

Best Aquaculture Practices Certification Program

Global Aquaculture Alliance Two International Drive, Suite 105 • Portsmouth, New Hampshire 03801 USA Phone: +1-603-317-5000 • Web: http://bap.gaalliance.org

Comments on BAP Standards

Mollusk Farms

Comments concluded February 2016

Comments were received from the following:

New England Aquarium – Boston, Massachusetts, United States (NEAQ) Aquaculture New Zealand – Nelson, New Zealand (AQNZ) East Coast Shellfish Growers Association – Toms River, New Jersey, United States (ECSGA) Taylor Shellfish Farms – Shelton, Washington, United States Pamela Parker Consulting – Nanoose Bay, British Columbia, Canada Brian Russell/Queensland Shellfish Pty. Ltd. – Brisbane, Queensland, Australia

Preambles

NEAQ

Section Heading: Best Aquaculture Practices Certification

Text to Change: Critical – When there is a failure to comply with a critical food safety or legal issue, or a risk to the integrity of the program ...

Proposed Text: Critical – When the product does not meet food safety requirements, or farms are not in legal compliance, or if the auditor deems the farm to be operating in a manner that does not align with the integrity of the BAP standards ...

Reason for Change: Having clear definitions and guidance for the different types of non-conformities is essential for obtaining meaningful and consistent audits. General observation: The definition of a critical non-conformity is somewhat circular and rather vague. What is a "critical" food safety or legal issue? What is a "risk to the integrity of the program"? Suggest defining what a critical non-conformity is more explicitly/specifically. Providing a few examples might help. The explanations for major and minor conformities are similarly vague. What constitutes "substantial failure to meet the requirements of a standard"? Providing precise definitions for these terms is admittedly challenging, but in our view there's room for improvement.

BAP: The existing definitions do need to be interpreted consistently by auditors. They are common to all existing BAP standards. When BAP auditors are trained, they are given instruction in differentiating between critical, major and minor non-conformities, using real examples. The process of shadow and witness auditing serves to verify that new auditors have a consistent approach. Please refer to Section 3.7 of the online CB Requirements document:

http://bap.gaalliance.org/wp-content/uploads/sites/2/2015/02/BAP-CB-Requirements-Document-Issue-12-Dec-2015-FINAL-1.pdf

Additionally, this document indicates that each CB must review audit reports to verify that non-conformity gradings are justified.

NEAQ

Section Heading: Best Aquaculture Practices Certification

Text to Change: Verification of the implementation of corrective actions shall be submitted to the certification body within 28 days of the evaluation.

Proposed Text: Verification of the implementation of corrective actions shall be submitted to the certification body within 28 days of the evaluation, and verification that the non-conformities have been resolved shall be submitted to the certification within 90 days of the evaluation.

Reason for Change: The text suggests that the farm only needs to provide evidence that they have begun to fix major or minor non-conformities, but there is no clear limitation on the duration that the non-conformities can remain "open." Suggest including a maximum limit for these issues to remain "open" before certification is denied (e.g., 90 days).

BAP: Properly defined corrective actions are designed to "close" non-conformities, so the 28-day limit is considered appropriate. Audit reports include a root cause analysis of non-conformities to enable corrective actions to be well targeted.

Please refer to Sections 4.7 and 4.8 of the online CB Requirements document, which describes the process of handling non-conformites and corrective actions: http://bap.gaalliance.org/wp-content/uploads/sites/2/2015/02/BAP-CB-Requirements-Document-Issue-12-Dec-2015-FINAL-1.pdf

SECTION 1

NEAQ

Section Heading: 1. Community/Property Rights and Regulatory Compliance General comment: Standards 1.4 and 1.5 are inconsistent with the Finfish and Crustacean Farms standard, which only has standards 1.1-1.3. We recommend keeping 1.4 and 1.5 in this standard and adding them to the Finfish and Crustacean Farms standard during its next revision.

BAP: Agreed. This anomaly will be resolved when the Finfish and Crustacean Farm Standard is next reviewed.

SECTION 2

AQNZ

Standard 2.1 requires that "The applicant shall demonstrate that the aquaculture facility does not prevent legal access to traditional fishing areas and other established public resources." This should be amended to "The applicant shall demonstrate that the aquaculture facility does not prevent legal access to traditional fishing areas and other established public resources, except as permitted by law." The use of any part of the marine environment may be construed to limit public access. However, there is a legal mechanism that, having weighed the relative costs and benefits, permits this to occur. In that situation, the applicant can demonstrate by way of consent, license or permit that such occupation is permitted and deemed acceptable.

BAP: Agreed. Change made to the standard accordingly.

2.1: The applicant shall demonstrate that the aquaculture facility does not prevent legal access to traditional fishing areas and other established public resources, except as permitted by law.

Standard 2.2 requires facility boundaries and signs posted to warn of potential safety hazards. Suggest this is worded so as to restrict the requirement to land-based facilities. Marine-based farms must mark the boundaries, but warning signs are not required and would simply add a visual impact where one does not currently occur.

BAP: Agreed. Changes made to the standard accordingly.

2.2: The applicant shall clearly identify all land-based aquaculture facility boundaries and post signs that warn the public and staff of potential safety hazards, where appropriate.

Taylor Shellfish

Guideline 2: Section 2.2 – Large-scale operations may have difficulties with the guidelines to provide signage for all of their facilities. In addition, signage may pose its own hazard or requirements for placement in navigation channels. While language is included in the standard to provide leeway with regards to implementation, guidance to auditors is suggested for them to evaluate more when a site should have signage.

BAP: Agreed. Changes made to standard – see also next comment.

AQNZ

Standard 2.3 should be amended to read "The applicant shall demonstrate appropriate levels of interaction and communication with the local community." Where there are no issues, the level of interaction may be minimal.

BAP: Agreed. Change made to standard:

2.3: The applicant shall demonstrate interaction and communication with the local community in response to issues that arise.

NEAQ

Section Heading: 2. Community/Community Relations

Text to Change: Standard 2.4

Proposed Text: 2.4: The applicant shall demonstrate a process, including but not limited to written policies and procedures, to avoid or resolve conflicts, for example, through meetings, committees, correspondence, service projects or other activities. The applicant shall record all conflicts, steps taken to resolve them, and outcomes."

Reason for Change: Standard too lax/general as is. Written policies and procedures, and records of conflict resolution are important to help ensure substantive attempts are made to resolve conflicts.

BAP: Agreed. Change made to standard:

2.4: The applicant shall demonstrate a process, including but not limited to written policies and procedures, to avoid or resolve conflicts – for example, through meetings, committees, correspondence, service projects or other activities. The applicant shall record all conflicts, steps taken to resolve them and outcomes.

Section Heading: 2. Community/Community Relations

Text to Change: Standard 2.5

Proposed Text: 2.5: Where applicable, the applicant must demonstrate dialogue with local indigenous peoples and written policies and procedures for conflict resolution with them under the laws governing their rights. The applicant shall record all conflicts, steps taken to resolve them, and outcomes. Reason for Change: Standard too lax/general as is. Written policies and procedures and record of conflict resolution are important to help ensure substantive attempts are made to resolve conflicts.

BAP: Agreed. Changes made to standard:

2.5: Where applicable, the applicant must demonstrate dialogue with local indigenous peoples and written policies and procedures for conflict resolution with them under the laws governing their rights. The applicant shall record all conflicts, steps taken to resolve them and outcomes.

Section Heading: 2. Community/Community Relations

Proposed Text: Add standard: "In residential locations, the applicant shall demonstrate that noise – on site and from vehicles entering and leaving the facility – and night lighting have been minimized to the greatest extent practicable."

Reason for Change: Noise and, to a lesser extent, lighting, from facilities are frequent sources of community conflicts.

BAP. Agreed. New standard added:

2.6: In residential locations, the applicant shall demonstrate that noise, on site and from vehicles entering and leaving the facility, and night lighting have been minimized to the greatest extent practicable.

SECTION 3

AQNZ

Standard 3.12 should be amended by adding "where such provisions exist in law" to recognize that in some jurisdictions, there may be no such entity as a "licensed" labor, recruiting or employment service.

BAP: Agreed. Change made to standard:

3.12: All labor, recruiting or employment services used by the facility must be licensed to operate by the local or national government as a labor provider, where such provisions exist in law.

NEAQ

Section Heading: 3. Community/Worker Safety and Employee Relations General comment: Standard 3.34 is inconsistent with the Finfish and Crustacean Farms standard. We recommended keeping 3.34 in this standard and adding it to the Finfish and Crustacean Farms standard during its next revision.

BAP: Agreed. This will be proposed in the next round of standard reviews.

Taylor Shellfish

Guideline 3

Section 3.18 – A risk assessment identifying health and safety hazards is good general practice and an expected component of certification. However, providing a template outlining content criteria or a general format for how GAA auditors expect to receive assessment data would encourage implementation and be more efficient to audit.

BAP: Agreed. To be proposed for the next round of standard reviews.

Section 3.19 – Social justice standards are relevant and necessary for the advancement of basic human rights around the world. These rights, when not promoted and enforced by the government, should be guaranteed by the organization applying for certification, including at least minimum requirements identified by GAA.

BAP: GAA considers that the standards detailed in this section do address issues of social justice and go beyond setting standards for bare minimum and legal compliance.

SECTION 4

ECSGA

Section 4 – Production Carrying Capacity

The standard for production carrying capacity suggests that growers should only be concerned about the health and productivity of their crops, ignoring potential broader impacts to other segments of the ecosystem. A standard based on ecosystem carrying capacity would provide a greater protection to the environment (see McKindsey et al. 2006). The proposed standard also ignores the potential for cumulative impacts of many farms in the same water body.

The proposed remedy of "regular" sampling of shell length and condition index using "generally accepted international standards" ignores the fact that there are many of methods of measuring condition index and there is no internationally accepted standard method. Moreover, the approach ignores the potential for periodic events, such as harmful algal blooms or periodic declines in primary productivity, that can impact growth and result in dramatic declines in condition index.

These HABs and periodic declines in primary production have nothing to do with stock density or carrying capacity. Similarly, fouling, poor husbandry and the resulting declines in flow (seston flux) can also result in severe reductions in growth and condition that are unrelated to carrying capacity.

BAP: These points were discussed extensively by the Mollusk Farm Technical Committee and with additional experts brought in by GAA. The standards try to take these concerns into account and represent the best attempt to produce a consensual, workable standard.

Taylor Shellfish

Guideline 4

A true and accurate method to quantify carrying capacity of marine systems has yet to be developed and supported. A monitoring program documenting tissue and shell growth will provide only moment-in-time snapshots within a growing cycle on a single farm area, not necessarily the marine ecosystem this standard is working to protect. These moments can be significantly affected by external or internal pressures, including temperature, water quality, toxins, quality of nutrients, animal disease, genetics or poor animal husbandry and farm management.

Developing a measurement for documenting tissue and shell length monitoring as a minimum standard to be used in conjunction with stocking rate documentation collected over time may facilitate more useful analysis of long-term carrying capacity. However, this measurement is only a reflection of the system within an individual farm, and not a measurement for the ecosystem.

BAP: These points were discussed extensively by the Mollusk Farm Technical Committee and with additional experts brought in by GAA. The standards try to take these concerns into account and represent the best attempt to produce a consensual, workable standard.

AQNZ

Background paragraph 4 speaks to the use of bivalve growth rates as a proxy for food availability. It must be recognized that wider climate trends do influence bivalve growth rates, seasonally, annually and interannually and have greater effects on productivity than grazing pressure. We have modelling research based on years of data that shows grazing pressure does have an effect on phytoplankton availability, but at levels of magnitude below the natural variability in feed.

AQNZ is concerned that a reliance on growth measurements of farmed stock will not deliver the intent of the standard, as this factor appears to be driven more strongly by broad climate effects than simple grazing pressure. We are, however, satisfied that in New Zealand, we can meet the requirements of Standard 4.1 or otherwise demonstrate responsible stocking practices.

BAP: These points were discussed extensively by the Mollusk Farm Technical Committee and with additional experts brought in by GAA. The standards try to take these concerns into account and represent the best attempt to produce a consensual, workable standard.

NEAQ

Section Heading: 4. Environment/Production Carrying Capacity

Text to Change: Implementation section

Proposed Text: No specific text proposed. Suggest rewording and revising Implementation section for consistency with standards and clarity generally.

Reason for Change: The requirements presented in the Implementation section are not consistent with the associated standards (see next two comments), creating considerable confusion. In particular, the structure of listing three apparently unconditional requirements (three bullets following "All applicants for BAP certification shall:"); followed by two requirements, of which at least one must be complied with ("The applicant shall comply with one or more of the following"); followed by another "Or" requirement ("Or, the applicant shall write and implement a monitoring plan") is unnecessarily complex and confusing.

E.g., does the last "Or" apply to the two preceding requirements (bullets) or all of the five preceding requirements? How does the monitoring plan described in the last "Or" construct (last two bullets) relate to the "suitable monitoring regime" described in the preceding bullet? Another example: while Standards 4.2.1 and 4.2.3 are not required if 4.1 is met, the language in the Implementation section (first and second bullets under "All applicants for BAP certification shall:") indicates they are unconditionally required.

BAP: Agreed. More clarity is needed. The implementation section has now been reordered to make it consistent with the standards section.

Section Heading: 4. Environment/Production Carrying Capacity

Text to Change: Standard 4.2.1

Proposed Text: 4.2.1: For established cultivation sites, the applicant shall provide evidence of responsible practices in setting stocking densities appropriate to local conditions, including biological measurements of growth rate and meat yield, during a period of at least three culture cycles prior to application, or for as long as the cultivation site has been in operation, if for less than three cycles. Reason for Change: For consistency with implementation section, specifically with the third bullet following text "All applicants for BAP certification shall:"

BAP: Agreed. Change made to standard

4.2.1: For established cultivation sites, the applicant shall provide evidence of responsible practices in setting stocking densities appropriate to local conditions, including biological measurements of growth rate and/or meat yield, during a period of at least three culture cycles prior to application, or for as long as the cultivation site has been in operation, if for less than three cycles.

Section Heading: 4. Environment/Production Carrying Capacity

Text to Change: Standard 4.2.2

Proposed Text: 4.2.2: The applicant shall conduct regular sampling of shell length and tissue weight, and/or condition index or other relevant growth variables at farm sites, and this value shall not be less than 70% of the respective metric at a reference site for a minimum of three culture cycles prior to application or for as long as the site has been in operation, if less than three culture cycles. Reason for Change: For consistency with implementation section, specifically with last bullet item.

BAP: Agreed. Change made to standard:

4.2.1: For established cultivation sites, the applicant shall provide evidence of responsible practices in setting stocking densities appropriate to local conditions, including biological measurements of growth rate and/or meat yield, during a period of at least three culture cycles prior to application, or for as long as the cultivation site has been in operation, if for less than three cycles.

SECTION 5

AQNZ

First paragraph of Implementation refers to the movement of hatchery stocks, yet other wording suggests wild seed is included in this section. AQNZ seeks clarification on this point and suggests that the standard covers both wild- and hatchery-originating seed.

BAP: Agreed. The implementation section has now been modified to make hatchery stocks more clearly included.

NEAQ

Section Heading: 5. Environment/Seed Supply

Text to Change: Standard 5.3

Proposed Text: 5.3: The applicant shall maintain current, accurate records of all seed mollusk movements into and out of the cultivation site to ensure full traceability of all mollusk stocks and to demonstrate compliance with any regulations related to the transport of hatchery-produced seed and the wild harvest or collection of broodstock or seed."

Reason for Change: (a) Consistency with implementation section, (b) important requirements, regardless of implementation section.

BAP: Agreed. Change made to standard:

5.3: The applicant shall maintain current, accurate records of all seed mollusk movements into and out of the cultivation site to ensure full traceability and to demonstrate compliance with any regulations related to the transport of hatchery-produced seed and the wild harvest or collection of broodstock or seed.

AQNZ

Standard 5.4 is suggested to be amended to read "comes from facilities with health-monitoring programs that take into consideration enzootic pathogens, notifiable organisms and OIE-listed pathogens; and the seed can be demonstrated to be of equivalent or higher health status to the receiving area."

BAP: Agreed. Change made to standard:

5.4: Where not covered by legislation, the applicant will provide documentation that hatchery-produced seed from other oceanographic bioregions comes from facilities with health-monitoring programs that take into consideration enzootic pathogens, notifiable organisms and OIE-listed pathogens; and the seed can be demonstrated to be of equivalent or higher health status than that of the receiving area.

NEAQ

Section Heading: 5. Environment/Seed Supply

Proposed Text: Add standard (or perhaps combine with Standard 5.4): The applicant shall provide documentation demonstrating that seed mollusk supplies have been obtained only from facilities that do not contain diseases or parasites that could result in the infection of cultivation areas or affect a cultivation site's biosecurity plan or status."

Reason for Change: (a) Implementation section indicates that this is, or should be, a requirement (seventh bullet point in implementation). (b) Regardless of the implementation section, evidence of disease-free (or screened) hatchery seed should be a requirement.

BAP: Agreed. Modifications to standard 5.4 take this into account.

ECSGA

Standard 5 – Environment/Seed Supply The term in Standard 5.7 "wet disease containment area" must be clearly defined. The standard should recognize that in cases of diseases that are endemic to broad areas, there should be recognition that these pathogens cannot be introduced to sites where they are already endemic, and controls for these pathogens or parasites should not be required.

BAP: Agreed. Change made to standard – see below.

AQNZ

Standard 5.7 should be rewritten, as "wet disease containment area" is unclear as to meaning, and may include pathogens irrelevant to the seed species concerned, or growers may be able to apply risk mitigation measures to the satisfaction of the competent authority so as to allow movements to occur with an acceptable level of risk.

AQNZ suggests that this standard be reworded to read "Seedstock shall not be accepted on site from any supply originating in or passing through a facility or area under restriction for official disease management reasons, except where the competent authority has approved appropriate risk mitigation techniques that may be applied."

BAP: Agreed. Change made to standard:

5.7: Seedstock shall not be accepted on site from any supply originating in or passing through a facility or area under restriction for official disease management reasons, except where the competent authority has approved appropriate risk mitigation techniques that may be applied.

NEAQ

Section Heading: 5. Environment/Seed Supply

Proposed Text: Add standard: "Where legislation does not apply, the applicant shall document efforts to address genetic concerns specific to species and geographic regions where the seed will be outplanted." Reason for Change: (a) Implementation section indicates that this is a requirement, or at least an important practice (ninth bullet point). (b) Regardless of implementation section, it is important that farms address genetic concerns of translocating seed in some fashion.

BAP: Agreed. New Standard 5.8:

5.8: Where legislation does not apply, the applicant shall document efforts to address genetic concerns particular to the species and geographic regions where the seed will be outplanted.

Section Heading: 5. Environment/Seed Supply

Proposed Text: Add standards that ensure consistency with the Global Sustainable Seafood Initiative (GSSI) requirements on wild seed collection, specifically GSSI Essential Components C.6.03 and C.6.04, which require justification for the use of wild seed over farmed seed and further controls over wild seed collection, such as coming from a managed fishery that does not use environmentally damaging collection practices.

Reason for Change: As written, the current standard may not be recognized by GSSI, which could impact its market acceptance.

GSSI c.6.03: The standard requires that where the deliberate use of wild seed is justifiable, it is collected in a manner that:

Ensures controls are in place so that the collection of seed is not detrimental to the status of the wild target and non-target populations, nor the wider ecosystem.

Avoids the use of environmentally damaging collection practices.

Source fishery is regulated by an appropriate authority.

GSSI c.60.4: The standard requires that the aquaculture facility intentionally stocks hatchery-raised seed unless justification exists otherwise.

BAP: Agreed. New standards clauses added.

5.9: If wild mollusk seed are used in preference to hatchery seed, valid justifications shall be provided.

5.10: For the collection of wild seed, in the absence of appropriately targeted regulations, a control plan shall be drawn up and implemented to minimize any detrimental impacts on wild target and non-target mollusk populations and on the wider ecosystem. The plan shall encompass any environmentally damaging collection practices.

SECTION 6

ECSGA

Section 6 - Environment/Sediment Effects

The BAP has failed to create a valid workable standard. The failure to even suggest a proposed sampling protocol or to identify what might comprise a "significant local impact" is a significant shortcoming.

BAP: *In this regard, the standard provides some guidance, but deliberately avoids being overly prescriptive, reflecting the need to encompass a multitude of different scenarios. The guidance says:*

"Because biological sampling of sediments requires special expertise and is time-consuming and expensive, chemical sediment properties are usually used as leading indicators of sediment condition. Biological sampling is only required in some jurisdictions if an indicator trigger point is exceeded. Chemical indicators used for this purpose include sulphide, REDOX potential, total organic carbon or total volatile solids, or visual inspection with documentation by video. Some methods are better suited to some environments than others.

In general, it can be assumed there will be some level of change to the benthic environment within the immediate footprint of a cultivation site. Local regulations regarding monitoring of within-site effects – and what might be deemed "acceptable" levels of effect – shall be followed. A basic requirement of sediment sampling should be an attempt to monitor effects outside the cultivation site, perhaps comparing near-field and far-field effects upstream and downstream.

Since different methods or combinations of methods may be required by different jurisdictions based on local hydrographic or benthic conditions, no preferred method is specified in the BAP standards, only that whatever method is used shall be undertaken using standard methods of sampling and analysis that conform to generally accepted international standards."

Standards 6.3 and 6.4 refer to cases where countries or regions have no sediment-monitoring requirements and "where the background site report identified the potential for significant local impacts." The background site report is supposed to be developed by the applicant, and there is no provision for an outside review to ensure that the report is accurate. In countries where there is no existing regulatory requirement for sediment monitoring, the protection of sensitive habitats is probably not a top priority. It is these nations where sensitive habitats deserve the most protection.

6.6: "shall be conducted according to methods generally accepted for such use in the region" – see comment below in 6.7.

6.7: Reference to "local or national regulators" puts those working in developed nations at a significant disadvantage to those working in nations that have little or no environmental regulations or enforcement. It is typically in developing countries where sensitive habitats require environmental protections of the sort that might be provided by BAP certification, were that program to provide credible protection.

BAP: Agreed. In general, the intention is not to single out particular countries for special treatment. Thus, modification to 6.6 to conform to guidance as follows:

6.6: Sediment sampling and analysis performed as part of any monitoring program shall be conducted using methods that conform to generally accepted international standards.

In areas with high, pre-existing sediment organic loading, it is usually impossible to detect any impacts of additional organic loading from shellfish biodeposits. These areas should be exempted from standards pertaining to sediment organic loading or benthic oxygen demand.

The guidance does mention reference sites. Such sites would provide the evidence in support of a customized (and potentially very limited) sampling regime at such sites.

Taylor Shellfish

Guideline 6

This standard leaves the benchmarks for identifying negative benthic impacts, as well as any husbandry practices to protect the local environment, to the local or regional regulating agency, when present. However, without a standard that clearly identifies minimum triggers initiating sediment- or benthic-monitoring requirements or even defining what negative impacts GAA hopes to prevent through best practices, the requirement for independent design and analysis leaves a large potential gap when there are areas with high environmental protections for sensitive areas and those with low or none.

BAP: This is a fair comment, but the topic was discussed at length by the Mollusk Farm Technical Committee (which included representation from Taylor Shellfish) before the approach in Section 6 was laid down. See also previous BAP responses re: Section 6. Although the standard does not prescribe trigger levels, the section headed "Reasons for Standard" does outline the negative impacts of concern:

Reasons for Standard

Mollusk cultivation areas have the potential to cause environmental harm due to sediment accumulation under sea-based cultivation sites or at the effluent outfall of land-based cultivation sites. The causes include fall off of pseudofeces, feces, uneaten feed, dead mollusks and accretion of fine sediment. In addition, the presence of the aquaculture facility can change the hydrodynamic conditions and result in a change in sediment characteristics in the immediate vicinity of the facility.

The addition of substrates such as shells, raking the seabed to remove silt and increase settlement areas, and other practices can also affect sediment composition. These changes may constitute a physical alteration in the biotope, particularly when compounded by the deposition of shells or live mollusks underneath a suspended culture plot.

Culture activities associated with seabed preparation, predator removal or harvesting activities (including mechanical or hydraulic dredging, trawling, suction or water jetting) can result in sediment plumes that accumulate or affect critical habitats. These plumes can extend outside site boundaries.

Additionally, the accumulation of organic matter has potential implications for benthic biodiversity due to related effects, including oxygen depletion and increased levels of hydrogen sulphide. Where shell is deposited, the change in texture of the seabed can represent a habitat alteration with implications for enhancements or declines in species richness and diversity.

The occurrence or severity of these effects varies greatly among locations and regions depending on local tidal geography, benthic ecology and the size of the mollusk cultivation site. Although biological effects can be measured, sediment monitoring is the most practical means of detecting change.

Taylor Shellfish

Standard 6.1

An individualized report identifying background benthic conditions for each cultivation site is excessive when an operation may have several sites with similar or like species and growing conditions. Providing a single document, describing the culture areas, identifying any likely impacts if present and actions taken to mitigate or prevent those impacts.

BAP: Agreed. But no modification to the wording in 6.1 is needed. In practice, in such cases, it would be perfectly reasonable to submit the same document for more than one individual site. The auditor would recognize its broad applicability.

Standard 6.3

There is no single standard identified which all farms are held responsible for. As a result, the requirement to hire a contractor to sample, analyze and conduct monitoring to assess only to local and not international thresholds is not consistent with the GAA goal of qualifying global sustainability practices.

BAP: The standards do not prescribe thresholds, but Standard 6.6 has now been modified to impose generally accepted international rather than local methods:

6.6: Sediment sampling and analysis performed as part of any monitoring program shall be conducted using standard methods that conform to generally accepted international standards.

NEAQ

Section Heading: 6. Environment/Sediment Effects

Text to Change: Standard 6.1

Proposed Text: 6.1: Applicants for BAP certification shall have a background report produced by an independent, qualified professional with demonstrated expertise in sediment analysis and benthic ecology that describes hydrographic and benthic conditions at the cultivation site, assesses potential onsite and near-field benthic impacts resulting from mollusk cultivation, and notes any local standards for benthic impacts underneath and adjacent to mollusk cultivation areas. Reason for Change: Standard too lax/general as is.

BAP: However, Section 6 is clear about the need for relevant expertise, particularly 6.3, which states:

6.3: In countries or regions where sediment monitoring is not required, and where the background site report identified the potential for significant local impacts, applicants shall nominate an independent individual or company with demonstrated expertise in sediment sampling and analysis to design a sediment sampling and analysis program appropriate to the cultivation site conditions and to conduct sediment monitoring. The program shall define appropriate environmental quality standards and actions to mitigate impacts if these are exceeded.

Section Heading: 6. Environment/Sediment Effects

Text to Change: Standard 6.2

Proposed Text: 6.2: In countries or regions where sediment monitoring is required with respect to mollusk cultivation, applicants shall demonstrate a history of compliance (considered to be two years or two production cycles, whichever is longer) with any statutory monitoring schemes or best practice initiatives deemed appropriate by local or national regulators.

Reason for Change: The term "history of compliance" is too vague; how far back does the auditor need to check, and when do old non-compliances becomes void? Clarity is required.

BAP: Agreed. Modified wording:

6.2: In countries or regions where sediment monitoring is required with respect to mollusk cultivation, applicants shall demonstrate a history of compliance (considered to be two years or two production cycles for established farms, whichever is longer) with any statutory monitoring schemes or best practice initiatives deemed appropriate by local or national regulators.

Section Heading: 6. Environment/Sediment Effects

Text to Change: Standard 6.3

Proposed Text: 6.3: In countries or regions where sediment monitoring is not required, and where the background site report identified the potential for significant local impacts, applicants shall nominate an independent individual or company with demonstrated expertise in sediment sampling and analysis to design a sediment sampling and analysis program appropriate to the cultivation site conditions and to conduct sediment monitoring. The program shall define appropriate environmental quality standards (EQS) and actions to mitigate impacts if these are exceeded.

Reason for Change: The current language does not address the need to limit impacts, only to monitor them.

BAP: Agreed. Modified wording:

6.3: In countries or regions where sediment monitoring is not required, and where the background site report identified the potential for significant local impacts, applicants shall nominate an independent individual or company with demonstrated expertise in sediment sampling and analysis to design a sediment sampling and analysis program appropriate to the cultivation site conditions and to conduct sediment monitoring. The program shall define appropriate environmental quality standards and actions to mitigate impacts, if these are exceeded.

SECTION 7

ECSGA

Section 7. Predator and Wildlife Exclusions

Different countries place very different values on different types of wildlife. For instance, growers in the U.S. are highly regulated when it comes to the depredation of migratory birds, which can consume vast quantities of shellfish. Whereas, in some nations it is totally acceptable to shoot hundreds of diving ducks or predatory shorebirds. If the BAP wants to be accepted as an international standard-setting body, then it should ensure that the protections it adopts are international in scope. If the regulations are only intended to impact those who produce in highly regulated nations, then the standard should not be presented as international in scope.

7.10 – What steps will BAP take to ensure that "critical or sensitive" habitats are accurately mapped and identified by the applicant? Will there be a third-party site assessment?

BAP: Yes, different countries set different legal requirements for wildlife protection, but contrary to the comment above, the BAP standards are not only intended to impact those who produce in highly regulated nations. Hence, they can be presented as international in scope. Third-party assessments are conducted by independent auditors who have received BAP training.

NEAQ

Section Heading: 7. Environment/Predator and Wildlife Interactions

Text to Change: Standard 7.3

Proposed Text: 7.3: If the cultivation site operates in a jurisdiction without government regulations related to interactions with wildlife and predator control, the WIP shall provide an impact assessment produced by an independent, qualified professional demonstrating that the site will not have a significant negative impact on the local wildlife, if operated correctly.

Reason for Change: Standard too lax as is.

BAP: No change made, to remain consistent with core BAP standards for fish and crustacean farms.

Section Heading: 7. Environment/Predator and Wildlife Interactions Text to Change: 7.7: The facility shall record the species and numbers of all vertebrate mortalities resulting from predator control actions and report them as required by local authorities. Proposed Text: 7.7: The facility shall record the species and numbers of all vertebrate mortalities and all incidents of non-lethal vertebrate entanglement and report them as required by local authorities. Reason for Change: Entanglements of marine mammals, sea turtles and sea birds resulting in mortalities or serious injuries may occur exclusive of predator control actions (e.g., entanglement in long lines). It is important to document these to help assess the impact of cultivation on wildlife and to develop effective mitigation measures.

BAP: This standard has been modified to make it consistent with 12.2 of the fish and crustacean farm standards – pending any further harmonization of BAP standards:

7.7: The facility shall record, and report where required, the species and numbers of all avian, mammalian and reptilian mortalities.

Section Heading: 7. Environment/Predator and Wildlife Interactions

Text to Change: 7.10: Marine sites shall retain maps that identify officially designated "critical" and/or "sensitive" marine and coastal habitat in the region. Staff shall be made aware of appropriate measures for operating in the critical and/or sensitive habitat.

Proposed Text: 7.10: Marine sites shall retain maps that identify ecologically sensitive areas (ESAs) in the region, including but not limited to officially designated critical habitat areas. Staff shall be made aware of appropriate measures for operating in and adjacent to these areas.

Reason for Change: For consistency with Section 10, which uses the term "ecologically sensitive areas (ESAs)" and does not require "official designation." Wording "adjacent to" added because farms, when not located in sensitive areas, may adversely adjacent sensitive areas.

BAP: Agreed. Standard modified as per suggestion:

7.10: Marine sites shall retain maps that identify ecologically sensitive areas in the region, including but not limited to officially designated critical habitat areas. Staff shall be made aware of appropriate measures for operating in and adjacent to these areas

Section Heading: 7. Environment/Predator and Wildlife Interactions

Proposed Text: Add standard (or incorporate with WIP requirements in implementation section): "Cultivation site personnel shall receive training in all operational practices, protocols and policies related to reducing the risk of predator and wildlife interactions."

Reason for Change: Personnel training is a critical component of ensuring that many elements of the WIP are correctly and effectively implemented.

BAP: Agreed. Text from Standard 12.4 of the fish and crustacean farm standards has been added to Standard 7.8. "Farm employees shall be familiar with the provisions of the WIP and trained in aspects of it that they may be called upon to implement."

SECTION 8

AQNZ

Bullet point 7 of the Implementation section and Standard 8.9 require the removal from water for cleaning of any item treated with antifouling. However both Australian and New Zealand authorities have, following a biosecurity and environmental risk assessment, issued new ANZECC guidelines permitting the in-water cleaning of antifouled structures under certain conditions.

AQNZ contends that Standard 8.9 should be amended to reflect this by the addition of the wording "or in accordance with approved in-water cleaning standards in the relevant jurisdiction, which have been developed following biosecurity and environmental risk assessments" at the end of the standard.

BAP: Agreed. Text amended to include suggestion.

NEAQ

Section Heading: 8. Environment/Storage and Disposal of Supplies

Text to Change: Standard 8.4

Proposed Text: 8.4: Material Safety Data Sheets shall be available for all hazardous materials at their location of use. The applicant shall demonstrate that all applicable guidance on the MSDS sheet (e.g., safe use, safety equipment, and disposal) is followed."

Reason for Change: MSDS sheets are a resource that should be used rather than just having them on the site.

BAP: Agreed. Standard 8.4 amended to include suggestion.

Section Heading: 8. Environment/Storage and Disposal of Supplies Proposed Text: Add standard: "The applicant shall demonstrate that best management practices have been implemented to prevent derelict gear (e.g., proper installation and regular inspections of infrastructure) and that there are policies to locate, retrieve and properly dispose of derelict gear when gear escapes the site.

Reason for Change: Derelict gear from aquaculture facilities (e.g., PVC tubes, oyster cages, plastic predator netting) is a form of pollution, a potential source of mortality for marine species, a threat to the marine environment generally, and erodes community relations.

BAP: Standard added as 8.10. Discussion identified that 8.10 was a duplication of 8.1, and it was deleted.

Taylor Shellfish

Guideline 8

Section 8.10 – Clearly define waste reduction and disposal plan, or provide examples of acceptable documentation.

BAP: Section 8.10 was a duplication of 8.1 and has been removed (replaced with derelict gear requirement).

SECTION 9

AQNZ

Standard 9.1 refers to a Molluscan Health and Pest Management Plan. This is the only such reference in the document. AQNZ suggests the authors mean Shellfish Health Management Plan (SHMP).

BAP: Agreed. Standard amended accordingly.

NEAQ

Section Heading: 9. Environment/Biosecurity and Disease Management

Text to Change: 9.1: The applicant shall designate a trained member of staff with relevant experience in shellfish health and biosecurity to oversee the development and updating of a Molluscan Health and Pest Management Plan (MHPMP).

Proposed Text: 9.1: The applicant shall have a written and regularly updated Molluscan Health and Pest Management Plan (MHPMP) developed with the oversight of a molluscan health professional; e.g., a qualified veterinarian or an individual with relevant experience.

Reason for Change: The current requirement of a company employee is too prescriptive (also the case for 9.2-9.4, 9.8). It shouldn't matter to the standard who is responsible for providing training, rather that the staff are, in fact, trained. There should be more emphasis on requiring professional and qualified oversight in the development of the MHPMP.

BAP: This suggestion is inconsistent with the mussel, fish and crustacean standards and was not taken. This will be discussed during harmonization activities for all standards due in 2016.

Section Heading: 9. Environment/Biosecurity and Disease Management Text to Change: Standard 9.3

Proposed Text: 9.3: The applicant shall have written biosecurity and health management plans and monitoring procedures consistent with the implementation requirements.

Reason for Change: The Implementation section explicitly discusses written monitoring procedures as a requirement. Although these may be logically considered part of "biosecurity and health management plans," it is best to be explicit to avoid any misinterpretation.

BAP: Agreed. Standard 9.3 amended as per suggestion.

Pamela Parker

Section Heading: 9. Environment/Biosecurity and Disease Management

The focus appears to be only on selection of seed and shellfish movement and transfers. There is no reference regarding biosecurity measurers to address biosecurity measures for equipment and vessels. Proposed Text: Should there not be a reference to ensuring that all vessels and equipment used on a site meet certain minimum standards regarding biosecurity to help prevent the introduction of invasive species?

BAP: This proposed amendment is not consistent with other GAA standards, so it will be discussed in a future harmonization process.

AQNZ

Standard 9.10 refers to disposal of dead shellfish under normal mortality levels (as well as abnormal). Under normal conditions, it is highly unlikely that any dead animals would be noted, merely dead shells, and so special disposal is less important. Good practice dictates that any moribund or dead animal found is not disposed of at the site but taken on-shore and disposed of in an appropriate manner. AQNZ suggests the standard be reworded along these lines.

BAP: While this may work in principle, it may be unworkable in many jurisdictions, so Standard 9.10 was not modified.

SECTION 10

Taylor Shellfish

Guideline 10

This guideline needs a definition, identifying or providing a reference to what constitutes an ecologically sensitive area.

BAP: ESAs are described in the preamble and may be locally defined.

ECSA

Section 10 – Protection of Ecologically Sensitive Areas If the BAP wants to create standards for ESAs, then they should provide a robust definition of the term.

BAP: ESAs are described in the preamble and may be locally defined.

NEAQ

Section Heading: 10. Environment/Protection of Ecologically Sensitive Areas Text to Change: These areas, which can include, but are not limited to, mangrove and wetland areas and sensitive shoreline habitat ...

Proposed Text: These areas, which can include, but are not limited to, mangrove and wetland areas, submerged aquatic vegetation (sea grass), and coral habitat ...

Reason for Change: The protection of sea grass and coral habitats should be highlighted.

BAP: No change made. Left as is to be consistent with other BAP standards. Will be included in 2016 harmonization review.

Section Heading: 11. Environment/Fishmeal, Fish Oil and Kelp Conservation Proposed Text: Add standard: The applicant shall obtain feed from a BAP-certified feed mill or a feed mill that declares and documents compliance with BAP feed mill standards 3.1 and 3.3. Reason for Change: Stated as requirement in Implementation section.

BAP: Agreed. Standard added as per suggestion.

Section Heading: 11. Environment/Fishmeal, Fish Oil and Kelp Conservation Proposed Text: Add standard: The applicant shall demonstrate that appropriate best practices have been implemented to reduce the feed-conversion ratio to the greatest extent practicable. Reason for Change: In the absence of specific (numeric) performance requirements for FCR and FFDR, it is important that the applicant demonstrate attempts to reduce FCRs. Also, the proposed standard is consistent with the Implementation section statement that "producers should strive to reduce their facilities' feed-conversion ratios as low as practicable."

BAP: Action: Standard added as per suggestion.

SECTION 12

AQNZ

Remove Standard 12.6. as this is covered in Standard 9.6.

BAP: Agreed. Removed as per suggestion.

ECSGA

Standard 12. Potential food safety hazards

Standard 12.8: "Ice used for shellfish from potable water or seawater disinfected to an equivalent standard." The FDA and ISSC have recommended "rapid cooling" as an approach to limit post-harvest growth of *Vibrio* by placing oysters in a bath of ice water. In its recommendations, the FDA acknowledged that the ice bath water quickly becomes contaminated by *Coliforms* and other filth organisms, but they also documented that these organisms do not end up inside the oysters, because oysters are not inclined to pump in ice water. The implication here is that (at least for oysters) the quality of the ice is not relevant to the quality of the meats, and the use of ice is more important than the sanitary condition of such ice.

BAP: This may indeed be the case, but GAA believes clean ice is an important starting point. Standard left unchanged to make it consistent with other standards.

Brian Russell

Section Number: FDA

Text to Change: Meeting FDA standards for food safety

Proposed Text: Meeting either FDA or other international or state regulations' standard of similar standard

Reason for Change: Allow acceptance under both Australian Shellfish Standards Queensland Shellfish Standards and Biosecurity standards Queensland/Australia, as comments from government, is that it is only for America.

BAP: Australian program added to preamble as per suggestion.

NEAQ

Section Heading: 12. Food Safety/Control of Potential Food Safety Hazards Text to Change: Standard 12.1

Proposed Text: 12.1: Documentation shall be available that demonstrates participation in and compliance with the host country's national classification/regulatory program. Reason for Change: It is essential for applicants to demonstrate not only "participation in" but also compliance with regulatory programs.

BAP: Agreed. Text inserted as per suggestion.

SECTION 13

ECSGA

Standard 13. Traceabilty

All of the onus is placed on the producer, and there is no insurance that subsequent buyers and dealers of BAP-certified products are selling only true BAP-certified products. I see no requirements for secondary dealers to retain any records or have any mass balance requirements to ensure that they are not misrepresenting products that are not BAP-certified. Without a required element of farm to fork traceability, the BAP certification will have no credibility and will be subject to massive fraud.

BAP: The BAP program takes fraud issues very seriously. In addition to farm-based traceability requirements and checks, BAP claims relate to products from BAP-certified processing plants. The BAP processing plant standards have multiple requirements for mass balance checks, chain-of-custody checks, traceability and product identity preservation. Please refer to http://bap.gaalliance.org/wp-content/uploads/sites/2/2015/02/BAP-ProcPlant-1215.pdf.