the options are the number of businesses that would be required to be accredited and institute preventative food safety arrangements and how these would be managed across the entire seafood industry, including any restrictions on supply.

8.5.1 Potential to reduce the incidence of food-borne illness

In practical terms there is little difference between Options 1 and 3 other than the scope of mandatory and preventative food regulatory requirements.

It is acknowledged that proactive members of the Queensland seafood industry have introduced food safety arrangements on a voluntary basis. Such a level of maturity in industry is commendable. It is reasonable to presume that these voluntary arrangements have contributed in a positive manner to the low number of seafood-related food-borne illnesses in Queensland.

However, it would be unlikely for this situation to be sustained in the price competitive seafood industry if a significant minority of the industry does not institute preventative food safety measures and maintains a cost advantage over best practice producers who have instituted preventative food safety measures.

A worst-case scenario could see food safety measures degrading if best practice producers see their competitiveness eroded in the face of costs of maintaining their measures because there are no sanctions in place for those who avoid responsibility for food safety.

Mandatory regulation is an effective legislative means to continue to reduce the incidence of food-borne illness. Where necessary, risk-based food safety arrangements, in combination with good production environments, hygienic practices and education of food handlers, are seen as pivotal to reducing the incidence of food-borne illness.

Options 1 and 3 mandate a preventative approach to food safety across the seafood industry. Option 1 targets this intervention to the seafood processing and transporting points in the supply chain where seafood food safety can be managed cost-effectively. Option 3 initially mandates a preventative approach in relation to the higher risk seafood businesses of producers of bivalve molluscs and seafood processors.

Option 2 mandates a preventative approach in relation to bivalve molluscs businesses only, which is likely to have a greater impact on this portion of the industry and questionable benefit in relation to other types of seafood.

To a varying degree, all options encourage businesses to take responsibility for the safety of the food they produce and to respond quickly to new hazards. Option 3 is considered to offer the most comprehensive, risk-based scheme for the management of food safety risks, while minimising costs for industry.

8.5.2 Ability to reduce the regulatory burden on business

For a seafood business already maintaining independently assessed food safety arrangements, the additional cost impost will be fees associated with initially registering as a food business with SFPQ and maintaining this by paying an annual accreditation fee. These fees would apply equally and consistently across all seafood processors and seafood transporters in the case of Option 1 and initially, producers of bivalve molluscs and seafood processors in the case of Option 3.

The least regulatory burden is considered to be Option 2 as the costs would only apply to producers of bivalve molluscs. Option 2 would not impact on other seafood producers.

The next least regulatory burden is considered to be Option 1 as the direct costs would only apply to seafood processors and seafood transporters, with these businesses ensuring suppliers met food safety requirements. Option 1 would also restrict the commercial supply of seafood from producers to seafood processors. The impact of this restriction is not considered to be major given that it reflects current commercial arrangements and seafood producers would have the option of becoming a seafood processor in their own right.

Option 3 would initially require all producers of bivalve molluscs and seafood processors to institute preventative food safety arrangements. Like Option 1, Option 3 would also restrict the commercial supply of seafood from producers to seafood processors, other than for producers of bivalve molluscs. The impact of this restriction is not considered to be major given that it reflects current commercial arrangements and seafood producers would have the option of becoming a seafood processor in their own right.

8.5.3 Cost-effectiveness for the community

All the options have associated costs and benefits for the community that vary in terms of the scope of businesses to which the mandatory requirements apply. Analysis of the options shows that Option 2 has limited costs to business and government, but is of limited benefit to the community in respect of reducing the incidence of food safety illness, other than for bivalve molluscs. Options 3 and 1 would have similar costs to business and government.

The options may have varying appeal to industry participants and will depend upon supply chains and the current preventative food safety management arrangements in place. It is recognised that none of the options may appeal to businesses that have less defined supply chains and that may only be developing food safety management arrangements.

Under both Options 1 and 3, consumers would benefit through reduced incidence of food-borne illness and commensurate reductions in financial, emotional and lifestyle costs. Option 2 is unlikely to result in substantive community benefit.

The cost effectiveness of the options varies depending on the perspective of the individual stakeholder. Option 3 may offer the greatest benefits to the consumer and the government in terms of managing seafood food safety across the industry spectrum. It also offers significant benefits to proactive businesses with food safety measures already in place while offering some protection from collateral costs that would be associated with food safety incidents.

8.5.4 Consistency with national standards and international best practice

Both in Australia and internationally there is a move to implement outcomes-oriented, preventative food safety standards based on the principles of risk-based management. Governments and industry alike recognise the principle of ‘prevention is better than cure’ and that a risk-based approach to food safety assurance is the way of the future.

Options 1 and 3 mandate a consistent, industry-wide approach to food safety and are therefore likely to be more acceptable to interstate markets. They also provide the best means of facilitating trade and enhancing the national and international safety of seafood from Queensland.

Options 1 and 3 have a different focus in terms of implementing food safety arrangements, but both would have the same benefits in relation to consistency with national standards. Option 2 would not implement the National Seafood Standard in its entirety. Option 3 is considered to offer the most comprehensive, risk-based scheme for the management of food safety risks, while minimising costs for industry.

Appendix 1 Membership of Food Safety Advisory Committee (FSAC) and the Food Safety Scheme (Seafood) Sub-Committee

The Food Safety Advisory Committee (FSAC) consists of the following members:

- Chief Executive Officer of Safe Food Production Queensland
- Chief Executive Officer of the Department of Primary Industries and Fisheries
- Chief Executive Officer of the Queensland Department of Health
- industry representatives with expertise relating to a particular Food Safety Scheme

FSAC has established a Food Safety Scheme (Seafood) Sub-Committee to assist with the development of the Seafood Scheme. Representatives of the following organisations comprise the Sub-Committee:

- Australian Quarantine and Inspection Service
- Food Standards Australia New Zealand
- Queensland Department of Premier and Cabinet
- Queensland Department of State Development
- Queensland Health
- Safe Food Production Queensland
- Queensland Department of Primary Industries and Fisheries
- NSW Food Authority
- Victorian Department of Primary Industries
- Fishmac
- Local Government Association of Queensland
- Queensland Retail Traders and Shopkeepers Association
- Queensland Charter Vessel Association
- Morgan's Seafood
- A Raptis & Sons Pty Ltd
- Gambaro's Seafood Pty Ltd
- Seafood Services Australia
- Queensland Seafood Marketers Association
- Queensland Oyster Growers Association
- Queensland Seafood Industry Association
- Australian Prawn Farmer's Association
- Sunfish Queensland Inc
- Sydney Fish Market Pty Ltd
- Samie's Girl Fresh Seafood Market
- Mackay Reef Fish Supplies Pty Ltd
- Aquaculture Association of Queensland
- Bundaberg & District Crayfish Association
- Stockfeed Manufacturer's Association (Queensland)
- Queensland Women's Industry Network Seafood Community
- Moreton Bay Seafood Industry Association.

Appendix 2 National Seafood Standard

STANDARD 4.2.1 - Primary Production and Processing Standard for Seafood

(Australia Only)
To commence on 26 May 2006

Purpose and commentary

This Standard sets out food safety and suitability requirements for seafood generally from pre-harvesting production of the seafood up to, but not including manufacturing operations. Chapter 3 of this Code applies to seafood manufacturing and retail sale activities.

Under this Standard, a seafood business must identify potential seafood safety hazards and implement controls that are commensurate with the risk.

Additionally, this Standard requires primary producers and processors of certain bivalve molluscs to implement a food safety management system. This particular requirement also extends to manufacturing activities relating to bivalve molluscs.

For primary producers and processors of bivalve molluscs, the food safety management system incorporates conditions on the areas from which the product may be harvested or harvested for depuration or relaying, along with conditions on the water used for wet storage.

Table of Provisions

Clauses
Division 1 – Preliminary
1 Application

(1) This Standard applies to seafood businesses and seafood handlers in Australia but not in New Zealand.

(2) Unless the contrary intention appears in this Standard, Chapter 3 of this Code applies to seafood manufacturing and retail sale activities.

Editorial note:

This Standard applies to primary production and processing activities as defined in clause 2. The definition of 'processing of seafood' includes activities such as the killing, gutting, filleting, brining and shucking of seafood and the depuration of shellfish. However, other than the food safety management system requirements for bivalve molluscs, this Standard does not apply to manufacturing activities.

Manufacturing of seafood is defined in clause 2 as the canning, smoking or crumbing of the seafood or the addition of other foods to the seafood and other like activities.

Under the *Imported Food Control Act 1992*, Standards in this Code apply to imported food. However, this Standard does not fall within the scope of the 'Agreement Between the Government of Australia and the Government of New Zealand Concerning a Joint Food Standards System'. Accordingly, this Standard does not apply to food businesses in New Zealand. Furthermore, the Trans-Tasman Mutual Recognition Arrangement and the Australian and New Zealand legislation giving effect to that Arrangement apply to imported food.

This Standard does not apply to persons who harvest or catch seafood for recreational, cultural or traditional purposes, provided the activity does not come within the definition of a 'seafood business' – that is, the seafood harvested or taken is not intended for sale.

Clause 3 of this Standard does not affect the operation of Standard 3.2.1.

2 Interpretation

(1) Unless the contrary intention appears, the definitions in Chapter 3 of this Code apply for the purposes of this Standard.

(2) In this Standard –

control means a measure that prevents, eliminates or reduces to an acceptable level, a food safety hazard.

depuration means a process using a controlled environment to reduce the level of certain pathogenic organisms that may be present in live shellfish and crustaceans.

harvesting means the capture or taking of seafood and includes the capture or taking of seafood from an enclosure or pond used in aquaculture.

inputs includes any feed, chemicals or other substances used in, or in connection with, the primary production of seafood.

live seafood premises means a premises used for the primary production of live seafood, and includes

sea cages.

manufacturing of seafood means the canning, smoking or crumbing of seafood or the addition of other food to seafood and other like activities.

primary production of seafood means the:

(a) growing, cultivation, picking, harvesting, collection or catching of seafood;
(b) growing on of seafood;
(c) transportation or delivery of seafood;
(d) holding of live seafood;

and includes processing of seafood.

processing of seafood includes:

(a) the killing, dismembering, filleting or cutting into portions, gill or gutting, or skinning of seafood;
(b) the depuration of shellfish and crustaceans;
(c) the shucking or peeling of seafood;
(d) the cooking, including steaming or boiling, of crustaceans;
(e) the brining of seafood;
(f) the packing, treating, washing, freezing, refrigeration or storing of seafood;
(g) other similar activities.

Editorial note:

The definitions of 'primary production of seafood' and 'processing of seafood' operate for the purposes of this Standard and do not affect the definition of those terms in State and Territory Food Acts. The definitions in this Standard do not affect the legislative or administrative arrangements in the States and Territories concerning the administration and implementation of legislative schemes.

seafood means all aquatic vertebrates and aquatic invertebrates intended for human consumption, but excludes amphibians, mammals, reptiles, and aquatic plants.

seafood business means a business, enterprise or activity that involves the primary production of seafood intended for sale.

seafood handler means a person who engages in or supervises the primary production of seafood, for a seafood business.

seafood premises means any premises including land, vehicles, parts of structures, tents, stalls and other temporary structures, vessels, pontoons, and any other place declared by the relevant authority to be a premises under the Food Act, kept or used for the primary production of seafood (exclusively or otherwise), regardless of whether the premises are owned by the proprietor, including premises used principally as a private dwelling.

temperature control means maintaining seafood at a temperature of –

(a) 5°C, or below if this is necessary to minimise the growth of infectious or toxigenic micro-organisms in the food so that the microbiological safety of the food will not be adversely affected for the time the food is at that temperature; or

(b) another temperature – if the food business demonstrates that maintenance of the food at this temperature for the period of time for which it will be so maintained, will not adversely affect the microbiological safety of the food.

Division 2 – Seafood safety requirements

3 General seafood safety management

A seafood business must systematically examine all of its primary production and processing operations to identify potential seafood safety hazards and implement controls that are commensurate with the food safety risk.

Editorial note:

The 'controls' referred to in this clause should include –

a. Measures to control hazards from air, soil, water, bait and feedstuffs, fertilizers (including natural fertilizers), pesticides, veterinary drugs and any other agent used in primary production of seafood; and

b. Controls to protect food sources from faecal and other contamination.

4 Contamination and handling

(1) A seafood business must take all necessary steps to prevent the likelihood of seafood being or becoming contaminated.

(2) A seafood business must take all reasonable measures to ensure that seafood handlers handle seafood or surfaces likely to come into contact with seafood in a way that is not likely to compromise the safety or suitability of seafood.

5 Inputs and harvesting areas

(1) A seafood business must take all reasonable measures to ensure inputs do not adversely affect the safety or suitability of the seafood.

(2) A seafood business must not harvest seafood in an area if it is known, or ought reasonably be known at the time, that the seafood, if harvested in the area, may not be safe or suitable when sold for human consumption.

6 Seafood storage

(1) A seafood business must, when storing seafood, other than live seafood, store the seafood under temperature control and have a means of monitoring the temperature of the seafood.

(2) A seafood business must, when storing live seafood, store the seafood in such a way that the conditions under which it is stored will not adversely affect the safety or suitability of the seafood.

7 Seafood transportation

(1) A seafood business must, when transporting seafood, other than live seafood, transport the seafood under temperature control and have a means of monitoring the temperature of the seafood.

(2) A seafood business must when transporting live seafood, transport the seafood under conditions that will not adversely affect the safety or suitability of the seafood.

Editorial note:

For clauses 6 and 7 –

The term 'temperature control' is defined in clause 2 of this Standard.

8 Seafood packaging

A seafood business must, when packaging seafood –

(a) only use packaging material that is fit for its intended use; and
(b) only use packaging material that is not likely to cause contamination of the seafood; and
(c) take all reasonable measures to ensure that the seafood does not become contaminated.

9 Seafood for disposal

(1) A seafood business must ensure that seafood for disposal is held and kept separate until it is

(a) destroyed or otherwise used or disposed of so that it cannot be used for human consumption; or
(b) returned to its supplier; or
(c) processed in a way that ensures its safety or suitability; or
(d) ascertained to be safe and suitable for sale.

(2) A seafood business must clearly identify any seafood that is held and kept separate in accordance with subclause (1) as returned seafood, recalled seafood, or seafood that is or may not be safe and suitable.

Editorial note:

'Seafood for disposal' has the same meaning as 'food for disposal' as defined in Standard 3.2.2, clause 11 – that is – the seafood is subject to a recall, or has been returned, or is not safe or suitable, or is reasonably suspected of not being safe or suitable.

10 Seafood receipt

(1) A seafood business must take all reasonable measures to ensure it only accepts seafood that is protected from the likelihood of contamination.

(2) A seafood business must, when receiving seafood, other than live seafood, take all reasonable measures to ensure it only accepts seafood that is under temperature control.

(3) A seafood business must, when receiving live seafood, take all reasonable measures to ensure that it receives seafood that has been transported in such a way that has not or will not adversely affect the safety or suitability of the seafood.

11 Seafood tracing

A seafood business must maintain sufficient written records to identify the immediate supplier and immediate recipient of seafood for the purposes of ensuring the safety of the seafood.

12 Skills and knowledge

A seafood business must ensure that seafood handlers have –

(a) skills in food safety and food hygiene; and
(b) knowledge of food safety and food hygiene matters;

commensurate with their work and the food safety risks.

13 Health and hygiene requirements

(1) A seafood handler must exercise personal hygiene and health practices that are commensurate with the food safety risks and that do not adversely affect the safety or suitability of the seafood.

(2) A seafood handler who –

(a) has a symptom that indicates the handler may be suffering from a food-borne disease; or
(b) knows he or she is suffering from a food-borne disease; or
(c) is a carrier of a food-borne disease;

must not engage in any handling of seafood where there is a reasonable likelihood of seafood contamination as a result of the disease.

(3) A seafood business must take all reasonable measures to ensure that seafood handlers exercise personal hygiene and health practices that are commensurate with the food safety risks and that do not adversely affect the safety or suitability of the seafood.

14 Seafood premises and equipment

(1) A seafood business must ensure that seafood premises, including live seafood premises, and equipment used in the primary production of seafood are –

(a) so far as is reasonably necessary, kept clean; and
(b) designed, constructed, maintained and operated;

such that the safety or suitability of the seafood will not be adversely affected.

(2) For the purposes of subclause (1), a seafood business must comply with –

(a) Division 5 of Standard 3.2.2 and Standard 3.2.3 of this Code; or
(b) a set of requirements recognised by the Authority.

Editorial note:

Where the cleaning of equipment such as fishing nets and oyster racks would not affect the safety or suitability of the seafood, the cleaning of this equipment will not be necessary to meet the requirements in paragraph 14(1)(a).

Division 3 – Specific requirements for bivalve molluscs

15 Interpretation

In this Division –

approved means approved by the Authority.

area means an area where bivalve molluscs are grown or harvested.

ASQAP Manual means the Australian Shellfish Quality Assurance Program Operations Manual – Version 3 of 2002.

Authority means the State, Territory or Commonwealth government agency or agencies having the legal authority to implement and enforce this Division.

batch means a quantity of bivalve molluscs which is harvested, depurated or handled from the same lease number and with the same harvest date.

bivalve molluscs include cockles, clams, mussels, oysters, pipis and scallops intended for human consumption, but excludes scallops and pearl oysters, where the only part of the product consumed is the adductor muscle, and spat.

growing on means the process where juvenile bivalve molluscs are translocated to a classified area for a sufficient period to enable their development prior to sale.

relaying means the transfer of bivalve molluscs from one area to another for the reduction of contaminants in the bivalve molluscs.

spat means juvenile bivalve molluscs taken for the sole purpose of growing on.

Editorial note:

If spat are harvested for human consumption then the product falls within the definition of 'bivalve mollusc'. In that case, the requirements in this Division for bivalve molluscs apply to the product.

wet storage means the temporary storage of bivalve molluscs from an area in containers or tanks containing natural or artificial seawater for purposes other than depuration.

16 Food safety management systems for bivalve molluscs

(1) A seafood business that engages in the primary production or processing of, or manufacturing activities concerning, bivalve molluscs must implement a documented food safety management system that effectively controls the hazards.

Editorial note:

'Hazard' is defined in Standard 3.1.1 as a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans.

Under subclause 1(2) of this Standard, the requirement for a food safety management system in subclause 16(1) does not apply to retail sale activities concerning bivalve molluscs.

(2) A seafood business is taken to comply with subclause (1) if it implements –

(a) a food safety program set out in Standard 3.2.1; or
(b) a food safety management system set out in the Commonwealth Export Control (Processed Food) Orders; or
(c) the Codex Alimentarius Hazard Analysis and Critical Control Point System (HACCP) for food safety management set out in Annex C to CAC/RCP 1-1969, revision 4 (2003); or
(d) any other Hazard Analysis and Critical Control Point (HACCP) based food safety management system recognised by the Authority.

(3) For the purposes of subclause (1), a seafood business must comply with –

(a) the conditions of the ASQAP Manual specified in the Schedule to this Standard; or
(b) conditions recognised by the Authority.

Editorial note:

The ASQAP Manual is the National guideline for managing risks in the harvesting, relaying, depuration and wet storage of shellfish.

Subclause 16(3) does not require producers or processors of bivalve molluscs to classify or close harvesting areas. Under the ASQAP Manual the classification of these areas is the responsibility of the State Shellfish Control Agency (SSCA).

The Australian Shellfish Quality Assurance Advisory Committee (ASQAAC) maintains the ASQAP Manual.

'HACCP' has a technical meaning commonly understood by the food production and manufacturing industry.

17 Co-mingling of bivalve molluscs

A seafood business must ensure that each batch of bivalve molluscs harvested must be separated in a manner that prevents co-mingling of batches.

SCHEDULE

ASQAP MANUAL CONDITIONS

Column 1 **Activities**	**Column 2** **Conditions**
Activity 1 Harvesting	The area - (a) has been classified by the Authority as – (i) approved; or (ii) conditionally approved; or (iii) approved as remote; or (iv) offshore; and (b) is subject to a Marine Bio-toxin Management Plan; and (c) has an open status; or (d) is undergoing classification and is approved by the Authority subject to conditions, if any, specified by the Authority.
Activity 2 Harvesting for depuration or relaying	The area – (a) has been classified by the Authority as – (i) approved; or (ii) conditionally approved; or (iii) approved as remote; or (iv) restricted; or (v) conditionally restricted; and (b) is subject to a Marine Bio-toxin Management Plan; and (c) has an open status for the purposes of depuration or relaying; or (d) is undergoing classification and is approved by the Authority, subject to conditions, if any, specified by the Authority.
Activity 3 Post harvest temporary wet storage	The water used must be – (a) sourced from an area that satisfies the conditions for Activity 1 (other than Condition (d)); or (b) of a quality that will not adversely affect the safety and suitability of the bivalve molluscs; and (c) effectively disinfected or maintained during the course of the wet storage in such a way that it continues to satisfy the conditions for Activity 1 (other than Condition (d)).

Appendix 3 Food safety risk and public health

A3.1 Food safety in general

A recent report estimated that the incidence of gastroenteritis in Australia is 17.2 million cases per year. In this same report, it was further estimated that 32% are food borne, which equates to 5.4 million food borne cases annually in Australia. In addition, food borne gastroenteritis was estimated to cause approximately 15,000 hospitalisations and 80 deaths annually in Australia. It was also reported that norovirus, enteropathogenic *Escherichia coli*, *Campylobacter* spp., and *Salmonella* spp. cause the most illnesses.[15]

On an individual basis, it has also been estimated that there is an incidence of 0.29 episodes per person per year; on average, every Australian can expect to experience an episode of food borne illness every three to four years.[16]

In the 2004 OzFoodNet Annual Report[17], it was reported that during 2004 there were:

- 24,313 notifications of eight potentially food borne diseases
- 118 food borne disease outbreaks which affected 2,076 persons, of whom 5.6 per cent (11/2,076) were hospitalised and two people died
- reports of both notifications and outbreaks were higher than previous years
- Outbreak investigations implicated chicken, foods containing eggs, imported oysters and food handlers infected with norovirus
- 27 outbreaks were reported in Queensland, with 254 people affected and 20 hospitalised
- seven outbreaks of ciguatera, all of which occurred in Queensland with 24 people affected and three people hospitalised. Many outbreaks of ciguatera relate to fish caught by amateur fishermen, but one of these outbreaks was associated with coral trout eaten at a restaurant.

In the 2004 OzFoodNet Annual Report, it was also reported that contaminated fish was the most common food vehicle and was responsible for nine per cent (10/118) of outbreaks, followed by seafood and mixed meat dishes each responsible for six outbreaks. Poultry, cakes, pizza, oysters and egg dishes were also common causes of outbreaks.

The estimated number of food borne illness cases in Queensland is between 1.6 million and 1.9 million cases per year. This represents an annual incidence of food borne illness in Queensland of 0.45 to 0.54 episodes/ person/year.[18]

Surveillance and monitoring by a number of countries indicate that food-borne illness is generally increasing around the world[19]. Factors responsible for the increase in reported food-borne illness include[20]:

- **improved methods** of identifying illness as being of food origin
- **a change in the population** with an increase in the proportion in the elderly, young or immuno-compromised 'high-risk' demographics

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15 Hall G, Kirk MD, Becker N, Gregory JE, Unicomb L, Millard G, et al. Estimating foodborne gastroenteritis, Australia. Emerg Infect Dis. 2005 Aug. Available from http://www.cdc.gov/ncidod/EID/vol11no08/04-1367.htm

16 How much Gastroenteritis in Australia is due to food? Estimating the Incidence of Foodborne Gastroenteritis in Australia. Gillian Hall And the OzFoodNet Working Group, NCEPH Working Paper Number 51, September 2004.

17 Reported foodborne illness and gastroenteritis in Australia: Annual report of the OzFoodNet network, 2004 The OzFoodNet Working Group.

18 A Survey of Community Diarrhoeal Illness among Adults and Young Children in Queensland. Queensland OzFoodNet and Communicable Diseases Unit, Queensland Health. 2002

19 World Health Organization 1997; US General Accounting Office 1996

20 Australia New Zealand Food Authority, Analysis of Draft Food Safety Standards, March 1999, pp.23-28

- **contemporary fishing/farming/processing practices** that have changed the potential for bacteria, agricultural drugs and chemicals to be present in food[21]
- **an increase in the length of the supply chain** from the boat/farm to consumer with more extensive food distribution from large centralised processors
- **increased availability of "ready-to-eat" meals** with extended shelf lives and an associated increase in the time between preparation and consumption but without the need for cooking – an important bacterial "kill step" – prior to consumption
- **new causes of food-borne illness** with three of the four most significant food-borne pathogens in the USA, unrecognised as causes of food-borne illness 20 years ago
- **changing consumer preferences** with an increase in eating-out at restaurants and increases in the consumption of fresh, minimally processed foods with no bacterial "kill step".

These factors are relevant to seafood and ongoing control of food safety risks is considered necessary.

A3.2 Food safety and seafood

Seafood is a staple component of the Australian diet and is a relatively safe product with many positive health benefits. However, as with most types of nutritious food, seafood may pose food safety risks under certain circumstances.

Seafood is an ideal growth media for many micro-organisms that are hazardous to humans. In addition, inappropriate growing conditions and poor food handling practices for seafood may result in contamination of seafood. This RIS presents ways to address risks associated with the primary production and processing of seafood prior to delivery to retail or a commercial user (e.g. restaurant).

A3.2.1 Impacts of food-borne illness in seafood

The impacts of food poisoning can be severe not only for consumers that are affected but also businesses and governments associated with implicated foods. Consumers have been found to respond to outbreaks of food-borne illness in seafood by reducing their demand for seafood products. This was demonstrated during the 1997 outbreak that was associated with contamination of NSW oysters in NSW. It was reported that consumers reduced their demand for oysters by 85 per cent but that this also resulted in reduced demand of 30 per cent for all seafood products[22]. While outbreaks have resulted in reduced consumer demand in the short-term, the long-term consumer demand for seafood has increased steadily over the medium term[23] perhaps reflecting the health benefits of seafood.

A3.2.2 Identification of public health and safety risks posed by seafood

The potential hazards associated with seafood can be grouped into three categories:

- contaminated raw material
- temperature abuse
- inappropriate handling.

Seafood can contain food safety hazards derived from several different sources. Some of these hazards occur naturally in the environment in which seafood lives and grows and are unavoidable contaminants of seafood when it is harvested. Others are a consequence of the impact of human activities on the environment.

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[21] Baird-Parker, A.C. (1990). Foodborne salmonellosis, *Lancet.* 336(8725):1231-1235; Food Science Australia, CSIRO/AFISC Final Report of Food Safety Systems developed by the NSW Dairy Corporation, March 1999, p14

[22] National Risk Validation Report 2002, p.87

[23] FRDC/Ruello and Associates, *op. cit.*

In the pre-harvest phase of production, feed components, veterinary drugs and other chemicals employed in aquaculture production may also present a public health risk. In addition to these, food hazards can be introduced into seafood, or caused to increase to potentially hazardous levels, through direct contamination by food handlers and contaminated utensils and equipment and by inadequate handling (e.g. temperature abuse, cross-contamination, inadequate processing).[24]

In identifying the potential food safety risks associated with seafood, the risk ranking undertaken by Food Standards Australia New Zealand (FSANZ) as part of the development of the National Primary Production and Processing Standard for Seafood[25] has been used and supplemented with specific considerations that may be associated with seafood grown, harvested or caught in Queensland. Information gathered as part of the National Risk Validation Project Report and as part of the activities of OzFoodNet[26] has also been considered.

During the development of the Primary Production and Processing Standard for Seafood, it was determined that, overall, the food safety risks from seafood are usually well managed and are therefore considered relatively low. The risk ranking compared the relative risks associated with the wide variety of seafood commodities available in Australia. Chemical and biological food safety hazards were considered and each commodity or group of commodities was assigned to a broad relative risk category: low, medium or high.

FSANZ estimated relative public health risks by considering the severity of any adverse health effect resulting from the presence of a particular hazard in a seafood commodity, together with the likelihood of that adverse health effect occurring (See Appendix 4). FSANZ determined that there were only a very small number of products that were considered to represent a relatively high public health and safety risk and these were:

- oysters and other bivalve molluscs (except when the consumed product is only the adductor muscle, e.g. roe-off scallops) harvested from growing environments likely to be exposed to faecal contamination and/or not under a shellfish safety management scheme; and
- ready-to-eat cold-smoked finfish (and other ready-to-eat cold-smoked seafood products), when consumed by population sub-groups susceptible to invasive listeriosis.

FSANZ also determined that the vast majority of whole and filleted finfish was ranked in the low relative risk category but that the following groups of fish species were ranked in the medium relative risk category:

- larger specimens of certain species of tropical and sub-tropical finfish, due to the potential for illness from the accumulation of ciguatoxins; and
- large, long living or predatory fish, such as swordfish, shark/flake and some tuna, which tend to accumulate higher levels of methylmercury than other fish species. The ranking applies to the at-risk sub-population (the foetus) when the mother consumes mainly those species.

FSANZ also assigned a medium ranking to the following commodity groups (due to the listed hazards):

- univalve molluscs (e.g. abalone) and roe-off scallops (from algal biotoxins causing amnesic shellfish poisoning and paralytic shellfish poisoning);
- prawns (*V. cholerae* O1, *Salmonella* Typhi, arsenic);
- canned seafood (*Clostridium botulinum*);
- hot-smoked fish products (*C. botulinum*); and
- some whole and filleted finfish (arsenic).

In most cases, hazards linked to these medium risk commodities are already regulated in the Code (e.g. *Salmonella* in prawns, arsenic in finfish) or through longstanding and effective industry codes of practice (e.g. *C.*

[24] Proposal P265 - Primary Production and Processing Standard for Seafood, FSANZ, 2005.
[25] Proposal P265 - Primary Production and Processing Standard for Seafood, FSANZ, 2005.
[26] OzFoodNet is a national epidemiological network that surveys foodborne disease

botulinum in low-acid canned foods). FSANZ noted that of the seafood commodities ranked in the medium risk category, prawns and some finfish (whole or as fillets) have been linked to several outbreaks of food-borne illness in Australia in recent years. For prawns, the associated food safety hazards have been primarily microbiological hazards, while for finfish, ciguatoxin, histamine fish poisoning and escolar wax esters account for the great majority of the outbreaks.

Furthermore, the national assessment highlighted that the lower risk seafood products, when grouped together, do contribute to the overall level of food-borne illness and therefore have an impact on public health and safety. Because of the continuing burden this will have on the community and the consequent costs it imposes, there is an argument for the introduction of basic measures, at low cost, across the seafood industry that would have a broad impact in improving public health and maintaining the high level of consumer confidence in the consumption of seafood.

Appendix 4 Summary of selected seafood commodities and associated risk management measures*[27]

Commodity	Hazard/Environment or species	Severity	Likelihood	Relative risk Ranking[1]	Current risk management
Raw oysters	*V. vulnificus*	Serious	Likely	Medium	ASQAP/Ch 3[2]
	V. cholerae O1/O139	Severe	Unlikely	Medium	ASQAP/Ch 3[2]
	Noroviruses/Uncontrolled[3]	Moderate	Very likely	Medium	
	Noroviruses/Managed[4]	Moderate	Unlikely	Low	ASQAP
	Hepatitis A virus/Uncontrolled[3]	Serious	Very likely	**High**	
	Hepatitis A virus/Managed[4]	Serious	Unlikely	Low	ASQAP
	Algal biotoxins/Uncontrolled[3]	Severe	Likely	**High**	Ch 1
	Algal biotoxins/Managed[4]	Severe	Unlikely	Medium	ASQAP/Ch 1
	Arsenic, Cadmium, Lead	Severe	Unlikely	Medium	ASQAP/Ch 1
Cooked oysters	*V. cholerae* O1	Severe	Unlikely	Medium	ASQAP/Ch 3[2]
	Noroviruses/Uncontrolled[3]	Moderate	Very likely	Medium	Ch 3[2]
	Noroviruses Managed[4]	Moderate	Unlikely	Low	ASQAP/Ch 3[2]
	Hepatitis A virus/Uncontrolled[3]	Serious	Very likely	**High**	
	Hepatitis A virus/Managed[4]	Serious	Unlikely	Low	ASQAP
	Algal biotoxins//Uncontrolled[3]	Severe	Likely	**High**	Ch 1
	Algal biotoxins/Managed[4]	Severe	Unlikely	Medium	ASQAP/Ch 1
	Arsenic, Cadmium, Lead	Severe	Unlikely	Medium	ASQAP/Ch 1
Cooked abalone /roe-off scallops	Algal biotoxins	Severe	Unlikely	Medium	Ch 1
Green prawns	*V. cholerae* O1[5]	Severe	Unlikely	Medium	Ch 3[2]
	Salmonella Typhi[5]	Severe	Unlikely	Medium	Ch 1/Ch 3[2]
	Arsenic	Severe	Unlikely	Medium	Ch 1
Cooked prawns	*V. cholerae* O1[5]	Severe	Unlikely	Medium	Ch 3[2]
	Salmonella Typhi[5]	Severe	Unlikely	Medium	Ch1/Ch 3[2]
	Arsenic	Severe	Unlikely	Medium	Ch 1
Chilled/frozen whole fin fish and fillets	Mercury, Ciguatoxin[6]	Serious	Unlikely	Low	Ch 1/Advisory Notes
	Ciguatoxin/Tropical[7]	Serious	Likely	Medium	Advisory Notes
	Mercury/Predatory species[8]	Serious	Likely	Medium	Ch 1/Advisory Notes
	Arsenic	Severe	Unlikely	Medium	Ch 1
Canned fish products	*C. botulinum*[4,9]	Severe	Unlikely	Medium	GMP/GHP
	Arsenic	Severe	Unlikely	Medium	Ch 1
Cold-smoked fish products	*C. botulinum*[4,9]	Severe	Unlikely	Medium	GMP/GHP
	L. monocytogenes	Serious	Unlikely	Low[10]	Ch 1/Ch 3[2]/Advisory
	L. monocytogenes	Severe	Likely	**High**[10, 12]	Ch 1/Ch 3[2]/Advisory
	L. monocytogenes	Serious	Likely	Medium[11]	
	L. monocytogenes	Severe	Very likely	**High**[11, 12]	
Hot-smoked fish products	*C. botulinum*[4,9]	Severe	Unlikely	Medium	GMP/GHP

[27] Final Assessment Report Proposal P265, FSANZ, 2005.

Footnotes for Appendix 4 Table:

* Relative risk rankings are under constant review to identify emerging significant information.

1. Risk ranking reflects current practice for that commodity/seafood sector. The risk ranking is based on the severity of the hazard and an estimate of the likelihood of illness that takes into account various factors, including current risk management practices.
2. Chapter 3 provisions in the Code apply to the processing sector only.
3. Uncontrolled describes a growing environment not under a shellfish safety management scheme and/or likely to be exposed to faecal contamination and includes growing waters adjacent to urban areas and rural habitation. In contrast, a growing environment considered pristine is unlikely to be exposed to faecal contamination. Pristine environments would typically include growing waters remote from human habitation and even if uncontrolled, present similar risk to managed waters for enteric pathogens. Algal toxins remain a risk for pristine environments.
4. Where a food safety hazard is controlled under a management system/program, the likelihood of illness is very low.
5. For product from intensive farming systems or estuarine harvest areas subject to human faecal contamination.
6. Majority of finfish present a low risk to consumers (Serious x Unlikely) due to mercury or ciguatoxin.
7. Ciguatoxin may be found in larger specimens of particular species of tropical and sub-tropical finfish from certain fishing areas. It is predominantly a problem in the recreational fishing sector.
8. Predatory species – mercury is a problem in big, long living or predatory fish, such as swordfish, shark/flake and some tuna. These fish tend to accumulate higher levels of methylmercury than other species. The relative risk ranking is medium for the at-risk sub-population (the foetus) when the mother consumes mainly large, predatory or long-lived fish species.
9. Industry adherence to GMP, GHP and appropriate product formulation (e.g. pH, levels of salt, preservatives) control this hazard.
10. When correctly managed, the risk ranking is low for the general population (Serious x Unlikely), but high for at risk sub populations.
11. When not managed, i.e. processing, product handling and storage not adequately controlled, the risk ranking is medium for the general population and high for at risk populations.
12. *L. monocytogenes* is a severe hazard for at risk populations.

ENDNOTES

1 Laid before the Legislative Assembly on . . .

2 The administering agency is the Department of Employment, Economic Development and Innovation.