

# **The Southeast Asian Shrimp Aquaculture Improvement Protocol**

Draft #5



**Prepared by the:**

**Steering Committee -**

**Southeast Asian Shrimp Aquaculture Improvement Protocol**

**June 2016**

## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
1.1	Background.....	3
1.2	What is SEASAIP?.....	3
1.3	Scope of SEASAIP .....	4
<b>2</b>	<b>Governance of the Southeast Asian Shrimp Aquaculture Improvement Protocol .....</b>	<b>4</b>
2.1	Steering Committee.....	4
2.2	Project Convener and Funding.....	6
2.3	Verification System .....	6
<b>3</b>	<b>Development Steps for the Southeast Asian Shrimp Aquaculture Improvement Protocol</b>	<b>6</b>
<b>4</b>	<b>The Southeast Asian Shrimp Aquaculture Improvement Protocol.....</b>	<b>10</b>
<b>5</b>	<b>Section I – Farm Level Standard .....</b>	<b>Error! Bookmark not defined.</b>
1.	Traceability .....	11
2.	Shrimp Health Management .....	<b>Error! Bookmark not defined.</b>
3.	Source of Stock .....	13
4.	Feed Sourcing and Management.....	14
5.	Environmental Impact Management .....	15
6.	Socio-economic aspects .....	19
	<b>Section II – Hatchery Standard.....</b>	<b>21</b>
7.	Use of Species .....	21
	<b>Section III – Feed mill Standard .....</b>	<b>22</b>
8.	Feed Ingredients Sourcing.....	22



# **1 Introduction**

## **1.1 Background**

Fish and fishery products provide livelihood opportunities and income for 48 million people in Asia, providing a crucial contribution to the region's food supply and economic output. The rising global consumption of fish and declining catch from wild stocks has led to the increase and intensification of aquaculture production in Asia, in particular in Southeast Asian countries. The production of seafood through aquaculture is seen as a key solution to meet the growing demand for seafood, with about half of all fish consumed globally coming from aquaculture today and global fisheries facing significant challenges. The aquaculture industry in Southeast Asia is facing significant challenges that compromise the long-term sustainability of their aquaculture industry and negatively affect the livelihoods of millions of small-scale farms. These challenges include outbreaks of diseases, labor issues including the use of slave labor, water pollution, clearing of mangrove forests and disruptions of community livelihoods.

The sustainable seafood movement has existed for more than a decade and consists of partnerships between environmental non-governmental organizations (ENGO's) and major seafood buyers. The ENGO's work with major buyers to advise them on the acceptability of seafood sources on the basis of existing standards and certifications and other ratings systems such as the Monterey Bay Aquarium's Seafood Watch Program<sup>1</sup>. To date, the work has resulted in approximately 90% of major seafood buyers in North America and Europe committing to socially responsible and sustainable products.

While there is a growing awareness in Southeast Asia of the importance of these international environmental and social standards; there are different standards for different markets and none of them were defined explicitly for the Southeast Asian region which makes it difficult and costly for farmers and processors to select a path to certification that will be rewarded in the market. To date, most of the cost of the certification programs has been paid by the producers and processors themselves which ends up adding significantly to costs to their operations. The farms that are certified using international standards have not received significant increases in revenue as a result of compliance with the standards and this lack of incentive along with technical gaps that can exist has discouraged other farmers from making improvements in their practices. In short, this approach has some significant challenges and a more uniform approach for Southeast Asia is needed.

## **1.2 What is SEASAIP?**

The draft Southeast Asian Shrimp Aquaculture Improvement Protocol (SEASAIP) is designed to be a workable tool for the shrimp aquaculture industry in the region to improve the sustainability, environmental and social performance and receive recognition in key export markets where possible. SEASAIP offers an approach to improvement that based on Southeast Asian realities coupled with market sustainability requirements via the Monterey Bay Aquarium Seafood Watch® Program's Aquaculture Sustainability Criteria. This approach seeks to provide a more desirable pathway for shrimp farmers to improve performance across the region.

---

<sup>1</sup>[www.seafoodwatch.org](http://www.seafoodwatch.org)

### **SEASAIP Objectives**

- To create a platform for stakeholders to engage on the issues of improvement in the shrimp aquaculture industry and create an approach that reconciles the realities facing producers with the desires of the marketplace
- To use the SEASAIP platform to build equitable partnerships with international and regional markets to support improvements
- To manage the risk of human trafficking with a data driven approach and eliminate the risk
- To build a platform that would help support reforms in governance and ultimately lead to investment in the shrimp aquaculture industry

### **Scope of SEASAIP**

The protocol is made up of interim targets incorporated from the national/ regional good aquaculture practices (GAP), and the most achievable and important requirements of international recognized environmental and social aquaculture certifications schemes and ratings systems such as the Seafood Watch system. Building a protocol that couples Southeast Asian realities with the most important sustainability requirements will give farmers firsthand experience with the benefits of the improvements; and ideally lead to a greater willingness by farmers and other supply chain actors to make the investments required to further improve and enhance sustainable and responsible production practices. It is critical that any benchmark set is achievable by a sufficient number of shrimp farmers in Southeast Asia, including at the small-scale, and would offer manageable targets to serve as a catalyst in encouraging compliance with set requirements. The current protocol is applicable to all types of shrimp farming systems in all Southeast Asian countries.

## **2 Governance of the Southeast Asian Shrimp Aquaculture Improvement Protocol**

The protocol is being developed through a multi-stakeholder, transparent and inclusive process. The process for developing the Southeast Asian Shrimp Aquaculture Improvement Protocol aims to align with the ISEAL Alliance's globally recognized guidelines for the setting of environment and social standards/protocols. The ISEAL Alliance is a global organization that develops codes of practice for the development of sustainability standards/protocols. Many buyers and NGOs cite the ISEAL Codes of Conduct as the best reference for what defines a credible standard/protocol setting process.

### **2.1 Steering Committee**

The first draft of the protocol was the result of a consultative process led by a Steering Committee of volunteers from the industry and non-governmental organizations committed to improve the environmental and social performance of shrimp aquaculture in the Southeast Asian region. A Steering Committee was established in December 2013 to be the primary decision making body to develop SEASAIP. The 14-member Steering Committee is made up of a diverse group of stakeholders from the entire shrimp aquaculture industry, with 90% percent of its members originating from the Southeast Asian countries, and includes farmer representatives, processors, NGOs, auditors, buyers and academia. The list of Steering Committee members as of January 1st, 2016 is presented in Table 1.

The primary purpose of the Steering Committee is to govern the process of formulating consensus and buy-in for the development of a Southeast Asian Shrimp Aquaculture Improvement Protocol. The Steering Committee is responsible for all decisions associated with the process including the content of the standards, the process and scope for development, and the verification scheme. The Steering Committee makes all decisions by consensus as defined by the International Organization of Standards<sup>2</sup>:

*General agreement, characterized by the absence of sustained opposition to substantial issues by any important part of the concerned interests and by a process seeking to take into account the views of interested parties, particularly those directly affected, and to reconcile any conflicting arguments. Consensus need not imply unanimity.*

As of January 1, 2016 the membership of the Steering Committee remains open for new candidates but any new candidates must apply for membership. To apply, interested members must submit a statement of interest that outlines why the candidate is interested, what sector they represent, and any other relevant information that needs to be considered. All proposed Steering Committee members must be approved by consensus.

Country	Name	Organization	Stakeholder Type
Indonesia	Ms. Cut Desyana	Surya University	Academia
	Mr. Johan Suryadarma	Indonesian Fishery Product Processing and Marketing Association	Industry
	Mr. Muhammed Ilman	Wetlands International	NGO
Philippines	Ms. Dinna Umengan	Tambuyog Development Center	NGO
	Ms. Rosanna Contreras	Socksargen Federation of Fishing & Allied Industries	Industry
Regional	Mr. Eduardo Leño,	Network of Aquaculture Centers Asia Pacific	Intergovernmental Organization
Thailand	Mr. Kriengkrai Satapornvanit	Kasetsart University	Academia
	Mr. Jeremy Crawford	Thai Union Frozen	Industry
	Ms. Emma Bourgoise	Fairagora	Certification Body
	Mr. Pinyo Kiatpinyo	Thai Farmers Council	Farmer Representative
Vietnam	Dr. Le Thanh Luu	International Collaborating Center for Aquaculture & Fisheries Sustainability	Farmer Rep.
	Mr. Truong Dinh Hoe	Vietnam Association of Seafood Exporters & Producers	Industry
United States of America	Ms. Wendy Norden	Monterey Bay Aquarium Seafood Watch®	NGO
	Mr. Lawnin Crawford	Chicken of the Sea	Industry

**Table 1 - List of Steering Committee Members**

<sup>2</sup> ISO is the International Organization for Standardization—it is a legal association that consists of national standards institutes from 157 member countries. ISO facilitates the development of international standards (ranging from industrial to technical and quality management standards) and the widespread adoption of them in order to break down barriers to trade.

## 2.2 Project Convener and Funding

The SEASAIP Project was originally convened under the USAID M.A.R.K.E.T. (Maximizing Agricultural Revenue Knowledge, Enterprise, and Trade Project) in December 2013 who started the project under the ASEAN Public-Private Taskforce for Sustainable Fisheries and Aquaculture. The USAID M.A.R.K.E.T. ended in June 2015 and the SEASAIP project was required to find alternative funding to continue the process. As of May 1<sup>st</sup>, 2015, the Monterey Bay Aquarium's Seafood Watch Program agreed to become the convener of the process and raise funds to continue the process and succeeded in finding some interim funding via the Skoll Foundation for 2016.

As of January 1<sup>st</sup>, 2016 the project will be managed by Postelsia who is a non-voting member of the process and works to support the work of the SEASAIP Project in all ways including planning and managing all Steering Committee meetings, managing the demonstration phase, communications, and preparing all documents for the process.

## 2.3 Verification System

The Southeast Asian Shrimp Aquaculture Improvement Protocol is designed to offer a roadmap for improvement of shrimp aquaculture operations in Southeast Asia and possibly market access to those buyers interested in the Seafood Watch rating system. It is not currently designed as a certification scheme and is unlikely to be in the foreseeable future. However, producers involved in this program would need to demonstrate compliance with all standards in the protocol via a 3<sup>rd</sup> party audit to claim that they are in compliance with the protocol and thus be able to make the market claim of a Seafood Watch "Good Alternative."

The Steering Committee is working with Fairagora, a Thai based certification body and a non-voting steering committee member, to design a verification and auditing checklist to support the implementation of the protocol. In short, the protocol will require that Fairagora officially checks farms at least once per year but additional engagement with the farms will be made by various steering committee members including Seafood Watch and Postelsia staff to continuously support the improvements of the farms towards Level 2 (Seafood Watch "Best Choice" to be developed). The verification system will mandate what constitutes an acceptable compliance level for an audit and will also specify the types of improvement that will be required to be demonstrated each year in order to stay compliant with SEASAIP.

## 3 Development Steps for the Southeast Asian Shrimp Aquaculture Improvement Protocol

- ✓ *Initial process consultations in key Southeast Asian countries.* In late 2013, regional stakeholder meetings across the shrimp aquaculture industry were held in Thailand, Indonesia, and Vietnam. The primary objective was to present the background and rationale for the initiative to govern sustainable shrimp aquaculture development, and enlist Steering Committee members to serve in furthering the working draft(s).
- ✓ *Benchmarking of Good Aquaculture Practices and other Certification Schemes in Southeast Asia and 1<sup>st</sup> Draft of the Southeast Asian Shrimp Aquaculture Improvement Protocol.* In late 2013, an assessment of the congruence of Good Aquaculture Practices (GAP) developed by individual Southeast Asian countries (Thai GAP, Indo GAP, Viet GAP, and the Thai Code of Conduct),

the regional ASEAN Shrimp GAP, and key sustainability requirements was completed. All of the existing GAP Standards were compiled together to create a 1<sup>st</sup> working draft of the Southeast Asian Shrimp Aquaculture Improvement Protocol that was presented to interested stakeholders for review at a first steering committee meeting in December 2013.

- ✓ ***1<sup>st</sup> Steering Committee meeting.*** On December 13 – 14, 2013, the 1st Steering Committee Meeting was held in Bangkok, Thailand. Fourteen people representing NGOs, certification bodies, processors, shrimp farmers, and association members met to discuss the process and the 1st working draft of the standard. Substantial input and revisions were collected and used to develop the 2<sup>nd</sup> working draft of the standard.
- ✓ ***2<sup>nd</sup> Working Draft of Southeast Asian Shrimp Aquaculture Improvement Protocol.*** After the steering committee meeting in December 2013, the 2<sup>nd</sup> working draft of the protocol was created based on input collected from the stakeholders present. Edits and modifications were made to raise the environmental performance bar based on the Monterey Bay Aquarium's Seafood Watch® Program's sustainability assessment criteria.
- ✓ ***National Public Consultations on the 2<sup>nd</sup> Working Draft.*** The goal of the public consultations was to generate a broader awareness and buy-in of the goals of the Southeast Asian Shrimp Aquaculture Improvement Protocol, the steps for development, and to collect feedback on 2<sup>nd</sup> draft of the protocol. At the meetings, 130 stakeholders from the shrimp aquaculture industry from Southeast Asia were briefed on development steps, timeline, and goals of the process. All comments were collected and shared with the Steering Committee for their consideration in developing the next draft of the standard for the first public comment period. Public consultations were held in:
  - ✓ General Santos, Philippines on February 18, 2014
  - ✓ Can Tho, Vietnam on February 26, 2014
  - ✓ Surabaya, Indonesia on April 23, 2014



- ✓ **2<sup>nd</sup> Steering Committee Meeting.** A 2<sup>nd</sup> Steering Committee was convened in Ho Chi Minh City, Vietnam on July 14-15, 2014. Twelve steering committee members met to confirm the scope of the Southeast Asian Shrimp Aquaculture Improvement Protocol, discuss the inputs provided during the national public consultations, seek agreement on the terms of reference and working procedures for the Steering Committee, and make plans for the 60-day public comment period. The Steering Committee developed a 3<sup>rd</sup> working draft of the standard that would be released for the first public comment period in August 2014.
  
- ✓ **1<sup>st</sup> Public Comment Period.** A 60-day Public Comment Period was initiated on August 11 – October 10, 2014. During the 60-day commentary period, stakeholders were invited to submit comments on any part of the draft document. All submitted comments during the public comment period will receive an official reply from the steering committee that will be posted on a public domain. The steering committee is required to review all public comments received, but as the decision making body, they reserve the right to decide on whether the comments are incorporated in the standard. Nine public comments were received on the document.
  
- ✓ **3<sup>rd</sup> Steering Committee Meeting.** A 3<sup>rd</sup> Steering Committee was convened in Bangkok, Thailand on October 14 - 15, 2014. Eleven steering committee members and two observers met to review the results of the public comment period, draft responses for the public comments received, and to finalize the field-testing phase.
  
- ✓ **Field Testing.** This phase allowed the Steering Committee to understand the practical application of the standard as applied across a practical, real-time setting with select shrimp farmers in the region. It was designed to test the applicability of the protocol in the field, and to highlight any issues that may require modifications to be made in the protocol. This is a critical part of making sure the discussions and work of the Steering Committee is more easily implementable upon the completion of the process. Assessments were conducted between August and December 2014. The assessed farms cover four different countries (Thailand, Vietnam, Indonesia and the Philippines), and included four different farming intensity levels (extensive, semi-extensive, intensive and super-intensive). Findings from the field tests suggests that compliance levels range from 56% to 91%, and that there are no major differences among the general compliance levels of the farms observed.

#	Country	Location	System Type
1	Indonesia	Aceh	Extensive
2	Indonesia	Kalimantan	Extensive
3	Indonesia	Surabaya	Super-intensive
4	Indonesia	Surabaya	Extensive
5	Philippines	General Santos	Intensive
6	Philippines	Luzon	Intensive
7	Thailand	Chumphon	Intensive
8	Thailand	Khon Kaen	Semi-Intensive
9	Thailand	Sam Roi Yod	Intensive
10	Vietnam	Cam Ranh	Intensive
11	Vietnam	Cau Mau	Extensive



- ✓ ***4<sup>th</sup> Steering Committee Meeting.*** The 4<sup>th</sup> Steering Committee meeting was convened in Bangkok, Thailand on January 19-20, 2014. Eight steering committee members and seven observers attended the meeting met to review the results from the field testing phase, confirm responses to the public comments received, discuss a new name for the process, discuss ideas for the verification, and to discuss pilot projects to the finalized protocol, auditing checklist, and the interest of buyers. The Steering Committee further developed and refined a 4<sup>th</sup> working draft of the standard that would be released for a 2nd public comment period (30 days).
- ✓ ***Process Name Change.*** At the 4<sup>th</sup> Steering Committee meeting, the Steering Committee members decided to change the name of the tool from “Shrimp Standard for the ASEAN Region” to “Southeast Asian Shrimp Aquaculture Improvement Protocol (SEASAIP)” as of February 1<sup>st</sup>, 2015. The change of name was made to ensure that the initiative is accurately reflected from its name, and to avoid any confusion with other existing initiatives.
- ✓ ***2<sup>nd</sup> Public Comment Period.*** A second public comment period was convened from February 10, 2015 to April 15, 2015 to allow all stakeholders to observe how their initial comments were considered, and also provide another opportunity to comment on the draft protocol. As with the first public comment period, the steering committee will issue an official reply for all comments collected during the public comment period.
- ✓ ***Transition from the USAID M.A.R.K.E.T Project to Seafood Watch.*** On May 1<sup>st</sup>, 2015, the USAID M.A.R.K.E.T project ended and the convener role, which is responsible for managing the process including setting up meetings, fundraising, and ensuring that the process moves forward was passed by vote of the Steering Committee to the Seafood Watch Program at the Monterey Bay Aquarium. The ownership and decision making role remains with the Steering Committee and the convener can be changed at any time.
- ✓ ***Finalization of Draft #5.*** The present document is the finalized version of Draft #5 which will remain in place for at least 1 year. This draft will serve as the basis for the demonstration phase which will begin later in 2015 and remain in place indefinitely.
- ✓ ***Development of the Verification System.*** Once draft #5 is finalized by vote of the Steering Committee then a verification system that ensures that the benchmarks included in SEASAIP will be developed and will need to be approved by the Steering Committee.
- ✓ ***Demonstration Phase.*** The demonstration phase will test the ability of the SEASAIP tool to bring producers and buyers together to foster improvements in the Southeast Asian shrimp aquaculture industry. The goal of the demonstration phase is to determine how many farms can be brought into the program immediately at Level 1 vs. how many will need to be improved. In addition, the demonstration phase will test the ability of the verification system to communicate performance and improvements to buyers and the marketplace.
- ✓ ***5<sup>th</sup> Steering Committee Meeting.*** The 5<sup>th</sup> Steering Committee meeting was held in Bangkok, Thailand on January 20 – 21, 2016. Agenda items will included checking in on the status of the project, planning the pilot assessments, and identification of next steps. Including: consideration of an internal control system for the process and development of a Level 2 that would be considered a Seafood Watch “Green” or “Best Choice”.

## **4 The Southeast Asian Shrimp Aquaculture Improvement Protocol**

The standard was first developed by consolidating the existing national GAP in the ASEAN region including the Thai GAP, Indo GAP, Viet GAP, the Thai Code of Conduct and the ASEAN Shrimp GAP (Draft #1). Draft #2 included additional indicators from the Seafood Watch Aquaculture Sustainability Assessment Criteria (SFW) to raise the environmental performance level of the overall standard and interested stakeholders used this draft at the Public Meetings. Draft #3 was developed by integrating comments received at the Public Meetings and then was released for a 60-day Public Comment Period. Draft #4 incorporates the feedback from the 1st Public Comment, field testing results, and the deliberations of the Steering Committee from two meetings (October 2014 and January 2015).

Overall, the draft standard assumes that the existing national GAPs used covers the basics of farm legality, registration, etc. Based on the assumption, the Steering Committee developed the draft Southeast Asian Shrimp Aquaculture Improvement Protocol to define the more important environmental, social, and traceability indicators that are both of relevance to shrimp farmers in Southeast Asia, and also to global buyers.

The source listing found in the draft protocol includes the source document and the corresponding standard number (where available). Figure 1 on the next page includes the acronyms used to reference the source documents.

**Figure 1 – Acronym list for the GAP and COC Standards**

<b>Source</b>	<b>Code</b>
Thai GAP Major Requirement	TGM
Thai GAP Minor Requirement	TGm
Thai GAP Recommendation	TGR
Thai Code of Conduct	TCOC
Indonesia GAP	ING
VietGAP	VG
ASEAN Shrimp GAP	AG
Monterey Bay Aquarium's Seafood Watch®	SFW

## 5 Section I – Farm Level Standard

### 1. Traceability

Traceability is defined as the ability to follow the movement of shrimp after harvest or inputs such as feed and seed, through specified stage(s) of production. This is a critical component when implementing sustainability improvements. The section attempts to highlight the most important traceability indicators that can be audited at the farm level.

#	Indicator	Compliance Criteria	Source
1.1	Legal compliance for farm operations	Evidence of operational legality <sup>3</sup> via certificate, legal document, or other applicable evidence.	N/A
1.2	Compliance with Country Good Aquaculture Practice Standard for Shrimp or ASEAN Shrimp GAP	Evidence of compliance with the requirements of the relevant scheme if applicable.	
1.3	Farm Profile Document	A farm profile document is available and must include, at a minimum: name of farm, owner and/or manager, membership to farming cooperative or other farmers' union if applicable, GPS coordinates, aerial map, farm size, number of ponds, production volume, and species farmed.	SFW Criteria 1
1.4	Identification of Government Enforcement Officials	The name and contact information (e.g. telephone number and/or e-mail address) of the relevant authorities can be identified	SFW 2.2
1.5	Effective system of segregation between compliant and non-compliant products on the farm <sup>4</sup>	A system must be established to avoid mixing compliant and non-compliant products via physical identification or product handling procedures, including the relevant records.	VG 1.3.1
1.6	Broker License and/or Registration (if applicable)	Brokers must have a license or be registered with the government, or be an approved supplier for a processor	
1.7	Effective system to identify different batches of product from different farms	Broker will have to provide a written description to the farm about how they differentiate different products from different farms.	

<sup>3</sup> Farms have the necessary permits to legally operate as a shrimp farm on that site

<sup>4</sup> This covers products only on the farm until the point that they enter the processing plant.

1.8	Movement of Harvested Shrimp	Movement/sale of all harvested shrimp shall be recorded.	
1.9	Data Recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>5</sup> and are available for inspection. Collected data must be available for inspection by auditors and/or ASIC upon request.	SFW Criteria 1

## 2. Shrimp Health Management

#	Indicator	Compliance Criteria	Source
2.1	Monitoring of shrimp health and disease prevalence	<ul style="list-style-type: none"> <li>The farm must routinely examine shrimp for health status and disease prevalence</li> <li>Records of sampling for disease prevalence inside farm and records noting tests that indicate the presence of disease and detailing subsequent actions</li> <li>Records for all mortalities on farm (except days of allowable/normal/expected mortalities)</li> <li>Records of causation analysis and corrective actions</li> <li>Records show that farmer informed the relevant authority upon evidence of outbreak</li> <li>Records show that farmers are in regular communication with the farmers surrounding the farm regarding disease occurrence and prevention</li> </ul>	TGm 2.13, 2.14, 2.15, 2.16
2.2	Monitoring of water quality	The farm must examine and record, at least once weekly, the water quality in shrimp ponds, including, at a minimum: temperature, dissolved oxygen, salinity, pH, and ammonia.	TCOC A2.2.7
2.3	Handling and disposal of dead/infected shrimp and pond water	<ul style="list-style-type: none"> <li>Must demonstrate proper<sup>6</sup> disposal of dead/infected shrimp</li> <li>Must demonstrate how the affected pond water was treated prior to discharge outside of the farm boundary</li> </ul>	

Optimizing health, minimizing stress, reducing shrimp disease risks, and maintaining a healthy culture environment at all phases of the production cycle are critical to minimizing the environmental impacts of disease. This section addresses the monitoring of diseases and the use of chemicals, including antibiotics.

<sup>5</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence that data accurately describes the operation and its potential impacts

<sup>6</sup> No direct disposal of dead/diseased animals of any life stage or age into receiving/source waters or anywhere with connection to wild populations or neighboring farms

2.4	Use of antibiotics	<ul style="list-style-type: none"> <li>Antibiotics highly or critically important for human health<sup>7</sup> are prohibited</li> <li>Prophylactic use of antibiotics of any kind is prohibited</li> <li>Every use of antibiotics at any time must be recorded, including the product name, dose, and route of administration.</li> </ul>	SFW Criteria 4
2.5	Use of veterinary drugs and chemicals	<ul style="list-style-type: none"> <li>The use of drugs or chemicals banned by the country of production, importing country, or the country of export is prohibited</li> <li>Use of trained staff to administer drugs (i.e. therapeutants) and chemicals according to the instructions prescribed by the manufacturer</li> <li>Every use of therapeutic drugs and chemicals must be recorded, including the product name, dose, and route of administration</li> <li>Any product used for pond preparation must be recorded by product name and sales company/ agent</li> <li>The production is allowed a maximum of 1 chemical<sup>8</sup> treatment per production cycle</li> </ul>	TGM 3.1
2.6	Use of probiotics and other bioremediation agents	Must have records of use for probiotics and other bioremediation agents (type and dose)	
2.7	Implementation of basic biosecurity protocols	Existence of a written health management plan that includes, at a minimum, disease monitoring procedures, disease response, active vector or boundary controls, and disposal of mortalities.	
2.8	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>9</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request	

### 3. Source of Stock

This section seeks to address the use of shrimp species in production and ensure that the species used are from sustainable sources.

#	Indicator	Compliance Criteria	Source
3.1	Sourcing fry or post larvae from wild sources	Prohibited except for passive settlement in extensive systems <sup>10</sup> .	SFW Criterion 10

<sup>7</sup> As defined by the World Health Organization

<sup>8</sup> Chemical is defined as those which are applied as therapeutants

<sup>9</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts

<sup>10</sup> Low input farming technique using natural (and passive) recruitment of wild juveniles through tidal flushing

3.2	Movement documents/receipts for seed	Receipts for seed are required from the seed supplier. If farm uses a broker, the farm must have movement documents/receipts from the broker that show the origin of the seed.	
3.3	Identification of seed providers	The farm has a name and contact information for any seed company that is used.	
3.4	Sourcing of post larvae	Farmers must source seed that is compliant with Section 7.	n/a
3.5	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>11</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request	SFW Criterion 1

#### 4. Feed Sourcing and Management

This section seeks to address the sustainability and efficient use of wild fish resources in shrimp aquaculture feed that can be verified at the farm level.

#	Indicator	Compliance Criteria	Source
4.1	Use of commercial pelleted feed	Commercial pelleted feed must be purchased from manufacturers/sellers/ importers that have an operational license from the national government.	VG 3.2.4
4.2	Use of approved additives and supplements	Feed additives and supplements must be legal/registered. Their use, including name/type and dose, must be identified and recorded.	VG 3.2.5
4.3a	Economic Feed Conversion Ratio ( <i>L. vannamei</i> )	Shall be less than 2.	SFW Criteria 5
4.3b	Economic Feed Conversion Ratio ( <i>P. monodon</i> )	Shall be no greater than 1.	SFW Criteria 5
4.4	Movement documents/receipts for feed	Receipts for feed purchases are required from the feed supplier. If farm uses a broker, the farm must have movement documents/receipts from the broker that show the origin of the feed.	

<sup>11</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts

4.5	Identification of feed providers	The farm has a name and contact information for any feed company that is used.	
4.6	Certified feed use	Farmers must use feed that is compliant with Section 8.	
4.7	Data Recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>12</sup> and are available for inspection. Collected data must be available for inspection by auditors and/or ASIC upon request	SFW Criteria 1

## 5. Environmental Impact Management

This section seeks to manage the impacts that shrimp aquaculture operations can have on biodiversity through activities such as farm siting, predator control, or water quality discharges.

### 5.1 - Mangrove and Habitat Impacts

#	Indicator	Compliance Criteria	Source
5.1.2	Siting in mangroves and other high value habitat <sup>13</sup>	Farms must not have been sited/built in mangrove ecosystems or other high value habitat after 1999 (or earlier according to national regulations, i.e., the Philippines).  GPS coordinates of the farm site are recorded and farms have a document indicating land use from 1999 to the establishment of the farm or historical land use maps/statements. Farms can provide a statement indicating the year of construction of ponds. Farms shall follow local and national regulations about coastal spatial plan if applicable	VG 4.1.2
5.1.3	Expansion of farms in high value habitat <sup>14</sup>	Prohibited, except for canals <sup>15</sup> , which must provide evidence of successful <sup>16</sup> restoration activity	SFW Criteria 3

<sup>12</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts

<sup>13</sup> High Value Habitat includes but is not limited to coastal intertidal areas, estuaries, tidal wetlands and forests, freshwater wetlands, coral reefs, seagrass/algae beds, freshwater lakes, rivers and streams, and tropical broadleaf mixed forests

<sup>14</sup> High value habitats include: coastal intertidal, coastal/terrestrial shoreline, estuaries, tidal wetlands and forests, freshwater wetlands, coral reefs, seagrass/algae beds, freshwater lakes, rivers and streams, tropical broadleaf and mixed forests



5.1.4	Siting in Protected Areas (PA)	There is evidence that the farm site or related facilities are not within a national or international Protected Area, unless permitted by the relevant authorities and if an effective management plan exists.	VG 4.1.3
5.1.5	Cumulative Impacts	Any expansion of farms into habitat not previously converted (see 5.1.2 for mangrove exclusions) must consider their contribution to cumulative impacts. This requirement is not applicable for expansion into areas already in use for agriculture. Farms can consider their impact via the use of Environmental Impact Assessment	

### 5.2 – Use and Discharge of Water

#	Indicator	Compliance Criteria	Source
5.2.1	Use of fresh groundwater (below 5ppt)	Shall not be used in the ponds. If permitted under national regulations, record of use of fresh groundwater must be kept, and the potential impacts (salinity of surrounding wells and reduced freshwater availability) must be assessed and recorded.	VG 4.2.3
5.2.2	Discharge of saline water into natural freshwater bodies and agricultural lands	The farm is designed and managed to ensure that saline water cannot be discharged into freshwater bodies <sup>17</sup> or agricultural lands.	VG 4.2.5
5.2.3	Discharge of water from the farm <sup>18</sup>	<ul style="list-style-type: none"> <li>Daily average water exchange per farm shall not exceed 10% of pond volume, calculated over the entire production cycle</li> <li>Records of all water discharge and exchange must be kept</li> </ul>	SFW Criteria 6

<sup>15</sup> For *high value habitat* removal for canals construction, farms must restore the area being used as much as possible. The restoration could be greening along the banks of the canal or greening somewhere else with comparable condition and size.

<sup>16</sup> Successful restoration is defined as 3x the area of the disrupted area. If not on site, the farm must provide the auditor with sufficient evidence to prove that the restored area is maintained and viable (maps, GPS coordinates, aerial photographs, recent photographs)

<sup>17</sup> Freshwater lakes, rivers, streams (or canals that connect to these water bodies) including non-surfacewater bodies (i.e. groundwater reservoirs, etc.)

<sup>18</sup> Tidal flow systems are exempted

5.2.4	Effluent water quality monitoring	<ul style="list-style-type: none"> <li>• Effluent water quality must be tested and recorded over all periods of the production cycle</li> <li>• Records of effluent water quality testing demonstrate compliance with relevant laws and regulations (if applicable)</li> <li>• Visual inspection of sampling procedure confirms testing produces accurate results</li> </ul>	TGM 4.1
5.2.5	Disposal of sludge	Dredged sediment from canals, watercourses and ponds is properly contained and/or located to prevent the salinization of soil and groundwater, and does not cause other significant ecological impacts to receiving and/or surrounding environments.	VG 4.2.7
5.2.6	Potential impact of effluent water <sup>19</sup>	<ul style="list-style-type: none"> <li>• Effluent water must be treated<sup>20</sup> if the water quality poses a significant risk<sup>21</sup> of impact to the receiving water</li> <li>• Records of effluent treatment/water quality control prior to discharge</li> </ul>	SFW Criteria 2
5.2.7	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>22</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request.	SFW Criteria 1

Asian Seafood Improvement Collaborative

### 5.3 - Predator Control

#	Indicator	Compliance Criteria	Source
5.3.1	Predator control	Active lethal predator <sup>23</sup> (birds, mammals, reptiles) control is prohibited	VG 4.3.1
5.3.2	Protection of listed species	Farming activities must not cause mortality of any threatened or endangered species, as listed by the IUCN	VG 4.3.2

<sup>19</sup> Applicable to semi-intensive and intensive production systems only

<sup>20</sup> Treated is defined as a practice or action that, by acting on and altering constituents and characteristics of pondwater, successfully mitigates its potential to pose a significant risk to a waterbody that receives it.

<sup>21</sup> Significant risk is defined as having reasonable probability that the quality of water or its constituents will, when discharged from the farm site, impact the ecological functionality of the waterbody that receives it (e.g. reducing habitat suitability for resident organisms by inducing algal blooms, creating hypoxic conditions, marked sedimentation, etc.).

<sup>22</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts

<sup>23</sup> Active lethal predator control is defined as the killing of predators by firearms, trapping devices and/ or poison, regardless of whether or not there have been attempts to deter them via passive means.

5.3.3	Records of predator <sup>24</sup> mortalities	Any wildlife/ predator mortalities that occur on the farm, regardless of the reason for the incident must, be recorded including the common name of the species, number of mortalities, and cause of mortality	SFW Criteria 9X
5.3.4	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>25</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request	SFW Criteria 1

#### 5.4 - Escape Management

#	Indicator	Compliance Criteria	Source
5.4.1	Stocking records	The number of shrimp stocked, their average weight, and total biomass must be recorded at stocking and at harvest	VG 3.4.1
5.4.2	Escape prevention	<ul style="list-style-type: none"> <li>Farm shall employ appropriate measures to prevent the escape of cultured shrimp, including secondary containment at harvest</li> <li>Appropriate escape prevention measures in place must include double screens or secondary catchment mechanisms on outlet gates that are inspected and maintained regularly, and records of inspection (with any maintenance activity if enacted) are kept</li> </ul>	TCOC A4.3
5.4.3	Escape reporting	<ul style="list-style-type: none"> <li>In the event of a large<sup>26</sup> escape, relevant authorities, including ASIC, must be informed</li> <li>Records (size of animal estimated number of escapees, their size, and estimated recapture if applicable) of any escape event must be kept</li> </ul>	SFW Criteria 7
5.4.4	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>27</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request.	SFW Criteria 1

<sup>24</sup> Predator is limited at birds, mammals and reptiles

<sup>25</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts

<sup>26</sup> Any large-scale escape (>25% of standing stock)

<sup>27</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts

## 6. Socio-economic aspects

Shrimp farming must be conducted in a socially responsible manner, which does not jeopardize the livelihood of shrimp farmers, and local communities. It must be conducted in accordance with national rules and regulations, as well as, relevant International Labor Organization (ILO) guidelines and conventions on labor rights.

### 6.1 - General Working Conditions

#	Indicator	Compliance Criteria	Source
6.1.1	Child labor	No hired workers under the minimum age according to national regulations and ILO  Exception: In the case of family businesses (apprenticeships), children who are immediate family members must not be engaged in hazardous work and work that jeopardizes schooling	
6.1.2	Farm worker agreement/ contract	Workers are covered with a lawful farm worker agreement (written or verbal [unless specified by law as written]) specifying the duration of work and remuneration package/income sharing arrangements.	
6.1.3	Termination conditions	Workers are free to terminate their employment and receive full payment until the last day of their employment, based on reasonable notice given to their employer (according to national law)	VG 5.1.3
6.1.4	Freedom of association	Workers have the right to form or join organizations, in accordance to national laws, to defend their rights	VG 5.1.4
6.1.5	Non-discrimination	Workers do not suffer any discrimination from the employer or other workers  Written anti-discrimination regulation is in place, stating that the company does not engage/support in discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, age or any other condition that may give rise to discrimination	VG 5.1.5
6.1.6	Disciplinary actions	Disciplinary actions must not be in the form of physical abuse or deduction of pay for work already completed	VG 5.1.6
6.1.7	Migrant worker registration	Foreign and national migrant farm workers shall be legally employed with an arrangement in their language that clearly shows workers obligations to employer and vice versa	TGM 8.1
6.1.8	Grievance mechanism	All issues raised by workers must be registered, tracked and responded to by the employer.  Register is available recording issues raised by	VG 5.4.2

		workers (including complaint forms), date and response taken. Interviews with employees confirm compliance  Evidence of outside grievance mechanisms are available to workers	
6.1.9	Wage	The farm must demonstrate lawful payment that complies with the agreed upon agreement is in place. Salary payment receipts and interviews with the workers confirm compliance.  This must be reflected in the workers agreement.	VG 5.3.3
6.1.10	Extra work <sup>28</sup>	Employees confirm that extra work is voluntary and paid in compliance with the law	VG 5.1.7

### 6.2 - Health and Safety

#	Indicator	Compliance Criteria	Source
6.2.1	Safe working conditions	Employees are adequately protected against hazards at work (i.e. accidents caused by electrical devices)  Records of all accidents and corrective action taken are available. Evidence that corrective actions, such as invoices of medicines, are still in place  Safety equipment must be provided to workers engaged in hazardous activities	VG 5.2.2, 5.2.4
6.2.2	Sanitary facilities	Workers have access to clean food storage areas, designated rest areas, hand washing facilities, and potable / safe drinking water; sanitary conditions for disposal of human waste are also in place	VG 5.1.8
6.2.3	Safety training	General training on safe working practice, accident prevention, risk reduction and safety must be provided to all shrimp farm workers	AG 1
6.2.4	Worker accommodation	Employee housing is constructed of materials to sustain local conditions, and separate female accommodation if required.	VG

### 6.3 - Community Issues

#	Indicator	Compliance Criteria	Source
6.3.1	Community benefits	- Shrimp farming must demonstrate social responsibility for the benefits to the local community - Priority should be given to hire workers from the local community	AG 3

<sup>28</sup> Overtime is not appropriate because farm workers live and work on the farm and are paid a share of the harvest. Extra work = work that is not within a production cycle

6.3.2	Management of conflicts with local communities	- Shrimp farms should not create restriction on access to public resources and negative impacts on the local community. - Shrimp farming should have mechanisms for communication and engagement with the local community and take positive actions to respond to complaints	AG 4
6.3.3	Farm siting in the local community	- Farm site shall not obstruct the customary access and/or interfere with the living condition and activities of the local community	TGR 9.1

## Section II – Hatchery Standard

One of the most important ways to minimize the environmental impacts of shrimp farming is to ensure that species used in production are sufficiently domesticated, as well as, screened for disease. This section designed to be audited at the hatchery, and may require a visit by the auditor or an official declaration.

### 7. Use of Species

#	Indicator	Compliance Criteria	Source
7.1	Health status of post larvae	Must be in compliance with any existing national standards	VG 3.2.2
7.2a	Sourcing of broodstock from wild sources ( <i>L.vannamei</i> )	Prohibited	SFW Criterion 10
7.2b	Sourcing of broodstock from wild sources ( <i>P. monodon</i> )	Records kept for sourcing of broodstock, including at a minimum: number, location, date, and method of collection	SFW Criterion 10
7.3a	Use of non-native species	Non-native species shall not be used for production unless already established for commercial production <sup>29</sup> and approved by the national government	SFW Criteria 6
7.3.b	Use of native species	All pond stock must be spawned directly by wild-caught broodstock (i.e. F1 progeny from F0 wild-captured parents)	SFW Criteria 6
7.4	Movement of broodstock and post larvae-within the country of production	<ul style="list-style-type: none"> <li>• The seed supplier must provide a movement document/receipt to the farm/broker</li> <li>• Movement of post larvae and broodstock must be in compliance with national and/or regional laws, if applicable</li> </ul>	AG1

7.5	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>30</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request.	SFW Criteria 1
-----	---------------------------------	--	----------------

### Section III – Feed mill Standard

The use of fishmeal and fish oil is of the most important negative environmental impacts associated with shrimp production. This section is designed to be audited at the feedmill, and may require a visit by the auditor or some sort of official declaration. It is important to ensure that the use of fishmeal and fish oil from illegal, unregulated, or unreported fisheries is minimized or eliminated.

#### 8. Feed Ingredients Sourcing

#	Indicator	Compliance Criteria	Source
8.1	Sources of wild fish used as feed	Wild fish sources, including by-products, used as fish meal and fish oil must be identified by species and must not be illegal <sup>31</sup> .	SFW Criteria 5
8.2	Percent Inclusion of Fishmeal	Shall be less than 20%, or 25% if fisheries byproducts <sup>32</sup> account for at 20% of the fishmeal used in the feed formula.	SFW Criteria 5
8.3	Percent inclusion of fish oil	Shall be less than 4%.	SFW Criteria 5
8.4	Maximum protein in the feed	Shall be less than 40%.	SFW Criteria 5
8.5	Movement of feed products within the country of production	<ul style="list-style-type: none"> <li>The feed supplier must provide a movement document/receipt to the farm/broker</li> <li>Movement of feed must be in compliance with national and/or regional laws, if applicable</li> <li>The name and contact information for all feed suppliers used by the farm must be available</li> </ul>	

<sup>30</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high in the quality of the data

<sup>31</sup> Illegal Fisheries fall under the common definition of Illegal, Unreported, and/ or Unregulated.

<sup>32</sup> Byproducts are defined as: non-edible, (i.e. trimmings) or processing wastes



8.6	Data recording and availability	Data relevant to compliance criteria in this section are collected using robust methods <sup>33</sup> and are available for inspection. Collected data must be available for inspection by auditors and/ or ASIC upon request	SFW Criteria 1
-----	---------------------------------	---	-------------------



---

<sup>33</sup> Complete, detailed, and available without averaging or aggregation; up to date within reason, and covering relevant timeframes; collected using appropriate methods (e.g., frequency of collection, number of data points, etc.); overall, assessor confidence is high that data accurately describes the operation and its potential impacts