



AUSTRALIAN
**Prawn
Farmers**
ASSOCIATION



**Sustainably Farmed
Prawns**

Certification Criteria

2016 Version 1.2

Program Launch Version



Sustainably Farmed Prawns Certification Certification Criteria



EcoSustainAbility Pty Ltd

+61 (0)407 391211

GuyChester@EcoSustainAbility.com

PO Box 230 Yorkeys Knob QLD 4878 Australia

ACN 098560126:

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Once Finalised APFA will own and register the trademark of the Sustainable Prawn logo.



Sustainably Farmed Prawns Certification Certification Criteria



1. Introduction	4
Background	4
Sustainability Vision	5
2. Certification Program Overview	6
2. Certification Program Overview	6
Program Management Manual	6
Key Components	6
Key Steps	6
Administration	7
Integrity	7
To Gain Certification	8
Certification Application Process	8
Withdrawal of Accreditation	10
3. Basis of Criteria	11
Development	11
4. Principles	12
5. Applicant Details	13
6. Fundamental Eligibility	14
7. Ecoefficiency Benchmarking	14
Ecoefficiency Benefits	15
Ecoefficiency Indices	15
Annual Survey	16
Continual Improvement	16
8. Sustainability Management Checklist	17
Sustainability Commitment	17
Local Setting	18
Design	19
Monitoring	20
Environmental Management	20
Training and Awareness	22
Understanding Potential Impacts	23
Risk Management	25
Continual Improvement	26
9. Sustainability Performance	27
Farm Construction	27
Ecoefficiency	27
Water	28
Energy	30
Soil	31
Waste	33
Chemicals	35
Noise and Odour	38
Vegetation and Wildlife	39
Pond/Tank/Cage Management	40
Prawn Management	42
Feed Sustainability	43
10. Product Quality	46
Hygiene Food Safety	46
Quality	46
11. Risk Assessment	47
Introduction	47
12. Annual Awards	60
Prawn Farming Sustainability Program Award	60
Certificates of Merit	61
Appendix One	62
Eco-efficiency Survey	62
Appendix Two	63
Example Policy	63



1. Introduction

Background

Prawn Farming Certification Program

The Australian Prawn Farmers Association has developed this certification program addressing economic, social and environmental aspects of sustainability including hygiene and quality aspects of production. The system is designed to include an approach which is applicable at the various scales of the industry and one that sets minimum standards whilst recognising best practice.

Beyond Compliance

Aquaculture is an Environmentally Relevant Activity in Queensland and there are similar protocols in place in all other mainland states and the Northern Territory. The Prawn farming industry has had over 30 years of the discipline of complying with and reporting on performance of required standards. The proposed approach now builds on compliance and statutory reporting, with a holistic approach to environmental responsibility (due diligence) and achieving ecological sustainability beyond what is required by strict compliance.

Barramundi and Prawn Partnership

The development of this certification program and criteria for sustainably farmed prawns is fundamentally based on existing intellectual property developed by EcoSustainAbility to establish the Australian Sustainably Farmed Barramundi Certification Program for the Australian Barramundi Farmers Association. ABFA and APFA have a partnership approach to the ongoing management of the certification program, the two programs each have specific criteria but will be managed together as one overall program.

Fisheries Research and Development Corporation.

Work undertaken by EcoSustainAbility for the development of the Australian Sustainably Farmed Prawns Certification Program for the Australian Prawn Farmers Association has been funded by the Fisheries Research and Development Corporation.

Version Status

This version is version 1.2 and takes into account stakeholder and peer reviewer comments it was adopted for implementation by the APFA Executive on 6 June 2016.



Sustainability Vision

The proposed vision is for:

The farming of Prawns in Australia is ecologically sustainable, ecoefficient and produces a quality product that is internationally competitive.





2. Certification Program Overview

Program Management Manual

The overall management of the program is governed by the policies and procedures as set out in the:

- *Australian Sustainably Farmed Barramundi and Prawn Certification Program – Management and Policy Manual* (version as adopted by ABFA and APFA boards from time to time).

This section provides an overview only of these detailed procedures.

The management of the certification program is undertaken in collaboratively between the prawn and barramundi farmers Associations, and in accordance with one joint Management Program and Policy Manual.

Key Components

The key components of the certification program are:

- Annual Ecoefficiency Benchmarking
- Certification Application, including the:
 - Sustainability Checklist; and
 - Risk Assessment
- Certification offsite audit and onsite audit.
- Annual return

Key Steps

There are 6 major steps in the certification process:

- Submission of the **Ecoefficiency Benchmarking, Sustainability Checklist and Risk Assessment** along with other **supporting evidence** to support with the application for Sustainability Certification to the ABFA/APFA Sustainability Auditor.
- An initial **offsite or onsite audit** is undertaken by the approved ABFA Sustainability Auditor on the basis of the **Ecoefficiency Benchmarking, Sustainability Checklist and Risk Assessment** and supporting evidence.
- The Certification Panel considers the Auditors recommendation and confirms **Certification, Certification Subject to Corrective Actions** or declines Certification.
- If an initial **offsite audit** was undertaken, an **onsite audit** will then be required within two years of the initial certification.
- An **Annual Return** and annual **Ecoefficiency Benchmarking** is required each year along with a recertification process including an annual offsite audit. **Re-completion** of the whole checklist is required every 2 years.
- Further **onsite audits** are required every 2–3 years.



Awards Program

As a further aspect of the program an annual awards system has been established to encourage and recognise best practice sustainability and ecoefficiency in Australian Prawn Farming.

Administration

The Australian Sustainably Farmed Prawn Certification Program (SFPCP) is administered by jointly between APFA and ABFA. ABFA and APFA have appointed:

- A four member independent Certification Panel to confer Certification, suggest administrative policy and interpretation to the ABFA/APFA board and advise the ABFA/APFA board on annual awards.
- A Sustainability Auditor to compile ecoefficiency benchmarking results, undertake an initial and then biennial offsite assessments, and as required on-site assessments.

Integrity

The establishment of a Sustainability Certification program needs to have solid integrity in its processes and policies. There are a variety of global standards and guides which may apply. The Prawn and Barramundi certification program is relatively small, given the limited number of Prawn and Barramundi farms in Australia and as such complete application of these international norms for multi sector conformity assessment bodies would be beyond the resources of APFA and ABFA. This Certification program has been developed with reference to ISO 14024 *Environmental labels and declarations Type 1 environmental labelling Principles and Procedures* and ISO 17065 *Conformity Assessment – Requirements for Bodies certifying products, processes and services*.

Independence

One key aspect of the integrity of the sustainability certification system is to have an independent assessment (the audit) and a separate independent Certification Panel. This model allows APFA and ABFA to own and administer the Sustainability Certification System whilst maintaining independence and integrity.

Appeals

A formal appeals process allows an independent review in the event of any dispute.



To Gain Certification

Annual Ecoefficiency Benchmarking

The annual ecoefficiency benchmarking need to be undertaken by each farm annually around October each year for the previous financial year. This allows an overall industry benchmarking and comparison for each farm against their previous years and within the industry.

The Auditor will send out the Ecoefficiency Benchmarking surveys and compile the results. NOTE: The auditor will keep the individual farm results confidential and reporting will report indices without identifying farms. Records will be kept to allow reporting back to each farm of comparison from their most recent years' and previous year's results.

Records will be kept confidential.

To avoid any doubt, the Ecoefficiency Benchmarking should normally happen in July/August each year, regardless of the anniversary of a farm's certification process.

Certification Application Process

Compliance

To gain Sustainable Prawn Farming Certification a farm must meet all criteria unless the criteria is irrelevant and could not be applied to the farms type or situation. In the event that a farm considers it not practical or financially viable to meet or partially meet a criteria it may seek an exemption, but in such circumstance must still show how it achieves the relevant principle for that aspect.

Application by Farmer

The application process involves submission to the APFA/ABFA Sustainability Certification Auditor of the Ecoefficiency Benchmarking, Sustainability Checklist and Risk Assessment along with other supporting evidence to support with the application for Sustainability Certification to the APFA/ABFA Sustainability Auditor.

Supporting Evidence

The Farm must also submit supporting evidence with the Certification Application assessment checklist. Such evidence may include (but is not limited to):

- The Farm's signed Sustainability Policy;
- Available evidence of ecoefficiency benchmarking records and calculations of benchmarking data;
- Any environmental program, action plan or environmental management system;
- Risk assessment and any contingency plans;
- Evidence of staff awareness and training (for all but micro-businesses with few staff, where awareness will be confirmed at audit);



Sustainably Farmed Prawns Certification Certification Criteria



- Evidence of compliance (e.g. copies of permits licences and any required records, monitoring or reporting to authorities).

In addition to documentation, photographs/maps/plans are highly desirable:

Photographs of the farm (also any plans of the site, ponds and buildings):

- Photographs of Chemical/fuel storage(s);
- Photographs of solid waste storage and disposal (if on site);
- Photographs of settlement ponds and discharge points; and
- Photographs supporting claims made in the checklist (e.g. energy efficiency measures etc.).

NOTE: The annual program will involve a mix of some on-site and some offsite audits such that every farm has an onsite audit every 2–3 years. For initial certification a farm may have an onsite or offsite audit.

Initial Offsite Audit

An initial offsite audit is undertaken by the approved ABFA/APFA Sustainability Certification Auditor on the basis of the Ecoefficiency Benchmarking, Sustainability Checklist and Risk Assessment and supporting evidence.

The Auditor firstly ensures the application is complete and adequate supporting evidence is provided, if not, the Auditor sends a request by email to the farm for further information.

The initial offsite audit involves thorough review of the application and supporting evidence and an interview with the farm manager and at least one key staff. Wherever practical the Auditor should seek other verification of the compliance with the SFBCP criteria.

The Auditor makes a recommendation to the Certification Panel.

Certification Panel

The Certification Panel considers the Auditors recommendation and confirms Certification, Certification Subject to Corrective Actions or declines Certification. The Certification Panel does not undertake any primary investigation but relies on the Auditors Report, in exceptional circumstances the panel may review the application and relevant supporting evidence.

Onsite Audit

An onsite audit will then be required within two years of the initial certification. After this initial on-site audit a further onsite audit is required every 2–3 years. The Auditor makes a report which is considered by the Certification Panel and continued certification is offered (which may be conditional on corrective actions).

Annual Return

An Annual Return and annual Ecoefficiency Benchmarking is required each year. Re-completion of the whole checklist is required every 2 years, along with a recertification process including an offsite assessment.



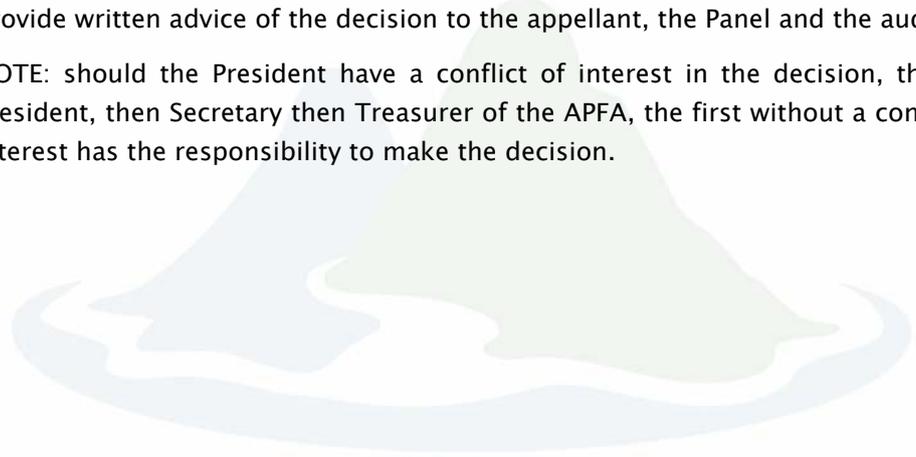
Withdrawal of Accreditation

The Certification Panel has a unique responsibility for withdrawal of certification, this may only be made by a decision of the Panel in consultation with the President of APFA. Withdrawal may only happen after an audit finds major non-compliance with the criteria and this cannot be resolved through urgent corrective actions.

Appeals - APFA President

An accredited operator may appeal a decision to withdraw their certification in writing to the President of APFA. The President has a responsibility to make a decision within 28 days of receiving the appeal. The President must consult with the Certification Panel regarding the reasons for withdrawal of certification and may consult with the Auditor regarding policy and interpretation of criteria. The President's decision is binding, and may not be appealed. The President must provide written advice of the decision to the appellant, the Panel and the auditor.

NOTE: should the President have a conflict of interest in the decision, the Vice President, then Secretary then Treasurer of the APFA, the first without a conflict of interest has the responsibility to make the decision.





The sustainably farmed certification program for prawns has been developed following the successful launching of the Barramundi certification program. The two programs each have specific criteria but will be managed together as one overall program.

3. Basis of Criteria

Development

The development of the Criteria has been fundamentally based on the Australian Sustainably Farmed Barramundi Program. The criteria have been developed specific for prawn farming based on experience with prawn aquaculture over twenty years and late 2015 inspections and detailed interviews of seven farms (Gold Coast Aquaculture – Mossman, Andrejevic – Kurrimine Beach, Seafarm – Cardwell, Pacific Reef – Ayr, Monogold – Illbilbie, Eimo Aquaculture – Campwin Beach, Australian Prawn Farmers – Illbilbie).

Global Benchmarking

In order to ensure that Prawn farming in Australia is achieving best practice, extensive literature reviews were undertaken and criteria/best practices from a range of other fish farming and prawn farming accreditation and sustainability programs were reviewed. The following codes and guidelines have been reviewed to ensure the practices/criteria developed do represent a reasonable “best” practice for the industry:

- *ASC Shrimp Standard* (published by the Aquaculture Stewardship Council, version 1.0 March 2014).
- *Sustainable Farming – Australian Prawn Farmers Association* (<http://apfa.com.au/prawn-farming/sustainable-farming/>)
- *Environmental Standards – Australian Prawn Farmers Association* (<http://apfa.com.au/prawn-farming/environmental-standards/>)
- *Inside Prawn Ponds* (undated booklet produced by APFA, CSIRO, QLD government, CRC for Aquaculture, AIMS and others, <http://apfa.com.au/prawn-farming/ponds/>)
- *Friend of the Sea Certification Criteria Checklist for Aquaculture Products – Marine Aquaculture* (Friend of the Sea, 2010).
- *Prime Ministers Science, Engineering and Innovation Council, Sustainable Aquaculture* (Report from Councils eight meeting in May 2002, report prepared by independent working party chaired by Professor Peter Hoj).



4. Principles

The Australian Sustainably Farmed Prawns Certification Program is based on the following principles.

Sustainability Management

Each farm makes a **commitment to sustainability** which is communicated to staff, visitors, suppliers and customers.

Each farm is developed and managed to achieve **sustainability within the local ecology**.

Each farm **monitors** their **potential impacts** upon the natural environment.

Farms are located on **approved and sustainable sites** and new farms do not involve large scale disturbance of marine plants.

New farms and expansions are designed to **maximise ecoefficiency** and the **water quality of any discharges**.

Each farm has a specifically developed **environmental management approach** or documented environmental management plan which has strategies to **minimise environmental risks and maximise sustainability**.

Farms ensure **staff understand the obligations, priorities and strategies** to achieve environmental compliance, sustainability and maximise ecoefficiency.

Farms have identified **key aspects of the local natural environment** and potential impacts are understood.

Farms have undertaken a specific **risk assessment** and have developed **mitigation strategies and contingency plans** which address all **foreseeable events**.

Farms strive for **continual improvement** in **sustainability and ecoefficiency**.

Sustainability Performance

Construction and upgrading works on farms **minimise disturbance** or re-establish soils, **erosion protection and drainage**.

Farms regularly review their **ecoefficiency**.

Water quality of receiving waters and any discharge waters is understood and potential effects minimised.

Water use from groundwater and surface waters is minimised within the constraints of farm design and efficient operations.

Energy use is minimised to achieve the best possible eco-efficiency within the constraints of farm design and efficient operations.

Erosion, sedimentation and any acid sulphate soils are managed on site and there is **minimal sediment loss or dust** from the farm.

Waste is minimised to achieve the best possible eco-efficiency within the constraints of farm design and efficient operations, waste disposal is sustainable.

Chemicals are used on farm only where their (adverse and beneficial) **affects are understood**, use is approved, **storage is safe** and disposal of surplus product and containers is environmentally safe.

Off farm **noise and odour** impacts on neighbours and any surrounding natural environment is **minimised**.

Protected natural vegetation on farm and **natural vegetation off farm is not disturbed**, **weeds on farm are controlled** and **impacts on wildlife minimised**.

Ponds and tanks are managed to **maximise production**, achieve the best possible **ecoefficiency** and **minimise contaminants discharged**.

Farms manage prawn stocks to **maintain prawn health, reduce disease risk and minimise escapes**.

Farms consider the **sustainability aspects of feed used**.

Product Quality

Farms process prawns and deliver to market in a manner which meets all **food safety requirements**.

Prawns are of **high quality**, presenting undamaged and **without any spot or discolouration**.



5. Applicant Details

Farm and Contact Information	Details		
Farm Name			
Location			
Physical Address			
Lot/Plan number or description(s)			
Postal Address			
Email Address			
Farm Telephone			
Directors/Owners Mobile Telephone			
Onsite Managers Mobile telephone (if different)			
Farm Aspects (tick those that apply)	<input type="checkbox"/> Pond		<input type="checkbox"/>
	<input type="checkbox"/> Recirculation System		<input type="checkbox"/>
	<input type="checkbox"/> Open System		<input type="checkbox"/>
	<input type="checkbox"/> Growout		<input type="checkbox"/>
	<input type="checkbox"/> Nursery		<input type="checkbox"/>
	<input type="checkbox"/> Hatchery		<input type="checkbox"/>
Growout Ponds	Number	Area	ha
Settlement Ponds	Number	Area	ha
Nursery (Larval Rearing) Tanks	Number	Volume	kL
Hatchery Tanks	Number	Volume	kL



6. Fundamental Eligibility

The following are essential aspects for eligibility for certification.

Prawn Farm	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The Farm grows prawns on a commercial basis for human consumption and/or is a hatchery/nursery for prawn larvae production for further growout of post larvae to saleable prawns (for human consumption).	ALL	<input type="checkbox"/>	
Species grown are: <ul style="list-style-type: none"> Black tiger prawn <i>Penaeus monodon</i> Banana prawn <i>Fenneropenaeus merguensis</i> Kuruma prawn <i>Penaeus japonicas</i> Potential species include: <ul style="list-style-type: none"> Brown tiger prawn <i>Penaeus esculentus</i>¹ 	ALL	<input type="checkbox"/>	
<i>The commitments made against criteria are assumed to be existing and continuing. In some circumstances a farm will make a commitment to meet a criteria in the certification process, yet the process/activity has yet to be implemented. If this is the case the certification process must be considered a contract to implement the process/activity.</i> The Farm commits to implement and undertake all processes and activities claimed in the checklist on an ongoing basis.	ALL	<input type="checkbox"/>	
Approved Use	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The Farm has all necessary town planning, coastal, marine and environmental approvals.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
The Farm complies with all relevant environmental, marine, hygiene, workplace health and safety and industrial relations/ labour laws.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
APFA Logo and Program	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The Farm commits to only using the APFA “Tick” logo in accordance with the logo usage terms and conditions, and further will not otherwise represent that the farm has APFA or other endorsement./.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H F S	<input type="checkbox"/>	

7. Ecoefficiency Benchmarking

¹ Note Brown Tiger Prawns and not yet farmed commercially, however this certification program can accommodate such aquaculture should a farm grow them.



Ecoefficiency Benefits

As all Prawn farmers know, a major cost of production is energy. Electricity, fuel, LPG gas, and ice are all forms of energy used on farms. A major benefit of increasing ecoefficiency on farms is to reduce operational costs. Reducing energy and waste is also likely to have major operational cost benefits as well. Water consumption tends to involve pumping on Prawn farms and this of course has a cost for the energy (usually electricity).

There is an old adage that what is measured gets managed. By undertaking annual benchmarking of a farm's ecoefficiency it can allow individual farms to measure their ecoefficiency and allow APFA to present the industry's overall ecoefficiency. Given the global focus on energy efficiency and carbon emissions even moves toward carbon neutral food it is important for individual farms and the industry overall to be proactive in this area.

Ecoefficiency Indices

For Prawn Farms ecoefficiency indices have been developed, these are:

- **Energy – GJ/kg Prawns:** Gigajoules of energy used per kilogram of prawn production (prawns sold at farm gate and increased/decreased biomass over the year). Farms input the kilowatt hours of electricity, litres of diesel etc. And using official rates the gigajoules are calculated.²
- **Carbon Dioxide kgCO₂/kg Prawns:** From the amount of energy used by a farm the carbon dioxide emissions can be calculated. The carbon dioxide emissions are calculated based on the various types of energy used (e.g. electricity, diesel, gas etc.).³
- **Water kL/kg Prawns:** The amount of water used for prawn production and running the farms is measured. This includes potable, "tap" water and all groundwater and surface water used for ponds, nurseries etc.
- **Waste m³/kg Prawns:** The waste leaving the site for disposal to landfill is the chosen indicator. Again the 2010 survey found this is often not recorded and farms will need to move towards recording this.

² Energy consumption includes all farm metered kWh of electricity, diesel, petrol, LPG and liquid oxygen. The GJ per kilo of prawns (kWh electricity, LOX, diesel, petrol, LPG) have been calculated based on the following factors, Diesel: 38.68 GJ/m³ (1000L), Petrol 34.66 GJ/m³, LPG: 25.53 GJ/m³

³ The draft National Carbon Offset Standard³ defines scope 1, 2 and 3 emissions as:

- Scope 1 emissions: The release of greenhouse gas into the atmosphere as a direct result of activities at a Facility. Emissions also include from the pond waters, from the fish and any wastes.
- Scope 2 emissions: The release of greenhouse gas as a result of electricity generation, heating, cooling or steam that is consumed by a Facility.
- Scope 3 emissions: The release of greenhouse gas into the atmosphere that is generated in the wider economy as a consequence of a facility's activities but that are physically produced by another Facility.

In the above framework it is important to understand the diversity of Prawn farms. Hatchery(ies) and have specific energy needs for tanks filters and oxygenation. Whereas intensive pond farming requires oxygenation mainly achieved using aerators. Pond farms also usually require pumping of water as surface or ground water intake water and occasional pumping of irrigation and discharge waters. As such the scope 1 emissions are: Diesel/petrol/LPG used by farms for vehicles, vessels, pumps, water heating and on-site electricity generation. Scope 2 emissions are: That from electricity consumption for pumps, aerators, icemakers and cold rooms, tanks heating and cooling. Scope 3 emissions include the bringing in of products with embodied energy, specific examples include: Ice, purchased by many farms and the consequential emissions are not included in the ecoefficiency survey results.



- **Feed kg Prawns/kg Feed:** A common industry measure and used as confirmation of the farms food in food out ratio.

Future Indicators

The above set out what APFA propose to measure for the years 2016–2021. During this time further work is proposed to address a better understanding of the carbon emissions from prawn farming in an effort to be able to present prawns to market as carbon neutral or very close to this. Two initiatives may be investigated:

1. Better accounting of what are called Scope 2 and Scope 3 emissions, including addressing transport and storage energy and carbon emissions up to the point of wholesale distribution and/or to retailers.
2. Further, the sustainability of feed and carbon footprint from feed is an issue being addressed by other industries and should resources permit APFA will attempt to understand.

Annual Survey

Each farm must submit an ecoefficiency survey report by 30 July each year, for the previous financial year. The data is submitted to APFA's independent appointed consultant who will keep the data confidential and report each farm's data back in the context of the overall industry results. Further the report will include a farm's historical results so each can track their overall ecoefficiency year on year.

Continual Improvement

An important aspect of the APFA Sustainability Certification program is for farms to strive for continual improvement in ecoefficiency. There are many potential initiatives for increasing ecoefficiency outcomes (and reduced operating costs!) for pond aquaculture, including:

- Increasing re-circulation with bioremediation or indeed managing to have negligible discharge;
- Acoustic feed system, reducing waste and the inherent energy and carbon emissions in the feed;
- Use of variable speed, axial pumps for more efficient intake water pumping and/or recirculation;
- Active aeration management (reducing aeration when not required, by manual or automatic methods).

Farms are encouraged to review opportunities and consider their application. Where a major capital expense is required, there may be government grants available or farms can phase in procedures or bring in efficient machinery as replacements become necessary. In many cases the investment in capital cost is paid back promptly and then provides farmers with potentially greater or more reliable profit margins!



8. Sustainability Management Checklist

Sustainability Commitment

Principle

Each farm makes a commitment to sustainability which is communicated to staff, visitors, suppliers and customers.

Criteria

Policy	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The Farm has a written sustainability policy in place, signed by Owner(s) and/Director(s). NOTE See example at Appendix Two.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Farm has reviewed the policy within the last three years.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a commitment to ecological sustainability, to understand potential impacts and minimise risks of impacts.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a commitment to ecoefficiency, to reduce energy and water consumption and minimise waste in accordance with best practice.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a commitment to purchasing eco-friendly and sustainable products where possible.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a commitment to purchasing locally as far as practicable.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a commitment to compliance with environmental, planning, safety and hygiene permits, licences and regulations.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a “good neighbour” approach, recognising aspirations and concerns of neighbours through consultation and avoids practices with impacts.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy includes a commitment to continual improvement, including adopting or trialling emerging best practices.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy is posted in a prominent place(s) on the farm at locations(s) where visitors, staff, customers and suppliers may read it.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	
The Policy is reviewed at least once a year, resigned and dated by the Farm owner or at least one Director.	<input type="checkbox"/> Pond <input type="checkbox"/> Recirculation System <input type="checkbox"/> Open System G N H	<input type="checkbox"/>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



Local Setting

Principle

Each farm is developed and managed to achieve sustainability within the local ecology.

Criteria

Local Environment	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The local environment and its conservation, ecological, social and cultural significance is understood.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

NOTE The following are not criteria but outline the local setting for consideration in assessing the above and other criteria.

The local ecological environment includes:	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Coastal, dunes, lagoon, mangroves <input type="checkbox"/> • River, lake <input type="checkbox"/> • Wetland <input type="checkbox"/> • Forest/rainforest <input type="checkbox"/> • Coral reef <input type="checkbox"/> • National Park, Marine Park, reserve <input type="checkbox"/> • World Heritage Area <input type="checkbox"/> • Ramsar listed wetland <input type="checkbox"/> • Declared fish habitat area <input type="checkbox"/> • Endangered/migratory species habitat <input type="checkbox"/> 	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H		

The local social and cultural environment includes:	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Other farmland/rural land use <input type="checkbox"/> • Urban/residential land <input type="checkbox"/> • Commercial, retail, industrial land <input type="checkbox"/> • Local village, town <input type="checkbox"/> • Park, sports fields, public open space <input type="checkbox"/> • Public beach, esplanade, island <input type="checkbox"/> • Indigenous community <input type="checkbox"/> 	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H		

Consider the immediate farm neighbours and the greater precinct.

Location	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The site is approved by local planning, coastal, marine and environmental zoning and regulations.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
New sites (after 2016) have not involved clearing (other than for pipelines/drainage channels and utilities) of mangroves and other marine wetlands. Sites have not involved reclamation of tidal areas or wetlands.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

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Design

Principle

New farms and expansions are designed to maximise ecoefficiency and the water quality of any discharges.

Criteria

Design	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Overland flow does not enter ponds or tanks.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Discharge points are located to maximise dispersion, minimise impacts on hydraulics of receiving waters and disturbance to marine/aquatic ecosystems.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ponds/tanks are above the 1:50 year flood level. Tanks are located such that they will not float or lift in a 1:50 year flood.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ponds have adequate overflows or spillways to cope with major rainfall events (whilst still allowing some freeboard and with mechanisms to prevent escape of prawns).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ponds have an arrangement that allows complete drainage if required.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ponds are orientated/designed in relation to the prevailing wind direction(s) to avoid wave fetch and downwind bank erosion. If not, or for larger ponds, banks are stabilised to avoid erosion.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Initial design avoids (where practicable) disturbance to acid sulphate soils, or there is an Acid Sulfate Soil management plan in place.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ponds are impervious (minimal outflow/inflow seepage) and there is a low likelihood of ground water contamination.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
NEW FARMS: Ponds and sediment ponds are designed to ensure recirculation is maximised (with allowance for seasonal variation of saline intake and rainfall salinity consideration etc.).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

The above is applicable to new farms.

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Monitoring

Principle

Each farm monitors their potential impacts upon the natural environment.

Criteria

Monitoring	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where required statutorily, monitoring of the local environment is undertaken (e.g. water quality monitoring of receiving waters, ground water levels).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Photographic reference points are established and photographs taken annually or seasonally of the immediate environment (i.e. adjoining wetland, discharge creek, treatment pond, pond banks, waste disposal areas, outdoor fuel and chemical stores etc.).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Rainfall records are kept for the farm.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Best practice is to undertake a range of local environmental monitoring whether or not required by permits and licence conditions, the scale of the farm and the significance of the local environment will determine the resources and importance of this.

Environmental Management

Principle

Each farm has a specifically developed environmental management approach or documented environmental management plan which has strategies to minimise environmental risks and maximise sustainability.

Criteria

EMP	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
An environmental management approach is developed and implemented to minimise risks and maximise sustainability (including eco-efficiency).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Larger farms (more than ten staff) have a specifically prepared EMP. For smaller farms this Certification Manual, the environmental compliance and monitoring register and the risk assessment may form the basis for an environmental management approach.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Best practice is to have an Environmental Management Plan which is written to meet all aspects of environmental due diligence and is fully implemented.

Suggestions and Complaints	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Staff, suppliers and any contractors are encouraged to make	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	

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suggestions to increase eco-efficiency and sustainability or reduce the risk of environmental harm.	G N H G N H F S	
A system is in place to receive, record and respond to complaints from staff, contractors, suppliers, neighbours and community stakeholders.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O G N H	<input type="checkbox"/>
A complaint register (which may be part of a more general log book, running file or diary) is kept.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O G N H	<input type="checkbox"/>

Incidents and Corrective Action	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
<p>There is an incident register:</p> <ul style="list-style-type: none"> For farms with less than five staff this can be in a log book. For larger farms there should be a separate incident report form and register. 	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O G N H	<input type="checkbox"/>	
<p>There is a corrective action process in place:</p> <ul style="list-style-type: none"> For farms with less than five staff this can be in the form of notices on a notice board with a copy held on a file (where all staff can access). For larger farms there should be a separate corrective action form with sign off by the initiating staff member, the farm manager and at least one company director and/or owner. 	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O G N H	<input type="checkbox"/>	

Incident Reporting	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
<p>There is a process to evaluate the potential for environmental harm or non-compliance with environmental licences and permits in the event of an incident.</p> <ul style="list-style-type: none"> Reporting is made when statutorily required or environmental harm may occur. 	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O G N H	<input type="checkbox"/>	

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Records	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Records on monitoring and compliance are kept for at least five years.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
An Environmental file/register is kept and contains:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
<ul style="list-style-type: none"> Copies of all permits, licences and government agency correspondence <input type="checkbox"/> The Farms sustainability policy <input type="checkbox"/> Copies of government environmental agency guides to best practice. <input type="checkbox"/> Monitoring information <input type="checkbox"/> Training records <input type="checkbox"/> Environmental complaints <input type="checkbox"/> The Risk Assessment <input type="checkbox"/> Any Environmental Management Plan <input type="checkbox"/> Any contingency plans <input type="checkbox"/> Material safety data sheets for all chemicals <input type="checkbox"/> 			

Monitoring and compliance records should be kept for as long as possible... review of records a decade old can allow better management and detect changing environmental conditions.

Training and Awareness

Principle

Farms ensure staff understand the obligations, priorities and strategies to achieve environmental compliance, sustainability and maximise ecoefficiency.

Criteria

Training and Awareness	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
All staff know the overall environmental commitment and understand the responsibilities for environmental compliance and environmental protection relevant to their duties.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
For larger operations, best practice is a formal, documented training program with job duty statements, training materials and records of training. Such a program is required for more than twenty staff and desirable for more than ten staff.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Smaller farms with few staff need to have a general program between supervisors and staff to ensure the training and awareness is undertaken.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Staff are specifically advised and are aware of the farms	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	

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Sustainability Policy.

G N H

Staff are encouraged to report environmental incidents and make suggestions for environmental, sustainability and ecoefficiency improvements.

G N H

Understanding Potential Impacts

Principle

Each farm monitors their potential impacts upon the natural environment.

Criteria

Water Quality

Applies

Comment

Where there is any discharge of wastewater or effluent from the farm, there is some form of receiving water quality assessment.

G N H

The potential assimilative capacity of receiving waters has been judged (e.g. by the relevant government environmental agency during farm approval) as being able to accept the quality and quantity of wastewater/effluent/nutrient/sediment discharge

G N H

Guidance: Discharges from a prawn farm could have the potential impact on receiving water quality as there are contaminants which include:

- *nutrients (most as particulate nitrogen and phosphorous from organic material including prawn faeces, algal cells and macrophytes);*
- *dissolved metabolic products from prawn faeces and waste/unused feed and suspended solids. Potential impacts which need specific consideration include turbidity (with consequent issues of light attenuation in receiving waters; and*
- *dissolved oxygen (both through releases of water with higher or lower dissolved oxygen than receiving waters; and through release of water with biological oxygen demand or chemical oxygen demand which affects DO in receiving waters.*

Best practice involves a monitoring program which allows background or control site monitoring (i.e. a spatial or temporal control) and "impact" monitoring to detect any significant change in receiving water quality.

Hydrology

Applies

Comment

The farms hydrology is understood and potential impacts on drainage patterns, ground water and surface water volumes and quality have been considered.

G N H



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Groundwater	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
If any ground water (bores) are used for water supply the levels of groundwater on site and near the supply bore are understood and monitored to ensure an ongoing sustainable supply, including making provision for environmental requirements even in foreseeable dry/drought periods.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
If there is use of salt water in ponds and tanks, there is monitoring of groundwater salinity, at least on an annual basis. Measures are taken to ensure ponds remain impermeable and saltwater is unlikely to infiltrate to groundwater.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Aquatic/Marine Plants	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Locally occurring aquatic and marine plants are known and the potential effects on local native aquatic and marine vegetation is minimal.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Practices are in place to ensure any disturbance to marine and aquatic plants is minimised and that exotic/weed marine/aquatic plants are not introduced to nearby natural systems.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Fauna	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Local populations of wildlife are understood, particularly any endangered or migratory species.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Local populations of predator species (e.g. birds, crocodiles etc.) are understood.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

There should not be a need for farms to engage any major outside expertise (such as consultants or scientists) however to local population (particularly any endangered wildlife on farm should be broadly monitored with seasonal surveys or a notebook kept of sightings etc.

Odour	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Local sources of odour (other than the farm) are known and the local situation with regard to odour is understood (in order to place any odour issues from the farm in a local context).	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

There can be substantial issues for nearby affected neighbours that are unrelated to the farm, e.g rotting seaweed beds on a nearby foredune).

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Noise	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Local sources of noise (other than the farm) are known and the local noise environment is understood (in order to place any noise issues from the farm in a local context).	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Risk Management

Principle

Farms have undertaken a specific risk assessment and have developed mitigation strategies and contingency plans which address all foreseeable events.

Criteria

Risk Assessment	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
A risk assessment has been undertaken which considers the likelihood, magnitude and reversibility of impacts after practical mitigation strategies has been developed. See Risk Assessment Proforma at Section 11.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Contingency Planning	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
There are contingency plans in place for foreseeable (even if unlikely) events and practical strategies have been devised to minimise farm production losses and environmental impacts.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Contingency planning considers:	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Power failure (onsite and from grid) <input type="checkbox"/> • Pump and/or aerator failures <input type="checkbox"/> • Filter blockages <input type="checkbox"/> • Contamination of pond water and disease outbreaks. <input type="checkbox"/> • Excessively high or low groundwater <input type="checkbox"/> • Flood and storm rainfall <input type="checkbox"/> • Cyclonic winds and storm surge <input type="checkbox"/> • Fire <input type="checkbox"/> • Chemical spillage <input type="checkbox"/> • Drought <input type="checkbox"/> 			
Any plant, machinery, vessels or products required for immediate use or during periods of inaccessibility (such as flood/cyclone) to implement contingency plans are held on farm.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

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Continual Improvement

Principle

Farms strive for continual improvement in sustainability and eco-efficiency.

Criteria

Best Practices	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The Farm operations are regularly reviewed with a view to adopting current best practice for ecoefficiency, sustainability and farm productivity.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Within the capacity of the Farms resources, new techniques are trialled and support is given to research programs.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	





9. Sustainability Performance

Farm Construction

Principle

Construction and upgrading works on farms minimise disturbance or re-establish soils, erosion protection and drainage.

Criteria

Minimising Disturbance	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The construction of the farm should aim to minimise soil and drainage pattern disturbance. In most cases (other than minor works) a soil and water management plan is necessary.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Prevent overland flow from entering the disturbance area (e.g. use cut off drains and bunds).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Minimise erosion and ease rehabilitation by stripping and storing topsoil (away from waterways).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Location, design and construction of coastal support infrastructure, minimises disturbance to coastal processes and the littoral zone.		<input type="checkbox"/>	

In the case of existing farms, the above applies for new construction and upgrading.

Ecoefficiency

Principle

Farms regularly review their eco-efficiency.

Criteria

Annual Assessment	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
There is an ongoing internal ecoefficiency assessment of key indicators for energy, water, waste and feed inputs.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
There is an annual assessment of ecoefficiency which involves benchmarking against industry averages.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Inputs	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Ecoefficiency assessment includes all energy use, including electricity, diesel, petrol, LPG and liquid oxygen.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ecoefficiency assessment includes quality and quantity of feed.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	

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	G N H	
Ecoefficiency assessment includes assessment of water consumption.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
	G N H	
Ecoefficiency assessment includes waste production.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
	G N H	
Ecoefficiency assessment includes water discharge and net nutrient discharge (best practice).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>
	G N H	

Outputs	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Ecoefficiency assessment is calculated on inputs per kilogram of prawns produced at farm gate.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	
	G N H		
Ecoefficiency assessment includes the calculation of greenhouse gas emissions from the farm (up to the prawns leaving the farm gate).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	
	G N H		

Other international standards, such as the Salmon Aquaculture Dialogue currently propose to go even further and propose to require documentation of the greenhouse gas emissions of the feed used to produce fish according to ISO 14040-14043 (ISO1997). The SAD may require that the scope of such a life cycle assessment include growing, harvesting and transportation of raw materials (vegetable and marine) to the feed mill and processing at the feed mill (although it does not require life cycle assessment of vitamin and trace elements inputs). APFA intends to work with the major feed suppliers and may consider requiring an understanding of the greenhouse gas emissions of feed inputs by 2020.

Water

Principles

Water quality of receiving waters and any discharge waters is understood and potential effects minimised.

Water use from groundwater and surface waters is minimised within the constraints of farm design and efficient operations.

Criteria

Receiving Waters	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
When statutorily required, receiving water quality is monitored.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	
	G N H		
When not statutorily required, but there are likely to be discharges annually or more frequently, receiving water quality is monitored at least quarterly (parameters include salinity, pH, turbidity and dissolved oxygen where relevant).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	
	G N H		
Where ponds contain saltwater and groundwater is fresh or brackish, there is at least quarterly monitoring of groundwater	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	
	G N H		

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salinity.

Water Harvesting and Use	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where surface water is used, extraction only occurs in places and at rates approved. Creek and wetland water levels are monitored quarterly.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Where ground water is used, extraction only occurs in places and at rates approved. Bore levels are monitored quarterly.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Monitor and record the volume and where practical and/or statutorily required the water quality parameters of intake waters.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Water Conservation	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Ponds and tanks are managed to minimise water use within the constraints of the design.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Potable water from a utility provider is not used for site irrigation.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Within the constraints of the design, recirculation, rather than discharge is maximised.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Discharge	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
All discharges are approved and planned.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Discharges do not result in any irreversible or long term increase in nutrients, phytoplankton, suspended solids or salinity levels of receiving (surface or ground) waters outside of the initial mixing zone (in the vicinity of the discharge point).	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Production, treatment and storage tanks/ponds/dams are managed to ensure foreseeable rain events will not result in unplanned discharges.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
When required, discharge water quality is monitored and only complying effluent is released off-farm.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Environmental agencies are advised where there is a major or regular minor exceedences of volume or quality of discharge	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

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waters.		
Discharges to receiving waters (creeks etc.) do not occur at times of low flow or incoming tidal flow when water quality impacts and bank erosion may occur.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>
Where practicable maximise re-circulation of waters in order to minimise discharges.	<input type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>
The volume and where practical and/or statutorily required the water quality parameters of discharge waters is monitored and recorded.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>

Unless statutory requirements are stricter foreseeable, rain events should be considered to be at least a 1 in 3 year rainfall event.

Energy

Principle

Energy use is minimised to achieve the best possible eco-efficiency within the constraints of farm design and efficient operations.

Criteria

Aeration	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Energy efficient paddlewheels are used.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Aeration aims to ensure dissolved oxygen remains at or above 4 mg/L, additional aeration above this level is avoided.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Best practice is to have real time monitoring which allows automatic or remote control of aerators to minimise unnecessary aeration.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Pumping and Filtration	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Pumps have been specifically sized and the type is fit for purpose and efficient for its use.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Energy efficient pumps are used (e.g. axial flow) and/or variable speed where appropriate. If older pumps are in operation, pumps are replaced with more energy efficient pumps as they come out of service.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H		

NOTE: If energy efficient options are not used to replace older pumps, the payback period of more energy efficient pumps must have been assessed and be more than half the expected life of the replacement pump.

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Pumping and Filtration	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
In Tank systems consider use of drum filtration.	☐ ☐ ☐ N H	<input type="checkbox"/>	
Filters are sized and design to ensure capture of unwanted material and allow efficient flow rates.	☐ ☐ ☐ N H	<input type="checkbox"/>	

Lighting	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Energy efficient lighting is used.	☐ ☐ ☐ ☐ G N H	<input type="checkbox"/>	
There is no light pollution off site.	☐ ☐ ☐ ☐ G N H	<input type="checkbox"/>	
Security lighting is minimised and the practicality of movement controlled security lighting has been assessed.	☐ ☐ ☐ ☐ G N H	<input type="checkbox"/>	

Heating	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Heat recovery is used from groundwater, refrigeration compressors wherever financially viable.	N H	<input type="checkbox"/>	
Heat pumps are used instead of element style heaters wherever possible.	N H	<input type="checkbox"/>	
LPG is used for any specific heating where this is more energy efficient than electric heat pumps or elements.	N H	<input type="checkbox"/>	
Diesel is not used for any specific heating unless the net carbon emissions are less or other heating methods are impractical.	N H	<input type="checkbox"/>	

Soil

Principle

Erosion, sedimentation and any acid sulphate soils are managed on site and there is minimal sediment loss or dust from the farm.

Criteria

Erosion and Sedimentation	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Undertake any new works and construction in accordance with any erosion and sediment control plans required by permits and licences.	☐ ☐ ☐ ☐ G N H	<input type="checkbox"/>	

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Erosion and Sedimentation	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Minimise erosion and sedimentation by:	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	
• Limiting the area of disturbance.	<input type="checkbox"/> G N H		
• Reducing overland flow through disturbed areas.	<input type="checkbox"/>		
• Stockpiling topsoil (and store in a bunded or silt fence enclosed area).	<input type="checkbox"/>		
• Implementing erosion control through use of mulching, hydromulching, seeding, and erosion control matts.	<input type="checkbox"/>		
• Minimise erosion of drainage lines through use of channel protection (e.g. concrete lining), rock rip rap etc. Protect natural drainage lines at the outflow of concentrated stormwater.	<input type="checkbox"/>		
• Use silt fences, bunds, hay bales, rock check dams and cross drains to ensure silt is not transported to natural watercourses and/or offsite.	<input type="checkbox"/>		
There is no evidence of ongoing gully, rill or sheet erosion on site or there is an active erosion control program to repair.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Pond walls subject to wave action from prevailing winds have adequate erosion protection.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Aerators are placed to avoid scour and erosion of pond walls.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Discharge channels are lined or managed to ensure there is no ongoing erosion (if needed line below water line and vegetate or protect batters above water line).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Water velocity in discharge channels is minimised to reduce erosion potential.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Pond wall batters and caps are vegetated or otherwise protected against erosion.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Farm discharge points adequately protect against scouring of beds and banks of waterways/drainage lines.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Acid Sulfate Soils	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The likely presence of acid sulfate soils is known.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Any major disturbance of acid sulphate soils is subject to an acid sulphate soils management plan in accordance with QASSIT guidelines (or other locally approved guidelines).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



Acid Sulfate Soils	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The excavation and disturbance of acid sulfate soils is minimised.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Any disturbed soils are managed with burial, neutralisation, submersion or other treatment before oxidation and acidification can occur.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Any leakage of acid leachate is prevented, contained and/or treated.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where there are acid sulfate soils known to exist there is an understanding of any groundwater and surface water level issues which could result in drying out and acidification of soils. Steps are taken to avoid acidification.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

The Queensland Acid Sulfate Soils Investigation Team have a range of guidelines for soils management and analysis.

Dust	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Farm management practices avoid the creation and release off-farm of dust.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
In dry conditions, major works such as dry pond management and sediment removal/stockpiling is undertaken using methods to avoid dust creation.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Waste

Principle

Waste is minimised to achieve the best possible eco-efficiency within the constraints of farm design and efficient operations, waste disposal is sustainable.

Criteria

Minimise	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Whenever possible materials are purchased in bulk containers, or if possible in re-useable/refillable containers.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Feed is purchased in the largest bulk containers possible, or recyclable/reusable feed containers are used.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Records of putrescibles, non-recyclable and recyclable waste that leave the farm are kept.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

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Sustainably Farmed Prawns Certification Certification Criteria



Re-Use and Recycle	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Ensure general waste streams are separated and where recycling is undertaken/collected by local government dispose of recyclables (glass, plastic containers, paper etc.) to the recycling system.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
The Farm has identified opportunities for beneficial re-use of wastes and works to ensure these wastes are so used (e.g. sediments for fertiliser, re-use of feed bags etc.).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
All green waste is composted on site.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Corpses from any prawn mortality are composted on site.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Waste oil (from farm machinery, vessels and generators etc.) and is collected and disposed of to oil recycling facility.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Sustainable Disposal	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Avoid use of on-site landfill for all wastes except dead prawns, green waste and sediment/sludge.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Chemical containers (e.g. pesticide containers) are treated as regulated/toxic wastes and disposed of to appropriate local government managed landfill/disposal points.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Dry and wet cell batteries are treated as regulated/toxic wastes and disposed of to appropriate local government managed landfill/disposal points.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Sediment	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Sediment build up is minimised with adequate aeration, pond circulation, stocking densities and feed management.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Sediment is stored and disposed of appropriately, away from overland flows and in an area where any leaching of nutrients will not enter surface waters off-farm.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Best practice is on-site reuse of sediment (e.g. placement on pond batters for top dressing etc.)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

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Chemicals

Principle

Chemicals are used on farm only where their (adverse and beneficial) affects are understood, use is approved, storage is safe and disposal of surplus product and containers is environmentally safe.

Criteria

Water Quality	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
<p>In establishing initial and ongoing water quality and bacterial floc/bloom, only the following are used:</p> <ul style="list-style-type: none"> fertilizers (e.g. urea, phosphates, mono-ammonium phosphate); soil conditioners (lime hydrated or agricultural and gypsum); molasses; food grade dye; hydrogen peroxide; and agents to manage pH (sodium percarbonate, caustic soda and bicarbonate of soda). <p>Chemicals restricted for use by the Australian Pesticides and Veterinary Medicines Authority may only be used for Prawn pond aquaculture where the AVPMA has issued a minor use permit to the National Aquaculture Permit. As at early 2016 the NAC hold minor use permits for hydrogen peroxide and formalin.</p>			
<p>Antifouling paints (containing tributyltin, copper or algaecides) are not used on any structures, floating plant or vessels in ponds.</p>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Animal Husbandry	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
<p>Chemical use for animal husbandry is minimised and storage and use are in accordance with manufacturers guidelines.</p> <p>Chemicals restricted for use by the Australian Pesticides and Veterinary Medicines Authority may only be used for Prawn pond aquaculture where the AVPMA has issued a minor use permit to the National Aquaculture Council. As at early 2016 the NAC hold minor use permits for hydrogen peroxide and formalin.</p>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
<p>Growth hormones are not used in growout.</p>	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



Sustainably Farmed Prawns Certification Certification Criteria



Antibiotics (e.g. OTC, oxytetracycline) are only used where necessary for disease control (not used prophylatically).. Use is minimised and dosage rates as per regulator, manufacturer or veterinarian advice.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>
Only hormones and antimicrobials approved for use for Prawn production (by the relevant state/territory or Australian governments) are used. As at early 2016, none are approved.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>
Best practice is to take part in the annual national residue survey. (NOT MANDATORY FOR CERTIFICATION)	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>

Herbicides/Insecticides	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where herbicides and insecticides are necessary, only non-residual (biodegradable) products are used (e.g glyphosate based herbicides).	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>	
Herbicides and insecticides are used strictly in accordance with manufacturers recommendations, application rates are kept to a minimum required and procedures are in place to avoid overspray into farm ponds/tanks and natural waterways.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>	
DDT and other toxic and/or persistent insecticides are not used.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>	

Cleaning and Disinfection	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Surfactants, corrosive and oxidising cleaners are used sparingly if required for essential farm operations to avoid potential impacts on pond/tank water quality and release to natural waterways.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>	

Refrigerants	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where there are refrigeration systems (e.g. for icemakers, cold rooms, heat pumps) they are maintained to ensure no release of gas.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>	
Maintenance of refrigerant systems is undertaken by qualified technicians and involves complete gas recovery. Any on-site refrigerant gas storage is in a secure area and only qualified technicians are allowed to use.	<input type="checkbox"/> P <input type="checkbox"/> R <input type="checkbox"/> O <input type="checkbox"/> G <input type="checkbox"/> N <input type="checkbox"/> H	<input type="checkbox"/>	

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Sustainably Farmed Prawns Certification Certification Criteria



Refrigerants (including the older chlorofluorocarbons and newer replacement gasses such as R22 are ozone depleting substances and must be handled with zero release techniques, recovering old gasses and avoiding inadvertent release during operation and maintenance. Following the ban on chlorofluorocarbons (CFCs) and hydro chlorofluorocarbons (HCFCs), substances used as substitute refrigerants such as fluorocarbons (FCs) and hydro fluorocarbons (HFCs) have also been having ozone depleting properties (albeit less than the CFC's).

Knowledge	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
The material safety data sheet (MSD) should be kept on site for all chemicals.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Best practice is to have a copy of the MSDS near to the chemical storage (essential) and also a folder of all MSDS's in the office for reference.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Staff know the environmental and occupational safety aspects.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Storage	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Chemicals are stored in accordance with the Material Safety Data Sheet.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Fuels and oils in small (20L or smaller) containers are kept in a roofed, bunded area and drums for ready decanting are located on drip trays.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Bulk fuels and oils are kept in bunded areas, preferably roofed. Storage is in accordance with AS 1940-2004.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where there is any transfer of fuels and oils (other than in <25L tanks or drums, securely capped) there is a spill kit held nearby.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Australian Standard 1940 provides guidance on storage and handling of bulk fuels and oils.

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Noise and Odour

Principle

Off farm noise and odour impacts on neighbours and any surrounding natural environment is minimised.

Criteria

Noise	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where there are noise limits on permits and licences, these are complied with.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Generators, blowers and aerators, machinery, vessels and vehicles have adequate sound suppression (insulated enclosures, mufflers etc.) to avoid noise impacts on neighbours and nearby natural habitats.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where practical vegetated buffer zones, buildings and berms are used to buffer obtrusive noise from any nearby noise sensitive places.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Noise sources are located away from neighbouring noise sensitive places (e.g. generators are not next to neighbouring residences).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
When unusual activities which may create excessive noise are to be undertaken they are planned to be undertaken during normal day time/ weekday business hours and affected neighbours are advised and consulted.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Odour	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Consider the potential impact of odour on nearby odour sensitive places (given prevailing winds).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Minimise odours from sediments and drying vegetation by the use of cover or burial.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Pond sediments are dried out prior to removal/disturbance.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H		
Sediments likely to be malodorous are not disturbed when winds could spread odour and affect neighbours.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H		
Odour from any disposal of dead prawns after minor or major deaths is minimised through appropriate location of disposal pits (away from odour sensitive places) and soil covering of prawn corpses.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

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Vegetation and Wildlife

Principle

Protected natural vegetation on farm and natural vegetation off farm is not disturbed, weeds on farm are controlled and impacts on wildlife minimised

Criteria

Native Vegetation	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where there is (adjoining) off-farm native vegetation there is no ongoing disturbance of vegetation (especially where it is protected e.g. mangroves). Consider the risk of fire, weed invasion, sedimentation, salinity during risk assessment.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where there is any statutorily protected vegetation on farm (such as a mangrove area, wetland, remnant vegetation etc.). This is protected and all disturbance is avoided.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Riparian vegetation on farm is not disturbed and where necessary rehabilitated to protect drainage systems.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where there are any coastal or marine plants on farm, disturbance is avoided (and only occurs with any required permits).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Weeds	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Any declared or noxious weeds are controlled as a matter of priority.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
The introduction of topsoil, mulch, straw and hay avoids the introduction of weeds and undesirable plants.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where there is a choice, low impact techniques are used for weed control (e.g. non-residual herbicides etc.).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Wildlife	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where there is likely to be any rare or endangered wildlife likely to be present on the Farm, mechanisms are taken to minimise impacts on the wildlife.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

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Predator Management	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Physical barriers are used as far as practical to avoid predation and wildlife becoming accustomed to prawns in their diet.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Culling of predator species only occurs with approval of wildlife management agencies.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
For bird predation use the following measures only as appropriate:	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
<ul style="list-style-type: none"> • Overhead netting of cages, tanks, ponds <input type="checkbox"/> • Overhead wires <input type="checkbox"/> • Waterline level nets <input type="checkbox"/> • Repellent sound emissions <input type="checkbox"/> • Repellent light emissions <input type="checkbox"/> • Predatory images or models <input type="checkbox"/> • Hides <input type="checkbox"/> 			
If crocodiles affect the farm:	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
<ul style="list-style-type: none"> • If occasional, undertake once off removal in collaboration with the State wildlife management agency or their approved handler. • If regular develop exclusion approaches, including if an ongoing constant issue, fences. 			

NOTE: Crocodiles are not so much a predator of prawns once in ponds, however they do enter ponds and pose a workplace health and safety risk!

Pond/Tank/Cage Management

Principle

Ponds and tanks are managed to maximise production, achieve the best possible eco-efficiency and minimise contaminants discharged.

Criteria

Pond Structure	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Ponds are essentially watertight with impermeable banks and bottoms with adequate lining and/or compaction being maintained when maintenance occurs.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Drains are managed to avoid any ongoing erosion and discharge of sediment.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



Sustainably Farmed Prawns Certification Certification Criteria



Pond Structure	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Overland flow does not enter ponds.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Protect ponds walls from erosion caused by wave setup and aerator/circulation induced scour and erosion.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Each pond has a dedicated monk/drain to the main draingae channel so that it can be isolated and rained in the event of a disease outbreak.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Pond /Tank Water Quality	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Ponds/tanks are managed to maximise prawn health and production AND to ensure discharges are minimised and of acceptable water quality.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Food conversion rates are maximised. Feed type is considered and fish in- fish out is minimised as far as practical.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Aeration/oxygenation of ponds is adequate.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H F S	<input type="checkbox"/>	
Stocking densities are determined in consideration of available aeration, water exchange requirements and feed quality.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Algal and bacterial bloom is managed to avoid disease and maximise water quality of discharge waters.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Understand intake water quality as in some cases intake waters can have elevated nutrients, particulates and/or salinity.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

Water quality of the ponds and tanks are a major focus of prawns husbandry. In terms of environmental sustainability, the critical aspect is the quality of discharge waters and the minimization of energy and food inputs.

Treatment Ponds	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Where the farm is designed and operated to have treatment ponds there are treatment ponds (usual practice is treatment pond area is 20+% of production pond area).	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	
Where macrophytes and other marine plants are used for treatment ponds, these are not weeds nor have the potential to become invasive downstream.	<input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> G N H	<input type="checkbox"/>	

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Treatment Ponds	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Treatment ponds are managed and monitored for their ongoing capacity to cope in relation to biomass and sludge build up. Planning is in place for the potential need for sludge removal and or harvesting of plants.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
If using macrophytes in treatment ponds best practice is to ensure the beneficial re-use of harvested aquatic plants from treatment ponds.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Prawn Management

Principle

Farms manage prawn stocks to maintain prawn health, reduce disease risk and minimise escapes.

Criteria

Harvesting	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Harvesting mechanisms are undertaken to reduce erosion disturbance of sediments (particularly if harvest involves wastewater discharge).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Harvesting methods ensure no escapes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
If drain harvesting is used, ensure erosion protection of receiving water courses; ensure pond/tank water quality is acceptable.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
If pond sediments are disturbed during trap, trawl or net harvesting, turbid waters settle in the pond or settlement pond prior to discharge.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Escape Prevention	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
There are mechanisms in place to ensure there is no escape of cultured prawns at any life stage from the farm.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Pond/tank discharge structures have appropriate sized screens, mesh or gravel filtration to avoid escapes.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Pond/tank discharge screens/mesh are regularly maintained.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



Sustainably Farmed Prawns Certification Certification Criteria



Escape Prevention	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Pond walls and tanks should be above 1 in 100 year flood levels.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Best practice involves the use of strainer dams, the installation and maintenance of gravel filtration/nets or screens on pond discharge structures and chemical treatment of water released from hatcheries.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Disease and Parasites	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Procedures are in place to treat any disease and parasites to avoid release to the natural environment.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Maintain adequate pond/tank water quality to avoid disease.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Ensure stocking densities are not excessive.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Undertake regular monitoring of prawns to gauge existence or levels of disease.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Quarantine affected ponds/tanks, dry and treat (e.g. lime of ponds and sterilisation of tanks) prior to restocking after major disease outbreaks.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Any disease affected prawns (including larvae) are not sold or released into the wild	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Any disease affected prawns (including larvae) are not sold or released into the wild	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Where statutorily required, disease specimens are collected and appropriate authorities advised.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Malachite green is not used for protozoan control.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Disease and parasites are usually actively managed to maximise farm productivity. The environmental concern is any release of the disease/parasite or control chemicals to the natural environment.

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



Feed Sustainability

Principle

Farms consider the sustainability aspects of feed used.

Criteria

Feed	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Feed is used which minimises impacts: <ul style="list-style-type: none"> Content from wild caught fish meal is minimised (and only used where the fish meal is sustainable). Vegetable protein content is maximised. Vegetable oils are maximised over animal sourced oils (including fish oil). 	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Use feeds with a low level of phosphorous, low dust/fines and have a high percentage of digestible ingredients.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Feed is stored in a cool dry location (and not stored for too long). (This maximises food conversion rates and minimises losses of solids/nutrients which adversely affect water quality).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	
Non-locally endemic live feeds are not used.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G N H	<input type="checkbox"/>	

Guidance: The sources of fish meal and fish oil in feed is a significant sustainability issue. For other marine farmed fish species the environmental certification requirements require that any wild caught component of feed (fish oil/fish meal) must be from an accredited, sustainable fishery. The Marine Stewardship Council provides certification of some fisheries which are used in fish meal/fish oil sources. Further traceability and chain of custody is a global issue for farmed prawn feed.

It is expected that the sources of fish meal and fish oil in feed for Australian aquaculture will be more strongly and sustainably managed in coming years and as such it is proposed that a review of the requirements for certification be made by 2018 with a target of introducing a minimum standard by 2020 (e.g. 50% of fish oil and fish meal inputs to feed are from a certified sustainably managed fishery or are bycatch/by products).

The International Fishmeal and Fish Oil Organization Global Standard for Responsible Supply provides current global guidance on the issue.

The Salmon Aquaculture Dialogue require a Forage Fish Dependency Ratio calculation which involves the percentage of fish meal and percentage of fish oil which is derived from a pelagic fishery (e.g anchoveta). The ratios to be calculated use standard factors and the calculation of a farm fish in - fish out (economic feed conversion ratio). APFA plan to monitor industry standards in this regard and move towards such calculations as global practices settles on an appropriate methodology and once Australian feed manufacturers can provide input data.



Genetics	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
<p>Strategies are in place to optimise genetic resources and broodstock to maximise production success and to ensure ongoing genetic diversity.</p> <ul style="list-style-type: none"> • Document spawning rates of individuals. • Swap broodstock with other operators. • Replenish broodstock with other operators. • Rotate broodstock. • Maintain records of broodstock and progeny distribution. <p><i>Note: some hatcheries rely on wild caught brood stock whilst others have multi-generation captive broodstock. Use of wild caught ensures ongoing genetic diversity.</i></p>	<p><input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>G N H</p>	<p><input type="checkbox"/></p>	

PL Source	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
<p><i>NOTE APFA intends to set a date from which, only PL's sourced from an APFA certified hatchery are used.</i></p>	<p><input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/></p> <p>G N H</p>	<p><input type="checkbox"/></p>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



10. Product Quality

Hygiene Food Safety

Principle

Farms process prawns and deliver to market in a manner which meets all food safety requirements.

Criteria

Food Safety	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Prawn processing facility and procedures meet food safety laws and standards (including the processing facility meets Hazard Analysis Critical Control Point (HACCP) approved factory standards).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G	<input type="checkbox"/>	
Ice used is made from sterilised potable water.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G	<input type="checkbox"/>	
Plants and equipment coming into contact with prawns during harvest and handling between the pond and processing facility (e.g. harvest bins etc.) are corrosion resistant, smooth and easy to clean and disinfect.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G	<input type="checkbox"/>	

Quality

Principle

Prawns are of high quality, presenting undamaged and without any spot or discolouration.

Criteria

Prawn Quality	Applies	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	Comment
Prawn appearance and physical attributes: <ul style="list-style-type: none"> whole undamaged prawns; clean, with a hard shell; no black spot; no discolouration; no offensive or spoilage odour present. Product complies with attributes and/or QIS Score completed. Note of compliance to follow shipment from Farm.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G	<input type="checkbox"/>	
Prawns comply with food safety standard limits for antibiotics, chemicals and contaminants.	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> G	<input type="checkbox"/>	

Pond | Recirculation System | Open System | G Growout | N Nursery | H Hatchery



11. Risk Assessment

Introduction

This Risk Assessment Proforma is for Prawn Farms to achieve certification. Farms that have an established Environmental Management System approved and being implemented (or on Integrated Environmental Management System or Site Based Management Plan under Queensland legislation) which lists and evaluates potential environmental risks do not have to complete the following proforma risk assessment.

However it is recommended that all farms have such a risk assessment in place.

Environmental and Business Risks

An important aspect of the risk assessment is that usually preparedness substantially reduces the risk. The focus in the proforma is on the risk of environmental harm, however farmers are encouraged to use the process and proforma to address all risks and include mitigation strategies to protect both the environment and reduce business risks.

Definitions

ASPECT: include activities, events and potential impacts, ensure accidental and emergency situations are considered. The table includes some potential aspects which should be considered, however some aspects may not be relevant and in almost all cases more aspects not included in the example list will need to be included.

POTENTIAL IMPACT: describe the potential ecological, social, cultural and economic impacts, only where impacts are adverse. Where ecological harm may occur, note this as **POTENTIAL ECOLOGICAL HARM**.

RISK MINIMISATION/MITIGATION STRATEGIES: describe what can be done to minimise the risk and if it occurs to mitigate the potential impacts. Note, it is vital to consider the ability to know that the event/impact has occurred, for example if there is no monitoring of a settlement pond discharge, an impact may be occurring long before it can be mitigated. Put simply, risk minimisation is preventing the event, risk mitigation is preventing harm/fixing the harm if the event occurs.

LIKELIHOOD: The likelihood of the risk occurring and the potential impacts occurring after risk minimisation and mitigation should be identified, this should be **UNLIKELY, POSSIBLE, LIKELY**. To avoid any doubt, this should be considered as likely over a long term (say at least ten years) and must consider accidental and emergency events for which the organisation cannot control the probability of the event.



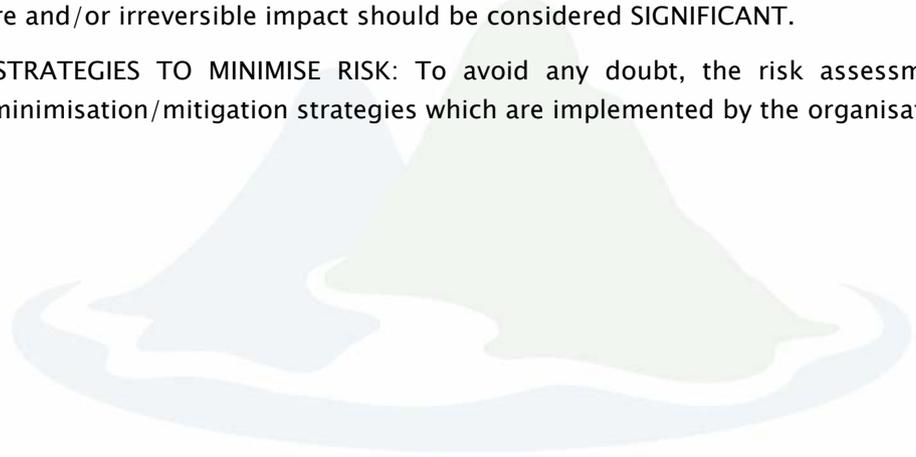
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SEVERITY AND REVERSIBILITY OF IMPACT: The impact severity should be considered as to the level of effect on the ecology, social, cultural or economic environment. A social or cultural impact which causes local short term discomfort but no long term impact is not severe, similarly, a minor release of untreated sewage to a river during a flood event is likely to be assimilated within the aquatic ecology without causing great water quality change and is not severe. Whereas an impact which causes health impacts on local people, or the long term release of partially treated sewage which changes a coral reef structure to algae dominated communities is a severe impact. This last example also is one which is very hard to reverse. An oil spill in an alpine lake would also be almost irreversible. Whereas a release of contaminated storm water to the municipal sewage treatment system is not severe and a reversible impact as it can be treated further downstream. To avoid any doubt, an impact on any natural ecosystem, protected area or wildlife species of conservation concern should be considered severe. Severity should be described as MINOR IMPACT, MODERATE IMPACT, SEVERE IMPACT and also as REVERSIBLE OR NOT REVERSIBLE

RISK EVALUATION: The overall risk evaluation shall be set out as MINOR RISK, MODERATE RISK AND HIGH RISK. Obviously many factors must be taken into account to determine the overall risk, as a guide any risk which is possible or likely and has a severe and/or irreversible impact should be considered SIGNIFICANT.

RISK ASSESSMENT CONSIDERS STRATEGIES TO MINIMISE RISK: To avoid any doubt, the risk assessment is undertaken on the basis of risk minimisation/mitigation strategies which are implemented by the organisation.





Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and reversibility of impact	Risk Evaluation
<i>Example only: Fuel spill whilst fuelling small outboard powered boat used for water sampling.</i>	<i>Petrol and oil contamination of nearby mangroves or creek.</i>	<i>Only fuel using hand pumps from drums on the ramp in good weather, in other cases bring outboard fuel tanks to workshop to fill. Have a absorbent pads ready near the ramp for fuel spill clean up. Train all vessel operators and maintenance staff in fuel handling and spill clean up procedures.</i>	<i>Small spills are LIKELY A major spill is UNLIKELY</i>	<i>A small spill is MINOR IMPACT and REVERSIBLE, a major spill is SEVERE IMPACT and NOT REVERSIBLE</i>	<i>MODERATE RISK</i>
Staff Environmental Awareness <i>Risk factors to consider:</i> <ul style="list-style-type: none"> • Number of staff and degree of supervision of staff; • Turnover of staff, especially itinerant staff; • Previous experience of staff; and • Risks of ecological harm from staff actions (e.g. low for farm hand but high for engineer responsible for bulk fuel handling or duty manager)... consider other aspects of risk assessment in evaluating this. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Cyclone or Monsoon <i>Risk factors to consider:</i> <ul style="list-style-type: none"> • Major flooding, raised groundwater, need to discharge without adequate time in settlement ponds etc. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
King Tides <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Local flooding, raised groundwater, intake and or discharge when estuarine creeks turbid. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Drought <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Need to discharge when local water course little flow or turbid/poor water quality. Ability to obtain intake water. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Pump/aerator or power failure <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Management of water not meeting discharge criteria. Disposal of any dead prawns. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and reversibility of impact	Risk Evaluation
Disease <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Disposal of any dead prawns. Need drain pond (which may exceed discharge quantity or quality limits) Quarantine requirements. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Algal Bloom <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Management of discharge water quality. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Freshwater Resources <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Source of water supply. Downstream ecological and community needs for the water. Impacts during seasonal dry periods and irregular drought conditions. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



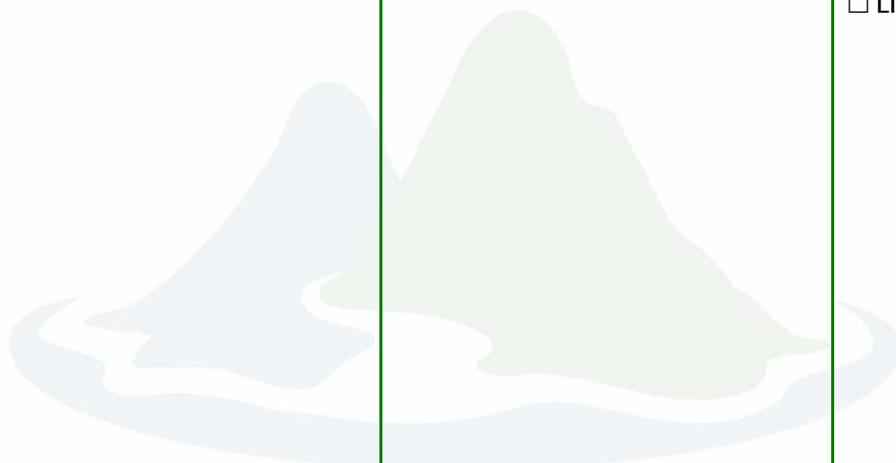
Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity reversibility and of impact	Risk Evaluation
Groundwater <i>Risk factors to consider:</i> <ul style="list-style-type: none"> • Abstraction causing low groundwater. • High groundwater . • Impacts during seasonal dry periods and irregular drought conditions. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK





Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
<p>Stormwater, erosion and siltation</p> <p><i>Risk factors to consider:</i></p> <ul style="list-style-type: none"> • Pollution of storm water by oil, grease, litter and sediment. • Erosion and sediment, and sensitivity of watercourses to siltation. • Erosion being repaired and siltation controls to prevent effects on water courses. • Ongoing washdown of external paths, areas etc. and vehicle washing without treatment of storm water. • High risks particularly if there is a sensitive aquatic ecosystem downstream (e.g. wetland, mangroves, coral reef, lake etc.). • Any form of untreated waste water enters storm water flows. • Ongoing erosion with sediment being to watercourses off-site. • Storm water is concentrated form a large area into a discharge to a watercourse without erosion protection of the water course.. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
Local Conservation Issues <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Sensitivity of local ecosystems to impacts from the farm and conservation significance of the natural systems. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Wildlife <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Potential for wildlife disturbance and potential to affect feeding, socialisation or breeding activity. Potential need for removal/control of predators (birds, crocodiles etc.). 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Odor <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Odors from dead prawns, pond drainage, sludge, settlement ponds etc. affecting neighbors.. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



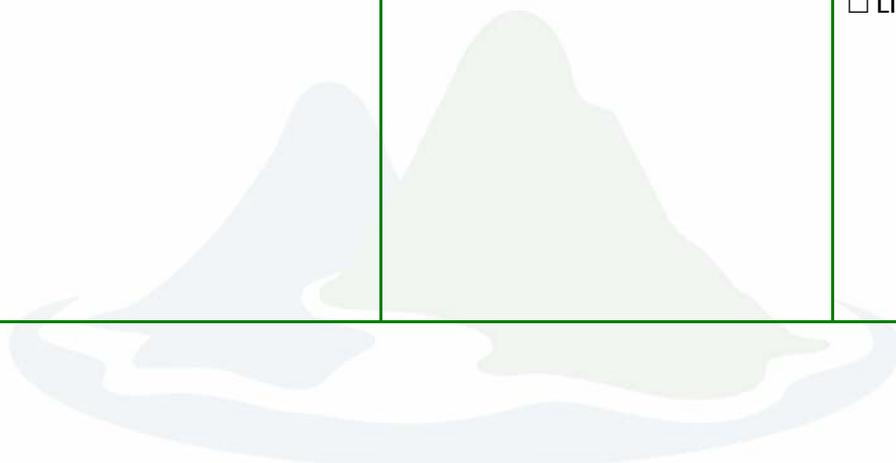
Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity reversibility and of impact	Risk Evaluation
Noise <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Noise impacts on neighbors. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Wastewater <i>Risk factors to consider:</i> <ul style="list-style-type: none"> Volume and character of wastewater. Level of treatment. Sensitivity of receiving environment. Other pollutant input to the receiving environment. Wastewater from treatment baths, nurseries etc. containing chemicals 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
<p>Waste</p> <p><i>Risk factors to consider:</i></p> <ul style="list-style-type: none"> • Types of waste generated. • Final disposal destination of waste. <p><i>Low Risk</i></p> <ul style="list-style-type: none"> • Good recycling, composting and disposal of other waste to a well managed municipal land fill. • Toxic/regulated wastes such as batteries and chemical containers. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK





Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
<p>Chemical Storage and Handling</p> <p><i>Risk factors to consider:</i></p> <ul style="list-style-type: none"> Quantity and toxicity of substances. Proximity of sensitive ecosystems or people. <p><i>Low Risk</i></p> <ul style="list-style-type: none"> Small quantities of harmful substances are stored in accordance with instructions. Bulk quantities of harmful substances are stored in bunded, roofed areas etc. Material safety data sheets are not on-site. Storage of harmful substance(s) are not in accordance with local regulations, international standards or material safety data sheets. Spill clean up and containment equipment availability. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
<p>Waste Toxic Substances</p> <p><i>Risk factors to consider:</i></p> <ul style="list-style-type: none"> Disposal of batteries, waste oil (from machinery and kitchens), sewage treatment sludge's, toxic chemical containers etc. 			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
Other - _____ <i>Risk factors considered:</i> • _____ • _____			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Other - _____ <i>Risk factors considered:</i> • _____ • _____			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Other - _____ <i>Risk factors considered:</i> • _____ • _____			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



Sustainably Farmed Prawns Certification
Certification Criteria



Aspect	Potential Impact(s)	Risk Minimisation/Mitigation Strategy(ies)	Likelihood	Severity and of reversibility impact	Risk Evaluation
Other - _____ <i>Risk factors considered:</i> • _____ • _____			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Other - _____ <i>Risk factors considered:</i> • _____ • _____			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK
Other - _____ <i>Risk factors considered:</i> • _____ • _____			<input type="checkbox"/> UNLIKELY <input type="checkbox"/> LIKELY	<input type="checkbox"/> MINOR IMPACT <input type="checkbox"/> MODERATE IMPACT <input type="checkbox"/> SEVERE IMPACT REVERSIBLE <input type="checkbox"/> NOT REVERSIBLE <input type="checkbox"/>	<input type="checkbox"/> MINOR RISK <input type="checkbox"/> MODERATE RISK <input type="checkbox"/> HIGH RISK



12. Annual Awards

In addition to the Annual APFA awards, from 2017 there will be a further major award to recognise excellence in sustainability and ecoefficiency, that is:

- Prawn Farming Sustainability Program Award.

Prawn Farming Sustainability Program Award

The purpose of this award is to promote sustainability and ecoefficiency innovation and sharing of information between farms. Only farms that have achieved Certification are eligible for the awards and they must have had a recent audit to ensure the overall sustainability of the farm and integrity of the awards system and the Certification program.

This award is to be presented to the farm that has exhibited innovative best practice sustainability (and/or) ecoefficiency in the farming of prawns and which provides a model for the prawn farming industry in Australia.

Farms that have lodged their ecoefficiency benchmarking survey shall be automatically eligible and the award will go to the farm that has shown best innovative or sustainability and/or ecoefficiency practices for the year.

As part of their role, the APFA Sustainability consultant shall seek evidence of farms best practice and success in achieving ecological sustainability and/or ecoefficiency and make a recommendation each year to the Certification Panel.

The Certification Panel will act as the award judges and may ask a farm for verification of sustainability outcomes. Where a farm has not been specifically audited the consultant must interview the farmer and may request records to ensure veracity of the benchmarking results.

An award does not need to be made every year, and should the Certification Panel decide that no farm meets the key criteria no award will be issued. Similarly, if in any one year two or more farms have exceptional nominations the Certification Panel may chose to award two (or more) Awards in any one year, however this should be only in exceptional circumstances.

The Certification Panel must make a specific citation for each award and recommend this to the APFA board for endorsement prior to issuing the award. The chair of the Certification Panel shall communicate directly with non-affected board members in the event that a board member is a potential recipient or in any other way has an overt conflict of interest in the recommended award.

A logo (similar to the Certification logo) with the words "Prawn Farming Sustainability Program Award 20XX" will be provided and may be used by the farm on its product for two years immediately following the granting of the award. The farmer may use the award on farm and product promotion material and at their own cost provide retailers with small stickers with the logo for consumer packaging.



Certificates of Merit

In addition to the Prawn Farming Sustainability Program Award, the Certification Panel may issue Certificates of Merit to Farms which are identified through the sustainability award process. The criteria should be as above but with a lower level threshold and issued for encouragement and/or recognition rather than full attainment. There are no limits to the number of certificates of merit that may be issued in any one year.

Farmers may also nominate key staff for their role in suggesting or implementing sustainability and/or ecoefficiency initiatives for a Certificate of Merit. In exceptional circumstances the APFA Auditor may make a personal nomination of a farm employee. The Certification Panel will consider these and may interview the nominee.

The Certification Panel must make a specific citation to go with each Certificate outlining what sustainability or ecoefficiency initiative the certificate of merit has been awarded for.

No logo or seal is applicable and farms may only list in promotional material that the farm was awarded a certificate of merit and the citation for the award.





Appendix One

Eco-efficiency Survey





Appendix Two

Example Policy

Example Prawn Farm Sustainability Policy

Example Farm is a Prawn Farm located 20km east of Smalltown, on the western bank of the Flowsalot River. There are mangroves one kilometre downstream and a melaleuca forest flanks our northern boundary. The Farm has 24 ponds covering 12 hectares.

Example Farm is committed to ecological sustainability, we attempt to understand potential impacts and minimise the risks of any impacts.

Example farm has held an environmental permit for twelve years and we are committed to compliance with environmental, planning, safety and hygiene permits, licences and regulations. This Policy is one part of our Environmental Management Plan.

We are proud to have achieved Sustainable Prawn Farming Certification and willingly provide our Ecoefficiency Benchmarking data and Certification Annual Returns and reports.

Example Farm is striving to improve our ecoefficiency, to reduce energy and water consumption and minimise waste in accordance with best practice, whilst maximising production effectiveness and ensuring we maintain prawn health and farm productivity.

Example Farm purchases eco-friendly and sustainable products where possible. Further, we purchase locally as far as practicable.

Example Farm has a “good neighbour” approach, we recognise talk to and understand the aspirations and concerns of our neighbours and avoid odour, dust and noise impacts as far as possible.

Wherever we can we look for ways for continual improvement, including adopting or trialling emerging best practices.

Signed

XXXX

Director and Owner

Smalltown Prawns

Xx Month 20XX



Sustainably Farmed Prawns Certification
Certification Criteria

