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## 12 Food safety in seafood production and processing

### Key points

- A primary production standard for seafood is contained in *Standard 4.2.1 Primary Production and Processing Standard for Seafood* (PPPS for seafood) of the Australia New Zealand Food Standards Code (ANZFS Code). For the most part, the Australian states and territories have relied on the coverage of their existing seafood schemes, rules and legislation and/or their food Acts to execute the requirements of the standard.
- New Zealand does not require its seafood businesses to meet the seafood standards in the ANZFS Code but instead, has an extensive risk management program (RMP) for most seafood operators and regulated control schemes for particular sectors.
- All jurisdictions, except Queensland, required shellfish operators to be licensed/accredited for food safety purposes in 2008-09. The only primary producers of seafood (other than shellfish) that are regulated for food safety purposes, are those in New Zealand, New South Wales and Victoria. Food Standards Australia New Zealand (FSANZ) assessed the additional regulatory cost of this requirement for businesses in New South Wales and Victoria to be small.
- All bivalve mollusc seafood businesses in Australia are required, under the ANZFS Code, to have a food safety plan (FSP). Only New South Wales and Victoria require other seafood harvesters and processors to have an FSP.
- Some seafood businesses in Australia hold a number of FSPs to meet requirements for export, state regulations and customer demands. The initial development costs for these FSPs have been estimated to be, on average, around \$20 000, with annual plan maintenance costs for the program of approximately \$8 000 and annual audit costs of up to \$2 500 per business.
- The cost to shellfish producers/processors of licensing and compliance checks varied substantially between jurisdictions.
  - With charges based on annual throughput, shellfish businesses in Victoria incurred the greatest annual licensing costs in 2008-09.
  - Generally compliant shellfish producers/processors in New Zealand, New South Wales, Victoria and Tasmania incurred around \$400 to \$600 for auditing and compliance checks in 2008-09, compared with (variable) local government charges for checks in Western Australia and no charges in Queensland, the Northern Territory and the ACT.

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This chapter examines in detail the differences in primary production and processing regulation, and its implementation within jurisdictions, in the context of seafood. Included in 'seafood' are marine species of fin fish and shellfish and also the products of aquaculture activities.

The benchmarking in this chapter draws heavily on a comparison of regulatory differences between jurisdictions, as detailed in a consultancy report prepared for this study (Baldwins-FoodLegal 2009), and information supplied by jurisdictions in response to the Commission's surveys of regulators and local government. To the extent that information on business compliance costs is available, the implications of these regulatory differences for seafood businesses are then explored.

## **12.1 Scope of seafood regulation**

### **Seafood businesses**

The regulation of most seafood for human consumption begins once the product is landed on the fishing vessel. With aquaculture, the conditions under which the product is farmed (such as water quality) are also monitored. Seafood businesses covered by food safety regulation therefore include fishers, transporters, seafood processors, handlers, wholesalers and retailers.

There are just under 10 000 seafood businesses in Australia and 2000 in New Zealand (table 12.1). Within Australia, most seafood businesses are based in Queensland, Western Australia or New South Wales. In each country, around 90 per cent of these businesses are producers or harvesters of seafood and the remainder are seafood processors and/or wholesalers. Jurisdictions differ in the extent to which seafood businesses at various stages of the production chain are regulated for food safety purposes, with New South Wales and Victoria regulating the highest proportion of seafood businesses.

**Table 12.1 Number of seafood businesses by jurisdiction<sup>a</sup>**

	<i>Marine fishing</i>	<i>Aquaculture</i>	<i>Seafood processing</i>	<i>Fish wholesalers</i>	<i>Number regulated for food safety in 2008-09<sup>b</sup></i>
NSW	876	567	30	315	3 624
Vic	450	180	33	201	725
Qld	1 554	531	51	240	0
SA	798	366	33	81	125
WA	1 569	345	48	78	na
Tas	627	198	6	39	54
NT <sup>c</sup>	264	16	40	0	25
ACT	0	6	3	3	12
Australia total	6 138	2 209	244	957	4 565
New Zealand	1 333	345	113	165	328

<sup>a</sup> The number of businesses in marine fishing, aquaculture, seafood processing and fish wholesale is reported as at 30 June 2007 for Australia and as at February 2008 for New Zealand. <sup>b</sup> The number of businesses regulated is reported as at the end of 2008-09. Some businesses which undertake multiple functions (eg: harvesting and processing) may be counted multiple times in the estimate for number regulated. Estimate is based on the number reported by primary production regulators in each jurisdiction and therefore excludes those seafood businesses regulated only by local councils. Separate data on seafood retailers is not available for inclusion here. <sup>c</sup> Seafood processing and wholesaling are combined for the Northern Territory.

Sources: ABS (*Counts of Australian Businesses*, Cat. No. 8165.0); Statistics New Zealand; Productivity Commission survey of food safety regulators (2009, unpublished).

## Regulation of seafood safety

Primary production standards for seafood are contained in *Standard 4.2.1 Primary Production and Processing Standard for Seafood* (PPPS for seafood) of the Australia New Zealand Food Standards Code (ANZFS Code). This standard was one of the first national standards developed for primary production and processing of a food product and has been mandatory for seafood businesses in Australia (but not in New Zealand) since May 2007.

An Australian seafood business is required, under the standard, to identify potential seafood safety hazards and implement controls that are commensurate with the risk. In addition, the standard sets out food safety and suitability requirements for seafood (that is intended for sale) from pre-harvesting production of the seafood up to, but not including, manufacturing operations.<sup>1</sup> Chapter 3 of the ANZFS Code applies to seafood manufacturing (canning, smoking or crumbing of the seafood or the addition of other foods to the seafood and other like activities) and retail sale

<sup>1</sup> That is, the PPPS for seafood applies to the growing, cultivation, picking, harvesting, collection, catching, transport, storage and processing of seafood.

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activities. These standards are required of seafood businesses and seafood handlers in Australia but not in New Zealand.

At the time Standard 4.2.1 was developed, Food Standards Australia New Zealand (FSANZ) assessed that 10 per cent of all food-borne illness in Australia may be attributable to seafood (FSANZ 2005). They estimated that the cost of this to the Australia community was in the order of \$150 million per year. In general, the risks of food-borne illnesses are considered to be greater in association with cold smoked fin fish and bivalve molluscs (such as mussels, cockles, oysters, pipi and scallops) than for other fin fish or shellfish (FSANZ 2005).

Bivalve molluscs filter large volumes of water and trap particulate matter and dissolved substances suspended in the water as a source of food. Consequently, if the water in which they are grown is polluted, then the shellfish may concentrate microbes or chemicals which may be injurious to the consumer. Because shellfish are often consumed raw (or slightly cooked) and whole (including their gastrointestinal tract), they are generally classified as a high-risk food group by health authorities worldwide. For this reason, there are additional regulatory requirements (in both Australia and New Zealand) that cover harvesters and processors of bivalve molluscs.

#### *Implementation of seafood safety standards in Australia*

The regulatory body implementing seafood safety regulation is generally the main food safety agency in most Australian jurisdictions (table 12.2). However, in those Australian states for which seafood is a dominant primary industry (Tasmania and South Australia) the safety of seafood continues to be regulated through their primary industry department.

For the most part, the Australian states and territories have relied on the coverage of their existing seafood schemes, rules and legislation and/or their food Acts to execute the requirements of Standard 4.2.1, without specific reference to the Standard.

**Table 12.2 Regulations and regulators by jurisdiction — seafood**

	<i>Documented requirements</i>	<i>Principal regulator</i>
NZ	<i>Food Act 1981</i> <i>Animal Products Act 1999</i> <i>Animal Products Regulations 2000</i> <i>Animal Products (Fees, Charges, and Levies) Regulations 2007</i> <i>Animal Products (Branding and Associated Requirements) Notice 2005</i> <i>Animal Products (Regulated Control Scheme Bivalve Molluscan Shellfish) Regulations 2006</i> <i>Animal Products (Regulated Control Scheme — Limited Processing Fishing Vessels) Regulations 2001</i>	New Zealand Food Safety Authority (NZFSA)
NSW	<i>Food Act 2003</i> <i>Food Regulations 2004</i> NSW Shellfish Program Operations Manual 2001 <i>Code of Practice for Oyster Depuration in NSW 2005</i> <i>Code of Practice for Seafood Handling Premises 2005</i> <i>Code of Practice for Commercial Fishers</i> <i>Code of Practice for the Transport of Primary Produce &amp; Seafood</i>	NSW Food Authority (NSWFA)
Vic	<i>Food Act 1984</i> <i>Seafood Safety Act 2003</i>	PrimeSafe
Qld	<i>Food Act 2006</i> <i>Food Regulations 2006</i> <i>Food Production (Safety) Act 2000</i> <i>Food Production (Safety) Regulation 2002 (from 1 July 2009)</i>	Queensland Health Safe Food Production Queensland (SFPQ)
SA	<i>Food Act 2001</i> <i>Food Regulation 2002</i> <i>Primary Produce (Food Safety Schemes) Act 2004</i> <i>Primary Produce (Food Safety Schemes) (Seafood) Regulations 2006</i>	Primary Industries & Resources SA (PIRSA)
WA	<i>Health Act 1911</i> <i>Food Act 2008</i> <sup>a</sup> <i>Health (Food Standards) (Administration) Regulations 1986</i> <i>Health (Food Hygiene) Regulations 1993</i> <i>Health (ANZ Food Standards Code Adoption) Regulations 2001</i> <i>Fish Resources Management Act 1994</i> <i>Fish Resources Management Regulations 1995</i>	WA Department of Health – Executive Director, Public Health (WA Health)
Tas	<i>Food Act 2003</i> <i>Food Regulations 2003</i> <i>Living Marine Resources Management Act 1995</i>	Department of Primary Industries, Parks, Water & Environment (Tas DPIPWE)
NT	<i>Food Act 2004</i> <i>Fisheries Act 1988</i> <i>Fisheries Regulations 1993</i>	Department of Health and Families (NT Health) <sup>b</sup>
ACT	<i>Food Act 2001</i> <i>Food Regulations 2002</i>	ACT Health

<sup>a</sup> The *Food Act 2008* (WA) was not in effect for food or primary production until late October 2009. <sup>b</sup> While responsibility for food safety in the Northern Territory rests with NT Health, NT Department of Regional Development, Primary Industry, Fisheries and Resources (NT DRDPIFR) is the principle regulator of the Fisheries Act and Regulations, and NT Department of Police, Fire and Emergency Services (NT DPFS) is responsible for fisheries compliance and enforcement provisions (including compliance by fish retailers and traders/processors).

Sources: Baldwins-FoodLegal (2009); regulator websites.

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The exception to this is Queensland, which, in response to the standard, added to its generic legislation — *Food Production (Safety) Regulation 2002* — to incorporate the requirements of its new Seafood Food Safety Scheme and give effect to the PPPS for seafood (the new Scheme came into force from 1 July 2009 — two years after the standard became mandatory).<sup>2</sup> Prior to 2009-10, Queensland seafood producers and processors (even those of bivalve molluscs) were not regulated for food safety and there were no additional requirements on seafood retailers under the *Food Act 2006* (Qld).

The New South Wales *Seafood Safety Scheme* (prescribed in New South Wales' *Food Regulations 2004*) does not provide for the application of Standard 4.2.1, but nevertheless makes similar food safety requirements of New South Wales seafood businesses. Similarly, Tasmania has extensive seafood process and handling guidelines for some species in Rules under its *Living Marine Resources Management Act 1995* and has developed systems to enable a range of seafood businesses to demonstrate compliance with standard 4.2.1. Tasmania has been progressing the development of new food safety legislation that will cover seafood as well as other primary production (DPIPWE (Tasmania) 2009).

All Australian states with commercial shellfish operations have, for a number of years prior to the introduction of the additional requirements in the ANZFS Code, adhered under agreement to the *Australian Shellfish Quality Assurance Program* (ASQAP, box 12.1). To implement this agreement, each jurisdiction with a shellfish industry refers to a national operations manual and has undertaken routine testing and sampling for quality assurance purposes (although New South Wales and Western Australia have developed their own versions of the national manual). For example, in Tasmania, the Department of Health and Human Services administers the *Tasmanian Shellfish Quality Assurance Program* for shellfish aquaculture operations. The program carries out continual and extensive monitoring of water quality in all commercial shellfish growing areas in the state, based on the level of public health risk.

In its final assessment report for the development of Standard 4.2.1, FSANZ noted that even prior to the introduction of the ANZFS Code requirements:

... the effectiveness of ASQAP requirements in addressing the health and safety risks in the pre-harvest shellfish sector (including biotoxin testing) is recognised in all jurisdictions, although only recently in NSW. The cost of mandating compliance in the Code with specific pre-harvest requirements (stated in ASQAP) and food safety programs for the post-harvest activities is expected to be very small, as compliance is mostly in place. (FSANZ 2005, p.43)

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<sup>2</sup> From October 2009, the PPPS for seafood is also recognised in Western Australia, with the new *Food Act 2008* (WA) coming into effect.

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Given the long history of compliance with legislated requirements on water quality, voluntary codes of practice and guidelines in the higher risk shellfish segment of the seafood industry, the compliance costs of meeting requirements under Standard 4.2.1 may be comparatively small for many operators.

However, for those operators which have not previously adopted measures to ensure compliance with voluntary requirements of the industry and/or some jurisdictions, changes in the implementation of regulations in recent years as jurisdictions ensure that the requirements of the national standard are adequately enforced, may result in additional compliance costs.

#### **Box 12.1 Australian Shellfish Quality Assurance Program (ASQAP)**

ASQAP is a government–industry cooperative FSP adopted by each shellfish producing state and territory of Australia. It is overseen by the Australian Shellfish Quality Assurance Advisory Committee, which consists of representatives from FSANZ, Australian Quarantine and Inspection Service (AQIS), state government departments responsible for shellfish safety and industry representatives from each state.

The ASQAP is modelled on the internationally accepted United States National Shellfish Sanitation Program. The fundamental premise is that harvesting should only occur from growing areas shown to be free from harmful contaminants and pathogenic micro-organisms. Each growing area must undergo a full and comprehensive sanitary survey, with appropriate classifications and management strategies determined before harvesting is permitted.

All the requirements for completing and maintaining sanitary surveys, and the ongoing management of growing areas are laid out in the ASQAP Manual of Operations (2002). This manual is a reference document for federal and state government agencies involved in the implementation of the ASQAP for bivalve molluscs commercially harvested from Australian waters. The manual is also referenced in the FSANZ *Standard 4.2.1 Primary Production and Processing Standard for Seafood*.

Source: DAFF (2009d).

#### ***Implementation of seafood safety in New Zealand***

In New Zealand, seafood businesses operate in the context of industry agreed, Hazards Analysis and Critical Control Points (HACCP) based standards (*Industry Agreed Implementation Standards*). These standards are issued as circulars under the *Animal Products Regulations 2000* and have legal backing.

All primary processors of seafood and secondary processors (such as transporters) of seafood products which require official assurances for export are required to implement a risk management program (RMP). An individually tailored RMP is viewed as ‘impractical’ or ‘not feasible’ for bivalve molluscan shellfish and for

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limited processing fishing vessels (vessels which undertake a limited range of processing of fish prior to its export for human consumption, without further processing within New Zealand) (NZFSA 2009o). For these two groups, New Zealand has also introduced regulated control schemes (box 12.2). Operators of limited processing fishing vessels may chose whether they operate under an RMP, or a regulated control scheme, and may switch between the two options.

### **Box 12.2 New Zealand's regulated control schemes for seafood**

#### **Regulated Control Scheme—Bivalve Molluscan Shellfish (BMS)**

The main purpose of this scheme is to identify, monitor, evaluate, and manage the risks associated with the commercial growing, harvesting, sorting, and transporting of BMS intended for human consumption; and other related activities or conditions affecting the suitability for processing or fitness for intended purpose of BMS. As such, this regulated control scheme applies to:

- all activities involved in growing, harvesting, sorting, and transporting BMS for commercial purposes up until the time when the BMS undergo primary processing or, in the case of BMS that does not undergo primary processing, up until the time when the BMS are received by a wholesaler or retailer or sold direct to the consumer. This includes the transport, temporary storage and wet storage occurring in a coastal marine area or a land-based aquaculture facility but does not include wet storage or other forms of primary processing that are covered by an RMP; and
- the collection and analysis of samples of BMS and associated things for monitoring under this scheme.

#### **Regulated Control Scheme—Limited Processing Fishing Vessels**

The prime purpose of this scheme is to control, manage, and eliminate or minimise risk factors associated with certain processing operations carried out on fishing vessels where any of the catch of the fishing vessel is intended to be exported for human consumption without being further processed within New Zealand (other than solely by way of storage or transport or both), to ensure that the resulting fish product is fit for its intended purpose.

*Sources: Animal Products (Regulated Control Scheme—Bivalve Molluscan Shellfish) Regulations 2006; Animal Products (Regulated Control Scheme—Limited Processing Fishing Vessels) Regulations 2001.*

New Zealand seafood industry is also in the process of developing a seafood code of practice and generic RMP models for processing of seafood product. These documents ‘... will assist seafood operators to meet the requirements of the *Animal Products Act 1999* and produce seafood product that is safe and suitable for its intended purpose. In particular, they provide guidance for meeting the requirements for the development, registration and implementation of risk management programmes.’ (Seafood Industry Council 2009). The code of practice will replace

the current *Industry Agreed Implementation Standards* as the base requirement for the new standardised verification processes being implemented from late 2009.

## 12.2 Licensing and accreditation

### Licence and accreditation categories

As for other primary products, seafood businesses are generally licensed according to where they operate in the production chain (table 12.3). In each jurisdiction, the licensing authority requires detailed information from the applicant on its operation, in order to set appropriate licensing conditions.

All commercial primary seafood harvesters in Australia and New Zealand are required (for fishery stock management purposes) to obtain a fishery access licence (usually a separate one for each fishery in which they operate). Seafood processors are similarly required to be licensed for fishery stock management purposes. While food safety licensing/accreditation is generally a separate arrangement to the harvesting/processing licence arrangements, in some jurisdictions (such as in Victoria), it is necessary to have a seafood harvesting licence in order to then obtain a licence under seafood safety legislation.

**Table 12.3 Licensing for food safety purposes and quality assurance requirements — seafood businesses**

	NZ	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Businesses requiring licence for food safety									
Seafood retailer	✓	✓	✓	✓	✓	✓	✓	✓	✓
Seafood (other than shellfish) processor	✓	✓	✓			✓	✓	✓	✓
Seafood (other than shellfish) harvester	✓	✓	✓						
Shellfish processor	✓	✓	✓		✓	✓	✓	✓	✓
Shellfish harvester	✓	✓	✓		✓				
Seafood wholesaler	✓	✓	✓						
Seafood transport	✓	✓	✓						
Basis for categories and fees									
Risk based	✓	✓							
Activity/species type	✓	✓	✓		✓	✓	✓		✓
Premises based			✓			✓			
Business size		✓			✓				✓

Sources: Baldwins-FoodLegal (2009); regulator websites.

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In its final assessment report for the development of Standard 4.2.1, FSANZ noted that at that time (and it is still the case in 2008-09), apart from the bivalve mollusc sector, the only primary producers of seafood that are regulated for food safety purposes, are those in New South Wales and Victoria. It further surmised that the costs to businesses of this regulation in these two states is very small. Other Australian states and territories generally do not licence marine fishing operators (other than those of bivalve molluscs) for food safety purposes, unless the operator is also a fish processor. This means that for most seafood (other than bivalve molluscs and some other shellfish) in most jurisdictions, licensing for food safety purposes begins at the processing stage of production (which may occur on a vessel or on land).

For shellfish operators, all jurisdictions currently have separate licence/accreditation categories (although in Queensland, this has only been the case since 1 July 2009). In addition, businesses in Tasmania that are not otherwise licensed to process fish but intend to process abalone, rock lobster, giant crabs or scallops, or in excess of 10 tonnes in a year of any combination of other species, must also obtain a fish processing licence under the *Living Marine Resources Management Act 1995*. While the fish processor licence in Tasmania is issued for purposes other than food safety, maintenance of the licence requires compliance with certain food safety provisions. In Western Australia, the issue of a fish processor licence is conditional on the issue being ‘in the interests of the industry’.

Most jurisdictions require seafood retailers to be registered as a food business under the relevant food Act. As a consequence, seafood retailers tend to be regulated for food safety purposes by an authority other than a primary industry department (such as a department of health) in the relevant jurisdiction.

Some jurisdictions restrict the sale and/or purchase of seafood to particular licensed operators (although not necessarily for food safety purposes). For example, in New South Wales, only those businesses with a permit as a ‘registered fish receiver’ can purchase fish (intended for sale for human consumption) directly from fishing vessels. A similar restriction also applies to direct purchases from fishing vessels and fish farms in Queensland and the Northern Territory, and to abalone purchases from fishing vessels in Victoria and Tasmania (Seafood Experience Australia 2009). The Northern Territory additionally requires that seafood wholesalers, retailers and caterers hold either a fish retailer licence or a fish trader/processor licence, as well as being registered as a food business — this extends beyond the retail sale of fresh fish to the sale of cooked, tinned and other manufactured fish products (Watkins 2008).

In New Zealand, all processing steps, product handling and transport are regulated for food safety purposes from the fishing boat to the export container or retailer.

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NZFSA is the registration authority for food safety purposes for all seafood businesses except those with a retail function (these come within the jurisdiction of local councils).

### **Licence fees**

The costs of licensing for food safety purposes vary between jurisdictions and between types of operators (table 12.4). As for other primary products, New South Wales licence fees for some seafood businesses increase with the number of employees that a business has. In Victoria, fees vary with annual throughput for each type of operator. In Tasmania and South Australia, the types and quantities of seafood that the business handles are taken into account in licensing. The other jurisdictions which had variable licensing requirements in 2008-09 (Western Australia, the Northern Territory, the ACT and New Zealand) in general have less differentiation in their licence fee structure between types and sizes of operators.

For seafood harvesters, annual fees for food safety purposes vary from zero in South Australia to around \$2000 for a large operator in New South Wales. For a seafood processor, annual fees for food safety licensing range from \$0 in South Australia up to \$6800 per year for a large seafood processing facility in Victoria.

The fee structure for shellfish operators varies with the area and location under harvest in New South Wales and South Australia. In New South Wales, a portion of the fee charged to shellfish operators is collected by the NSWFA but returned to local operator groups to cover payment of required functions such as water testing within the relevant estuary. In other jurisdictions, food safety licensing fees for shellfish operators are less variable or location-specific. While they also potentially present a lower annual burden to businesses in these jurisdictions, it is possible that the range of services covered by the fees is also reduced. Given the link to throughput, annual licence fees for a shellfish producers/processor are highest in Victoria — around \$2000 for a medium sized shellfish processor, compared with no charge or less than \$600 in other jurisdictions.

**Table 12.4 Initial and ongoing fees to maintain licences — seafood**

Australian dollars, 2008-09

	<i>Category</i>	<i>Initial fees</i>	<i>Ongoing fees</i>
NZ <sup>a</sup>	Application for registration	\$112	
NSW	Seafood business licence		
	Single fisher (with or without vessel) Finfish or crustacean aquaculture; seafood processors & stores (fees increase with number of employees)	\$50	\$310
	Transportation of seafood <sup>b</sup>	\$50	\$250 to \$2000
	Shellfish harvester licence		
	Per area fee	\$50	\$174 per vehicle
	Local levy (varies by estuary) <sup>c</sup>		\$1042 plus \$31 per hectare under aquaculture \$200 to \$1000
Vic	Seafood harvesting facilities (fees vary with throughput)		
	Wildcatch licences	\$111 to \$331	\$221 to \$661
	Aquaculture licences	\$111 to \$331	\$221 to \$661
	Seafood processing facilities		
	Wholesalers, processors & further processors	\$341 to \$3402	\$681 to \$6804
	Retailers	\$256	\$511
	Seafood transport vehicles	\$94	\$94
Qld	Seafood retailers		Local council fees
SA	Seafood (other than shellfish) harvester		No charge
	Fish processor		No charge
	Bivalve mollusc producers	\$393	\$169; plus \$115/\$230 per hectare of licensed area (subtidal/intertidal); or \$169 plus \$207-\$1677 if fishery licence for specific seafood (scallops, cockles, pipi).
WA	Fish processor licence		\$410
	Fish processing establishment permit		\$262
Tas	Food business registration		\$200 <sup>d</sup>
	Fish processing licence (fees vary with number & combinations of fish species included under licence)		\$200
NT	Food business registration		No charge
	Fish retailer licence		No charge
	Fish trader/processor licence		\$525
ACT	Food business registration		\$50 to \$150

<sup>a</sup> New Zealand fees apply for registration of either an RMP or a regulated control scheme (RCS). New Zealand fees are converted to Australian dollars based on an average exchange rate for 2008-09 of 1.23.

<sup>b</sup> Applications in NSW under multiple licence categories that are made at the same time incur only one initial application fee. <sup>c</sup> Local levy covers (amongst other things) testing of water quality. <sup>d</sup> Based on the rate charged by Hobart City Council to businesses with high risk foods.

Sources: Baldwins-FoodLegal (2009); Productivity Commission survey of food safety regulators (2009, unpublished); regulator websites.

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## Food safety plans

All seafood businesses in Australia are required under the PPPS for seafood to identify potential seafood safety hazards and implement controls commensurate with the food safety risk. Additionally, those businesses which are producers or processors of bivalve molluscs are required to have a formal documented food safety management system. The extent to which this was enforced varied substantially between jurisdictions in 2008-09 (table 12.5). The food safety management system for producers and processors of bivalve molluscs incorporates conditions on the areas from which the product may be harvested, along with conditions on the water used for wet storage. However, the bivalve mollusc operator has a wide choice in plans that are acceptable under the standard — an FSP as set out in chapter 3 of the ANZFS Code; a food safety management system as set out in the *Export Control (Fish and Fish Products) Order 2005*; or a HACCP system for food safety management.

New South Wales and Victoria also require seafood harvesters and processors (of fish other than bivalve molluscs) to have an FSP in order to approve a licence application, although plans can be used on a voluntary basis in other jurisdictions. From 1 July 2009, FSPs were also required of all seafood processors in Queensland.

- New South Wales classifies commercial shellfish harvesting, oyster opening and seafood smoking as high priority activities; seafood processors engaged in cooking, gutting, gilling or slicing of seafood as medium priority activities; all other seafood business activities as a lower priority. The highest priority ranking activity undertaken by a business determines the FSP requirements for that business. All seafood businesses with activities that are medium to high priority are required to implement an FSP.
- Victoria requires all seafood businesses, regardless of their activities in the production chain, to have an FSP. In an attempt to reduce the regulatory burden of these provisions for seafood harvesters, the Victorian Department of Primary Industries has developed a training program and assistance to develop FSPs, available through the industry association.
- From 1 July 2009, *all activities* carried out in relation to bivalve molluscs by an accredited business in Queensland are deemed to be of a high risk and require an FSP. All activities carried out under accreditation by a seafood producer or processor (other than in relation to bivalve molluscs) are of medium risk. All activities of an accredited wild seafood harvester (other than bivalve molluscs) are of low risk. Seafood processors require an FSP; seafood producers and harvesters require a ‘management statement’. However, in 2008-09, no seafood business in Queensland (even those handling shellfish) was required by regulation to have an FSP.

- In addition to FSPs for farmed bivalve molluscs, Tasmania has developed FSPs for the scallop fishery and for the scalefish fishery, to more readily enable businesses to demonstrate compliance with Standard 4.2.1. Use of an FSP is voluntary for businesses in the scalefish fishery.

**Table 12.5 Requirements on quality assurance and business operation — seafood**

2008-09

	NZ	NSW	Vic	Qld	SA	WA	Tas	NT	ACT
Quality assurance requirements									
Seafood producers other than bivalve molluscs									
FSP, RMP or ODS <sup>a</sup>	✓	✓	✓						
Template provided by regulator	✓	✓	✓				✓		
Inspection, review or audit	✓	✓	✓					✓	
Seafood processors other than bivalve molluscs									
FSP, RMP or ODS <sup>a</sup>	✓	✓	✓						
Template provided by regulator	✓	✓	✓				✓		
Inspection, review or audit	✓	✓	✓					✓	
Bivalve mollusc producers									
FSP, RMP or ODS <sup>ab</sup>	✓	✓	✓		✓	✓	✓	✓	✓
Template provided by regulator		✓			✓		✓		
Inspection, review or audit	✓	✓	✓		✓	✓	✓	✓	✓
Bivalve mollusc processors									
FSP, RMP or ODS <sup>ab</sup>	✓	✓	✓		✓	✓	✓	✓	✓
Template provided by regulator		✓					✓		
Inspection, review or audit	✓	✓	✓				✓	✓	✓
Jurisdiction-specific legislative requirements on premises, equipment and/or processes									
- shellfish	✓		✓		✓		✓		
- other seafood	✓		✓		✓		✓		
Additional codes, standards, manuals or procedures in jurisdiction									
- shellfish	✓	✓					✓		
- other seafood	✓	✓							

<sup>a</sup> Food safety plan (FSP), risk management program (RMP) or operated document system (ODS). <sup>b</sup> The requirement for bivalve mollusc producers and processors to have a FSP is a requirement of the ANZFS Code to which all Australian jurisdictions have agreed to adhere, but not all had given effect to in their legislation in 2008-09.

Sources: Baldwins-FoodLegal (2009); Productivity Commission survey of food safety regulators (2009, unpublished).

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From a survey of seafood producers and processors across Australian states and territories,<sup>3</sup> Seafood Services Australia (SSA 2009b) reported that most respondent seafood businesses held three FSPs in 2008-09 — one FSP for AQIS, one state based, and one customer driven. The largest number of FSPs held by a business was six (held by a large business with more than one seafood processing premises). Businesses further indicated that initial development costs for their FSPs, on average, totalled around \$20 000, and annual maintenance costs for these programs (not including audit costs) were approximately \$8000 per year. Most businesses believed that both the number and cost of FSPs that their business was subjected to had increased over the past ten years. The Tasmanian Government indicated to the Commission (pers. comm., 7 October 2009) that with template FSPs and voluntary programs in place, the implementation and maintenance costs faced by Tasmanian bivalve mollusc harvesters and growers are possibly substantially less than the Seafood Services Australia survey estimates. Furthermore, informal discussions with Oysters Tasmania (pers. comm. 2009) indicated that initial development costs for FSPs of oyster producers are, on average, around \$8000 to \$10 000, with annual maintenance costs for these programs of around \$3000 to \$4000 per year.

New Zealand seafood businesses are required to have a registered RMP under the *Animal Products Act*, unless they are subject to a regulated control scheme (RCS, box 12.2). An RMP may contain, as a component part, an appropriate FSP, provided the FSP is registered as an RMP under New Zealand's *Food Act 1981*.

Those New Zealand businesses subject to a RCS (specifically: bivalve mollusc businesses and limited processing fishing vessels) are required to have an 'operator documented system' (ODS) instead of an RMP. The ODS requires similar information to an RMP, but recognises that it may not be feasible for relevant risk factors to be managed by individual business operators via an individual RMP. There is no cost differential between registration of an RMP and an ODS but there may be differences in the implementation costs. NZFSA has provided templates and/or extensive guidelines to businesses under both programs.

FSP templates are also provided in Tasmania for use by operators in the shellfish, scallop and scalefish fisheries. These templates may reduce the compliance burden of regulatory requirements in that state to some extent. The NSWFA provides a template FSP for commercial fishers and a generic FSP for use by businesses in New South Wales. The Victorian Department of Health provides two template FSPs — one for food service and retail businesses and another for one-off events and stalls. Other states and territories in Australia do not provide template FSPs —

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<sup>3</sup> While Seafood Services Australia consider the overall response rate of 10 per cent to their survey to be acceptable, less than 4 per cent of seafood businesses provided information in response to the survey questions on food safety regulation.

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relying instead on available HACCP guidelines and commercially provided food safety documentation systems.<sup>4</sup>

## Requirements on business inputs and operation

In its final assessment report on the development of Standard 4.2.1, FSANZ stated that ‘good hygiene practice is basic and easily achievable by the seafood industry’ (FSANZ 2005, p.46). In practice, all seafood businesses will need premises and equipment that enables them to comply with requirements of the ANZFS Code. However, some jurisdictions have requirements on business inputs and processes that are additional to these in particular fisheries (usually shellfish):

- The New South Wales *Code of Practice for Seafood Handling Premises* is generally outcome based and FSANZ (2005) noted that the little prescription that may result in a small additional cost to businesses is the requirement to use a chemical sanitiser. The New South Wales *Code of Practice for Oyster Depuration* is a little more prescriptive in its guidelines for oyster depuration (for example, all depuration plant operators must be accredited with the NSWFA by completing an approved course). To the extent that the code is simply requiring what is already standard industry practice, it would not represent a regulatory burden for business<sup>5</sup>

New South Wales also has a range of guidelines for other seafood businesses that are enforceable. For example, the NSWFA (2007) has developed guidelines (that expand on existing requirements in chapter 3 of the ANZFS Code) for businesses selling sushi such that food businesses are now permitted to display their sushi products unrefrigerated for up to four hours as long as they document the process and ensure the product is kept under 25°C (*Food safety guidelines for the preparation and display of sushi*)

- Accredited producers of bivalve molluscs in South Australia must ensure that the shellfish are not kept in wet storage unless in accordance with a written authorisation (a ‘wet storage authorisation’) granted by the Minister. Molluscs that have been kept in wet storage must not be sold or supplied for human consumption unless the water in which they have been stored has been tested

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<sup>4</sup> A number of commercial organisations provide FSPs free of charge in conjunction with the purchase of industry-specific advice on regulatory compliance approaches.

<sup>5</sup> Oyster depuration is the process by which harvested shellfish are placed in clean estuarine water to permit the purging of their gastrointestinal contents in order to reduce the likelihood of transmitting injurious substances to consumers). For example, the code requires that oysters are placed in baskets to a maximum depth of 8cm for 36 hours, with the depuration tank only filled with water from a monitored area, on the high tide; and that temperature and salinity are monitored throughout the depuration process.

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under the requirements of the wet storage authorisation. In contrast, shellfish operators in New South Wales are allowed to use wet storage, provided they adhere to specific guidelines (enunciated in PIRSA 2005)

- In the Northern Territory, the holder of a fish processor licence must comply with the Fisheries Regulations in relation to equipment used for processing surfaces, packaging, freezing, labelling and transporting. For example, a freezer used for storing fish in a registered vessel must be maintained at -18°C or below and monitored with a thermometer marked in 1°C graduations.
- In New Zealand, all primary processors of fish are deemed to have storage on site and must advise NZFSA if they do not.

Some of these specific requirements are in place for reasons other than food safety, but nevertheless have implications for the final quality and ‘shelf-life’ of the seafood product.

## **12.3 Compliance monitoring**

### **Purpose and agencies involved**

Inspection of primary seafood processing facilities by authorised officers generally includes a check of compliance against the business’s FSP. For retail seafood businesses, an FSP audit may be a part of an inspection or may occur as a separate exercise to a routine inspection (depending on the jurisdiction and the business).

In the Northern Territory and the ACT, the core territory food agencies absorb food safety functions that would be undertaken by local councils in the Australian states. For all other jurisdictions, the main body responsible for regulation under the jurisdiction’s food Act generally devolves some monitoring responsibilities (for those businesses which substantially transform food or provide food directly to the public) to local governments (table 12.6). The extent of devolution, and subsequent coordination between local councils, varies between jurisdictions (chapters 7 and 8). In Victoria, for example, if a business is both a primary producer and retailer of seafood, then the predominant activity undertaken by the business determines whether they are registered and inspected by PrimeSafe (predominately primary production) or by the local council (predominately retailing). In some jurisdictions (for example, New South Wales and Tasmania), memoranda of understanding exist between state agencies and local government to describe the delineation of responsibilities in monitoring of particular industries for food safety. However, even where there are no memoranda in place, many seafood producers/processors are

registered and regulated as exporters by AQIS or NZFSA. In these cases, the state agencies often have little, if any, role in food safety compliance monitoring.

**Table 12.6 Audit and compliance check agencies — seafood**  
2008-09

	<i>Principal authority</i>	<i>Third party auditors possible</i>
NZ	NZFSA Local government	✓
NSW	NSWFA Local government	
Vic	PrimeSafe Local government	✓ (5 approved)
Qld <sup>a</sup>	Local government	
SA	PIRSA Local government	✓
WA	WA Health through fisheries officers Local government	
Tas	Tas DPIPWE Local government	✓ (4 approved)
NT <sup>b</sup>	NT Health NT DRDPIFR NT DPFES	
ACT	ACT Health	

<sup>a</sup> In 2008-09, only seafood businesses that were registered as food businesses were monitored for food safety in Queensland. From July 2009, SFPQ has responsibility for audits and compliance checks of seafood businesses, where relevant. <sup>b</sup> While responsibility for food safety in the Northern Territory rests with NT Health, NT Department of Regional Development, Primary Industry, Fisheries and Resources is the principal regulator of the Fisheries Act and Regulations, and NT Department of Police, Fire and Emergency Services is responsible for fisheries compliance and enforcement provisions (including compliance by fish retailers and traders/processors).

Sources: Baldwins-FoodLegal (2009); Productivity Commission survey of food safety regulators (2009, unpublished).

## Costs to business of audits and compliance checks

For those seafood producers/processors which are audited, the frequency of inspection and compliance audits in most jurisdictions is based on performance (table 12.7). For example, under the performance based verification system in New Zealand, seafood businesses that perform in a satisfactory way, receive progressively fewer verification visits by NZFSA VA until a minimum of 1 visit every 6 months.

**Table 12.7 Audit and compliance costs — seafood**

Australian dollars, 2008-09

	<i>Frequency</i>	<i>Average duration</i>	<i>Cost</i>
NZ <sup>a</sup>	Annual audits for domestic suppliers; maximum 6 months between audit reports for exporters (applies to both RMPs and ODSs)	Up to 5 hours on-site	NZFSA audit: \$112 to \$122 / hr plus \$28 to \$30 / 15 min in final part-hour
NSW	Commercial shellfish harvesting, oyster opening and seafood smoking – 3 to 6 months; Seafood processors engaged in cooking, gutting, gilling or slicing of seafood – 6 to 12 months; All other seafood business activities — not available	Shellfish: 0.75 to 1.5 hours Other seafood: 1 hour	NSWFA: \$147/hour plus \$38 travelling expenses (costs increase with the consumer price index)
Vic	Seafood processors & retailers – annual audit	3 hours	\$140 - \$180 / hour <sup>b</sup>
Qld	Shellfish and seafood sales to public: once per year	na	Local government fees
SA	Shellfish: at least every 6 months	1 to 1.5 hours	PIRSA inspection fee for shellfish: \$167 / hour
WA	Fish retailers  Fish producers/processors	na	Local government fees for inspections of retail premise; No charge for other seafood businesses
Tas	Shellfish: twice in the first year & annual thereafter	2 to 3 hours	Local government fees for inspections of food businesses; Third party auditor fees: approximately \$150-\$225 / hour
NT	Fish trader/processor & fish retailers: inspected by NT Health & NT DPDES at least once per year	na	No charge for inspections by either agency
ACT	Once per year (not always met)	na	No charge

na not available. <sup>a</sup> New Zealand fees are converted to Australian dollars based on an average exchange rate for 2008-09 of 1.23. <sup>b</sup> Estimate provided by third party auditor, SGS.

Sources: Productivity Commission survey of food safety regulators (2009, unpublished); RBA (2009).

Amongst shellfish producers/processors, the duration of an audit varies from up to 5 hours on-site in New Zealand, 3 hours in Victoria and 2 to 3 hours in Tasmania to around 1 hour in most other Australian states and territories. The per hour cost of audits varies substantially between jurisdictions. Amongst those jurisdictions which charge for audits (all except Queensland, Western Australia, Northern Territory and ACT), per hourly audit fees were highest for shellfish producers/processors in Tasmania. When combined with audit frequencies and average durations though, there was little difference in the estimated annual audit cost to shellfish businesses in New Zealand, New South Wales, Victoria and Tasmania (see estimated annual audit costs in figure 12.1). Specifically, a generally compliant shellfish

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producer/processor in these jurisdictions incurred an estimated A\$400 to A\$600 for compliance checks/audits in 2008-09. This compares with variable (but generally small) local government charges in Western Australia (chapter 7), and no annual compliance-check charges for shellfish businesses in Queensland, the Northern Territory and the ACT.

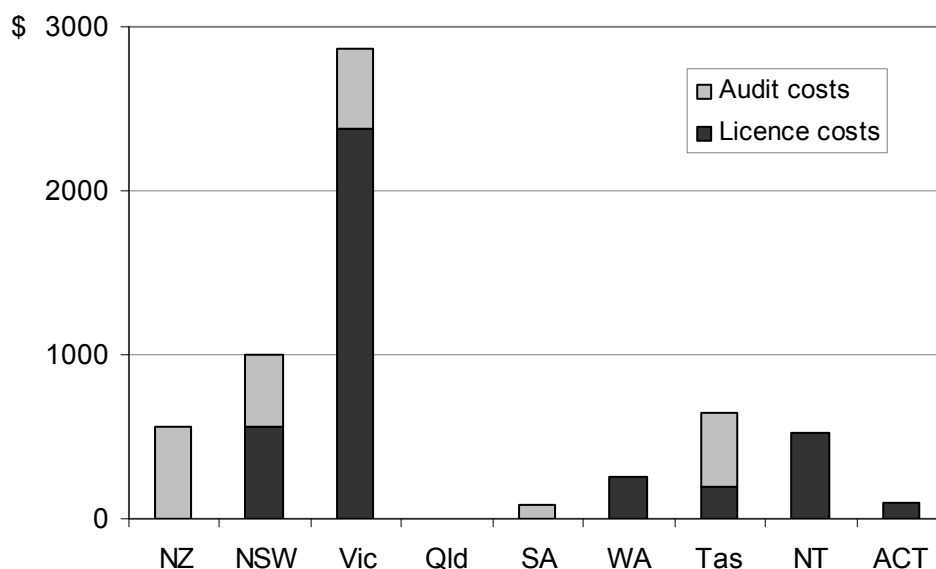
There is likely to be some variability in business costs around this estimate for different types of seafood businesses in different jurisdictions. Other estimates presented to the Commission by industry groups indicated that the cost of regulatory compliance checks/audits could have been considerably higher than the above estimate in 2008-09. For example, Oysters Tasmania advised that oyster producers in that state typically incurred costs of around \$1000 in 2008-09, associated with food safety audits (pers. comm. 2009). Higher again, Seafood Services Australia (SSA 2009b) reported that most seafood businesses which responded to its survey of seafood producers and processors across Australian states and territories, incurred, on average, around \$2500 per business in 2008-09. This cost was associated with 1.4 audits per FSP for regulatory requirements and 1.2 audits per FSP for non-regulatory purposes. The comparatively high annual audit cost estimated by SSA may reflect the broader scope of seafood businesses included in the SSA estimate and/or the inclusion of audits for non-regulatory purposes.

NSWFA reported in 2008 that its audit fees at that time (only marginally lower than those reported in table 12.7 for 2008-09) were below cost recovery and would present a barrier to the establishment of third party audits in the future (NSWFA 2008b). The use of alternative third-party auditors available in Victoria, South Australia, Tasmania and New Zealand may provide businesses with options to reduce audit costs — although this is not yet evident in the fees charged in these jurisdictions.

Overall, shellfish businesses in Victoria were estimated to have incurred the greatest *annual regulatory cost* associated with licensing requirements and compliance monitoring in 2008-09 (figure 12.1). This mainly reflects the potentially higher licensing costs for shellfish processors, based on throughput, compared with charges for similar shellfish businesses in other jurisdictions.

**Figure 12.1 Annual compliance monitoring costs for shellfish producers/processors by jurisdiction**

Australian dollars, 2008-09 <sup>abc</sup>



<sup>a</sup> Estimates are for a compliant shellfish producer/processor. Annual audit cost is derived as: \$ cost per hour for an audit x average number of hours per audit x minimum number of audits per year. <sup>b</sup> For Victoria, the licence fee shown is for a category B medium sized processor with an annual throughput of 101-250 tonnes. During 2008-09, shellfish producers/processors in Western Australia were monitored by the jurisdictions' Department of Health and by local governments (at a cost which varies between councils). Estimate for audit cost is \$0, based on information provided by Broome council. Shellfish producers/processors in Queensland were not monitored for food safety in 2008-09. <sup>c</sup> The NZ estimate is based on the maximum number of audits per year for a compliant business and an audit cost per hour which is a minimum cost, and is converted to Australian dollars using an average exchange rate of 1.23 for 2008-09.

*Data source:* Productivity Commission survey of food safety regulators (2009, unpublished).