Shrimp Aquaculture Dialogue Responses to 1st Public Comment
ShAD GSC RESPONSE

General Comments

WWF France

Although sustainable consumption does not belong to the Shrimp Dialogue area of concern, WWF France urges the ShAD steering committee to add a paragraph on the need for sustainable consumption in the introduction of the Standards. WWF France would be happy to submit such a proposal, should the GSC request it.

- We have added some language in the introduction, as suggested.

New England Aquarium:

Stating the goal of the standard to set metrics that approximately the top 20% of farms could practically meet is positive, since it sets the bar relative to the performance of the industry and the expectation of the standard developed. It should be clear though if this is the top 20% of farms or production, since a significant number of farms exist globally.

- This for the top 20% of production, but is only a theoretical bar that the GSC uses to orient our work. Where it ultimately ends up is unknown and difficult to precisely estimate.

M.N. Kutty

Page 7: Geographic scope to which the standards apply
"The shrimp standards do not seek to impede or restrict the general development of shrimp operations, but rather to address the production of shrimp that is traded internationally."
Comments: This appears to be a narrow view of the Dialogue – while it is appreciated that the standards are not intended to restrict general development of shrimp farming (SF) operations, the Dialogue being global in nature and in view international bodies such as WWF and FAO give stress rural development mainly in less dev eloped countries, the Global nature of the SHAD exercise should address sustainable shrimp aquaculture, centered now more in developing countries - addressing "the production of shrimp that is traded internationally" connotes protecting more the interests of the importing countries – this approach needs to be revised and development of socially and environmentally sound aquaculture has to be encouraged globally, bringing the reformed benefits to all universally and not just 'international trade'.

- The ShAD recognizes this concern, but is not in a position to address it in a significant way. The first goal of the ShAD is to define acceptable social and environmental performance standards. How these standards are applied and used, while very important, is not in the direct scope of the GSC.

CP Thailand

I have tried to read through the Shad document, but honestly it is written in very difficult (for at least me a poor shrimp farmer) language, more reminiscent of some law document. So my first comment is that this needs to be put in much similar, direct language that the shrimp farming community can comprehend. Second comment is that it is definitely going to be very restrictive; just by the amount of environmental and social paper work that will be required- thus limiting its implementation to only the largest and most corporate of farming companies. Nothing wrong with this I guess, but as this document now stands very few farms in Asia would have interest; and only the large corporate farms of Africa and the Americas would apply. And thus the world impact of this set of standards would be minimized; but then after reading the

background you set out to be very selective. But in being selective; for even a large farm to put the effort into becoming certified with these standards, would require a clear definition of the financial benefit to the farm in terms of pricing of product. Will there be a premium as with organic product, and how big will that market be. I know you think it is premature to respond to this; but with these standards, you will need to respond other wise I see no incentive for any farm adopting the standards.

I was overwhelmed by the complexity of the standards, the amount of required farm documentation that must be maintained, and the in general some naïveté on how farms operate in communities. I was expecting something more straightforward. I agree with most of the intention; but the complexity overwhelms your purpose in my opinion. And in some sections I would question if you are mixing standards that belong in other documents with Shrimp Farm Standards. Maybe this is best characterized as a Shrimp Industry Standard.

- We understand your comment about the complexity of the standards document. However, the GSC has determined that all included pieces are important to ensure understanding and the credibility of the document. This document is not written solely for industry, NGOs, or one single group. This is why it is so complex. In the new version, we have tried to explain this more clearly and have moved pieces to appendices where possible to minimize the amount of text in the body of the document.

WWF-US

1. There is need to specify which species the ShAD standards will apply to - Is *Macrobrachium* included? What about *Metapenaeus sp*.?

- We have added language to clarify the species covered by these standards.

2. The GSC should attempt to focus on the justification for the standards rather than the justification of the impacts. There are many journal or other references to impacts. The impacts have been decided by the dialogue and there is little more justification necessary.

- We respectfully disagree, as we believe it is important to understand the *why* in order to foster interest and a greater understanding of the standards.

3. It may be necessary for the GSC to explain all of the material surrounding the standards in the current draft of the standards, but WWF-US highly recommends a narrower focus and separate guidance in the next draft. A more concise final document will allow readers to focus the most important effort of your process – the targets

- Guidance is included in the document, as many GSC members feel it is an important piece to judge the quality of the standards. In other words, it helps the reader understand the intent by demonstrating to the greatest extent possible how the standards will be implemented.

4. WWF US would like to see a concise explanation for why metrics standards are most appropriate for improvement. Including how metrics based standards could continue to raise the bar in the future. Wording that is vague or prescriptive will not likely be able to show quantified improvement over time.

- We agree and have considered this for the next version of the standards.

5. The principles appear to be quite different from the ones in the International Principles for Responsible Shrimp Farming. There should be alignment with the International Principles or a clear explanation on why that is

- We respectfully disagree. The International Principles were a starting point and were deemed insufficient to cover all of the issues, which is why the ShAD has changed these principles. We have added language in the introduction to address this.

6. In reference to the paragraph "For example, if the farm operates a hatchery, the farm and hatchery will need to comply with the standard related to the amount of phosphorus used to produce a metric ton of shrimp." The standards are designed for farms and a selection of what standards would be applicable to hatcheries, feed plants, processing plants etc should be clarified in the text.

- We have attempted to clarify this in the new version.

7. It is important to state clearly how thresholds were set for the different standards. Why those survival rates, why those values of FFER? WWF-US suggests creating a repository of data and using that data to calculate thresholds as was done in the Pangasius Aquaculture Dialogue (PAD). With this type of structure, stakeholders would not be able to argue and push standards up or down, they can only provide more data. Another approach would be to use peer-reviewed papers and take averages of the averages.

- We agree and will attempt to provide better explanations in the next version of the standards.

William Rash

1. Definition of farm scale needs consistency and relevance
   - We have attempted to clarify this further in the new draft.

2. Definition of new and existing farms needs consistency and relevance
   - We agree and are developing these for the next version of the standards.

3. Auditing criteria

How should auditing bodies gather their objective evidence as this will differ for the type and sophistication of the farm or farming group? For instance for small farm holders / family farms there should be less reliance on documented evidence and more reliance on visual / verbal / interview evidence. This is of particular relevance where the standard specifically asks for the presence of records or documentation

- We agree that this is a significant challenge and are trying to find creative solutions to solve these problems.

4. Scope - Factory Processing

Should the scope of the standard include the environmental and ethical aspects of the factory process?

a. Should the standard also include the environmental impact of the factory process - effluent discharge of factories processing shrimp is commonly high risk.

b. It would compromise the value of this standard, if it had certified shrimp that was being processed in a factory that was having a day-to-day negative impact on the environment (this can also be extended to the ethical status of the workforce).

- We agree. However, this is initially outside the scope of the ShAD, but we would like to ensure that the ASC finds ways to address this immediately. We recognize it as a very important issue.

Javier Duena

The scope and implications towards implementation is simply too ambitious and most likely, perceived as exhaustive and overwhelming by the majority of producers, including those targeted as the 20% potentially able to meet the standards.

The challenging process of generating global performance based standards for one of the most complex of WWF's aquaculture dialogues, presently needs to incorporate an outreach strategy that would allow stakeholders to catch up and become somehow, effectively engaged so that the process builds upon itself as it gives way and debate of what is realistically attainable, and what is not.

By standards aiming at a potential 20% of the shrimp industry, it seems the process and ecosystem loses. What is needed is to recruit the largest number of producers into a process that building upon itself, propels a realistic outlook on addressing the environmental and social impacts the proposed draft standards are designed to reduce.

- We would be the first to admit that the process is hardly perfect. However, participation in the ShAD was open to any interested parties from the beginning. The GSC is comprised of those who were willing to commit to volunteering their time and resources to actively engage in this process and we are doing the best that we can with the time and resources that are currently available to us. We always welcome suggestions for improvement.

Rudy Porter

The standards apply only to farms where shrimp are raised. The standards do not apply to fishing operations, shrimp preparation and processing or transport. If certification is stamped on the packages of shrimp from these farms indicating they comply with the ILO Core Labor Standards (CLS), but the shrimp were processed or transported by employers that deny Freedom of Association, use child labor or forced labor, or discriminate against workers, then the stamp on the package gives a false guarantee that the product came through a supply chain respecting CLS, when in fact the opposite would be the case. In other words, establishing standards for one small part of the supply chain while ignoring all other parts is misleading to consumers of the product. In this aspect, the standards proposed here are inferior to the existing process established by the Aquaculture Certification Council, which covers processing plants and fishing, as well as farms.

These criticisms pertain only to the printed standards, which state nothing about the system by which these standards will be monitored. The introduction says the Steering Committee has already decided that a monitoring body will be formed, but it does not describe the process that body will use. Regardless of the quality of the standards, if they are used, for example, by outside auditors who show up for a couple days every few years to run through a checklist, then the standards are meaningless.

- We agree. However, this is initially outside the scope of the ShAD, but we would like to ensure that the ASC finds ways to address this immediately. We recognize it as a very important issue.

Dallas Weaver

Overall the document lacks a vision of the future and can be viewed as an expression of entrenched special interest voicing their self interest (ENGO's and some major farmers and academics). There was no one representing the un-invented or the future beyond unsupported claims of the future. Those claiming to be focusing on the future were doing so merely to prevent future competition with alternative species, culture techniques, geographical areas, GMO competition, etc. All of this helps the entrenched interests on the panel to the detriment

of the future. Very little has to do with long term sustainability in the face of another 3 billion people in the world who will need to be fed.

- We respectfully disagree and welcome your further input as the standards develop.

Aldin Hilbrands

The Standard only requires very limited record-keeping and documentation on the farm (i.e. time records, pay records, worker records, training records, etc.). Auditing and certification is based on the principle of so-called 'objective evidence'. Without any records or documentation to demonstrate compliance with the criteria, it will be extremely difficult to audit and certify a farm, because the auditor will have to rely on interviews and 'hear-say'. The general requirements are specified in this document, but they are not defined in a way that facilitates auditing and certification against the Standard. For some criteria, the implementation guidance is ambivalent and does not provide a clear interpretation of what is expected of the farmer or auditor (basic needs and living wages, discrimination, employee and worker contracts, etc.). The Standard is very comprehensive, but also full of technical jargon and terminology and extremely complicated and difficult to understand (especially for non-experts). The document must be accompanied by simplified and translated guidance for the farms required to implement the Standard, and by comprehensive and practical guidance for the auditors required to audit and certify against the Standard. It is suggested to take out parts such as e.g. "rationale" and "guidance for implementation" and consider including these in a background document. And there is no description of how an auditor should assess a farm, group of farms or the indicators ("guidance for assessment" section is lacking).

Page 6, suggest to refine the definition of "accreditation" and replace "entities" by "certification bodies" because one could be confused and think entitites could be farms. Page 6, suggest to refine the definition of "certification" by adding "for shrimp farms" to make clear that certification is about confirming compliance by farms. There is reference made to the GSC but there is nowhere a full description olf this abbreviation. Moreover, the composition of the GSC is heavily biased towards the NGO side to not representative of the different interest groups in this discussion in my view.

- We recognize that the guidance is incomplete and want to clarify that this is the starting point for its development. Once the standards are finalized, a much more detailed guidance document will be created.
- We understand your concern about NGOs on the Steering Committee, but participation in the process has been open to anyone and the current GSC includes individuals from several different areas of work. The GSC also has a voting structure that prevents any one interest from dominating the discussion.

Kenneth Boyce

One of the most frequently raised mirrored a concern of Fairtrade: that is the applicability of the standards to smallholder producers. Frequently the point was raised around bureaucratic nature of some of the requirements which is not suitable to the informal nature of shrimp farming arrangements in which smallholder operations exist. The standards are being created in a vacuum of information as to what requirements will be placed on small producers in terms of rganization to be certified collectively e.g. if a group of 100 small farmers join together how will they be certified and audited. What will the rganizational requirements be? Will they need some sort of formal arrangement?

While this may be seen as not the responsibility of the ShAD in drafting the standard it makes it difficult to understand how big an impact the requirements will have on small farmers in terms of certification. This is particularly relevant for the social and environmental impact assessments which will be time consuming and potentially expensive. Possibly by the time the final standard is published those setting up the ASC will have already established some clearer policies on certification. Close collaboration with them would be recommended. The ShAd has the advantage of being still underway while the ASC is working on these points.

The standards could potentially also be more consistent in their application of particular mechanisms. E.g. the sourcing of sustainable fishmeal has a timeframe allocated for this. This option was not presented for use of GMO. This makes the standard confusing as it is unclear as to whether the standard favours a progressive approach to solve problems or whether it insists on full compliance for entry.

- We completely agree and many of the GSC members share this concern. We are trying to develop the best possible standards but plan to work with the ASC to find solutions to help ensure that small holders have the opportunity to comply. If this does not ultimately take place, the work will obviously not achieve the desired goal.

Inger Naslund

It is important to balance between small scale and large scale farms so that certification can be possible independent of the size of the farm. Likewise it is of high concern that the standards will be clear and easy to understand for those who are going to comply with the standards.

- See above response to Fairtrade.

Flavio Corsin

The standards are heavily prescriptive (i.e. focused on compliance to practices) and seldom performance-based. When performance indicators are present, a great deal of additional prescriptive requirements are also included, making the standards largely redundant and, we believe, not in line with other Aquaculture Dialogue standards, which are far more focused documents. We encourage the GSC to critically revise the standards to reduce the indicators to remove such costly redundancies. More detailed suggestions are provided below.

- We agree and are doing our best to reduce the amount of BMPs, but, given current knowledge gaps, this is not always possible.

Although the document claims that the International Principles for Responsible Shrimp Farming were used, this is not correct. The current version of the principles is very different from the present one. The process of developing the international principle was indeed multi-stakeholder and lasted 7 years. At the Consortium Program was much more focused on principle development that the ShAD, the standards should be restructured within the original International Principles.

- See above response to WWF US.

In spite of the presence of producers on the GSC the standards do not seem to be applicable to the greatest majority (if not all) farms. Principle 2 appears to be particularly impractical (some details are provided below). We acknowledge that the current version may not be endorsed by all the GSC members (as stated on the cover), however, as this is the version that the GSC indeed decided to post for public comments, we question the governance of the ShAD, which appears to be voicing only concerns of non-producer stakeholders.

It seems very likely that these standards would exclude most, if not all, Asian small-scale producers, who are producing the majority of the shrimp produced globally. Looking again at principle 2 (as an example), we actually believe that only a very small percentage of producers globally will be able to comply at all, as for example several of the requirements set on existing farms would be impossible to document. We believe in ISEAL-compliance processes and see in the ShAD a unique opportunity to truly benefit the industry, however the standards in their present form are extremely far from being able to deliver on this expectation

- See above response to Fairtrade.

The document states "The Dialogue seeks to set performance standards at the farm-level that are ambitious, yet practical for approximately the top 20 percent of farms whether those farms are large or small". We strongly believe that, if the ShAD standards are to be truly for the top performers regardless of scale, at least innovative (best performing) small-scale producers should be able to comply. This does not appear to be the case. We are at present working with WWF VietNam to assess the performance levels of the most innovative small-scale shrimp communities of VietNam. As this is conducted through field surveys in 6 shrimp farming communities over 2 top Mekong shrimp producing provinces, we will be able to compile this information only in another couple of weeks. We hope that the GSC will welcome those results.

Linked to the above item, it is not clear how numerical standards were set and what is the evidence that the top 20 percent producers will be able to comply. Numerical standards should be set using a scientifically rigorous methodology, which of course should be clearly stated in the document.

It is not clear why 8/14 GSC members are NGOs with no producer membership and why the 2 Asian participants are both NGOs. This results on Asian producers and producing countries being completely neglected and the result is very clear in the present version of the standards. The ShAD process does not seem to allow for new GSC members to be included, but with the text "An insufficient level of participation will lead to replacement with another individual from the same stakeholder group from the same region" allows for replacement. Does this mean that the present composition of the GSC is meant to represent different regions in a balanced manner? The current region-wise distribution is as follows:

a. Europe: 5
b. USA: 3
c. Latin America: 2
d. Africa: 2
e. Asia: 2

We do not quite understand what mechanism was used to allocate GSC membership. We welcome an explanation. We understand the concept of Regional SC, but again we are puzzled in seeing that 5/11 members of the Asia SC are actually not based in Asia. In view of the above, ICAFIS, as the "sustainability arm" of VINAFIS, a non-profit organisation with thousands of members including producers, government officials and researchers would like to become a member of the GSC. If the GSC decided to decline our offer we would welcome an ISEAL-compliant explanation on why an organisation formed after the ShAD process had begun and willing to actively and positively contribute should be refused such right.

- ICAFIS is now a ShAD Steering Committee member.

Carlos Perez?

The numeral in question "systematic, quantitative conservation planning" is goofy and unnecesarily confusing assuring that ASC will be a niche standard or there will be false statements made in order to achieve certifications in mainstream volumes. The numeral is

envisioned to be consistent with at least the ecological conservation objectives of relevant agencies to retain ecosystems patterns and processes in relevant jurisdictions. They have found an ecological jargon of historically reconstructing vegetation and fauna endangered or protected in an area of 10Km of the shrimp farm and subjects have to conform within 3 years if you are already inside a protected area. This leads to a superimposition with interests of the neighbors which in many cases they include banana, rice, cane sugar farms of large, medium and small size in area. This situation would not permit to conform to this concept given the lack of professionals and structures in the third world. To enforce it all the stakeholders inside or around the protected area their activities affect the protected area in large, medium or small magnitude as a function of the size and activity it carries out. It is the responsibility of the state the restoration of the environment but in the great majority of places there is not even money to pay salaries for the forest guards or rangers. In order to avoid all these complication its simpler in protecting the rights of the environment to prohibit all activity production inside these protected areas and in the buffer zone conduct only activities that are compatible with the conservation of the area.

- We recognize that with some of the standards there are significant challenges associated with their implementation.
- The ShAD takes a stepwise approach to solving these issues and, therefore, would like to find a starting point from which to move forward.

Stephanie Mathey

From our point of view, the promise of a sustainable aquaculture has to take into account:
- Maintaining optimal nutritional profiles,
- Production conditions respectful of human rights, in accordance with local laws or at least with the rules of the ILO. Carrefour has been working for 10 years with the FIDH (International Foundation League of Human Rights) on these subjects. We recommend you to contact them to get input from experts (Genevieve Paul: gpaul@fidh.org)
- Use only the necessary inputs. For example, can such a certification support the use of pesticides? Should it not be closer to organic regulations in some cases and, for example, refer to the list of authorized pesticides in organic agriculture?
- A constant search for effective solutions, innovative practices, framed by standards, such as bioconversion or the use of probiotics for example.
- A non-degradation of sensitive ecosystems. The position of WWF France on this issue has caught our attention. It seems interesting that the standards take into account their proposals on Ramsar sites, National Parks even if the proposed date of May 1999 is before the publication date of the standards.

The certification must also be easily understood by the consumer, in line with its expectations. This is a guarantee of less image risk, and consequently credibility/trust of the consumer. At this stage there is the question of GMOs. Can we support a GM food as part of such a certification? We support the idea that feeding animals has to be “conventional”. In Europe, this means absence of GMOs in feed for animal. It also raises the question of proteins from land animal.

The shrimp aquaculture Dialogues aims also to develop standards accessible to all farmers that adopt better environmental and social practices. It is a balance between science-based, credibility, social, environmental and economic issues. Therefore, the GSC needs to consider for each standard its economic weight to the producer in one hand and to the consumer on the other hand (i.e. points 7.1.1).

Last, we hope that these comments will help the GSC taking positions to develop credible, realistic and pragmatic standard for responsible shrimp farming.

- We appreciate these comments and have done our best to address these concerns. However, there is only so much we can do with the available resources but we hope the new draft has addressed some of your concerns.

NACA

Although scope of the standards documents says "the shrimp aquaculture operation", there are standards for feed mills and hatchery (6.1-6.4, and 7.1-7.5) that shrimp farmers have very little control or negotiating power (particularly for small scale farmer). Propose to separate those standards out of this document, and to be included in other sets of documents for feed mills and hatcheries, or consider mechanisms for ensuring their cooperation.

Small-scale farmers rely more than large companies on conditions dictated and services provided by governments and commercial partners. Therefore, ability of demonstrating compliance will depend on these external conditions.

Small scale farmers have limited technical and financial capacities to conduct various assessments (such as EIA & BEIA). Suggest considering mechanisms for appropriate supporting service structures, exception for certain scale of operations, or recognize alternatives ways of demonstrating compliance adapting local conditions.

In order to facilitate compliance of small-scale farmers to the standards, "group certification" should be considered as a one of the viable mechanisms.

- We completely agree and many of the GSC members share this concern. We are trying to develop the best possible standards but plan to work with the ASC to find solutions to help ensure that small holders have the opportunity to comply. If this does not ultimately take place, the work will obviously not achieve the desired goal.

M.N KUTTY

Capacity of farmers to submit returns in the SHAD standards format:

Setting standards should be in consideration of the farmers' capacity and costs to provide data required. In several instances the small farmer in Asia would find it difficult to gather and present the data needed. Individual farm level planning, monitoring and managing capacities to solve larger ecosystem issues are often grossly inadequate, especially among the small farmers; larger farms or farms in isolated areas might have some capacities, where data collection is feasible. By restricting the standards to larger farms in the major SF countries in Asia as in the case of India would lead to missing the lion's of shrimp production, for the majority of farms are small, <10ha in size. It would be unjust to preclude these farmers who are genuine shrimp producers, following sustainable farm practices.

One might find an ideal farm setup individually but cumulatively within the landscape/ecosystem or even at a larger geographic level, there can be problems.

Carrying capacity (CC) studies determining the total effluent loads from farms in the area, also taking into account cumulative loads from other sectors into the receiving water bodies, are necessary, bur the individual farmer is often ill equipped in this context. CC studies only will help in determining the total effluent load of existing SF areas (WSA occupied by shrimp farms – an index of SF pond density) and potential areas for further expansion. In India, we have a good example of highly crowded shrimp farm areas around Kandaleru Creek – a small estuarine river flowing into Bay of Bengal, in Andhra Pradesh, India, where the creek waters showed high level

of pollution, and indeed collapse of the SF complex as it happened during the partial SF collapse in India over a decade ago, as elsewhere. Some level of remediation was achieved by reducing stocking density (SD) drastically to <10/m2, as imposed for rural traditional coastal SF in India by GoI/Aquaculture Authority (now Coastal Aquaculture Authority (CAA), consequent to India's Supreme Court intervention. But the solution is to restrict SF operations collectively (possible through SF Associations, "Aqua Clubs" as christened in AP, India) by reducing the total farmed area and intensity of operations to fall within the CC of the receiving water body, but such comprehensive CC studies are yet to be done at micro or macro level in most cases. A few such studies for determining CC of coastal water bodies have now begun in India by the Central Institute of Brackish water Aquaculture (CIBA Annual Reports)(contact: director@ciba.res.in), but none of these have come to any stage of implementation through national legislation, though SF in India is regulated by CAA.

The farmed shrimp production in India is dominated by small farmers – over 90% of the farmers own farms <10ha, dominated by <2ha size. Therefore ignoring the small farm production is not an alternative, for they are now involved in sustainable shrimp production following the prescribed norms and indeed is the economic base of shrimp farming in India as in other parts on Asia.

Carrying capacity of the ecosystem:

In this context, the Expert Consultation on Development of Sustainable Shrimp Farming in India, 28 – 29 August 2002, Chennai, India, organized by the Aquaculture Authority (presently CAA) in cooperation with DoF, Tamilnadu" recommended that:

- Macro-level planning including base studies as required should be undertaken to understand the inter-sectoral interactions, including socio-economics, and to incorporate aquaculture into Integrated Coastal Zone Management Plans (ICZMPs). Active involvement of the Departments of Fisheries, Central fisheries institutions/ agencies and other aquaculture/ fisheries stakeholders would be essential in preparation and finalization of ICZMPs.
- Micro-level planning should be carried out, including carrying capacity studies, clustering of farms and aquaculture estates. Research on carrying capacity should be taken up in priority at 2 – 3 sites for development of models for wider application in coastal areas. Carrying capacity studies should also consider effects of nutrient load and other polluting elements from different economic activities in coastal zones and contiguous upstream areas.
- Environmental assessment and monitoring programs should be taken up in important farming areas to monitor and advise on the (farm) cluster design and practices, to ensure that the carrying capacity of the ecosystem is not exceeded and also to advise on the changing environmental conditions in the estuarine/ coastal profiles.
- The Guidelines on Good Management Practices (GMPs) should be comprehensive to include environmental protection needs, labeling of chemical products used and disposal techniques for aquaculture wastes. Shrimp farmers/ self-help groups/ associations and NGOs as applicable should be actively involved in the preparation of the GMPs.

I suggest that in case of small farms in clusters or in the same locations as prevalent in several places in India especially, the responsibility for CC studies and ensuring the required SHAD standards should not be left to the farmer individually, but should be with farmers' associations (cf: "Aqua Clubs"in Andhra Pradesh, the premier SF State in India, see specific comments, also above), supported by Government/NGO agencies concerned. This suggestion would apply to several other SHAD standards as well, some of which have been pointed out.

- We completely agree and thank you for your extensive comments. We are trying to develop the best possible standards but plan to work with the ASC to find solutions to help ensure that small holders have the opportunity to comply. If this does not ultimately take place, the work will obviously not achieve the desired goal.

Principle 1: Comply with all applicable national laws and local regulations
Criterion 1.1: Legal Requirements

WWF France
Principle 1 is paramount and could be approved or reviewed by certification bodies holding the experience of dealing with these aspects within the framework of already existing certification programmes. It should be completed by the same directives for the implementation of standards already existing for the other principles.

- We agree and the ShAD is considering them as other resources for certification.

WWF Malaysia
Principle 1 is an oversimplified statement (very much in the vein of the RSPO Principle 1) which is set to provide very little guidance (if any). The Principle appears to be derived from an underlying assumption that every member of region has robust laws on aquaculture.
The rationale offers very little guidance of the implementation of this Principle. Though commendable that the goal of the ShAD is to go 'beyond the law', a baseline will be necessary. The baselines amongst the region will vary. In a situation where there is an absence/inadequacy of the law, how will the standards address/reconcile this?

There is need to also consider compliance to national policies related to the environment and biodiversity and regional frameworks such as code of conducts and Guidelines embraced by ASEAN member countries on aquaculture. E.g. Manual of ASEAN Good Shrimp Farm Management Practices signed in 1998. Many of these probably have not been transposed into local laws so there is a need to consider what influence these have within the industry in the region.

- Principle 1 does not assume that a country has a robust legal framework and only seeks to ensure that no certified farms are illegal. The rest of the standards cover the core issues of concern.

WWF-US
These are basically aligned with previous work done by Tilapia Aquaculture Dialogue (TAD) and the Pangasius Aquaculture Dialogue (PAD) and cover minimum "entry level" requirements.

- There is a need to state why only those areas of legality were covered and not others (e.g. farm waste disposal etc.)
- There is a need to elaborate the rationale statements
- We agree and have taken steps to correct this problem.

Flavio Corsin
It would take a lawyer to audit for 1.1.1 and ascertain the legality of farms. Suggest clearly specifying what documents should be audited for.
Why those areas of coverage and not others, e.g. shrimp health regulations etc. Need to include in the rationale. Guidance on how to audit these should be provided to have consistency with other principles

- We agree and have considered these comments in the new version of the standards.

1.1.1

Mark Nijhof

Paragraph 1.1.1 makes the following three paragraphs (1.1.2. to 1.1.4) redundant.
Much better would in my view be to demand a written assessment of all operational activities and subsequently have all relevant legislation available and to demonstrate compliance. Current criteria do not exclude, but make it prone to omit aspects such as exhaust gas emission of generator sets, ground- or surface water abstraction, labour safety issues etcetera, as they are not explicitly mentioned, although explicit paragraphs (1.1.2 – 1.1.4) are provided.
However, if used in combination with a 'best practise standard', this chapter will become superfluous!

- We have considered your suggestion in the new version of the standards.

1.1.2

NACA

In Thailand shrimp farmer do not pay the tax directly, and therefore it is more straight forward to state " farming related tax" rather than "all tax". The requirement should be limited to taxes paid directly by individual farmers or companies operating farms.

- We have considered your suggestions in the new version of the standard.

1.1.3

NACA

In the context of small-scale shrimp farming, it is challenging to provide evidence for compliance, where many agreements between farm owner and worker are based on verbal agreement. Suggest auditing of this standard to be considering practical and locally adopted ways (e.g. interviews instead of copy of contract document).

- We have considered your suggestions in the new version of the standard.

Principle 2: Site farms in environmentally suitable locations while conserving biodiversity and important natural habitats

WWF France

Concerning principle 2 and more specifically the first criterion, the GSC current proposal appears both very ambitious and very difficult to put into place for a number of suggested indicators. Farm location is a major concern indeed and may become the most difficult part of the standards. We feel here that it is paramount to remind the GSC of the importance of developing a practical tool for WWF France to be able to use as soon as possible in order to guide French buyers and consumers towards sustainable consumption. We welcome any proposal beyond these points provided it is articulated into a practical tool.

- Thank you for the reminder and we hope the new version of the standards addresses your concerns

New England Aquarium

Generally standards should be defined to clearly show how farms will be in compliance, expansions and new farms need not be pointed out as these should be considered when the farm is re-audited or initially certified. Should new directives be required adding a statement such as "no new impact after March 2010" should be sufficient.

- We have addressed this in the new version of the standards and welcome further comments.

We do not believe an exception for a silvofishery should be included in a top 20% standard, since these activities will still impact the environment they operate in (e.g. bacterial community changes) and may act as sinks for productive issues such as disease.

- We agree and have removed the exemption.

Consider adding an exclusion zone from other farm outlets and the certified farm inlet/pumping station unless a suitable neighborhood scheme is in place to avoid pollution from other farms in inlet waters.

- The GSC considered this but there was no agreement about including at this point.

Robin Lewis

Pond Types Are Too Few. I would recommend the standards be constructed around five types not two. These would be:

1. Abandoned/disused ponds constructed in wetlands with no operator (orphan ponds).
2. Abandoned/disused ponds on existing farms with an identified operator.
3. Existing farms with no abandoned/disused ponds.
4. New/expanding farms with no abandoned/disused ponds.
5. Future abandoned/disused ponds derived from new or existing farms that deactivate or abandon ponds, canal or pumping station constructed in wetlands after operation begins.

See discussion in Stevenson et al. (1999) about the use of the terms "abandoned" or "disused" aquaculture ponds. I will just use the word "disused" in the discussion as it proceeds.

If we assume that there were 30 million ha, that means shrimp aquaculture has resulted in the loss or damage to 1.5 million ha of former mangroves. This does not include impacts to wetland types other than mangroves such as salinas, and adjacent forested and marsh dominated freshwater wetlands. How much of this damage remains is unknown, but the amount should be characterized accurately as part of these efforts.

The fate of these disused ponds should be of great concern to the ShAD.

- Guidance for restoration will target these ponds. However, this is still being developed and we welcome further suggestions.
- The GSC did consider farm reclamation standards but deemed it inappropriate to include them at this time.

Wetland Compensation is Treated as Routinely Successful It is Not

The narrative requirement at various points that call for restoration of 100% of equivalent area or consideration of a policy of no net loss of wetland area is very simplistic, in my professional opinion, and ignores the reality of 30 years of unsuccessful efforts to routinely restore or create wetlands in the United States and overseas (Kusler and Kentula 1990, Lewis et al. 1995, NRC 2001, Erftemeijer and Lewis 2000, Lewis et al. 2003, Lewis 2005, Lewis 2009, Primavera 1995, Primavera and Esteban 2008, Sampson and Rollon 2008).

- We accept this point but would like suggestions on how to make it successful to the best extent possible

I would recommend that the draft standards and the requirements for wetland compensation seriously consider the history of such efforts, and the inherent risks with requiring untrained individuals to undertake these efforts. Restoration of disused ponds is likely to have a greater chance of success than the typical hand planting of seeds or seedlings of mangroves on unvegetated mudflats or similar inappropriate restoration sites as repeatedly documented around the world by Lewis (1999), Stevenson et al. (1999), Erftemeijer and Lewis (2000), Lewis

2005, Primavera (1995), Primavera and Esteban (2008), and Sampson and Rollon (2008). Guidance in the form of Ecological Mangrove Restoration guidelines of Lewis and Marshall (1998), Lewis (2005), Lewis et al. (2006) and Lewis (2009) are readily available at www.mangroverestoration.com and www.mangroveactionproject.org

The qualifications of approved certifiers of compliance with the standards with respect to wetland compensation should also reflect formal training and certification in wetland restoration and creation, or use of trained wetland professionals as part of the certification program.

- We accept this comment and will communicate it to the ASC when the time comes to do so. These qualifications have yet to be developed.

Flavio Corsin

In general the standards under this principle do not appear to differentiate appropriately between existing and new farms. Gathering some of the information requested for existing farms would be most often impossible because of the limited historical information available. Significant exceptions should be made, especially keeping in mind the context of countries and producers with limited resources

Suggest having standards for new farms and introduce a contribution to a restoration fund by all farms, including existing. This approach was considered acceptable within the PAD.

- We understand this point, but these standards are designed to create incentives to create change and greater transparency around these critical conservation issues.

NACA

In general, the question of the appropriate scale is an issue for small producers. There is no clear separation between small farms and they usually share water resources. Farmers feel that requirements for private land should be less than for state land.

- We recognize the issue regarding small holders and are working with the ASC to develop mechanisms to support them under this scheme.

WWF Germany

General remark: WWF highly welcomes stringent and effective regulations with regards to siting consideration for new shrimp farms and compensation / adaptation measures for existing shrimp farms with regards to former (illegal) habitat conversion.

As a general feedback, siting standards for new shrimp farms should be very stringent and clear, more specifically standards 2.1.1 2.1.12 are regarded as sufficient enough to cover the most critical issues with regards to habitat / species protection for new farms. For existing farms the same standards (2.1.1 2.1.12) somehow need more in-depth review in terms of practicability / applicability.

Restoration for existing farms (2.1.2 2.1.3: WWF regards restoration efforts as a key practice for farms that are situated in sensitive habitats. Restoration must compensate at least 1:1 the lost habitats. Restoration must be done in such way that ecosystem functionality is allowed, best in combination with establishment of buffer zones around the farms or towards aquatic water bodies (2.1.6 2.1.8.). If several farms are clustered as unit of certification, they may join their surfaces and define the areas for restoration along the most suitable areas (e.g. along the rivers / estuaries) For existing and new farms, standards 2.1.2, 2.1.6 2.1.8 should incorporate specific

standards for extensive, zero-input systems (e.g. such as Silvofishery systems). For such systems it is recommended to include standards for both buffer zones (2.1.6 2.1.7) as well as a new standard for mangrove coverage area on an individual farm. In Silvofishery systems optimum yields and ecosystem function are reached by a coverage of 60 70% mangrove (and ponds / water surface area 30 40% of a given farm), therefore it is suggested to include this as an additional new standard

Silvofishery systems should be further accepted within ShAD when they are in compliance with the regulation on buffer zones with a minimum width of coastal buffer zone of 200 m (+ 100m in comparison to current draft 2.1.6) and 100 m for adjacent natural water bodies (e.g. riparian zones along farms).

- We have addressed many of these concerns within the latest version of the standards and welcome further comments as to how well they have addressed your concerns.

Criterion 2.1: Ecological and biotic siting considerations

WWF-US

The column on existing farms would make most, if not every farm, non compliant as most, if not all, farms have been built on what was, at some point, wetland, mangrove etc. WWF-US believes that standards need to be set at a level where existing farms will have incentives to improve their environmental performance

WWF-US feels that there are not enough performance based standards in this section

- The 2nd draft has more specifics about how farms can comply with this standard.

Jake Piscano, CENTER FOR EMPOWERMENT AND RESOURCE DEVELOPMENT

There is no need for new clearing for ponds or fishfarms. Large tracts of abandoned/idle ponds are available for rehabilitation and operationalization.
There should no longer be any “new” development that will require clearing stands of mangrove. There are large tracts of idle ponds that can be utilized, and existing areas optimized.
We agree

2.1.1

WWF France

No new farms or expansion of existing ones in either the Ramsar or National Nature Parks sites.

- See comment 2 below

WWF-US

Agreed. Existing farms may have been sited in protected areas (PAs), but that historical information may not be available. WWF-US recommends that the ShAD considers a concrete date such as RAMSAR May 1999 to serve as a reference date.

- We agree and have modified the standards accordingly.

Inger Naslund

Strongly objecting that there should be any exception for new or existing farm siting in National protected areas.

- Please look at the intent behind the Protected Area system categories V and VI (http://www.unep-wcmc.org/protected_areas/categories/eng/index.html). They are not designed to outlaw all human activities, but rather to ensure that they are in accordance with the objectives of the Protected Area. We hope the current standards will achieve this goal.

NACA

Acceptable if built before date of declaration of PA and compatible with PA management plan. In the case of Samroiyot national park, special measures have been adopted by cabinet decree for PA. Reference to management plan must be made.

- We agree. The standards should reflect this now.

Belize Shrimp Growers

The document states that farms will not be located in the critical habitat of species of national significance. What exactly constitutes "national significance"? Which species preclude farm locations? Is there a grandfather clause for existing farms?

- See new standards draft.

WWF Malaysia

Recommendation

Allowance for siting in Protected Areas (PAs) with IUCN PA Category V or VI should only be allowed with approval by the PA management authority and stakeholders, and only if not in conflict with the management objective of the PA and in accordance with IUCN guidelines.

Justification

Even for IUCN PA category V or VI, aquaculture farms should only be permitted under specific circumstances. In deciding on these matters, there is a need to take into consideration the potential impacts of the aquaculture activities and how the values and integrity of the PA would be affected. Stakeholder consultation should be undertaken in the planning processes and the necessary EIA and other relevant assessments such as HCVA should be conducted to determine whether or not the aquaculture farm would compromise the intrinsic value of the PA and the achievement of its management objectives.

It is unclear if “National Protected Areas” exclude sub-national (state, provincial, or local) protected areas.

Recommendation

The indicator should be changed to include all Protected Areas (National, state, provincial and local PAs).

Justification

In some countries, PAs are gazetted under the state, provincial or local laws and not necessarily under the Federal laws. Therefore, they might not be referred to as National Protected Areas but in terms of their biodiversity and ecosystem services, they would be just as important as a National Protected Area.

Consider replacing the reference provided (IUCN, 1994, Guidelines for Protected Areas Management Categories. IUCN, Cambridge, UK and Gland, Switzerland.261pp.) with the latest reference i.e Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland:
IUCN. x + 86pp.

- Thank you. Please check the reformulation, as we have tried to incorporate these recommendations.

2.1.2

New England Aquarium

Standard 2.1.2 and 2.1.3 are good points; however access to historical data and changes in environment might make this difficult to audit, additionally these lands could have been converted legally. Adding a start date of Ramsar or when these areas became protected if

before 1999 may be more realistic and achievable objectives. Where restoration projects take place, natural restoration should be preferred. It should be noted that restoration, especially natural, can take time to achieve the diversity and the zonation pattern of the original mangrove. Ensuring that natural processes can take place (e.g. hydraulic access by propagules) and monitoring would be useful. A standard of 100% of farm footprint above the high-tide line would be a suitable indicator (excluding pumping stations) and cover all these issues.

- We have added the Ramsar date, as you suggested, and have considered some of your other recommendations as well.

WWF-US

Although WWF US agrees, most of it used to be mangroves at some point. How can existing farms comply?

Sylvofishery question. Sylvofishery is likely to not be able to be certified under the wetland and mangrove protections. Suggested action: remove reference of sylvofishery as the document already has stated targets for mangrove and wetland conservation.

- We have removed the silvofishery exemption and are continually working on guidance to address the compliance of existing farms.

Robin Lewis

Silvofishery Efforts are Treated as "A Good Approach" Using "Simple Technology" (page 22 in the Draft Standards) Neither of These Statements is True.

I would recommend the authors of the draft standards review pages 43-46 in Lewis et al. (2003), Fitzgerald (1997), Brennan et al. (1999), and Clough et al. (2002) for additional views on the viability of silvofisheries.

- Thank you for this comment. We have attempted to address this concern by removing the exemption for silvofisheries.

William Rash

(Criterion Guidance 2.1.2-2.1.3). What is the justification of pre 1999, existing farms should be anything thing that is in operation prior to the standard being available?

Criterion 2.1.2 & 2.1.3: Standard must reflect siverfishery techniques and set out to encourage such practices. Standard should specify siverfishery target of 50-60% mangrove to 50-40% water.

- 1999 is based on the Ramsar Convention. Please see the document for further details.

Javier Duena

Not allowing farms built prior to 2010 and that encroached upon mangroves to meet standards would automatically exclude what is certainly a significant percentage of operations that would have considered meeting the standard under a realistic mitigation and therefore contribute considerably to coastal ecological restoration. What may be viable is to contemplate restoring mangroves where most needed.

- We have modified the standards accordingly and hope that, in doing so, we have addressed your concern.

Flavio Corsin

In Asia, a great deal of small-scale farms were established in mangrove areas sometimes with the encouragement of government organizations. Those farms are currently still operating and

will not have a chance to conduct restoration activities as the land they own is limited. It is not clear why those farms should be made accountable for decisions taken by others and without knowing the consequences. Suggest to make exception for small-scale farmers who operated within legality when conversion was conducted

- We have considered this, but there are some situations where the destructions of mangroves for shrimp farms is unacceptable regardless of whether it was legal at the time. This is a key issue for the ShAD to address with the standards.

NACA

Exception for extensive aquaculture provided establishment of the farm was legal and a reforestation program is put in place.

- See above response.

WWF Malaysia

Whilst offsetting is a common principle in conservation in order to ensure that there is no net loss in biodiversity, this principle cannot be applied in all cases. The importance of a mangrove / wetlands ecosystem especially for its ecosystem services has to be considered within a local context in most cases. For example, the mangrove / wetlands area may be important in terms of local fisheries or for flood mitigation purposes. In these circumstances, offsetting via restoration of equivalent wetlands area and characteristics in another area will serve little purpose, especially to the local community.

The ShAD should consider at least two aspects before suggesting offsetting as a blanket solution

a) how much of mangrove / natural wetlands area will be cleared for canals etc. This could be in the form of percentage of the farm size or in comparison to the total mangrove / natural wetland area in that locality) the importance of the mangroves / natural wetlands, not only in the national context but also within in the local context.

For guidance, for existing farms that were historically on mangrove / natural wetlands, the farm should be required to set aside resources to restore a mangrove / natural wetlands habitat of an equal size.

- We have tried to address some of these concerns in the new version of the standards and welcome further comments on this issue.

2.1.3

WWF France

The mangrove indicator is to refer to May 1999 in its proposal. It seems crucial to us not to consider the standards publishing date as the start of industry change. Referring to ten years back will allow the more proactive producers to be duly rewarded.

a. 8% before May 1999 with 300% effective reforestation.
b. Waterworks and canal setting up should be allowed in the mangrove areas beyond May1999 with 300% effective reforestation.
c. Farms which do not comply with these criteria but nevertheless make efforts to reach that level e.g. 'closing' ponds or by any other means should be able to obtain certification as well.

- This is a Ramsar reference and the GSC believes it to be the best cut off point. The GSC is still considering your other suggestions.

M.N. Kutty

Com: Highly essential in areas such as Vembanad Lake (estuary) (a Ramsar site)/coastal belt in Kerala in India, where aqua farming operations – though some organic farming - is going on.

WWF-US

Agreed. Same as above. Ramsar in May 1999 would be a useful reference date
The wetlands areas "characteristics" will be hard to mimic, thus duplicating characteristics at a specific location for wetland restoration appears a bit far from reach. Suggested action: Strike the "and characteristics" from both existing and new/expanding farms.

- The standards for P2 have been modified significantly according to all the Public Comment input received. We welcome further comments.

NACA

Retroactive assessment will not always be possible and limits of the natural wetland is not clear as the area has been heavily intervened by humans and waterways were modified. In Samroiyot a zoning of activities has been established, which defines a conservation area (wetland). Reference to such zoning appears as the only practical way of defining "natural wetland".

- We have addressed this comment in the new version and would invite further comments on its suitability.

WWF Malaysia

It is stated that ponds can be built in flood plains provided the hydrology of the area is maintained and a percentage of the natural land is not developed. This needs careful consideration due to the following reasons:-

a) By allowing ponds to operate in flood plains, will there be risks of ponds being flooded and overflowing into natural river systems during the rainy seasons? If yes, this could pose a problem especially if the aquaculture ponds are situated inland and saline water is used in the ponds.

If the ponds are raised to reduce flooding risk and damages to the farm, will this lead to increased flooding in the surrounding low lying areas?

- We hope this concern has been addressed by the requirement of the BEIA in the new version of the standards. Please comment on these changes in the new version.

2.1.4

New England Aquarium

BEIA may not be suitable for small farmers; perhaps a size limit on the farm or annual production for this might be prudent. EIAs in many countries are required only on larger operations (e.g. 50Ha in Indonesia) if at all. Biodiversity may change over time, therefore, a BEIA may need to be renewed (e.g. every 5 years). Proposed standards 2.1.9-2.1.12 on BEIA would likely be prohibitive to smaller farms thus biasing the standard towards much larger operations. Standards 2.1.4, 2.1.5 and 2.1.15 should be combined – No siting in critical habitat defined by presence of IUCN red list, local listing processes or defined HCVA areas. No exceptions for silvofisheries should be included.

- We have addressed many of your comments in the new version of the standards. We accept the concerns about small holders, but it is up to the ASC to develop mechanisms to address this. The silvofishery exemption has been removed.

WWF-US

The BEIA requirement mandated by an accredited national body within national legislation is not always or uniformly available in most shrimp producing countries. Furthermore, mandating its completion does not offer guarantee of quality or relevance for the purposes conservation objectives. It is onerous, costly, and the high variability of its potential benefits to conservation is not consistent. Suggested action: Strike 2.1.4.

- The GSC recognizes these challenges and has developed a guidance module to create the required specificity. Further work will be done on this prior to the finalization of the document. Further comments are welcome.

Flavio Corsin

How can a BEIA be conducted for farms established decades before? Suggest removing this standard.

- See appendix 1 to view the guidance on this issue. Further comments are welcome.

NACA

Current presence of such species on farm does not imply that farm was built on their natural habitat (ponds, water, trees developed by farms may attract animals that would not be there otherwise). Would only apply to areas surrounding the farm. Then the requirement should be to contribute to the protection of these areas. Contribution as a group of farmers rather than an individual farm must be accepted. The category of IUCN Red list should be considered. At least "Least Concerned" species should be exempted.

- We have modified the standard to clarify this further and welcome your comments on the latest version of the standards.

Dr. A.G. Ponniah

'Farms protect areas of critical habitat for such species'. May not be applicable for small farms. Further BEIA requirement need to be waived for small farms. Under Indian Law Comprehensive EIA including SIA is mandatory only for farms of above 40 ha in area.

- The GSC must set the standards it believes represent the minimum acceptable bar and it is up to the ASC to develop mechanisms to support small holders. The GSC must ensure that all of the critical conservation and social impacts of shrimp farming are addressed under this standard.

WWF Malaysia

Comment

WWF-Malaysia supports the emphasis on the critical habitats for species at risk nationally or IUCN Red List species. But it is unclear how Indicator 2.1.4 will be applied for existing farms. For new farms, the BEIA should assess the impacts to the species at a landscape level.

Justification

From WWF-Malaysia's experience, for proposed projects situated in an area which is a critical habitat for a threatened terrestrial species, in most cases the EIA will simply state that the wildlife / species will move away to adjacent areas. Without conducting a landscape level assessment, it would be difficult to assess if such presumed habitats adjacent to the project area are suitable or are able to support an influx of individuals from another habitat patch.

- We recognize this challenge and are doing our best to address it in the standards, but it is unclear if the tools are sufficiently developed to be included. We have modified the standards and welcome further comments on how to address this concern.

2.1.5

- The GSC accepts the concerns listed below, but believes that continuous improvement and the development of mechanisms to ensure credible assessments are necessary next steps once the standards have been developed. There have been revisions to simplify these standards and we welcome further comments on the 2nd public draft.

WWF-US

No defined list or credible study referencing the presence of "species of risk" is available in the majority of producing countries. Mandating 2.1.5 puts the credibility of the standards at risk due to the subjective judgment required by auditors or authors of reports generating required information. Suggested action: Strike

Flavio Corsin

How to get historical information on what was the habitat of a species at risk? Red Data Book appears to have been published for the first time in the 90's (1992?), hence after a great deal of farms had been established. Suggest removing this standard.
2.1.5 We are familiar with the Red Data Book of Vietnam, which includes >1000 pages of poorly auditable material. Suggest removing this standard.

NACA

This indicator should be grouped with 2.1.4.

2.1.6

- The GSC has revised the standards for buffers, etc. and created a new proposal to address some of the concerns that were offered. It is difficult to respond to each comment due to the many changes in the standards. We welcome your further comments on the new version of the standard.

M.N. Kutty

Minimum width is now 500m as per CRZ norms (subject to current review) applied now in India, but existing traditional SF ponds are allowed in this zone but the farming is necessarily low input, allowing only a very low stocking density (<10 Pl/m^2) and the system followed extensive - see also General Comments.

New England Aquarium

unnecessarily prescriptive; while tree density may be useful, other systems – such as breaks or walls could be used. We suggest a 100m exclusion zone from the high tide line to the farm boundary with suitable wave protection where no or little vegetation (<30 trees/100m2) exist. This would exclude silvofisheries.

WWF-US

Agreed with revision to exclude tree density standard. Suggested action: strike reference to tree density. Furthermore, tree density is rarely under the control of the farmer.
There is no mention of the canal and pumping station breaks in the buffer zones. Suggested action: Revise to make it clear that pumping station and canal breaks are allowed in the buffer zone for the purpose of accessing water.

William Rash

Standard needs to draw the distinction between buffer zones that are between the farm and the coastline and buffer zones that are between the farm and the river/estuary line.....as the required length of these buffer zones can often deemed to be different.

Inger Naslund

Minimum width and density of buffer zone between farm boundary and closest (exposed coast) maximum high tide line. - Questioning the measures of the minimum 100m. Here would suggest at least 200-300m on each side of the farm as a buffer zone not to be on the edge of protection. The coastal buffers should be at least 200-400. The same should be for 2.1.7 Minimum with for riparian buffers should be 100-200m.

Flavio Corsin

The tree concentration is outside of the control of the farmers. In addition most areas in the Mekong delta do not have a buffer zone at present as what is to be used as buffer zone is occupied by farms. Suggest removing this standard.

NACA

Reference should be legislation by the time farms were established + Same comments as for new farms.
Small farms located very close to each other and often do not have buffer zone.
We talk here of mangrove forest as buffer, which is always located below maximum high tide. Therefore, the indicator must consider distance between farm and low tide line (or at least mangrove limit on exposed coast). Allowance for pumping stations and canals needs to be considered. How to consider situations of coastal erosion? Also, the case of salt flats or other areas that are improper to tree growth could not be forested.

Dr. A.G. Ponniah

Coastal buffer - The buffer zone prescribed is adequate but in case the zone is devoid of trees it cannot be the responsibility of the farmer to plant them. Normally in India, the no development zone in the coastal areas is under the ownership of Government and farmer has no direct say in its maintenance. In case the standards expect the buffer zone to be provided by the farmer in his land holding, in the absence of such in the Government land , it will be feasible for larger farms only. This standard should not be applicable to traditional an extensive farms existing prior to the standard introduction.

WWF Malaysia

<u>Recommendation</u>

The need for a natural vegetation in the buffer should be emphasized.
"Minimum width and characteristics of riparian buffers **with natural vegetation** between farms and natural waterways".

<u>Justification</u>

In some cases, the farm operators could clear the natural vegetation and attempt to "beautify" the buffer zones through landscaping works. This could reduce the effectiveness of the area as a buffer zone between the farms and the waterways. It is therefore necessary that the natural vegetation within the buffer zone is left intact. In cases where the natural vegetation is degraded, the operators may need to restore the buffer zones by re-planting natural species.

Recommendation
Buffer areas between farms and terrestrial systems should be determined through a detailed assessment.

Justification
A single buffer size will not be applicable for all farms. In some areas there will be large mammals or reptiles that might need a larger buffer area and in some areas these species might not be present and a smaller buffer might suffice as a wildlife corridor. Therefore, the size of the buffer zones should be determined during the BEIA.

2.1.7

- The GSC has revised the standards for buffers, etc. and created a new proposal to address some of the concerns that were offered. It is difficult to respond to each comment given the changes in the standards. We welcome your further comments on the new version of the standard.

New England Aquarium
define "farm boundary" and how pumping stations are considered. This standard is unclear and needs further clarification.

Carlos Ramirez
could be enough one (1) corridor in farm. In our case we have 1 big enough.

Flavio Corsin
What were natural water ways? In the Mekong delta the distinction between natural and man-made waterways is not that clear. How to audit? Also, there is a great lack of historical information. Suggest removing this standard.

NACA
Reference should be legislation by the time farms were established.
Allowance for pumping stations and canals needs to be considered. Rivers are dynamic in tropical countries; how to account for natural modifications of watercourses?
+ Same comments as for new farms.
Sometime, resource poor farmers are locating very close to natural waterways, due to limited land resources. Exceptions should be made if farmer can demonstrate measures to minimise impact to natural waterways.
Guidance says it must be forested, but why should it be if natural vegetation is different? Natural vegetation of Samroiyot wetland does not count trees. Reference should be native vegetation type.

Dr. A.G. Ponniah
For existing farms riparian buffer should be exempted and for expanding farms it can be reiterated. Again this may not be feasible for small farmers and a criteria to except them to be incorporated.

WWF Malaysia (page 18)
Difficulty in implementing a 400m wide buffer should not be conveniently used as an excuse to go for a less stringent riparian buffer requirement. Based on practicality reasons, initial

commitment towards compliance of 200m zone is acceptable. However, ShAD should also include a requirement to conduct an evaluation to determine whether 200m buffer zone is sufficient as part of the feasibility or EIA studies for new farms especially in cases involving large scale farms located within the vicinity of environmentally sensitive areas.

2.1.8

WWF-US

BEIA requirement mandated by accredited national body within national legislation is not always nor uniformly available in most shrimp producing countries and mandating its completion does not offer guarantee of quality or relevance for the intended purposes of conservation purposes. It is onerous, costly, and the high variability of its potential benefits to conservation is not consistent. Suggested action: Strike 2.1.8 to 2.1.11.

- The GSC respectfully disagrees and has revised the standards to clarify the guidance and requirements of the BEIA. Ensuring the resources to achieve this standard is something the ASC must address.

Flavio Corsin

What should a farmer with a 1ha pond do to comply with this standard? Fill the pond up? Even in the context of a farmer group some farmers would be requested to convert their pond into natural ecosystems, which would have tremendous socio-economical implications. Suggest removing this standard.

- We have modified the standard and welcome further comments.

NACA

Suggest including simple drawing/diagram to understand the standard clearly.
Design of farms cannot be modified. Presence of alternative corridors, especially around small farms needs to be accepted. Size of farms needs to be considered. The proper scale is not farm, but it needs to include areas around the farms.
There would be accountability issues for a group of small farms established on private land.
What is the purpose if farms surrounded by buffer zones? Surely they would act as wildlife corridors. Farm size should be considered: what is the point of a corridor in a small farm?

- This is a good suggestion that we were not able to address in the latest version of the standards but will attempt to do so for the final version

Dr. A.G. Ponniah

BEIA should be mandatory only for large farms of 40 ha and above

- We have included a guidance matrix that includes considerations of the challenges for smaller farms. We welcome further comments on this.

2.1.9

- **GSC Response to comments on 2.1.9 – 2.1.11**

The GSC has significantly revised and expanded on the requirements for the BEIA in Principle 2, including having added a seven-page appendix to explain as much detail as possible. We welcome further comments and will continue to do work on this issue.

WWF France

The requiring of an Environmental Impact Assessment does not seem to be the proper means to reach a level of performance. The GSC should aim to put forward the real level of performance

to achieve focussing on the most important impacts which, in our view, are the ones concerning the mangroves and the sensitive sites identified by Ramsar and Nature Parks.

M.N. Kutty

No EIA is required for farms smaller than 10 ha in India, but all need to be registered (licensed) and have to comply with the norms prescribed by the Coastal Aquaculture Authority (CAA), a statutory body set by GoI. However, some mechanism for ensuring the monitoring and reporting from smaller farms should be in place, so their products are not left out. See General Comments

Inger Naslund

One of the most effective ways to ensure that an EIA process is fair and credible is through full and public stakeholder engagement, with all affected and interested parties, and public disclosure of Environmental Impacts Statements. - Believe it is very important and support the EIA, BEIA transparency and want to stress that the importance is also to communicate with people who are not efficiently reading. There should always be information available for all people involved in the business.

NACA

Refer to legal requirements by time farms were built. EIAs have never been mandatory for shrimp farms in Thailand. EIAs are not retroactive. An alternative needs to be identified for existing farms. Funding is a problem for small farms.
In the case of Samroiyot, a number of studies and management decisions have been made in relation to the inclusion of the wetland in a national park and Ramsar site. Reference could be made to existing studies and regulations.

WWF Germany

BIEA for small scale farms: For small scale farms there should be provisions in place to combine BIEA for a cluster / area of small farms. As a limit to perform BIEA for individual farms, annual production volumes could be taken as the indicator, since this is often
reflecting the financial capacity of a given farm. The same indicator could be used to determine the size of a cluster of farms subject to BIEA. e.g. BIEA is mandatory for single farm with output of > 250 t / year and cluster of farms with combined output of > 250 t / year.

Belize Shrimp Growers

What constitutes a national accreditation body for EIAs? Would approval by a national committee that appoints consultants for the EIA (NEAC in Belize) be considered equivalent?

If the EIA does not stipulate the type of wildlife corridor to be maintained, then how does the farm identify those corridors? Does this feature need to be retrofitted into the EIA if the EIA has not already provided this information?

WWF Malaysia (2.19 -2.1.11)

<u>Recommendation</u>

EIAs should be mandatory for farms that can have a potential impact on Environmentally Sensitive Areas / Sensitive or critical Ecosystems / HCVAs.

<u>Justification</u>

Whilst the siting of the farm might not be in an environmentally sensitive area / sensitive or critical ecosystem or HCVA, the farm could have a potential impact on a sensitive ecosystem

through landuse changes or effluent discharge. In such cases, the size of the farm or the intensities should not be the criteria to determine if an EIA is needed. An EIA should be conducted. Without such an assessment, the impacts to the sensitive area, if any, cannot be determined.

Recommendation
The current separate indicators for EIA and HCVA assessment should be retained.
Justification
In most countries, EIAs are a legal requirement but the quality of the report, the public participation process and other procedures differs significantly. For certification purposes, the farms should demonstrate a standard that goes beyond the legal requirements. HCV assessment are usually not part of the EIA process. Therefore, in WWF-Malaysia's opinion, HCV assessment should be captured as a separate heading / indicator.

2.1.10

- **GSC Response to comments on 2.1.9 – 2.1.11**

The GSC has significantly revised and expanded on the requirements for the BEIA in Principle 2, including having added a seven-page appendix to explain as much detail as possible. We welcome further comments and will continue to do work on this issue.

Aldin Hilbrands
It is suggested under indicator 2.1.10 that BEIAs need to be conducted by an accredited assessment team. Firstly, this sounds like an expensive task that needs to be outsourced to experts and the farmer cannot perform by himself. Second, there are not details given of the accreditation standards that these team need to comply with nor of the accreditation bodies that undertake this accreditation.

Flavio Corsin
what if there is no national legislation? In South-East Asia the capacity to conduct such BEIA is extremely low. How should the millions of small-scale farmers comply with this standard if they were to seek certification (and they were among the top performers for everything else)? Suggest removing this standard.

NACA
Refer to legal requirements by time farms were built.
It is unknown what capacities exist in Thailand and could be accessible by small farmers.
Biological information about Samroiyot was produced by academics and NGOs in relation to the creation of the national park and the Ramsar registration of the site.

2.1.11

- **GSC Response to comments on 2.1.9 – 2.1.11**

The GSC has significantly revised and expanded on the requirements for the BEIA in Principle 2, including having added a seven-page appendix to explain as much detail as possible. We welcome further comments and will continue to do work on this issue.

Flavio Corsin
Most farmers do not have a website or access to internet. Suggest removing this standard.

NACA
Consider the requirement of an environmental management plan. This should have to be developed by a farmer group as individual farmers would have the capacity to establish such management plans.

CP Indonesia
BEIA statement and associated management plan published and accessible at the company and local government offices in appropriate language.

All documents pertaining to the BEIA / EIA should be made available to members of the public for review and feedback.

Justification
Public participation and disclosure procedures for the EIA process varies between countries. It is important that the public is able to inspect, review and provide comments on the BEIA / EIA. In some cases, NGOs might not have a community based or biodiversity project in the said area but nevertheless will be able to provide comments on the BEIA / EIA based on their experience.

2.1.12

- The GSC has removed this standard from the 2nd public draft of the ShAD Standards. Please see the public comments received below. The GSC would like to make it clear that this is a critical issue that it wants to ensure is addressed once the HCV network has developed the appropriate criteria for aquaculture.

M.N. Kutty
How do we implement incentives to undertake landscape level and integrated coastal planning processes and deal with the issues of 'carrying capacity' and cumulative impacts? Are EIAs, HCV assessments and Quantitative Conservation Planning on their own sufficient to deal with these issues? What else would be recommended? Are data collection layers feasible expectations for farmers both in terms of costs and/or capacity?"

Planning, monitoring and management especially at the small farmer level in farm complexes – clusters, are often beyond the capacity and means of the individual small farmer, except perhaps for larger farms in isolated areas. One might find an ideal farm setup individually in isolated cases, but cumulatively within the landscape/ecosytem or even at a larger geographic level, carrying capacity (CC) studies determining the total effluent loads from farms in the area, also taking into account cumulative loads from other sectors into the receiving water bodies, are necessary. This only will help in determining the total effluent load of existing SF areas (Water Surface Area, WSA, occupied by shrimp farms – an index of SF pond density) and potential areas for further expansion. In India there is a good example of highly crowded shrimp farm areas around Kandaleru Creek – a small estuarine river flowing into Bay of Bengal, in Andhra Pradesh, where the creek waters showed high level of pollution, and indeed leading to collapse of the SF complex, as it happened during the partial SF collapse in India over a decade ago, as elsewhere. Some level of remediation was achieved by reducing stocking density (SD) drastically to <10/m2, as imposed for rural traditional coastal SF in India by GoI/Aquaculture Authority (now Coastal Aquaculture Authority - CAA) of India, consequent to India's Supreme Court intervention. But the solution is regulating SF operations collectively (as done now through SF Associations, "Aqua Clubs" as christened in Andhra Pradesh, India) by regulating the total farmed area and

harmonizing regulated farming operations to fall within the CC of the receiving water body. Comprehensive CC studies are not done generally at micro or macro level, but sustainable practices advocated by GoI/CAA and promoted by the Marine Products Export Development Authority (MPEDA) and the concerned State Governments are generally being followed. A few of the needed comprehensive studies at macro level for determining CC of coastal water bodies and recommending the critical limits of SF areas (WSA) have now begun in India by the Central Institute of Brackish water Aquaculture (CIBA) – see Annual Reports (contact: director@ciba.res.in), but none of these have come to any stage of implementation through national legislation, though SF in India is regulated by CAA.

The farmed shrimp production in India is dominated by small farmers – over 90% of the farmers own farms <10 ha in size. Therefore ignoring the small farm production is not an alternative, for they are now involved in sustainable shrimp production following the prescribed norms and indeed reaping socio-economic benefits accrued. More on this in 'General Comments'.

Is the scale of 10 km and time scale for 2.1.10 appropriate?"

Com: This standard will be difficult to follow for the small shrimp farmer in India/Asia. See General Comments

WWF-US
Internationally recognized and transparent governance identifying and recognizing High Conservation Value Areas (HCVAs) are neither readily accepted nor defined. Thus, it remains difficult to mandate no-go zones in HCVAs. Using this indicator without established recognition of such areas could impact the credibility of the standards. Suggested action: Revise to read "Avoidance of siting in zones identified by International Moratoriums such as the Amazon Basin". A key question remains: how to collect historical information for existing farms? This could be considered in the future if a methodology becomes applicable for site or if a roundtable on that issue is initiated.

Inger Naslund
Allowance for siting in High Conservation Value Areas (HCVA). - Highly questioning how this can prove to support HCVA? Should not allow siting of farms in HCVA!! This has to be solved in some way as I understand that today farms are already sited in HCVA.
- 2.1.12 2.1.13 Still believe it is relevant with the systematic, quantitative conservation planning as described.
- The definition 5 New Farm: Encompasses all forms of expansion, new ponds, new farm sites or related facilities done after publication of this document. - Should be added that this farm has a running production at this time.

Flavio Corsin
How are HCVA defined? Are there maps? We looked at the web resources but we could not find any "auditable" information.

NACA

In Samroiyot a zoning of activities has been established, which defines a conservation area (wetland). The consultation process used to achieve such zoning could be considered as an acceptable way of defining a HCVA.

Dr. A.G. Ponniah

The rationale for this seems to be to generate the data required for scientific planning. In India, implementation of Integrated coastal zone management programmes are in the purview of provincial Governments and how the farmer could ensure that in the next five years?

Belize Shrimp Growers

The BSGA would like to see extensive development of the high value conservation area concept. The larger part of the goals of an ecocertification should be to preserve local high value ecosystems. Direct linkages between the farms and this process seem a highly valuable undertaking. BSGA is exploring participation in local committees with a conservation focus that address mitigation and prevention of anthropogenic impacts

WWF Malaysia

Comment

It is unclear who determines HCVA areas. This needs to be clearly stated in the document.

Recommendation

Apart from HCVAs, areas that have been identified as Environmentally Sensitive Areas / critical ecosystems / habitats in national, state or local landuse plans and policies should also be included in this indicator.

Justification

In many countries, there are planning processes to identify sensitive ecosystems at the national, state and local levels. These areas should be maintained and should not be converted for aquaculture projects.

2.1.13

- The GSC has removed this standard from the 2nd public draft of the ShAD Standards. Please see the public comments received below

New England Aquarium

The Scientific conservation planning proposed standard 2.1.13 could be highly problematic if these studies were performed badly. Additionally, a 10km radius is unlikely to be justifiable for a small producer. Is the concept of overlapping reports likely if, as stated, the standard covers only the top 20% of farms?

WWF-US

Mandating spatial land/water use on 20 km diameter of farm site in digital format is overly burdensome and largely unavailable in most regions where shrimp farming takes place. We respect the interest and focus of the GSC to impose such requirements but argue that it best be limited to coastal zone planning, research, and regulatory activity and should not be mandated as required for compliance with standards. Suggested action: Strike 2.1.13.

2: Question on hydrology (pg 26) – in the current standards document, there is little room for hydrologic manipulation. Therefore further standards on hydrological conditions are not needed.

Flavio Corsin
We understand the intent, but believe this is an unrealistic and unnecessary requirement for e.g. small-scale producers of Asia, who would not be able to provide this information.

NACA
Scientific information about Samroiyot wetland was produced by academics and NGOs in relation to the creation of the national park and the Ramsar registration of the site. But otherwise, it is unclear how small farms could comply with that requirement.

WWF Germany
The scale of 10 km does seem quite high, there is hardly any shrimp farm this size. May be a more appropriate limit of this is again annual production volume (since this reflect financial capacity of farms) in combination with surface area of farm. Farms with outputs > 2'000 MT / year and / or surface > 500 ha should be subject to 2.1.1

Criterion 2.2: Prevention of salinization of adjacent freshwater and soil resources

CP Thailand
This is not a standard and does not address the issue of salinization. It is more important to measure actual salinization impact than mandate soil conditions. What if the surrounding soil is already saline? I would also argue that a soil with 11% clay and 69% sand would do little to prevent seepage and salinization. Based on this – a concrete pond design as used in some farms would not qualify. How does one go about sampling for these standards. Some farms have several types of soils, Does one pick a pond to determine or does one need to sample all ponds. If one pond fails the test; how does that affect the standard for the farm. How about construction methods that are used specifically to prevent seepage (for example, using an impermeable core). The guidance for auditors using the "simple method" would not provide any assurance that the standard as written was met.

- We agree that this aspect should not be addressed as an indicator and have now moved it to the guidance section, as it is a good practice for farmers to employ.

WWF Germany
Within Criterion 2.2 we do not find an indicator / standard making sure that farming of marine shrimp in freshwater habitats is excluded from certification by the ASC. Indicators 2.2.4 and 2.2.5 are addressing the changes of salinity in the water / soil (conductance and chloride concentration) but the important issue is on timing of such analysis: Most saline water is being discharged into the surrounding water bodies upon harvesting (pulsating effect), which has a clear and major impact on water and soils. Such practice must be prevented and not allowed.

- We do not want to be prescriptive and exclude anyone on principle because we want to allow for technical solutions to solve for key problems. However, it is difficult to address this issue without being prescriptive.
- We recognize this concern (pulsating effect) and are continuing to work on this issue.

Belize Shrimp Growers
The farmers feel strongly that 1cm loss of water level could easily occur due to simple evapotransporation in hot subtropical climates and that the loss of <1cm per day was not feasible as a goal. Is it possible to structure the 1500 umoh standard in a way that the farmers are responsible for impairments due to infiltration without resorting to a standard that requires

no infiltration?

- We have acknowledged this challenge and have reformulated the indicator to specify that we are to make sure it addresses water loss through seepage only. Evaportransportation needs to be subtracted. We recognize this will be technologically challenging and are working on solutions to this problem. This is required only of farms located in freshwater areas.

2.2.1

New England Aquarium

Add "fully" between "not" and "covered" in the indicator.

- We will consider this recommendation.

WWF-US

By mandating the performance Indicator / Standard 2.2.4; then 2.2.1 through 2.2.3 become prescriptive and redundant. Suggested action: Strike 2.2.1 ; 2.2.2 ; and 2.2.3 .

- We agree in theory, but, in reality, the possibility of monitoring underground water will not always be guaranteed. Therefore, these are valuable preventive indicators.

Inger Naslund

Soil texture required for ponds and canals not covered with a plastic liner or other waterproof material. The clay content should be on the more precautionary side to be 20-30% for to ensure that saline water sip through to fresh water.

- See below response to WWF Malaysia

WWF Malaysia

For soil texture for ponds not lined by waterproof material, the clay content is stated as >10% but in Page 28 it is stated that having a clay content of 20 – 30% is recommended for pond site soils. If the recommended clay content is 20-30%, why isn't the minimum requirement for clay content for ponds and canals not covered with a plastic liner or other waterproof material set at 30%?

- While 20-30% is recommended, the GSC believes that there is no documented evidence that 10-20% is a problem. Therefore, we believe that setting the standards at 20-30% would be an unfair target, especially given the other requirements in the standard.

2.2.2

CP Thailand

Seems this was just picked out of the air – is there any supporting data to show that this is a meaningful number?; I have run completely lined ponds with greater loss than this at certain times of year. Same here – any measurements I have run (OK a long time ago) gave much higher rates than this for evaporation in the dry season. Again is measurements in each pond or or for one demonstration pond or what, over what period?. Quite apart from how this will be measured or verified. If a farm tops up water loss every week, how does that fit in?

- As explained in the rationale on page 28, a recent literature review found that normal seepage from aquaculture ponds did not exceed 20 cm/month, or 0.67 cm/day[1]. As for evaporation, considering that most farmers would not have access to reliable data, it was determined to use average values for evaporation from the sea given by

[1] Boyd 2009

Baumgartner and Reichel (1975)[2] as 0.39 cm/day between 0 and 20°N latitude and 0.43 cm/day between 0 and 20°S latitude – the area in which most shrimp farms are located. The average ocean evaporation for the zone 20°N-20°S latitude is 0.41 cm/day. However, we acknowledge that the evaporation rate could be higher in some regions and during certain periods of the year. Therefore, we modified the proposed standard to allow farmers to enter their own evaporation data into the equation, provided they can justify a reliable source of data.

William Rash

Formula does not take into account water evaporation, precipitation or seepage.

- Water loss is defined as cumulated loss through seepage and evaporation (see footnote in the standards document). The explanation of why the indicator combines losses from evaporation and seepage is given in the rationale for the standard. As for precipitation, the guidance says that measurements need to be done during a 24-hour period without rainfall, otherwise an adjustment for rainfall must be made.

Mark Nijhof

Why does the standard not focus solely on salinization in the various water bodies due to farming? The 'water drop' criteria of 1 cm day may very well be exceeded by a fresh water (*Macrobrachium rosenbergii*) shrimp farms, without violating good farming principles! In fact, *Penaeus monodon* is also cultured in ponds with very low salt levels, making higher seepage rates (in volume) acceptable. I think that this criterion is much better met by demanding routine (ground)water salinity tests.

- This argument makes sense, however, groundwater monitoring would be challenging for many farms that do not have wells of the appropriate depth in or around the farm.

Flavio Corsin

This is not realistic as several farms would lose these amounts for evaporation only. Should be applicable to the top performers (globally) and applied only for ponds that have pond water with salinity significantly (to be defined) different from the surrounding environment
How to define freshwater? How to take into account environments that are brackish during part of the year and freshwater during others?

- We acknowledge that the evaporation rate could be higher in some regions and during certain periods of the year. Therefore, we modified the proposed standard to allow farmers to enter their own evaporation data into the equation, provided they can justify a reliable source of data. Freshwater is defined in the standards and the justification is detailed in the rationale. Environments that are brackish for part of the year are considered to be brackish under this standard because the natural vegetation would be adapted to those conditions. This will be specified in the guidance section.

NACA

The standard was tested in the field following the methodologies specified. The result shows much higher level of water loss, and suggests revising the standard. There are many factors causing seepage and it is not easy for small scale farmer to improve the system in limited resources (e.g. without using plastic liners).

[2] Baumgartner and Reichel (1975)

- Thank you for the report. We will attempt to address this in the next version, although the goal of the ShAD is to define the standard. There will be a second phase which will be focused on the implementation of the standard.

2.2.3

M.N. Kutty

"This instrument costs about USD 1,000, and small-scale farmers may not be able to afford it. An alternative is a chloride test kit. Several companies sell these kits for less than USD 100. Note: When purchasing kits, chloride kits must not be confused with chlorine kits". This is surely a positive consideration of small farmer.

- We understand that this is an issue but it is a bit out of the scope of the ShAD currently.

New England Aquarium

Change "for diluting salinity in pond" to "in shrimp production"

- "in shrimp ponds" is more accurate.

Inger Naslund

Allowance for the use of fresh groundwater for diluting salinity in pond. This should not be accepted. This is very important as undisturbed freshwater is crucial for the communities.
- Sediment disposal sites should be surrounded by embankments to avoid runoff and, if they are in areas with highly permeable soil or in freshwater zone, they should be lined with clay or plastic to avoid infiltration. This is very important but disposal should not be allowed in freshwater areas !!

Flavio Corsin

remove "for diluting salinity" as the use of ground water should be avoided regardless.

- A number of farms use saline or brackish groundwater without necessarily causing negative impacts. We determined that what is potentially detrimental is excessive pumping of freshwater because of the resulting competition with human needs and risks of salinization. Therefore, we identified the only reason for pumping large volumes of water to be for diluting salinity in coastal areas where farmers judge the natural salinity of surface water to be too high. In other cases, risks associated with the use of groundwater are covered by indicator 2.2.4.

NACA

The farmer group use salt ground water, and just wanted to make sure this is OK, and suggest making foot note to clarify this point.

- We do not think this is necessary as it clearly says "freshwater."

WWF Germany

Clarification for the allowance for use of freshwater: Is this only for use of freshwater for the purpose of diluting salinity (= control of salinity levels) or also the general use of fresh groundwater for marine shrimp farming?

- For simplification, we decided to remove "for the purpose of diluting salinity" in the indicator. It must be understood that the use of fresh groundwater is not permitted for certified shrimp ponds, whatever the purpose might be.

2.2.4

CP Thailand

The threshold for taste is 600 ppm Cl, what if the wells in the area had higher cl concentration that 300 ppm before the farm was built. Should this standard not be based on measuring actual impact by providing monitoring data for specific water sources?

- We think that is the goal of Tilapia Aquaculture Dialogue, which defined a permissible increase. We will consider this in the next version.

Flavio Corsin

What if what are considered "freshwater" wells have traditionally brackish characteristics?

- Measurements would tell if they are fresh or brackish waters.

NACA

Small farmers do not have the equipment to perform this test and they would need to find a way of financing it as a group. No well in the area had conductance lower than the standard. Monitoring surface freshwater is complex due to interactions between saltwater and freshwater and significant knowledge of the area is required to establish an appropriate monitoring plan.

- It is true that some knowledge of the area is required, but the GSC believes that it should not be too onerous for the farmers to identify freshwater bodies in their area.

CP Indonesia

Salinity (0 ppt) should be sufficient as it is implemented so far.

- A salinity of 0 could mask variations of specific conductance between 0 and 1.900 uS/cm, therefore, any measurement above the higher limit is defined as freshwater. Additionally, to ascertain that salinity is actually 0, a conductivity meter or a chloride kit will be required because refractometers (salinometers) do not provide enough resolution. It is therefore easier to refer directly to such sensitive parameters to set the standards.

Dr. A.G. Ponniah

Coastal aquaculture is generally practiced in salt affected coastal lands. In most cases the soil and water resources around the estuarine creeks are saline and the levels of Specific conductance (= 40 ha size farms as per CAA guidelines. EIA should include pSIA should be made as part of EIA and not as a sperate exercise

- This is true, however, many farms are also located in areas that are at the interface between brackish and fresh water environments.

WWF Germany

Farming of marine shrimp (in saline water) in freshwater habitats should generally be banned and not allowed under the ShAD standard. (Exception may be fully closed farming system with proper treatment of sludge. This is however very difficult in a freshwater habitat and it will always have serious impacts on soil and water).

- That could be considered, but, as you acknowledge, we might identify existing farms established in freshwater environments without negative impacts. Therefore, it is better to base the standards on the actual impact, rather than adopting another “prescriptive” view.

WWF Malaysia

The release of saline waters into a freshwater ecosystem needs to be addressed very carefully, especially in cases where :-

i) the freshwater is a habitat for species listed in the IUCN Red List,
ii) the freshwater is a habitat for species defined by national listing process and
iii) the local communities are dependent on the freshwater ecosystem (e.g for livelihood, domestic use).

In such cases, the precautionary approach should be taken and no allowance should be made for the release of saline waters into the freshwater ecosystem.
In cases where points (i), (ii) or (iii) above is not relevant, the release of saline water / effluent into a freshwater ecosystem needs to take into consideration the dilution capability of the waterways as well as the seasonal variations (wet and dry season).

- That makes sense but carries a high level of complexity for formulation in the standards. As for the previous comment, an alternative would be to ban any saline water discharge into fresh water bodies.

2.2.5

WWF-US

Agreed with revision to include minimum distance of 25 m laterally from farm perimeter.

- Providing a justification for this recommended distance is necessary.

CP Indonesia

Salinity (0 ppt) should be sufficient as it is implemented so far.

- Please see above.

2.2.6

New England Aquarium

Standards 2.2.6 and 2.2.7 are too prescriptive and are moving away from farm level control. Sediments have also been used to reinforce pond walls. Replace with a “no release of saline sediment from the farm to a freshwater zone”

- See below response

CP Thailand

Again a BAP, not a standard.

- We agree and have moved this to the guidance section.

Also there are very few specific conductance meters used on shrimp farms; most use refractometers.

- Very true, but refractometers do not provide enough resolution for accurately determining very low salinity levels, especially those around the limit for defining freshwater.

WWF-US

Very prescriptive and not a performance standard. The identified impacts would be minimized by compliance to 2.2.4 and 2.2.5 above. Suggested action: Strike 2.2.6.

- We agree and have moved this to the guidance section

Flavio Corsin

2.2.6 too prescriptive. Suggest removing this standard.

- We agree and have moved this to the guidance section

NACA

Little accumulation of sediments. Ponds are cleaned once a year and dry sediment spread over banks.

- This is considered as a BMP in the guidance section.

CP Indonesia

No need to be defined as there are several ways to manage sediments. It should be enough if the company can show appropriate way in managing the sediment with the main goal not to contaminate the environment

- We agree and will consider moving this to the guidance section.

2.2.7

Flavio Corsin

If conductance is too high, people will not use soil as fertilizer. If they decide to do so, it means that it can be used. Suggest removing this standard.

- We cannot assume that people always do what common sense dictates and some people could use the argument of "fertilizing land" to justify the dumping waste sediment. We believe that using actual measurements is the basis for making good decisions. Also, we have determined, thanks to your comment, that we should not only address the use of sediments as fertilizers but any situation of sediment disposal.

WWF Germany

So the question is if it is not possible to simply exclude farming of shrimp in surface freshwater habitats, and define the term surface freshwater habitat by means of conductance and chlorine levels in water and soil at the surface. We therefore do suggest an additional parameter and standard: 2.2.8: Indicator: Farming of marine shrimp in surface freshwater habitats (= water and soil parameter XX to be defined for the term freshwater) / Standard: None.

In our view, it is not possible to rear marine shrimp in a freshwater habitat without impacting ecosystems through increasing levels of salinity, so we do not see why such practices should be allowed under the ASC. Salinization is a long term process with cumulative effects over the time, and even by measuring impacts on water and soil at certain time intervals, it is not possible to prevent long term damage and reduced soil fertility / changing salinity levels in surface and groundwater bodies

- This is complex, as many shrimp farms are located in areas at the interface between fresh and brackish water resources, with inconsistent conditions that vary depending on seasonal and ecological phenomena. We need the standards to address the possible impact on freshwater resources. Therefore, negative impacts of inland aquaculture should be covered. There are also arguments to move aquaculture as much as possible towards inland recirculating systems that minimize the impact on coastal environments. However, this requires careful consideration.

Criterion 2.3: Prevention of soil erosion

- Criteria 2.3 has been deleted from the standards document.

Principle 3: Develop and operate farms with consideration for surrounding communities

WWF-US

Expand the impact statement to identify the specific impacts specifically raised by communities and/or documented. Clarifying these impacts will help to frame the proposed solutions (indicators and standards). If deemed relevant by ShAD stakeholders, consider adopting the below six major livelihood themes as a way to define the types of relevant issues and potential impacts on communities

- **Economic aspects** – such as the influence of aquaculture on employment, impacts on other livelihoods (complementarities, conflict with or substitution of other livelihood strategies), poverty issues and income changes.
- **Natural resource access and use aspects** – such as access to natural resources, land and water tenure, influences on quality and quantity of other natural resources used by communities.
- **Human assets** – such as food security, human health and safety, security risks, education and training, indigenous knowledge and practices.
- **Physical infrastructure** – such as access to roads, electricity, telephones, changes in infrastructure and transport, housing, waste disposal systems.
- **Social and cultural aspects** – such as cultural institutions and resources, indigenous rights and beliefs, social exclusion/inclusion (gender, ethnicity, age disparities), social networks
- **Governance** – a wider and generic category that process related activities such as influence of aquaculture on cultural norms, taboos, regulations and laws, conflict management, and process for transparency, accountability and participation

- These issues are addressed in the guidance section.

In general, as indicated below, we suggest a re-grouping of the existing criteria, essentially combining 3.1.1 and 3.2.1 into a new 3.1

- 3.1 covers what is involved in the pSIA assessment and how it should be conducted. 3.2.1 covers how (quickly) conflict resolution should happen, while 3.1.1 is about finding out and discussing issues. 3.1.2 is about resolving conflicts.

Principle 3 Flag (pg 38): This flag and subsequent questions are not particularly clear to WWF-US. The questions as read currently infer a standard that will close farms. This is not the role of a standards setting body. If there is a standard that suggests the farm is not certifiable, those standards can be implemented, but to determine the efficacy of a farm's existence does not seem to be the role of the ShAD, rather ShAD should focus on what is considered acceptable or not.

- This refers to a previously considered idea to have a criterion on closure and reclamation. The criterion does not discuss the closing of farms and does not suggest that farms should be closed. Rather, it covers what provisions farms need to have in place in case they will or need to close.

Jake Piscano, CENTER FOR EMPOWERMENT AND RESOURCE DEVELOPMENT

This should be taken in holistic perspective, including other operations, not necessarily aquaculture, that also impact on communities and marine environments.

- We assume your comment to mean that much of this lies with governments and not with aquaculture farmers. This is perhaps true, but there is an individual and sector-specific responsibility in play as well. The absence of any or the existence of insufficient laws is not an excuse for negative impacts as a consequence.

Flavio Corsin

We are generally in agreement with the standards under this principle, with some minor exceptions
It is unclear how a small-scale farmer will be able to conduct a p-SIA, even if they may not have any negative impact on the surrounding communities. Suggest providing more information on what exactly would be expected and what methodology should be used by small-scale producers willing to comply with these standards

- Please see the matrix in the new version of the standards.

WWF Sweden
General remark for P3: We feel that the issues at stake have been adequately addressed so far. As a general feedback we do think that the unit of certification needs to be taken into account when addressing small scale farms for P3. For Criterion 3.1 3.3 standards must take into account the realities of small scale farmers and allow for farmer group / clusters to address and solve these issues.

- Please see the matrix and guidance section to see how this pertains to groups/clusters.

Criterion 3.1: All impacts on surrounding communities, ecosystem users, and land owners are accounted for and are, or will be, negotiated in an open and accountable manner
WWF-US
The wording of the criterion is not consistent with other criteria. *Suggested Change:* Re-word criterion to something along the lines of "Open and accountable negotiations related to impacts on surrounding communities, ecosystem users and land owners" or preferably the GSC will adopt re-organized language and suggestions outlined below.

WWF US suggests the below as a preferable course of action because of anticipated issues related the practicality of the initially proposed SIA. Below elements in 3.1 have many of the crucial elements of the SIA as described in the first draft but suggests more concise and targeted indicators and move many of the SIA and other elements into the guidance section. We suggest this because guidance for the participatory SIA could be biased towards large scale, industrial farms. Small scale aquaculture producers can have similar magnitudes of impact with surrounding communities. Researching the impacts of small-scale aquaculture on surrounding communities would appear cost –prohibitive; however, there is no lessening of significance because small scale producers are the dominant type in the community. If pSIAs have been tested, the lessons learned on how shrimp farming can affect local communities should be applied. The targets and goals for the ShAD are not to monitor and evaluate potential impacts, but rather to address these problems that have proven to be significant. Suggested action: rather than mandating sociological studies on the impacts of shrimp farming, take the current state of information on what the impacts are and set targets for how the GSC believes communities and people should be treated. A robust conflict resolution program will determine the specific impacts, but does not require as much capital as a pSIA

Suggested New Criterion 3.1 (see all below): Governance mechanisms for engagement with local communities

Indicator	**Standard**
3.1.1 Presence of credible[3] engagement mechanisms agreed to by farm and community	Yes

[3] Capable of being credited or believed, worthy of belief, entitled to confidence, trustworthy

3.1.2 Presence of documentation outlining company policy and procedures that support effective social auditing and resolution of grievances or conflicts with community.	Yes (note the % used in current draft could be included in guidance)
3.1.3 Evidence that social impact auditing documents have identified credible mechanisms for dialogue between farms and communities	Yes

- The intention of the ShAD for this criterion is understood by WWF, except when it states that the ShAD has a goal to monitor and evaluate potential impacts. The ShAD does not have this goal. Rather, the goal is to have the farmer do that. The criteria are built in such a way that an auditor clearly sees what the ShAD determines the 'credible engagement', the 'presence of documentation' and the 'evidence' that farmers must be able to present (to the auditor). The rest is intended to be helpful to the farmers (the guidance is about how he/she needs to do this) and auditors (as it describes what the farmer should have done).

William Rash

Criterion 3.1 and 2.1 p-SIA & EIA: For smaller farms or individually owned /operated ponds or farms within a group of farms, the standard needs to have an allowance for assessment reports to represent groups rather than specific farms. What is the implication for new and existing farms? What is the implication for commissioning a p-SIA on a community farm that is already well established and part of the community?

How is the standard to address associated negative impacts of migrant labour?

- Please see the guidance section.

Inger Naslund

All impacts on surrounding communities, ecosystem users, and land owners are accounted for and are, or will be, negotiated in an open and accountable manner

- In particular, appropriate consultation must be undertaken within local communities so that potential conflicts are properly identified, avoided, minimized, and/or mitigated through open and transparent negotiations on the basis of an assessment toward risks and current impacts on the surrounding communities. - This is absolutely mandatory!!

- We agree and take this as support for the proposed 3.1

Belize Growers

Can the "Social Impact Assessment" be covered by the EIA?

- Participatory elements of BEIA and p-SIA can be integrated into one process (one effort). The guidance sections under on 2.1. and P3.1. show how this can be done.

WWF Malaysia

In general, the principle and following criterion are fairly comprehensive in addressing impacts of the aquaculture farm on local community as it alludes to key policies and international convenants and agreements related to rights of local and indigenous communities. WWF-Malaysia recommends that the Criterion and Indicators in the draft standards be the minimum requirement to be adopted and implemented.

- We agree.

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http://www.webster-dictionary.net/definition/credible

3.1.1

New England Aquarium

A social impact assessment would be beneficial; however including area limit that the assessment should cover based on the farm size may be beneficial.

- Stakeholder mapping will determine the distance at which farm stakeholders should be considered.

WWF-US

These community engagement mechanisms may include functioning multi-stakeholder committees, meeting reports signed by concerned parties, agreed upon aquaculture farm policy documents. Evidence presented should ensure that people and groups directly affected by aquaculture farm operations are engaged. Monitoring should be conducted, appropriate to the scale of aquaculture operations.

While respecting business confidentiality, aquaculture operations should show evidence of transparency and access to local communities of information on business activities that directly impact them, and public availability of summary of results of any monitoring of social indicators.

- This is true. Guidelines indicate the transparency requirements for the farm. On-farm operational details that pose no risk to off-farm impacts can remain confidential.

Ahold

Is this a realistic requirement? It seems to be a rather complicted and time-consuming process, at least for smaller farms (and not just those with less than 5 workers).

- We believe that this is do-able and also necessary. Please see the matrix on how this may be done by small farms.

NACA

That is difficult for small scale farmers to conduct, so suggest auditors interview local authorities for receiving information.

- Please see the matrix and guidance section. The Certification Bodies auditors work with can make audits much easier by keeping databases with information about the local authorities.

CP Indonesia

Farm owners shall commission or undertake a participatory Social Impact Assessment (p-SIA) and disseminate results and outcome openly in locally appropriate language. Local government shall have a copy of this document.

- We agree and have included this in the new version of the standards.

3.1.2

WWF-US

Consider exploring the Institute of Social and Ethical Accountability (ISEA) AA1000 Accountability standard; the standard aims to assist an organization in the definition of goals and targets, the measurement of progress made against these targets, the auditing and reporting of performance and in the establishment of feedback mechanisms (AA1000 Accountability Principles Standard 2008). There are three AA1000 Accountability Principles, one of which is a foundation principle: (i) The Foundation Principle of Inclusivity; (ii) The Principle of Materiality;

and (iii) The Principle of Responsiveness. Inclusivity is the starting point for determining materiality. The materiality process determines the most relevant and significant issues for an organization and its stakeholders. Responsiveness is the decisions, actions and performance related to those material issues [4].

The scope of the company policy documentation (3.1.2) should cover the key livelihoods elements in the livelihood framework *ie* economic aspects, natural resource access and use; human assets; physical infrastructure; and social and cultural aspects. Through this documentation companies should show mapping of risks and risk management related to potential social impacts

Consider keeping the "what audits can check for" from "applying a P-SIA" (from the currently posted standards draft) to inform the guidance section on how to fulfill company policies and procedures required in 3.1.2 and 3.1.3. (Number 2 of this list seems less useful and could be taken out)

- The updated guidance may provide more clarity on this issue. Auditors do not do a p-SIA, but rather check to see if a farmer has done one that included the appropriate scoping and involved appropriate (local stakeholder) engagements.

3.1.3

WWF-US

Consider using the defined percentages of "conflicts resolved" (from currently posted draft version) for guidance in the newly suggested Indicator 3.1.3, however WWF-US also recommends that the language be changed to define 'resolve" more clearly. Additional suggested action: include footnote that there will be no bribes used to resolve issues related by the community. There is a need to restrict communities from determining what is law and what is necessary that the farm pays. Community leaders must be held to the integrity standards set forth by the ShAD. In situations where compensation is required to be paid to communities, disclosure of amounts and persons receiving these amounts are necessary.

The emphasis here is on ensuring that social auditing procedures have been properly conducted (they are being used—and not just a company policy "on paper") and that the specific outcome from the procedure includes the development of credible engagement mechanisms. The investments required in social auditing and development of credible community engagement mechanisms should be appropriate to the scale and intensity of farm operations. The GSC might want to consider how scale will matter and how to include this in the guidance document. It may be that individual small-scale farmers would not be expected to have a documented system, but be able to show that they respond constructively to any issue or complaint or that they could work through their associations. In all cases consultation and dialogue is important. Useful guidance is also available from forestry initiatives[5] and Roundtable on Sustainable Palm Oil[6], amongst others.

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[4] Institute of Social and Ethical Accountability (ISEA) has developed a social accounting process standard (AA1000) which can be used as a reference http://www.accountability21.net/uploadedFiles/publications/AA1000APS%202008.pdf.

[5] Forest Stewardship Council - http://fileadmin/web-data/public/document_center/publications/smallholders_briefing_notes/Social_Impacts_briefing_note_high_res.pdf

[6] http://www.rspo.org/files/resource_centre/RSPO%20Criteria%20Final%20Guidance%20with%20NI%20Document.pdf

- We agree, but this issue lies beyond the control of a farmer and the ShAD feels it cannot put demands on the farmer for things they cannot control. However, in the guidance section, reference is made to p-SIA documentation being available to more than just leaders. Community members should be able to check with their leaders.
- We agree. Much of what is found in the ShAD standards has been derived from what the FSC and RSPO have done before us. The references will be included in the document as helpful illustrations.

Criterion 3.2: Complaints by affected stakeholders are being resolved

WWF-US

Add in the original (from posted draft) criterion 3.2 and associated guidance to the "grievance procedure policy" guidance to be included in new 3.1.2. The grievance procedure will ensure that all grievances are recorded and filed, as well as corrective actions taken and documented. An appeal process needs to be available if stakeholders feel that they have not been heard with arbitration by an external regulating agency.

- We agree; however, it is beyond the scope of the ShAD to define this as a criterion. Communities need to ensure appeals can be made. Farms need to ensure that policy, process and outcomes are verifiable by the community. Organizing an appeal is something communities need to do. In terms of certification, a farm can do a credible p-SIA and also have a clear conflict resolution policy and documentation system and three years later faces another audit. Thus, a farmer's behaviour needs to remain responsible towards community impacts.

3.2.1

New England Aquarium

Compliance goals suggest that all conflicts and complaints will be reasonable and addressable by a certain time limit. The standard should require that each complaint is reviewed within a specific time frame and that where resolutions are required these are met or progressing toward being met.

- The ShAD has tried to find an appropriate middle ground between 'easily resolvable conflicts' and 'difficult, including unreasonable' issues. We think we err on the safe side for farmers. In reality we expect only a minor fraction of difficult or unreasonable conflicts.

Ahold

Again, is this realistic? Soemthing to keep in mind is that withour compliance, a farm cannot be certified. We think it is. It is also a matter of retailers and what farms they choose to buy from.

- We think this is realistic. It is also a matter concerning from which farms retailers choose to buy.

Dr. A.G. Ponniah

Disputes resolvable at the farmer level could only be insisted upon. Other unresolvable disputes/ conflicts should be referred to the legal system in charge of the country concerned. Status quo should be maintained till a final verdict is reached on the issue.

- All conflicts are included in the 50/75% count as well as those that may require legal action. As said above, we still think we err on the safe side for farmers. In reality, most conflicts will be reasonable and will be easily resolved. Moreover, for the purpose of the interpretation of the word 'resolution', if both parties in a conflict agree to a legal

process and agree to abide by the legal verdict, the conflict is, in terms of this standard, considered resolved.

Criterion 3.3: Providing employment within local communities

WWF-US

Suggested Action: Delete 3.3 or clarify

We suggest deleting this because it is in conflict with the anti-discrimination standard in Criterion 4.3. Hiring should always be based on skills and ability to fulfill the requirements of employment. Where candidates for employment are of equal merit, preference could be given to members of local community member. The GSC could also consider adding a requirement (especially in cases where a farm has low percentages of local workers) that they run periodic, no-cost, voluntary training programs for interested community members to increase the skills and therefore ability to obtain equal employment of local community members.

- We agree and have tried to clarify this standard in the latest version of the document.

Ahold

More clarity is needed on the employment of locals vs. non-discrimination of migrants.

- Please see the above response.

Inger Naslund

The standard - Areas of conflict or dispute are listed on paper and shared among farm, local government, and surrounding community representatives. At least 50 percent of the conflicts shall be resolved within six months from the date of being filed, and an additional 50% six months later (75% total within one year). This ought to be ready before certification!!

- The farm must, therefore, have a conflict resolution policy in place that describes how to make complaints as well as how the farm intends to address them. Absolutely, agree!!

- Please see Principle 4 for further clarification.

NACA

That is difficult for small scale farmers to conduct, so suggest to allow mechanisms to receive complains at group levels, instead of individual farm.

3.3.1

New England Aquarium

As written this standard is unlikely to meet the issues with migrant labor and could be considered to be discriminatory. Suggest that all jobs be posted locally and that when applicants are similar, a written justification as to why the final individual was chosen over others.

- In instances when processors contract a farm, it is beyond the scope of the standard. However, in cases where one farm sub-contracts others, it is within the scope of the standard. Thus, not all contract-farming cases are included and this standard will not address all forms of it, the ShAD also places value on the signalling to others in the industry that this is an important issue for consideration.

WWF-US

Flag: Migrant labor. While it is appropriate to source labor from surrounding communities, it should be noted that migrant workers have rights to work and earn income. In regions where labor abuse is rampant, workers may chose to migrate to areas where abuse may not be so

common. The standard does do justice to the issue of migrant labor and is adequate to appropriately address the inequities of hiring non-community labor.

- As this is not a worker-owner/operator issue, we believe this must remain in Principle 3.

M.N. Kutty

Surely there should be more efforts to select and even train and absorb capable manpower from the local communities. Mere advertisement will not be adequate – three must be genuine efforts - feelings to be of help to locals who are often from poor rural communities – by intent, words and deeds from the SF investor/management.

- Quite possibly. 3.3.2 should address this. We have considered this in the new version of the standards.

Inger Naslund

The criterion is formulated to ensure the local workforce is duly considered for jobs on the farm, and migratory workers are only hired when the local workforce does not meet requirements.
- Fair contract should be compulsory, and if not skilled workers there should be education for the purpose of their issues of work paid by the farm.

- We have made some modifications in the new version that we believe satisfy your concern.

Dr. A.G. Ponniah

Could be insisted upon only with large (>=40 ha) farms with regular employment of > than 5 farm laborers. Documentation provided by the village should be sufficient for this. If locals are either not skilled or not interested in aquaculture work the farms should be allowed to hire from migrant workers.

- It is true that auditors and certification bodies do not replace authorities. The criterion is intended to encourage farmers to take pro-active measures on how to handle a closure or a bankruptcy.

Criterion 3.4: Contract farming[7] arrangements (if practiced) are fair and transparent and are beneficial to the contract farmer

New England Aquarium

It is unclear if the contracted farm would be able to meet some of these goals (3.4.3 in particular) and guidelines since the processing plant is likely the driving force in this relationship, and are likely beyond the scope of a farm-level standard.

- The criterion is in here to be applicable in the cases where farms subcontract other farms. Some people have noted that this case is quite rare, but we felt it is important to include this criterion in order to ensure that this issue was addressed.

Dr. A.G. Ponniah

3.4.1 to 3.4.3 Agreeable in total. However as observed in India these are not left to the farmers

[7] **Contract farming:** Contract farming can be defined as an agreement between farmers and processing and/or marketing firms for the production and supply of agricultural products under forward agreements, frequently at predetermined prices. The arrangement also invariably involves the purchaser in providing a degree of production support through, for example, the supply of inputs and the provision of technical advice. The basis of such arrangements is a commitment on the part of the farmer to provide a specific commodity in quantities and at quality standards determined by the purchaser and a commitment on the part of the company to support the farmer's production and to purchase the commodity" (FAO)

and are at the convenience of the contractor. These are to be insisted on from contractor who would also be involved in marketing since the farmers may not have any say in this matter.

- We agree with your comment that there is no reason to exclude it.

If any water borne diseases or any human diseases attributable and proved beyond doubts to the shrimp farm, the farm could be closed. Any life quality parameter like access to drinking water, beaches, landing centre is affected than reclamation arrangement should be insisted upon. But the private certifying agency will not have any judicial powers to insist on both of these. The certifying agency should report the matter to the local governing agency regarding these which may be beyond its scope in view of possible legal battle with the farmer.

- This is an ASC and/or government issue.

WWF Sweden

This is an important part of social responsibility and we do welcome the proposed indicators and standards for contract farming models

- Thanks for the comment.

3.4.1

NACA

Concern about the privacy of business, and suggest removing from standard or placing safety measures to protect it.

- This criterion is concerned with protecting employees by ensuring contract transparency between the individuals that are party to the contract. That basic norm is often violated by the stronger party through lack of full discloser to the weaker party about obligations etc. Unwarranted/selective confidentiality imposed by the stronger side of the contract is exactly what this criterion seeks to avoid from taking place.

3.4.2

NACA

Concern about the privacy of business, and suggest removing from standard or placing safety measures to protect it.

- Please see above response.

3.4.3

Inger Naslund

Meetings are held at least twice/year. Meetings with farm-groups or cooperatives have been attended by at least 50% of the membership. Should be even better with meeting every quarter of a year! To stress the importance of fair and mutual understanding of both contract and workload. Again the mutual agreements, standards wages and extra pay for work outside normal working hours.

- There should absolutely be an indicator and standards setting for procedures how to closure or reclaim agreements, again mutual.

- The GSC considers twice per year to be sufficient. These meetings will happen just before harvest or harvest delivery so, on some farms, 3 times per year may be necessary.

CP Indonesia

Meetings are held based on demand or at least once/year. Meetings with farm-groups or cooperatives have been attended by at least 50 % of the membership.

- Please see the above response.

Principle 4: Operate farms with responsible labor practices

WWF-US

Criteria 4.1 through 4.10 and their respective Indicators / Standards are consistent and for the most part aligned with the TAD and PAD and follow the suggested framework of *Social Accountability International* recommendations through their consultation work with the Aquaculture Dialogues, ShAD and its' GSC. – Agreed.
In certain places noted below, the wording could be changed to be the same vs TAD & PAD.
WWF US strongly supports alignment on cross cutting issues.

Impact Statement

Suggested Change: add: "Many countries have national laws that address labor issues rigorously and intensively, however this is not consistent in a global context. Addressing these key issues in aquaculture is critical, given the important human rights implications and proven societal benefits of labor standards related to poverty, sustainable economic growth, good governance and political stability. The labor standards in this document will ensure that all aquaculture operations certified against the Dialogue standards have reduced or eliminated the potential impacts of key labor issues associated with production. The labor standards in this document are based on the core principles of the International Labor Organization (ILO): freedom of association, the right to collective bargaining, prohibition on forced labor, prohibition on child labor, and freedom from discrimination, as well as the other elements that are considered to be the fundamental rights at work: fair wages and working hours, decent health and safety conditions and non-abusive disciplinary practices

- We agree and have made revisions in the latest version of the standards.

Jake Piscano, CENTER FOR EMPOWERMENT AND RESOURCE DEVELOPMENT

This should be a primary concern. It is worthwhile to note, though, that farms operate on a productivity angle, usually paying low, but giving generous incentives for productivity.

- The GSC wishes to ensure that financial and non-financial incentives are properly documented and comprise a fair and decent level of income. Farms must be transparent about how they do this and must also ensure that workers who leave (for whatever reason) still get appropriate pay from the cycle they worked. Criterion 4.5. now states this to avoid any lack of clarity.

Rudy Porter

We question whether a system of codes of conduct or standards, enforced by outside auditors making occasional visits to a worksite can make any significant contribution to improving labor conditions or meeting minimal legal labor standards in an industry. Workers must be able to exercise their right to form, join, and participate in an independent labor union with co-workers, with the right to collective bargaining, in order to make long-term and enforced improvements in pay, benefits, and conditions of work. These trade union rights must be enforced by an effective and properly funded system of labor inspection by host governments. Independent standards and auditing only make a positive contribution where they require enforcement of this Freedom of Association. The standards proposed here do not meet this requirement for reasons stated below.

- Audits on labour issues have been contested and will be contested for some time to come, but the industry is learning, the CBs are learning, and the GSC feels that

imperfections are no reason to not address this because the alternative (i.e. not defining criteria) is worse.

- We sympathize with this point, but must also acknowledge the legal reality that not all countries yet allow for independent unions. Therefore, we seek to see that workers identify the (larger) organization they wish to represent them (in terms of verifications the auditor can do). Such a way of working is legal in all countries, as far as the ShAD is aware.

Kenneth Boyce

Social Principles:

As all social elements of standards are open to greater interpretation by auditors than scientific measurable criteria, From experience, I would recommend very careful consideration of the wording of the final standard for principles 3 and 4.

In terms or organization and labor requirements it would be important to align any decisions on this with other standards that will be housed under the ASC label as these different standards will be communicated to the public via a common consumer facing label. Differences in provision of social guarantees for workers on farms can't really be justified because they happen to be farms of different species. Those standards developed later in the dialogues should exceed those developed earlier in the process. While it is too late to align these issues perfectly as they have been created by different dialogues processes, the ShAD should verify that there are no contradictory points. e.g. Point 7.9.1 in the Tilapia standard around the provision of clean, safe and sanitary living accommodation for onsite employees is not mentioned in the current ShAD draft.

- This is true. The ASC will provide for this (through an across-ADs advisory committee).

One aspect that would appear to be missing is stronger guarantees for women. This standard will be applied only in the global South where the rights of women are often less considered. Possibly an assumption is being made that the majority of farm workers are male. Simple suggestions to strengthen this would be some guarantee of provision of a basic period of maternity leave as well as the provision of separate changing facilities for women on large hired labour set ups.

- We agree and some additional indicators have been added.

As mentioned above there is also no mention of adequate living accommodation at a reasonable cost for workers on large farms in remote areas where it would be unreasonable to expect workers to establish these themselves. Likewise the provision of potable water and adequate sanitation facilities would be important in these set ups.

- We agree and some additional indicators have been added.

In addition for hired labour models insisting on a health and safety or first aid officer could also help with minimising occupational hazards and ensuring training is maintained

- We agree and some additional indicators have been added.

WWF Sweden

General remark for P4: We feel that the issues at stake have been adequately addressed so far. As a general feedback we do think that the unit of certification needs to be taken into account when addressing small scale farms for P 4.

- The GSC has tried to distinguish between family labor (for which the rigor of ILO provisions may hold differently) and contracted workers. However, the farm size itself does not seem relevant here.

Criterion 4.1: Child labor

Inger Naslund

Mandatory that no child labor is used and there should not be anyone younger than 15 years of age. No exception even if the national law accept this.

- We agree and have added this to the standards.

Belize Growers

What is the specific goal of the twice annual meeting with the work force and what level of management needs to have this meeting? The farmers felt they meet with their workers on a daily basis and the utility of this meeting did not seem readily apparent.

- The meetings are intended to serve as an opportunity for issues to be discussed between the decision maker on labor contract conditions and the workers as a group. These meetings shall be minuted, traceable and transparent, and the farmers are accountable to this process. Workers will often talk to a foreman who has limited decision-making powers or often to their manager in private. Regardless of whether these encounters are effective or not, a process to institutionalize progress in labor management throughout the company is required.

4.1.1

New England Aquarium

Will family members be an exception to this standard?

- The GSC has tried to define under what circumstances 'family labor' may provide an exception to this standard and has determined that family members under the age of 15 are permitted, within reason (see rationale and guidance).

WWF-US

In order to make this consistent with other dialogues consider deleting "in violation of ILO Convention 138 and/ or……." And adding it to the definitions and guidance where most of this type of thing is.

- This will remain as a footnote.

Dr. A.G. Ponniah

India has a strong regulations against child labour and recently Right to Education Act has been enacted hence this is not an issue with India.

- Some countries do not have such a law. Thus, the GSC is feels it is necessary to articulate this point and put the responsibility on farmers in all countries.

Criterion 4.2: Forced, bonded compulsory labor

Inger Naslund

- Mandatory that no forced, bonded or compulsory labor are used on certified farms.

- We agree and have revised the standards accordingly.

Criterion 4.3: Discrimination[8] in the work environment

Ahold

This criterion contradicts criterion 3.3

- We hope to have remedied this by having rephrased the criteria in Principles 3 and 4.

Inger Naslund

Mandatory that no discrimination of any kind will occur on certified farms.

- We agree.

Dr. A.G. Ponniah

4.2.1 Indian legal system has a strong legislation against this. But these regulation cannot be enforced for self or family labour. This needs to be incorporated.

- The GSC acknowledges that complication and has, therefore, provided a definition for 'family workers'.

4.3.1

Dr. A.G. Ponniah

4.3. to 4.10 Points are agreed to. But can be enforced only in larger farms where > 5 permanent laborers are employed. These cannot be expected in case of small farms and farms where family labor is involved

- We realize that there will be challenges for small farmers and expect the ASC to develop mechanisms to address these issues once the standards have been defined.

4.3.3

New England Aquarium

Inclusion of this standard is positive, however the wording is confusing. How will experience, tenure and other actions be addressed here? This needs further clarification.

- We have tried to address this concern but would welcome further feedback.

WWF-US

This seems to be redundant with 4.3.2 and could be added in guidance document for

- The GSC feels it remains worthwhile to keep this in as indicator.

Criterion 4.4: Work environment health and safety

Ahold

Further description is required of what constitutes "adequate training" and what evidence a farm should be able to provide.

- This is addressed in the guidance section, as it makes reference to national/provincial training centres that issue certificates to those who have been trained.

Ahold

Strike guidance for percentage of workers trained in health and safety practices, procedures, and policies #4: ~~Offer regular health and safety traiing for employees (once a year and for all new employees), including training on potential hazards and risk minimization.~~

[8] **Discrimination:** any distinction, exclusion, or preferences, which has the effect of nullifying or impairing equality of opportunity or treatment. Not all distinction, exclusion, or preference constitutes discrimination. For instance, a merit or performance based pay increase or bonus is not by itself discriminatory. Positive discrimination in favor of people from certain underrepresented groups may be legal in some countries

- The GSC considered this but did not agree with the suggestion. Please provide rationale as to why.

Inger Naslund
Mandatory that a safe and healthy working environment should be essential for protecting workers from harm. All farms should do a risk assessment and if accidents happens the farm ensure health care and rehabilitation.

- We included requirements for insurance in the latest version.

4.4.1
New England Aquarium
Add "relevant to their job requirements" after "policies". Add "maintained" after "provided"

- We agree.

WWF-US
Suggested Action: Delete second 2 sentences of this indicator for consistency with other dialogues and include those sentences in the footnotes or guidance

- The GSC has decided not to take this action, as this sentence is in accordance with ILO provisions on child labor that include, specifically, that no person below 18 shall be exposed to dangerous work. The word 'job-related' has been added to avoid confusion with 'legitimate' accidents that are not related to the work.

Ahold
Regarding footnote 51: Certificate of what? Farm size? Training? Equipment safety?

- We have adapted the footnote to clarify these points.

4.4.2
New England Aquarium
Add "verified" before incidences
Remove "No persons under 18 involved in accidents", since this is impossible to ensure. Or apply a stronger definition of "accident" with regard to this standard.

- We have altered the language, but still keep the reference to under 18, as this is ILO law. 'Accident' in this case means something that needs professional medical (nurse/doctor) attention. The guidance has been clarified on this point.

WWF-US
Suggested Action: Delete 2nd sentence, difficult to define a standard as none under 18, in case of a legitimate accident. To solve this problem focus should be on protecting young workers especially. This focus should be made clear in the guidance

- Please see above.

CP Indonesia
Occurrence of health-and safety- related accidents and violations recorded and corrective actions taken.

- Please see above.

4.4.3
Eric De Muylder

Equal pay is one thing, what if women are not accepted for certain jobs ? Shouldn't there also be a rule that all jobs should be open for both sexes? This can be under 4.4.2 or 4.4.1 but it seems that these points are merely for existing staff, not new hiring.

- We have considered this but it may be too much to ask at this point.

Criterion 4.5: Basic needs and living wages

WWF-US

Suggested Change: Call criterion "Fair and Decent Wages" for consistency
Clarify: Living wage is not clear and could be hard to audit. Look at SAI methodology and check if auditor can adopt it

- We have taken this suggestion and changed the language in the document.
- The GSC came up with its own 'formula' that should be clear and auditable, but has not yet been tested. The ShAD would like to have a statistician use the formula and test the outcomes.

Ahold

Regarding "Guidance for the calculation of basic needs/living wages": It is unclear from this guidance which formula the auitor should apply and who, in the context of the Aquaculture Dialogues, is responsible for setting the living wage. These definitions already indicate that it will be an absolute challenge to find farms that pay their workers enough to comply with this requirement.

- Please see above.

Inger Naslund

Mandatory that there is a fair and equitable wages according to not only minimum standards but also a transparent system of how to set wages. Important to define what is an average family and why only sustaining 50% of an average family!! Employers shall ensure that wages paid for a standard working week (no more than 48 hours) always one day of in a 7 day week schedule.

- In a global context, it is quite common that two incomes are necessary to support a family. The GSC believes it is reasonable to require the aquaculture sector to be decent and fair, but it does not seem reasonable to ask those looking to be certified to go beyond those levels deemed fair in a global context.

4.5.1

New England Aquarium

Footnote on living wages differs from the guidance section (50% of average sized family). Which is correct?

- Please see above.

Ahold

AD should strive towards basic needs / living wage, but it is unrealistic to currently expect it to be paid on the farm level. If farms can only be certified if they comply with this requirement, only very few (bigger) farms will be certified. Minimum wage plus gradual improvements towards living wage could be a solution for smaller farms.

- There is a cost-benefit analysis behind the decision to hire on any farm, large or small. The size of an operation does not justify 'below fair level' practices.

Criterion 4.6: Access to freedom of association and the right to collective bargaining

Rudy Porter

1.) The rationale for the Criterion says that ". . . workers must not be prohibited from accessing such organizations when they exist." Freedom of Association means having the right to form unions where they do not exist, free from coercion, intimidation, interference, or restraint. According to the language of the Criterion, the only activity that needs to be protected if a union does not already exist is the right to "collective dialogue through a representative structure. . . ." The workers covered by this standard would certainly not be guaranteed full Freedom of Association, and the employers at farms where unions do not currently exist would be held to almost no standard at all - guaranteeing their workers could have "collective dialogue through a representative structure," but not a union independent of the employer and government, and real collective bargaining.

2.) This is unacceptable.

3.) The Criterion and accompanying rationale mention the right to collective bargaining where unions exist, but do not state that the right to strike is also recognized by the ILO as a protected component of the right to Freedom of Association and collective bargaining. Respect for worker collective actions, including the right to strike, without retaliation must be clearly stated in the standards. Otherwise an employer may "respect" the right for workers to join an existing union and bargain collectively but then punish workers for conducting a strike, and still not be in violation of the standards.

- The GSC agrees, but has to address restrictions governments impose outside the control of the aquaculture sector. Our approach may exclude unions where they are illegal, but will then allow for a larger organization's workers to choose to be connected to the audit and its verification on this matter. We feel this is the best we can do, given certain legal restrictions.

Inger Naslund

Mandatory!! There should be a freedom of organising in groups and joining trade unions for collective bargain of working rights.

- We agree.

4.6.1

NACA

Not applicable to small farmers where workers are relatives or neighbors.

- The GSC agrees, but has provided a definition for 'family workers' to ensure this criterion is not avoided by small farmers out of convenience.

CP Indonesia

The percentage of employees with access to trade unions, and ability to bargain collectively or worker access to representative(s) chosen by workers without management interference

- The GSC assumes this comment is based on a slight misunderstanding of the 100% qualification. Not all workers may choose to join a union or organization, but all workers shall have the right to do so without management interfering. The rationale has been rephrased to avoid this confusion.

Flavio Corsin

In some countries workers do not have the right to form trade unions or trade unions are not true advocacy organizations for workers (i.e. the adopt a top down approach). Suggest making exceptions for producers in countries where compliance to this standard would not be possible

- The GSC seeks to make allowances for this legal restriction while still ensuring workers can ask for help if they choose to do so.

Criterion 4.7: Disciplinary practices in the working environment causing temporary or permanent physical and/or mental harm

Inger Naslund

Absolutely no abusive disciplinary actions allowed. - A certified aquaculture operation shall never employ threatening, humiliating or punishing disciplinary practices that negatively impact a worker's physical and mental health or dignity.

- We agree.

4.7.1

WWF-US

Suggested Change: Delete "physically or mentally". This is implied and improves cross cutting effectiveness

- We have made this a footnote.

Criterion 4.8: Overtime compensation and working hours

Ahold

Regarding "Guidance for determining incidences, violations and abuse of working hours and overtime: 2. It is only encouraged to keep work-time records? What about worker records, payroll records, training records, etc.? See general comments.

- Please advise what additional records are needed to monitor compliance on 4.8

Inger Naslund

No acceptance of incidences, violations, abuse of working hours, and overtime laws/ expectations.

- We agree.

Criterion 4.9: Employee and worker contracts fair and transparent

Ahold

Regarding "Employees and worker contracts fair and transparent": What about personal details of the worker? A written contract is only legally binding if the parties that are entering into the agreement are identified, incl. the worker

- The guidance has been adjusted.

Inger Naslund

Where verbal contracts are practiced (e.g. remote rural locations, cases of illiteracy and small family farms), extra care needs to be taken that the contents of the agreement are fully agreed to and well-understood. – This should not be possible to sub-used by larger farms witch also encompasses cooperatives.

- We have tried to make this more clear in the document.

4.9.1

Ahold

What about other forms of record-keeping? Time records, payroll records, worker records?

- We have made the appropriate adjustments.

Criterion 4.10: Fair and transparent mechanism to resolve conflicts

Inger Naslund

This should be not less than every quarter of a year for conflict solving or avoidance.

- The GSC believes that twice per year is sufficient.

4.10.1

NACA

Not applicable to small farmers where workers are relatives or neighbors.

- Please see the definitions used under this principle.

CP Indonesia

Management and the full workforce meet based on demand or at least once per year on the basis of written agendas and written minutes of the meetings.

- The GSC believes this frequency is too low.

Principle 5: Manage shrimp health and welfare in a responsible manner

General Comments on Principle 5

New England Aquarium

If this is not a "chemical-free" standard, then we suggest a maximum allowable percentage of ponds that a farm can treat.

- Defining an allowable number of treated ponds is difficult to justify. We believe that either allowing treatment or not is more appropriate. Logical restrictions are to exclude treated product from ASC label, and stipulate conditions for responsible use of chemicals.

Dallas Weaver

This issue is way too complex for the type of simple minded science being applied. This is an attack on the future. The minute you give some bureaucrat power over these decisions, he will say no, his only power is saying NO. We are so far from fully and correctly understanding the microbiological ecologies of these production systems, any limitations on probiotic and related attempts to control the microbiology of these systems is premature and counter productive. It would be especially unfortunate if some government bureaucrat creates limits using his often limited scientific understanding combined with a the hubris that comes from being surrounded by supplicants who can't tell him he is full of BS.

- We agree that depending on local authorities for approving new products can be a problem. Our intent is to avoid the introduction of undesirable bacteria to ponds, not to put unnecessary burdens on farmers.
- We need to rely on local authorities because we need to be covered on this issue, and cannot allow the use of bacteria that have not be assessed by third parties for the safety of their use. There have already been issues with food borne pathogens in the past with products that are fermented directly on the farms.

- We are talking here about certifying responsible shrimp farmers and cannot accept unknown product to be used in responsible farming. Of course, we encourage innovation and the standards will be reviewed as knowledge of this issue increases.

Larry Drazba

The majority of producers have responded with either viral exclusion systems or non viral exclusion systems. Non viral exclusion systems are any system that accepts that although many sanitary measures are employed to; control the presence the pathogen, select or fortify the animals to tolerate its presence, manage the culture to minimize the possibility of an outbreak or mitigate the effects should an outbreak occur, the possibility of an outbreak is real because the pathogens are ubiquitous and certain climatologic detonators can cause outbreaks. Viral exclusion systems can guarantee 100% success through the use of water sterilization, special culture conditions and controlled production protocols.

The proposed standards are aimed at covering both production strategies and as a result, don't really quite cover either. They most adequately cover the viral exclusion production paradigm. However, in order to effectively cover the viral exclusion strategy it must be recognized as a viral exclusion technology and protect that precept. If a viral exclusion farm is located in an estuary or coastal zone and complies with all the standards regarding water source, buffer zones etc the requirement that biological corridors cross the property would result in the possible interference with viral control technologies or practices. The standards should be divided into standards for the two different production paradigms. The current standards are innately biased towards highly technified and capitalized viral exclusion systems.

The disease management section of the document assumes that if a farm filters its water properly, it can keep out disease carriers or the pathogens themselves. That is not the case. Disease outbreaks are possible unless there is some destructive treatment within the system to kill the virus, possible carriers or both. Most production systems are non viral exclusion systems because they are much too large to employ an effective deterrent to the pathogens and therefore depend on other types of production tools such as limited seeding dates, seeding densities and production techniques within their package of disease prevention protocols to limit outbreaks and mitigate the negative effects should they occur. Most of the areas of concentrated production have endemic pathogen populations of the OIE reportable varieties; and most of the producers in those areas are non viral exclusion systems that have made significant strides to comply with the spirit and letter of these proposed standards. None of these producers will be able to qualify under this proposed set of standards because the minimum survival standards are just too high for producers that cannot currently close the cycle for viral exclusion. These farms use seed certified free of OIE reportable pathogens, minimal exchange water technology and subscribe to all the environmental, social, legal and technical requirements needed for certification but because they cannot implement viral exclusion technology they are still subject to disease outbreaks and thus do not meet the proposed standards. If it is the WWF's intent to exclude this important section of the industry then mission accomplished. If not, than this needs to be addressed and it could be addressed by separating the standards for the two production paradigms.

- The GSC has no intention of excluding "sections of the industry," but, rather, intends to identify best practices. We agree that survival rate is questionable, but we do not agree that making different standards for different systems is necessary because that would lead to certifications having different values and different markets, which would be impossible to handle under the same ecolabel.

- We have had some suggestions that survival rate is not a good indicator. However, other views are that it is critical for a principle related to health management and animal welfare.

Criterion 5.1: Disease prevention

William Rash – UK Retailer

Standard should also exclude the allowance of de-heading or peeling of shrimp at the farm/pond site.

- The GSC has not been convinced that there is a basis for excluding companies that have their processing plant on the farm site (e.g. risk of cross contamination). We have attempted to cover this in 5.1

Inger Naslund – WWF Sweden

Ban on antibiotics for certified farms. Support the mechanical filtration systems according to ShAD - To reduce the use of antibiotics and pesticides, the ShAD is promoting the use of mechanical filtration in order to eliminate pathogen carriers and competitors. Mechanical filtration can take place at different levels in the farm (pumping station, canal or pond), depending on the farm design, and with different means (e.g., drum filters and inlet filters). Also supporting dissolved oxygen for improving the pond bottom conditions.

- Most farms do not actually require the use of antibiotics, so the GSC believes that banning the use of antibiotics is acceptable. However, if there is a natural active bacterial infection, and it is treatable, it is better to allow antibiotic use so that the disease does not spread to other farms, ponds or into the environment. In this case, the ponds that used antibiotics would not eligible for the ASC label. This is a continuous and yet unresolved debate for the ShAD Steering Committee.

Belize Farmers Association

The standards in 6.2 call for 100% use of SPF PLs, but standards in 5.1 call for SPF or SPR PLs. Which standard takes precedence?

- We have revised the standard to try to address this confusion and would welcome further comments on this issue.

Farms will not be able to comply with standards that require pumps to operate in nutrient-rich coastal waters with a mesh size of 250um. Meshes will clog and prevent the ponds from re-filling.

- The ShAD has received many comments on this issue. We agree that 250um might be too prescriptive and are now encouraging farmers to filter their intake water as is appropriate to minimize the risk of disease vectors entering their system.

WWF Germany

Specific measures or exemptions should be granted for extensive, zero input farming systems which are in constant exchange with natural surroundings (e.g. Silvofishery systems in the intertidal zone). Such farms are usually not having any kind of BMP in place to prevent disease, since they are in constant exchange with the environment, or are part of the surrounding environment rather than separated unit

- The ShAD GSC has considered this issue as well and is willing to think about exemptions for zero input systems, but it is important to note that these farms are challenging to certify because they do not usually have the documents to verify compliance on other important areas of the standards. Furthermore, the ShAD standards will require compliance with all standards to be certified.

5.1.1

New England Aquarium

It should be noted that filtration and sterilization are very different pond-based shrimp farming activities. Viral diseases are unlikely to be controlled using filtration. Closing the production cycle (i.e. no daily water exchange) is a technique used widely in shrimp farming, can minimize disease introductions and should be a requirement of the standard. Farms should operate a "good neighbor" system and inform other operations in a given area of disease outbreaks and the release of production water into shared water bodies. Fallowing between production cycles should also be required. Should a novel disease be identified, certified farms in an area must attempt a coordinated eradication strategy.

- The GSC believes that preventing the spread of disease through no water exchange and water treatment is not effective as ponds still need to be drained for harvest.
- We appreciate the fallowing suggestion, which is very easy to do for small farms but not for big semi-intensive farms. Therefore, the GSC does not view this as a viable solution.

CP Thailand

In my opinion poorly written; why not just say a demonstrated pond biosecurity protocol and implementation; and why not have standard showing how many disease outbreaks in the past year. But this would be difficult to quantify because how do you determine a disease outbreak; survivorship, and then even a farm that does an emergency harvest may get acceptable survivorship with a disease outbreak.

- We agree to include a requirement for a biosecurity plan and have made that adjustment in the new version of the standard. However, the GSC believes that it is important to discuss how farmers can control their risk by articulating options in the guidance.

WWF-US

This indicator needs to be rephrased in order to be understood properly. Perhaps best to adopt a shrimp health plan similar to the one proposed in the Pangasius Aquaculture Dialogue (PAD)

- We agree and have revised the standard accordingly, although it is not in alignment with the PAD.

Flavio Corsin

This standard is far too generic. Suggest introducing a shrimp health plan which covers several specific areas of interest. A good starting point for discussion is provided in the GlobalGAP standards.

- Agree and have made this change.

Dr. A.G. Ponniah (India)

Under this the major concern is the spread of disease from the farm to the wild. The entry of pathogens into the farm is the concern of the farmer to have a successful crop. What is needed to be insisted is the prevention of release of pathogens into the receiving waters.

- The GSC understands this concern but believes that filtering inflow water is necessary as a first step to prevent spread of disease to the wild. Additional steps to protect the wild from disease transmission are being considered.

5.1.2

CP Thailand
Reads like a BAP, and I thought these were going to be different than those standards using BAP as a basis.

- We understand this concern and in some cases BMPs are necessary as a first step until sufficient information can be gathered to create a performance-based standard. However, it is not always possible to make everything performance-based. We welcome any suggestions.

Mark Nijhof
Disease prevention is not to be found in prevention of pathogens entering the farm. These will enter anyhow. However, disease control is based upon the natural immune system of healthy animals and thus on good house keeping conditions. I would therefore not consider things like sieving, sterilisation, etc. These do not occur on growing sites, neither should they be necessary. (for hatcheries, this is sometimes different of course).

- The GSC believes that water treatment is part of these "good house keeping conditions" that reduce risks. Biosecurity is based on a combination of prevention measures.

Flavio Corsin
How to define "appropriately sized"? the second option would not be practical as the mesh size would be clogged after few days and would need to be replaced countless times.
Suggest removing this standard

- The GSC defines "appropriately sized" as "as fine as possible" and according to the pathological risks identified in 5.1, which could be included in a biosecurity plan.

NACA
Consider to revise the mesh size (Typically shrimp farms use 600 micron, and hatchery for 250). Is it really necessary to go down 250 micron?

- We have not removed the requirement for a specific mesh. It is now up to the farmer to determine and justify the mesh size used, according to the risks of their production system.

CP Indonesia
< 300 µm

- See above response.

5.1.3
Belize Shrimp Growers
It is not realistic to meet a 3ppm DO standard for 5AM benthic oxygen without incurring other environmental costs through trade-offs in fuel use or water exchange. Many undisturbed natural lentic eutrophic ecosystems consistently exhibit less than 3ppm dissolved oxygen at the bottom at 5am in subtropical heat. This is not a standard that can be consistently met without heavy aeration or water exchange. Forcing this trade-off for an arbitrary benthic oxygen for gas and additional water pollution upon them could actually increase the net footprint of the farms on the surrounding environment. It is already in the farmer's economic interests to maximize survival and minimize disease by managing DO in the ponds. The more appropriate indicators would focus on targets like effluents where no direct economic incentive exists.

- We agree about the trade-off, but, as this is a health standard and not an economical standard, we believe that this is what is required to ensure shrimp health. We agree

that there is a challenge for non-aerated ponds, where only prevention through pond management can be done. Therefore, if we do not set a measurable bar, we will have to consider BMPs.

New England Aquarium

The value of 3ppm is too low – this number should be raised.

- The higher the bar, the more difficult it is to apply to non-aerated ponds. This would only be possible with mechanical aeration. <2ppm is critical and >5ppm would be ideal. >3ppm at sunrise would end up >5ppm during most of the 24h period and set target well above critical values. Therefore it is a good compromise.

CP Thailand

Averaged over the farm or for each and every pond. No pond allowed to have an avg oxygen <3. So what is the outcome if a farm shows one pond with avg less than 3 for three days; loss of certification.

- This has been the source of significant debate among the GSC members and we have tried to address it in the new version of the standards.

WWF-US

Dissolved oxygen concentration is highly variable, is prescriptive, and not performance based. More than three consecutive cloudy days resulting in DO averages of 2.5 ppm has not necessarily proved detrimental to populations and may perform well in growth and survival parameters. Suggested action: drop standard from 3 to 2.5.

- It does not make much difference in terms of justification and difficulties of application. The challenge remains on how it is applied. It does not sound reasonable to withdraw certification due to 1 or a few instances of low DO.

Dr. A.G. Ponniah

The standard for maintenance of optimal DO and pH (upper limit is also needed) are only given. If it is to avoid stress to the stocked organisms then a whole lot of other parameters are to be given. In actuality it is the look out of the farmer to maintain good conditions so as to obtain good growth and survival. For the same reasons there is no need to specify the survival rate as a standard which is also very difficult to verify

- We understand the challenge, but there is agreement that survival rate is a good indicator to measure shrimp health and the potential for disease transfer to the wild, which is why it remains in the standards.

5.1.4

CP Thailand

Same comment as for oxygen; farm, pond, etc. What is the basis for choosing pH 7 as the cutoff point in terms of disease prevention or shrimp health? There is a far clearer relationship between temperature and disease outbreaks but this hasn't been considered (not that I am suggesting this but the choice of pH appears purely arbitrary).

- We can only address parameters that farmers can control or at least influence. Temperature is totally out of control of the farmer, even if we agree that it is a key parameter for shrimp health. We have considered pH because ponds with acidic conditions are known for showing problems. However, we agree that pH is not a key parameter, but we are doing the best we can with the knowledge we have.

WWF-US

Too prescriptive and highly variable as direct function of microalgal concentrations and diurnal changes. This is not necessarily a negative impact nor performance based. Suggested action : Strike 5.1.4.

- Despite the microalgal effect, pH<7 would be a sign of excessive acidity. However, we agree that this is a secondary parameter in terms of shrimp health. It is worth noting that this parameter was first considered as a means to exclude ponds built on acidic soils and not properly remediated. However, it is true that farms that are unable to control a pH above 7 would be out of business fairly soon. The GSC also considered this for welfare reasons, even if it is officially out of the scope of the standards.

5.1.5

New England Aquarium

Raise SR to 60% for #1 and 70% for #2

- The GSC does not think this is realistic considering the spread of disease agents and the level of achievable biosecurity in these types of farms. The survival rate is calculated based on actual data, as it must to be an objective measure.

CP Thailand

Now this I have a problem with; why is it ok for extensive ponds to have lower survivals than intensive farms. Intellectually I see no justification in three standards for three farming styles. If 50% is ok for extensive then it should be ok for intensive. And on another note; practically you will never get an accurate farm survival; because it is too easy to fake records on actual pl stocking data and the number of shrimp harvested is simply estimated from harvest weight data. The less accurate the harvest weight (or the more it deviates from a normal distribution), the less reliable the final count.

- Setting the bar at 50% would be meaningless for small ponds, where there is an opportunity for higher biosecurity measures, as compared to large ponds. However, we support the point made here and also agree that it is difficult to get accurate, verifiable numbers on survival rate because of the uncertainty of PL counts, especially in Asia.

WWF-US

Standards look low to us: 60, 70 and 90 with PL 12 starting (vannamei)
Maybe breaking up in species: vannamei vs monodon (keep current values for monodon)

- The GSC believes that this would result in extremely selective standards.

William Rash

What is the rationale behind the figures? For unfed and non-aerated ponds, should be more like SR>35% and RSD<15%.

- The numbers used in the standards were set based on actual data from industry GSC members. We have tried to improve the rationale in the standards document.

Eric De Muylder

This criteria seems to be very difficult for 3). In semi-intensive of intensive ponds 65 % SR is a normal % . I don't understand why this criteria changes according to intensity. To my knowledge, it is easier to have high SR in lower density ponds. I would suggest 60 % for all systems (no

discrimination :)) Now it is always possible that lower quality Pl's from the hatchery already have an intitial higher mortality like 20 %. Maybe the SR should be corrected for the SR during the first 24 hours ? This can be observed with a small net in the pond. This would enforce the farmer to do this exercise, which would enable him to do a better feed and water management afterwards, because he has a better idea of population. The other factor is that it is impossible to control the actual stocked number of Pl's. it is common practice that more Pl's are stocked to allow for some mortality, but officially there is a lower number on the paper. This can alo obe caused by technical staff working on the farm to obtain bonuses on survival and production targets.

- We respectfully disagree. Experience clearly shows that the more intensive the system, the better survival rate. It is strongly correlated to the size of the pond and the ability to implement biosecurity measures. The 24h survival check is adding another layer of complexity with no obvious benefit. Intensive systems are usually adapted to low average mean weight shrimp, with a shorter life cycle and less problems with pond age, and, statistically, minimized risks for a disease outbreak/mortality to occur.

Mark Nijhof

Survival is not really auditable. It can only be audited if proper data are recorded allowing determination of survival, similar to e.g. FCR. I have no solution to overcome this draw back. In Globalgap, we simply refrained from this or similar (important!) criteria as these are not auditable. It will diminish the credibility of the standard I'm afraid.

- We agree, but a solution could be to include in the standards an obligation to count PLs on the farm before stocking. We, however, disagree that it will affect the credibility of the standards. These are parameters that the farmers are managing every day. We are attempting to develop a method for farmers to use standardize PL counts in order to make the survival numbers meaningful. We would appreciate any further comments on this issue.

Flavio Corsin

How were these SR determined? For monodon farmers these seem to be far too ambitious. We will provide more info after having conducted the small-scale farm survey

- We agree, but please keep in mind that the standards are also meant to be selective.

NACA

Consider to revise the SR lower, such as 70%. Set separate standards for *P.monodon* and *p. vannamei*?

- See above responses. We are considering standards for the separate species.

WWF Germany

For extensive, zero input systems the SR and RSD are hard /impossible to measure since recruitment / stocking of shrimp is also by natural influx into the farming systems (PL's are passively taken into the farm by tidal movement), so SR is difficult to calculate. Provision need to be in place for such systems.

- We understand the concern but are not sure there is much we can do about it on the GSC, given that these types of systems are not likely to qualify for certification due to a number of issues. Furthermore, they are not major parts of the export production of shrimp and the stocking of wild PLs is not allowed under these standards for very good reasons.

Farming of marine shrimp in freshwater / low salinity: It is well known that farming of marine shrimp in freshwater and / or low salinity levels increases risks of disease in order to prevent outbreak of disease due to farming of shrimp in low salinity / pure freshwater areas (or course such standard must be coordinated with P 3 (salinization) in order to prevent farmers transferring brine solution to inland areas for reaching the desired salinity levels)

- At very low salinity, what matters is the balance between key ions, not the overall salinity level. Therefore, an indicator purely on salinity does not seem to be justifiable and it is similar to the discussion on pH. Farmers that cannot fix these problems are simply very unlikely to stay in business. What seems to justify the argument is the opposition to the use of brine solutions in inland ponds, which could be considered under P2. The GSC decided to include this for the welfare of the shrimp.

5.1.6

New England Aquarium

Is redundant and different from 6.2.2. We suggest these are clarified and placed in standard 6.

- We have attempted to clarify this in the new version, but would welcome further comments if necessary.

CP Thailand

This is nonsensical unless a list of pathogens is provided. I could confidently state that any P. vannamei is SPF for MBV – is that OK – freedom from a single pathogen as long as it is listed? Also, an animal may be SPR for a single pathogen (monodon and IHHN anyone?) but not SPF. And what does "Local Pathogen Resistant" (P. 50) mean?

- We agree that it needs to refer to specific diseases but the difficulty is that this depends on the local context. The OIE provides a list of pathogens and also provides their potential hosts. Some countries have a national list. We have attempted to improve this in the new version of the document.

WWF-US

Break up in species vannamei (current one) vs monodon (replaced by SPF, SPR or seed tested as negative for specific pathogens (which is different from SPF))

- We have incorporated elements of this in the new version. We have mandated the screening of specific pathogens when SPF or SPR is not available. This is similar to what already happens and we recognize that it does not fully protect the farm areas because of poor diagnostics tests, replication of the samples, etc. Therefore, SPF animals are preferred when available and mandatory after a certain period of time, as this will strongly improve disease management, especially in Asia.

William Rash

Criterion 5.1.6 & 6.2.4: Standard needs to have an allowance for wild caught female spawners. This is common practice in India and for small farmer holders

- 5.1.6 only addresses the source of PLs. This concern is addressed in 6.2.3.

NACA

Duplicate with 6.2.2.

- Please see above responses.

Criterion 5.2: Predator control

New England Aquarium

We recommend using the standards proposed in the International Standards for Responsible Tilapia Aquaculture – Standard 4.4

- This standard is very similar to that of the ShAD but does not include a monitoring program or the banning of lead shot, which we believe to be important issues to address.

CP Thailand

A lot of good faith in this; if a farm does not want you to know that they use lethal lead on birds; it would take an extraordinary effort to determine otherwise. What are the "environmental impacts" of lead shot that "have been found". Could this not be better set up as "Functioning system of non-lethal predator control in place". How does a farm "… demonstrate they have exhausted non-lethal options before lethal control is employed."

- We understand that the auditability is a concern, as it is for several of the standards under ShAD. However, the task of the ShAD is to define standards to address the issues to the best of our ability, the auditing challenges will be worked out in the guidance document, but we recognize that it will not be a perfect system.

5.2.1

Flavio Corsin

Provide exception for aquatic animals that are inadvertently killed during pond preparation (e.g. rotenone kills all fish, what if some of these are protected, etc...)

- We have added an exception to this in the standards.

5.2.3

- The ShAD GSC has removed 5.2.3 from the standard.

Criterion 5.3: Disease management and treatment

William Rash

Discharge of metabisulphite on farms is a potential environmental hazard and the standard must capture this risk.

- Please refer to 5.3.5, as this issue is covered there.

Dr. A.G. Ponniah

(page 53) Use of antibiotics - 2nd paragraph

At present there is no such aquatic animal health specialist available in Indian system, this practice cannot be followed immediately. Since the establishment of aquatic animal health clinic, its registration, rules and regulations etc. are to be decided at government level for framing policies in this regard, this will take time and this practice may be recommended after a period of six year in countries where such personnel are not available..

- Please refer to the footnotes for this standard, as this issue is covered there.

5.3.1

New England Aquarium

As written creates the requirement of pond level traceability and separation throughout the chain of custody, as this is only a farm level certification can this be assured? This standard, in addition to 7.2-7.4, implies that the ShAD is proposing to become an organic standard. This is different from other standards, such as the tilapia standard. Clarity is required on this issue.

Additionally terrestrial animal byproducts are not allowed in feed in some countries, this should be considered in terms of a global certification.

- Pond level traceability vs. farm level traceability is a key issue that the ShAD has been attempting to address for all the standards and is an ongoing discussion at the GSC level. Use of terrestrial byproducts are addressed in Principle 7.

CP Thailand

For areas that have endemic NHP, farms must use approved antibiotics in an approved manner in order to operate profitably. A blanket blacklist of all antibiotics under all circumstances does not seem right. What if a specific treatment is prescribed by a qualified animal health professional?

- We understand this argument but do not think it would be acceptable to be sold under the ASC label, given that we are trying to reward the top performers.

WWF-US

Agree and the GSC should define "labeled product". WWF US recommends the following publication, which supports the GSC's decision: Smith P., T.E. Horsberg, A. LeBreton, F. Corsin (2008) Towards prudent and responsible use of antimicrobials in aquaculture. In: L. Guardabassi, L.B. Jensen, H. Kruse (eds.) "Guide to antimicrobial use in animals", Blackwell Scientific Publications

- We have included this reference in standards document.

5.3.3

WWF Germany

Instructions should not only be present on the farm, but the farming personnel must prove that proper instructions are being followed and implemented in the daily practice

- We have changed the standard to better address this issue.

5.3.4

M.N. Kutty

Besides naturally occurring pesticides a few as vindicated could be allowed under strict control

- The ShAD is working with the concept of a white (acceptable), black (banned), and grey (uncertain) for use in the standards to allow for new products to demonstrate if they are acceptable or unacceptable.

New England Aquarium

exclude rotenone

- We need some rationale as to why the GSC should consider excluding rotenone. Please provide one for our consideration.

CP Thailand

Option 2 is the only option if you are to have any farms in Asia under your standards. The use of pesticides that completely break down in the environment after a very short period is the only way farms can manage disease carriers (other crustaceans). In reality, the alternatives proposed are a definite second best option that will reduce but not eliminate the risks associated with crustacean carriers. The use of targeted, short duration, biodegradable pesticides should be permitted either through a "white list" or a "black list" system. (note – cypermethrin is naturally occurring in chrysanthemums – would that be OK?)

- We are considering the concept of a white and black list for the final version of the document.

WWF-US

WWF US supports the "no pesticide option" and requests that the GSC addresses how rotenone is used and released. Note for GSC: poor management of intake water can lead to use of pesticides: consider in rationale or guidance

- It is okay to put a rotenone restriction in guidance. However, we believe that this is why water filtration is important to manage good intake water

Inger Naslund

No allowance for treating water with pesticides,72 with the exception of Tea-seed-cake and Rotenone in the absence of shrimp. - For notes 72 and 73 there is a question if more recent information is available. If so that should be added as well.

- Supporting - Option 1): Naturally Occurring Pesticides Only "Use of pesticides has had serious environmental consequences. Pesticides contaminate soil and water. There are many examples of entire communities suffering from chronic pesticide poisoning. Even when used properly, some pesticide chemicals remain in the environment for years, evaporating into the atmosphere and, in effect, polluting the entire planet" (FAO). This option would allow only the use of rotenone and tea seed cake in the absence of the animal.

- We take your point and have tried to clarify this in the new version, but this issue will be further addressed in the guidance document.

CP Indonesia

Allowance for treating water with organo-phospate pesticides

- This is under consideration but was not resolved before the 2nd public comment period. We would appreciate it if you can provide further rationale as to why you support this.

5.3.5

WWF-US

How is this to be verifiably audited? The mandate that used chemicals are "broken down" is difficult to ascertain due to variability in half-lifes and retention times. The mandate excluding dangerous or banned chemicals reflected in 5.3.2 will effectively reduce negative impacts on environment and not allow subjective judgements to be made by an auditor regarding whether the chemical was effectively "broken down" before released into the environment. Additionally, the culture of shrimp will cause oxygen and pH fluctuations via primary productivity and bacterial decomposition and these processes are not necessarily bad for the environment. Lastly, concerning probiotics and introductions of such organisms and the bacterial processes that they initiate-this could be considered from the "neutralization" aspect. Suggested action: Strike 5.3.5.

- The GSC agrees with the auditing challenges, but does not agree that this standard should be eliminated. We are working on providing more guidance and would like further comments on this issue.

5.3.6

- The GSC has removed this standard for the 2nd public draft.

WWF-US

Too prescriptive and difficult to ascertain by an auditor. To mandate a "non-detectable" residue level in water requires the use of independent laboratories that are costly and not often present in production regions. Required guidance to sample, monitor, and chemically preserve pond water samples for viable analysis would be highly suspect and potentially reduce the standards' credibility. Suggested action: Strike 5.3.6.

Mark Nijhof

is as such not auditable! active chlorine can rapidly be determined by a test (but it is unlikely to be used in ponds of course), but for pesticides, more elaborate equipment is required.

CP Indonesia

</= the maximum limit

WWF Germany

The non-detectable regulation is not workable, due to today's available technology of analysis, every substance is detectable, even in very remote and untouched areas

- We agree that we should remove. Not relevant for chlorine in my opinion. Too difficult and costly to ascertain for pesticides. We could include requirement to follow withdrawal time under 5.3.4.

5.3.7

- The GSC accepts these comments and is still working on a solution to the identified problems. We welcome further comments and ideas on this issue.

CP Thailand

I have a difficulty with this where probiotics are fermented on farm. How does the farmer (or auditor) know that the bacteria in the original probiotic culture is still dominant after fermentation and, more important, that harmful bacteria are not present? Also, many governments simply rubber-stamp products that are widely accepted/used so this standard will be meaningless from an environmental or public health standpoint. (What happens when the Competent Authority for aquaculture / fisheries approves a product but the FDA or Vet authority does not?)

In the supporting footnotes, it should be noted that Morarty & Decamp are hardly disinterested 3rd parties. Also, Gatesoupe's review defined probiotics as "…live microbial feed supplements…" and specifically states "…Moriarty (1998) proposed to extend the definition of probiotics to microbial ''water additives''. However, this extension would make too vague definition of Tannock (1997). I suggest an alternative definition of probiotics as: microbial cells that are administered in such a way as to enter the gastrointestinal tract and to be kept alive, with the aim of improving health." His final conclusion was that "…considerable efforts of research will be necessary to develop the applications to aquaculture."

WWF-US

The knowledge required to determine the effects of introducing novel bacterial strains into the environment is not well understood. There should be caution in how probiotics are promoted. Suggested action: No introductions of novel bacteria whether deemed a probotic or not.

Flavio Corsin

Suggest removing this standard as the document does not need to specify what is allowed, but only what is not allowed or controlled.

- The approval by "competent authorities" is a potential source of endless difficulties of all sorts for the application of the standards. We could as a first step limit the use of antibiotics of known composition (excluding uncontrolled, farm-made ferments) and not containing known human pathogens (some commercial products actually do

Principle 6: Manage broodstock origin, stock selection and effects of stock management

General

M.N. Kutty

The proposed standards are needed. There is the common problem of the small farmer (<10ha holder), as we have most in the subcontinent/India, who would not be able to provide all the needed documents though he/she is complying to the requirements – as a general issue applicable to the majority of shrimp farmers, there should considerable help to them through the governmental/associations/NGOs etc for meeting the standards and for preparation of the needed documentation. See also General Comments.

- We agree and recognize this as a major challenge. We are working with and encouraging the ASC to develop mechanisms necessary to support the certification of small farmers. There are NGOs like WWF or IDH who seem to already be involved in identifying the gaps preventing producers from complying with the standards. These organizations can organize trainings sessions and also financially help farms to upgrade before the certification phase.

Jake Piscano, CENTER FOR EMPOWERMENT AND RESOURCE DEVELOPMENT

Monodon has still been unable to reach the domesticity level of vannamei, making it totally dependent on wild-caught spawners. But this can be remedied by releasing spent spawners back into the environment. Broodstock technology for monodon has also reached a degree of sophistication allowing spawner production from farmed stock, but hatchery people, by and large, still prefer spawners taken from the wild. Achieving SPF or specific pathogen free status for prawn (monodon) is a desirable objective. At this point, use of wild spawners and their release back to the wild after spawning will continue to be the cheapest and most environmentally safe way of obtaining fry.

- Returning the spawners to the wild does not work because they are eye stock ablated and, if they are not fed with a high energy diet, they will die. There are also disease considerations with the return of spawners to the wild, as the animals are stressed and the possibility of diseases they may carry being triggered is high. In such instances, the rest of the wild crustacean fauna that is sensitive to these diseases is also at risk. We have added some interim requirements for SPF and SPR but see this as mandatory over the long term.

Inger Naslund – WWF Sweden

It is questionable with the introduction and mixing of the species from continent to continent for certification. Here more information should be considered on how the different species effect natural environment if escapes occur.

- We have produced a white paper on this topic that is now included as a side document on the ShAD website. The paper includes information about the risks and benefits of using native vs. non-native species.

Criterion 6.1: Presence of natural or established shrimp species

6.1.1

William Rash – UK Retailer

Allowance for non-indigenous species should be based on continental region rather than local or country locality. What is the definition of 'widely used in commercial production'?

- We have deleted the "widely used" language.

WWF France

Much as in agriculture, the current trend in aquaculture is to use a limited number of species in order to fulfil market demand, entailing a decrease in biodiversity within production systems. This leads WWF France to encourage the farming of a greater number of species, both local and diversified. ShAD standards should, in our view, not allow producers farming a unique non local species access to certification. (6.2.1 Indicator).

- The GSC recognizes this concern, but needs to consider how to work with systems that have been in existence for many years in order to create positive change in the existing industry. White shrimp are heavily farmed in Southeast Asia and we think we have developed precautions in the ShAD standards to protect against any existing negative effects.

New England Aquarium

"There is no evidence of establishment or impact on adjacent ecosystems" is a confusing statement and would require a baseline study of adjacent ecosystems. Evidence of establishment is also challenging, and absence of evidence does not constitute absence of impact. We suggest that this line be removed or clarified.

- The footnotes further clarify this statement. The GSC considers precautionary positions to the best of its ability and we feel that this language is appropriate.

CP Thailand

There appears to be a contradiction in the standard since the footnote describes how P. monodon has become established in several east African countries and represents a significant proportion of the fishery. It also states that "…Therefore, the ShAD standards are unlikely to allow for certification of P. monodon in areas outside its native range." However, the standard states "…unless those species are already widely used in commercial production locally by the date of the publication of the ShAD standards." Does this exemption include commercial fisheries?

- Commercial fisheries production is not covered under this standard. Non-native shrimp species that are "widely used" must also be able to demonstrate no evidence of establishment or impact on adjacent ecosystems. It is a key priority of the ShAD to prevent new introductions of exotic species.

WWF-US

Change standards to "Yes".

- We have modified the language accordingly.

Eric De Muylder

Is this to be read AND AND AND ?
Because this would have as a consequence that intensive indoor farming in temperate countries would never be accepted, even though the impact on the environment is zero for effluents or escapees. I would change this into something like this:
Allowance for non-indigenous shrimp species is only accepted if:
1. There is a governmental approval for culture of this species and the species have been approved for aquaculture use by a process based on ICES code of practice on the introductions and transfers of marine organisms or comparable protocol.
AND
2. There is no interaction with local shrimp species: zero possibility for escapees or culture of this species is already widely used in commercial production locally by the date of the publication of the ShAD standards and there is no evidence of establishment or impact on adjacent ecosystems;

- We have modified the document accordingly and believe that this type of system would now be allowed.

Flavio Corsin
This standard is clearly not aligned with similar standards in the TAD and the PAD. There should be no allowance for certification of a farm culturing a non-indigenous species unless the species is established in the wild or there is scientific (peer-reviewed) evidence that it cannot be established. Also, "there is no evidence of impact" is different than saying "there is evidence that no impact". Suggest revising this standard considerably and align it with the TAD and the PAD as we believe that keeping this standard in its present form would seriously affect the credibility of the ShAD.

- We have considered this in the revision of the standard and welcome further input.

Dr A.G. Ponniah
When introduction of exotics was done with proper protocol and guidelines by the Government, there should not be any reservations it accepting that. The condition that 'already widely used' (30% of total culture) should not be insisted upon especially in countries like India where the introduction of L. vannamei was only made recently after wide deliberations at all level following a risk assessment and developing guidelines to address the risks at both the hatchery and farm level. Only the criteria, "the species have been approved for aquaculture use by a process based on ICES code of practice on the introductions and transfers of marine organisms or comparable protocol" - needs to be adopted.

- The ShAD exists because the mandate of governments to protect the public interest has not been fulfilled by many shrimp producing countries in the world. Therefore, the ShAD deems it mandatory to go well beyond what is required only by regulation, especially on issues of critical conservation concern (e.g. the introduction of exotic species).

6.1.2

- The GSC decided to remove this standard.

Criterion 6.2: Origin of post larvae
Belize Shrimp Growers
Exceptions are needed for closed loop brood stock for improvements in genetic stock which allow for new lines of brood stock to be brought in from outside the country. It would be

appropriate to apply traceability standards to such transfers and require governmental approval.

- This is not something that can be addressed at the present time but could be considered for future versions, assuming that appropriate mechanisms to manage the risks can be identified.

6.2.1

Flavio Corsin

Compliance to national legislation is acceptable, but how to comply with the many regional and international documents on the matter? Suggest limiting this to legal requirements for importation

- Please refer to Principle 1, as this issue is addressed there. We have made some further modifications to attempt to address this concern.

6.2.2

New England Aquarium

Add "or are SPR, where this is commercially and locally available for country specific diseases".

- We have changed this to an "AND" but suggest that it cannot be an "OR," as pathogen free holds greater importance. The condition is that they cannot be imported in countries where the pathogen is not present, if there is evidence that they are SPR and not SPF but still carry the pathogen of concern. If there is evidence of transmission from from an SPR animal then it should not be allowed. Should be SPF for all of the pathogens except the one that they are resistant for.

CP Thailand

It would be my belief that most of the so called SPR stocks of the Americas are not SPF under the OIE guidelines; all have IHHNV that I have tested. Does this make them a problem; no. They are just as healthy as an OIE SPF shrimp. Also it would be impossible to have any monodon that is from a wild broodstock pass this criteria. (Actually, this standard only covers SPF status and doesn't mention SPR). This should allow PL produced by a facility certified as SPF or able to demonstrate their SPF status to supply without batch by batch certification. This may be done through a specific SPF facility register used by the auditors.

- Please refer to the above response.
- As long as domesticated monodon is not available, farmers can use wild broodstock, while ensuring that it is tested for the list of diseases under Princple 5. However, farmers must use domesticated broodstock when it is available in the country.
- Initially, we require that farms show their PLs are SPF or have been tested against the listed specific pathogens (Refer to Principle 5 and the ICES guidelines table. Origin: Donald V. Lightner), with the documents provided by the hatcheries. Later, as the preamble states, we hope the certification will be extended to hatcheries and, therefore, submitted to an independent audit.

WWF-US

should consider allowance for seed testing negative as well

- We have addressed this concern in the new version of the standards.

Dr. A.G. Ponniah

SPF seed is available for L. vannamei only and hence specific exemption should be indicated for

other species of shrimps.

- We understand the comment, but we are trying to incentivize change and create demand for SPF seed to be available for species other than *vannamei*. In some countries, SPF *monodon* is already available, along with *indicus*, *japonicus* and *stylirostris*.

6.2.3

Eric De Muylder

monodon and vannamei should be written without capital letters. indicus, stylirostris and japonicus can be 100 % from farm raised broodstock (this is already the case anyway)

- We have added these species to the 2nd draft and included your suggested change.

Inger Naslund – WWF Sweden

% of total post-larvae from closed loop hatchery (i.e. farm-raised broodstock) and the standards P. Vannamei 100%, P. Monodon must be improved over time (100% within 6 years after the publication of the standards).

- Can the later be shorter time after the standards are set as this should not come as asurprise after several years of discussions within the ShAD. Also the artificial breeding of brood stock should be done with other less harmful methods than eye blinding. A shadow standard of certified brood stock should be obtained in the rewised draft standard.

- The ShAD respectfully disagrees as it is seeking to find a balance between different interests, where possible, and has come to the conclusion that 6 years is appropriate.
- Animal welfare in the hatchery is not covered under these standards currently.

CP Indonesia

Can not be defined as it is still depend on the research result

- We agree, but these standards are designed to create incentives for change within the global industry and to help and reward those producers who are pushing the industry forward. We also need to be ambitious to be able to differentiate from existing standards and really improve shrimp farming.

Dr. A.G. Ponniah

PL from "close looped hatchery" cannot be considered as SPF without certification of the facility. It will also lead to inbreeding if proper breeding programme is not followed. Only PL from certified SPF sources to be allowed.

- We have allowed for some exemptions in the 2nd public draft on which we would appreciate further feedback. There was a need to allow the standards to be useable by as many farmers as possible.

6.2.4

ShAD Response

- We recognize the absence of certified broodstock fisheries. We would like to see if there is enough information to say that the broodstock has to come from a legal fishery and possibly ask for a document from the government as to where it is coming from. The document should exist in all broodstock importing countries, as the full traceability is an absolute requirement for ICES.

- It is important to note that while there have been some modifications in the 2nd public draft, there is still significant debate on the GSC regarding this standard. We welcome further feedback.

CP Thailand
How many shrimp fisheries (monodon) are certified by third parties; fisheries off India, off Bangladesh, Off Malaysia, If there are no certified fisheries then you have just eliminated all the monodon farms. This carries a significant risk of causing trade distortions and would in fact increase pressure to introduce vannamei into monodon production areas. What does a "fisheries management plan" require? If this is implemented as written, it will rule out almost all monodon production in Asia.

WWF-US
Although WWF US believes that a fisheries management plan is beneficial, we believe that the number of broodstock sourced is insignificant and this request will limit the ability of hatcheries to follow biosecurity protocol and not source broodstock from the wild.
Suggested action: Strike 6.2.4.

William Rash – UK Retailer
Criterion 5.1.6 & 6.2.4: Standard needs to have an allowance for wild caught female spawners. This is common practice in India and for small farmer holders
Certification criteria should also include that the certification ecolabelling scheme complies with the FAO Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries (2005), see ftp://ftp.fao.org/docrep/fao/008/a0116t/a0116t00.pdf. The main argument being that ISEAL does address the process not the content of the standard.

Flavio Corsin
This standard would make virtually all the Asian monodon producers non-certifiable, with the exception of the extremely few stocking domesticated monodon. Suggest removing this standard

CP Indonesia
not implementable

Dr. A.G. Ponniah
Certified fisheries are non-existent in most of the countries and most of the hatcheries source their broodstock locally which cannot be avoided at the present stage. Appropriate time limit may be given.

Inger Naslund – WWF Sweden
Wild-caught broodstock must be sourced from fisheries with an established fishery management plan or certified fisheries. - This should be mandatory for all wild caught brood stock or fish feed fishery.

6.2.5
WWF-US
seems to contradict 6.1.2

Dr. A.G. Ponniah
Though stocking wild seed is banned in the country, it has to be allowed in case of traditional systems which follow trap and culture method.

WWF Germany
Allowance for exception for zero-input systems (e.g. Silvofisheries). Natural influx of PL's into the farming ponds should be allowed / accepted by the ShAD

- The ShAD has allowed for natural influx systems but does not think that these types of systems will qualify for certification with other criteria in these standards. There will need to be strong regulations specified in the guidance to ensure the allowance for these types of systems is appropriately implemented.

Criterion 6.3: Escapes from culture facilities
Belize Shrimp Growers
Prohibitions on removal of live shrimp from the farm do not allow for normal operations such as transfer from hatcheries to move PLs, transfers of broodstock between biosecure farms, or sushi markets.

New England Aquarium
Add "No mass escape event (e.g. collapse of a pond wall) for three years. Failures will result in loss of certification"

- We have added language in the latest version of the standards to address this concern.

Inger Naslund – WWF Sweden
It is of high concern if allowing the introduction of L. vannamei or L. monodon in different environment than natural.

6.3.1
New England Aquarium
Define "timely" (e.g. at a minimum of)

CP Thailand
Some of these certainly sound like BAP's. Delete A-H as these are too prescriptive.

WWF-US
WWF US agrees with A.C (change "timely" by "daily"). E, and H. Strike D as it is redundant with E and F. Consider for C: adding "repair" and then strike 6.2.3

Flavio Corsin
Clarify what words such as "adequate", "timely" etc. actually mean

CP Indonesia
THIS IS ALSO MUCH TOO DETAIL, AS ALL OF THESE MATTER WILL AUTOMATICALLY BE DONE

Dr. A.G. Ponniah
Documenting all the listed items is not possible especially in traditional and extensive farms. The requirements should be simplified.
ShAD Response for 6.3.1

- We have changed “timely” to “daily”
- We accept that these are BMPs and are working towards a better escapes standard, but need to have these in place at this time.
- We recognize that documenting escapes will be challenging but suggest that will work itself out with time. With no available documents no third party independent certification is possible. It will be up to the NGOs to improve the training of farmers, document availability and management on farms.

6.3.2

Flavio Corsin

How are escapees to be recorded? Does this refer only to the observed escapees (e.g. shrimp caught in the traps)? If so, suggest stating this clearly. If not, suggest removing this standard as impractical to record all escapees

CP Indonesia

no need, it will not workable.

ShAD Response

- We would suggest that it refers to all observed escapees, as we recognize the challenge of accounting for each individual. However, we want to ensure that anything that can be recorded is recorded.

Criterion 6.4: Transgenic shrimp

Inger Naslund

The standard is absolutely crucial.

CP Thailand

From the footnote definition: “Genetic Enhancement: the process of genetic improvement via selective breeding that can result in better growth performance and domestication but does not involve the insertion of any foreign genes into the genome of the animal.” This would effectively prohibit selective breeding – even for traits that would reduce environmental impacts.

ShAD Response

- This standard exists to prevent the insertion of foreign genes into the genome and does not prevent selective breeding from occurring.

Principle 7: Use resources in an environmentally efficient and responsible manner

M.N. Kutty

This section on resources use is loaded only for feed except for Criterion 7.8. Surely there are other resources such as fertilizers and manures use often without contaminating the pond and farm environment (as permitted in organic farming) – why are these left out? Resources also include water and other inputs. If these have bee dealt with earlier this should be so indicated or the Heading revised.

Concerning standards for feed quality, it might be worth considering the recommendation of Tacon & Forster (2003) that the standards could be based on effluent loads of nutrients rather than the content of the feeds.

- We recognize this as an important issue, but it is beyond the scope of the ShAD to address this concern. We expect these issues to be addressed in the future, as the standards are continuously improved.

New England Aquarium

We recommend the following requirements:

All fish meal and fish oil must be independently verified for traceability and show species sourced, country of origin, gear type used and bycatch species associated with the fishery AND:

All fish meal and fish oil used in feeds must be shown to meet the following requirements:

Marine products, including byproducts and trimmings, to exclude:

· All krill and krill products (until appropriate management systems and sufficient scientific knowledge supports their responsible harvest)

· Unregulated fisheries bycatch

· All fisheries for which the following terms are applied by government organizations, fishery managers or organizations such as FAO and ICES:

o Overexploited

o Harvested unsustainably or at risk of being harvested unsustainably

o Fishery closed (except as part of area closures as part of adaptive management)

o Recommendation of no fishing

o Stock status critical

o Bycatch of IUCN endangered or critically endangered species

o IUU fishing probable

o Damages critical habitats (e.g. dynamite, poison fishing)

· All fisheries without formal management plans, except where fishery health is effectively maintained through restrictions and output controls (e.g. no take of 'berried' females and precautionary size limits)

· All fisheries listed as endangered or critically endangered by the IUCN

· Any products of the same genus to the species for which the feed is intended.

Preferential Sourcing of Aquatic Resources:

· Preferentially source farmed fish byproducts and trimmings and fisheries from sources certified to

(GLOBALGAP, GAA, MSC, EU/US Organic) standards – Inclusion of Aquatic Resources:

· Feed inclusion rates of fish meal and fish oil must not be excessive (i.e. set a maximum inclusion percentage) for the species for which feed is designed. Levels should be region appropriate, such that when animal byproducts are not legal then an increased maximum inclusion rate of marine resources is allowed.

- The IFFO standard has good traceability and could be used to address some of these components, as has been done for other dialogues. We have added metrics for Fishsource as well.

Sustainable Fisheries Partnership

SFP proposes that one important source of information on the status of fisheries (including biomass, mortality, the level of precaution in management and other factors) is the FishSource database (www.fishsource.org).

SFP recommends that the ShAD adopt an indicator for feed fishery stock status that requires all five criteria in the FishSource assessment to score 6 or greater and that one criteria be permitted to be unscored but NOT the criteria for biomass (criteria 4). This is equivalent to accepting fisheries that score either A, B, C, D or E in the SFP assessment and allows for 66.9% of fish caught in the principal global reduction fisheries to be accepted as consistent with certification.

SFP agrees that within five years all certified shrimp should be fed on rations derived from fisheries that are certified by an ISEAL-compliant scheme such as the Marine Stewardship Council. Consequently, the use of FishSource as an indicator before five years has elapsed is purely a temporary arrangement.
Fisheries that are not currently assessed on FishSource can join the database simply by getting in touch with SFP staff and identifying the fisheries data necessary to complete the assessment. Further information on this process is available from SFP.

Other issues associated with assessment
SFP proposes that a period of two years should elapse before a fishery used for feed is required to have completed assessment. SFP holds this view because:

Such assessments are technically feasible within two years
There is already a requirement for MSC (or equivalent) certification within five years – an assessment after two years could essentially be an 'MSC pre-assessment' leaving three years in which to resolve problems that are obstacles to full MSC certification
The period of time when completely unassessed fisheries are used for feed (which often means 'trash fish') should be minimized
An 'assessment' can be defined in a number of ways but a full FishSource profile should certainly be considered to be an 'assessment' for the purposes of certification.
The draft asks 'what is a credible assessor'? In the view of SFP a credible assessor can be defined in a number of ways but the key requirement for credibility is total transparency with regards to fisheries data and methodology and an explanation of why any given benchmark has been adopted.
The draft proposes that assessments be peer reviewed. SFP would certainly welcome peer review of any of its assessments (and the website for FishSource already has a feedback mechanism included in the system). We do not currently have a view on how to define a credible peer reviewer.

- We have added Fishsource as an interim indicator.

Jake Piscano, CENTER FOR EMPOWERMENT AND RESOURCE DEVELOPMENT
Many feed millers now use alternative protein sources: meat and bone meal (not allowed in certain countries) poultry by-product meal, and fish-by product, etc. The relative high cost of these protein sources still pushes millers and farmers to seek other protein sources including plant protein. The danger here is the tendency to exhaust "newly found" feed alternatives and even wet feed. The use of table scraps rendered for feed standards has also been done but volumes have been negligible.
Small or large scale shrimp farming will have an environmental footprint, no doubt, but observing basic environmental rules and focusing on carrying capacity of specific areas will allow productive operations with a minimum of negative impacts. Each area or pond has its own capacity and characteristics much like a person's fingerprint. It is knowing this particular characteristic that allows farmers to optimize productivity.

- The ShAD is considering the use of alternative protein sources under these standards and is challenged by restrictions on the products in certain key markets.

Mark Nijhof

Chapter 7 cannot be audited at farm level. This needs a specific feed manufacturing standard, and certified farms should hence only obtain feed from certified feed producers. It simply cannot be put into the standard that is audited on the shrimp farm only!
This element is largely believed to be solved by 'a document from the feed supplier (on company letterhead)' (page 62, top). Such criteria will detract heavily from the credibility of this standard. In addition, the feed manufacturer is normally not the company exploiting the natural source.
We all fully understand the necessity of addressing the element of 'feed' in the standard in view of the use of resources. However, I believe that the solution is to be found in obtaining feed from a feed supplier that adheres some sort of Code of Conduct or standard. The element 7.2.1.b is another example of this problem, recognized by ShAD.
It is not a novelty that I advice close collaboration with Globalgap, in which I see much of the valuable thoughts mentioned on p. 63 (mid) be solved. Aquaculture relies heavily on agriculture and this crucial relationship has become manifest to ShAD. Unfortunately, Globalgap Fruit&vegetable standards do not yet implement the element of ecological sustainability in desired levels, but that is likely to be a matter of time.

- We agree that this is hard to audit but we want to start somewhere and the ShAD stakeholders have identified the feed issue as critical. Therefore, we must address this issue with these standards and welcome further suggestions on how to start on this work. We can verify feed purchases with invoices and not have to rely solely on the farmer's word, but we welcome other suggestions as to how this can be done.

Inger Naslund

Of high importance to have full transparency information to the consumer of contents of feed and how effluents are treated.

- This issue is beyond the scope of the standards. This is an issue to raise with the ASC itself.

WWF Germany

General Note with regards to feeds: Feed as one of the mayor impact factor in aquaculture must be handled and addressed as a crosscutting issue for all dialogues in exactly the same way. There is no rationale why an ASC certified Pangasius / Tilapia should have different indicators or standards for the sustainability of the raw materials being used (marine and terrestrial). It is of outmost importance for the market acceptance and the success of the ASC in Europe that this issue is dealt with by WWF with highest priority before the launch of the ASC. Retailers, importers and consumers will not understand different regulation with regards to feed raw material sources for different species, also it cannot be explained because there is no rationale for doing so! Another important remark with regards to feed raw materials and feed manufacturing: It is the responsibility and the job of the feed industry to supply farmers with ASC compliant feedstuffs, not an individual farmers' job to check on the correctness of the feed ingredients. The feed industry must become part of the ASC from the beginning, for manufacturing of ASC-compliant feedstuffs. If the feed industry is not subject to auditing for ASC-compliance, the farmers cannot rely on the correctness of the stated product specifications and there is a huge potential for fraud and non-compliance / incorrect labelling on the side of the feed industry.

- We agree with your comments. However, these are ideal situations that may not play out in reality. As we cannot predict what the ASC will require, we believe it is necessary

to develop this standard to ensure that the major issues of concern are adequately addressed.

- Regarding dialogue alignment on the feed issue, we again agree with your comments. However, forcing alignment is outside the realm of the ShAD's mandate and that is something that has to ultimately be handled by the ASC. There are efforts to make this happen, but it is unclear how much they will be able to address it.

CPP Indonesia

All of these question should be addressed to feed company, and farm should only be requested to buy from the certified feed company.

- In an ideal situation we agree with your comment. Unfortunately, however, there has yet to be a feed dialogue. Therefore, the conditions for this situation do not currently exist. If and when they do we agree that is something that farmers should have to address.

Criterion 7.1 - Origin of aquatic ingredients

CP Thailand

Does this really belong in farm standards; seems like other agendas are creeping into this. They are. These are de facto feed standards obtained through a non-ISEAL process without the active involvement of key stakeholders (feed companies, ingredient suppliers). A farmer has little or no control over this unless the farm is part of a vertically integrated operation. This could again be seen as potentially causing a trade distortion. These issues are best addressed through a separate feed dialogue.

- We understand and agree, but feed has been identified by various stakeholders as a major issue of concern and must, therefore, be addressed by the standard. We recognize the challenge for farmers and will be advising the ASC on how to proceed with this to the best of our ability. Other standards have found similar challenges and are working by putting cluster farms together in an effort to help address them.

WWF-US

7.1 Flag (pg 60): As the development of standards for consumers to make informed sources about how shrimp are produced, customers of feed manufacturers have the right to request certain product specifications. We believe that the current proposed implementation plan is forward thinking and justifiable.

William Rash

How practical is it for the farmer (particularly smaller scale farmers) to exert influence over the feed industry? Should separate standards be applicable for feed?

- Please see the above responses.

Eric De Muylder

I would also add: preference for local ingredients instead of imports, but produced in a social and environmental acceptable way. Secondly: preference for locally (or regionally) produced shrimp feeds instead of imports from far away.

- It is beyond the scope of the ShAD to mandate such a standard. Targeted local fisheries are data deficient and often poorly managed. The ShAD does recognize this concern and hopes to address it in future versions of the standards.

Inger Naslund
Origin of feed should be certified or responsible produced/fished in certified shrimp farms.

- We agree, however, this is not possible at the present time. We are trying to address this via the interim standards (7.2.1a – c) and hope that this will be the case in future versions of the standards.

NACA
(General points)There is need for government and regional organization to support and work on these issues. Suggest WWF to consider supporting such initiatives.

- We agree in principle, but this is outside the scope of the dialogue. We would see it as a very positive development if these organizations can get together to help implement the standards.

7.1.1
New England Aquarium
Change standard 7.7.1 to "Requirement for producers to source credibly certified (e.g. ISEAL compliant or comparable program) feed manufactured using environmentally and socially sustainable ingredients and practices. All feed ingredients will, at least, meet the requirements stated in the interim standards - *100% within three years of the availability of sufficient volumes of regionally available, species-specific feed (start date to be stated publically by ASC).*

- We have decided not to follow an ingredient availability approach and set timelines for compliance. We think that waiting for volumes to be available does provide incentive to make the appropriate changes.

Arjen Roem
Shrimp should not be fed (farmed) shrimp of the same species, fish should not be fed (farmed) fish of the same species, animals should not be fed (farmed) animals of the same species. These aquatic animals eat each other typically in nature, but intraspecies feeding in aquaculture/agriculture should be avoided for risks of disease transmission and general ethics.

WWF-US
7.1.1: Standards to be changed as following: Commercially available to be changed by SAD proposal: less than 5 years following the date of the publication of the ShAD standards

- The GSC agrees and has changed the standards accordingly.

William Rash
If MSC is currently the only member of ISEAL who can certify fisheries, and currently only one fishery is going through assessment, what is the definition of 'commercial availability'?

- Please see the above response.

Aldin Hilbrands
Certification criteria should also include that the certification ecolabelling scheme complies with the FAO Guidelines for the Ecolabelling of Fish and Fishery Products from Marine Capture Fisheries (2005), see ftp://ftp.fao.org/docrep/fao/008/a0116t/a0116t00.pdf. The main argument being that ISEAL does address the process not the content of the standard.

- We agree with this suggestion and have added it to the standards.

Inger Naslund

should the standards be set to - 100% within five years of commercial availability and 50% within three years.

- We have revised our sourcing and interim approaches, but think that a 3 year interim phase would be hard to audit and may not work very well. As these targeted fisheries come on line, there is an incentive for them to move in incremental improvements.

CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE

The standard can read as '100% within 5 years of commercial availability within the country'

WWF Germany

We do welcome a stringent and clear regulation on the type of fishmeal / fish-oils being used. The standard however should be much stricter, in order to support fisheries in their process towards better management and more sustainable stocks and have ASC-certified products on the market which are in compliance with the standard

- We agree with your comments and have tried to structure the ShAD standards to address your concern. We would welcome further specific suggestions as to how to do this. It is the hope of the ShAD that these standards create the type of change you have mentioned.

The term commercial availability needs some clarification: Does this mean that if fishmeal from MSC-certified sources are not available, things will not change and the interim solution 7.1.1 a 7.1.1.d will apply during infinite time line? In our view the ASC needs to support fisheries in their process of improvement by (a) communicating a clear dead line for certified sources of fishmeal and fish-oil and (b) asking for implementation of this within a realistic, but challenging time frame. Accordingly we do propose following Indicators: 7.1.1. Overall time frame to use certified sources: 5 years from the publication of the Shrimp standard (for all products under the ASC). (= this is the overall dead line for all feeds / producers / products)

- We have removed the commercial availability term from the standards and have identified a new approach.

It is a fact that today there are considerable volume of fish-by-products available from MSC-certified fisheries. Due to missing market demand such fishmeal's are however not supplied to feed manufacturers as specific labelled fishmeals for use in sustainable aquafeeds. If the ASC is clearly asking for doing so, there would be a demand for this and the industry would certainly react to it. ASC certified products must be in compliance with a regulation on this important aspect as soon as possible, otherwise there is no justification for the ASC on the market. The source of the marine raw materials is one of the central points of sustainable aquaculture and consumers do expect a solution for this problem asap (not after 5 years of commercial availability)

- We agree and have changed the standard accordingly.
- We are trying to avoid creating a niche standard.

7.1.1. Interim Solution: This interim solution should apply only as long as sustainable certified fishmeal sources are not commercially available (see above) or within the stated overall time line of years after publication of the standard

- If necessary, the time period for the interim standards can be changed, but it is important to create incentives for change within the standards. If we do not, concerns may arise about “greenwashing” and offering certification without sufficient environmental and social performance.

7.1.2

New England Aquarium
Is Standard 7.1.2 part of the future standard? How would a "sustainable source" be defined. This may take time to implement. We recommend adding this to the future requirement and change to
"By-product feed ingredients used are safe, unsuitable for human consumption, not from the same genus as the culture species." The certified feed supplier (via the farm) must provide a complete feed ingredient list with source information showing all feed ingredients which must be independently verified for traceability (ISO65 or above)

CP Thailand
7.1.2: The phrase "unsuitable for human consumption" is too broad to be meaningful in this context. Many fish used for fishmeal and oil are technically "suitable for human consumption" but have little or no demand as they are too oily/bony etc.

WWF-US
This Indicator is written with language that is too vague. "Unsuitable" for human consumption? "Sustainable" source? This is very difficult to audit since most information from feed mfg will be generated by statement / disclosure letters signed by feed mfg's. Continuous improvement is very difficult to show using this type of language. Suggested action: Strike 7.1.2.

Aldin Hilbrands
Indicator 7.1.2 There is no definition given of a "sustainable source" for the auditor to verify.

SHAD Response

- We agree with the concerns noted here and have modified the standard to read no allowance of feed ingredients from penaeid shrimp.

7.1.3

WWF-US
All commercial feed, list their ingredients by order of % inclusion rates in their formulations. They also list the results of the feed proximate analysis on external tags located on feed bags. Diet formulations are proprietary formulas and are not available for review by farmers or auditors. Suggested action: Remove formula and replace with list and provide more rationale

- We agree and have changed it to read "list of ingredients."

WWF Germany
The farm / feed supplier needs to provide information on all ingredients from marine sources, not only below 5% (in fact some shrimp meals contain products such as squid liver oils, squid meals, fish meals, fish-oils often in relative quantities of below 5%, but this components are then adding-up to overall contents of marine ingredients of 20 30%.

- We agree and have changed it to include all ingredients > 1%.

7.1.1a

WWF France
Interim plan for 7.1 does not strike us as a pragmatic solution and we would like to suggest that the GSC study the combination of IFFO standards and SFP scoring system as intermediate solution

- We have addressed in the new version of the standards.

WWF-US

Though we are sensitive to what this Indicator is attempting to prevent, it doesn't have a credible way for an auditor to ascertain or judge its validity. The way it is currently written leaves too much authority to the auditor who may not be adequately skilled to make that judgment and this represents a greater environmental risk. Suggested action: Strike 7.1.1a.

- We agree and have added the IFFO and Fishsource indicators and standards. We have modified the standards so that if neither of those two options is available a farmer must comply with the existing ShAD interim standards.

WWF Germany

7.1.1.a: As interim solution, we do welcome the proposed scheme

7.1.1b

WWF-US

7.1.1b : Suggested action: strike 7.1.1b and incorporate the following Indicators / Standards; " Prior to achievement of 7.1.1, the percentage of fisheries products in feed that have been sourced from fisheries certified as compliant with the *International Fishmeal and Fish oil Organization* (IFFO) global standard for *Responsible Sourcing* (RS)". Standard: 100%.
And
"Prior to achievement of 7.1.1, the FishSource score, or equivalent score using the same methodology, characterizing the fishery from which the fishmeal or fish oil

- Please see the above response.

7.1.1c – This indicator and standard has been deleted in the 2nd public comment draft

M.N. Kutty

Stock assessment on a larger scale is usually available through national institutions such as the Central Marine Fisheries Research Institute (CMFRI) in India in for marine stocks. In case these are not readily available as in case of minor stocks if adequately important the national monitoring institutions could be requested to assist in assessing the specific stock/s. In case such institutions need support appropriate mechanisms at international should come in. Perhaps FAO (WWF or any other body), which usually relies and screens national input data it collects for regional and global assessment, could assist in the process.

- This is beyond the scope of the standards. Incorporating ishsource results in something more objective.

WWF-US

7.1.1c : Though we are sensitive to what this Indicator is attempting to prevent; it doesn't have a credible way for an auditor to ascertain or judge its validity. The way it is currently written leaves too much authority to the auditor who may not be adequately skilled to make that judgment. "Peer reviewed by individuals outside of the organization" can introduce variable results and create a credibility liability in the implementation process. Suggested action: Strike 7.1.1c.

- This has been addressed in the new version of the standards.

7.1.1d - This indicator and standard has been deleted in the 2nd public comment draft

M.N. Kutty
This is an extension of the same issue. In reporting area based production statistics species abundance and biology changes are reported by coordinating national institutions. Depending on the magnitude/importance of the stocks the same mechanism suggested above for 7.1.1c could be followed

CP Thailand
What are "species interaction issues"?

WWF-US
This Indicator / Standard is very subjective, not performance based, and difficult to verify in an audit. Suggested action: Strike 7.1.1d.

Eric De Muylder
Does this mean that shrimp should not be fed to shrimp? Then I would suggest that a difference is made between penaeid shrimp meal (suborder dendrobranchiata) or products and meals originating from other crustaceans, including shrimp from the suborder pleocyemata which are also called shrimp or prawns (crangon, pandalus, macrobrachium) but are as close to penaeid shrimp like lobster or crabs.

The use of human food filleting waste from environmentally- preferable fisheries or aquaculture facilities. All shrimp feeds (also for monodon) can be produced technically and nutritionally with 100 % fishmeal coming from filleting waste. This will NOT result in higher FCR or slower growth. The only exception could be made for starter feeds (for example up to 5 g), because digestibility of these products could be lower due to double cooking (tuna meal).
The main problem could be availability in some countries. For example it would not make sense that a shrimp feed manufacturer has to import by-product fish meal if there is a local (sustainable) supply of other fishmeal. It might be interesting that fish meal should be sourced from local production preferentially.

WWF Germany
As interim solution, we do welcome the proposed scheme

Criterion 7.2 – Origin and content of terrestrial feed ingredients
WWF France
The belief that it is possible to simply replace all or part of fish meal by soy flour does strike us as a bit premature. It risks displacing the problem of sea resource overexploitation to land resource overexploitation. Numerous leads have yet to be explored such as bioconversion and algae use.

- We agree and are doing our best to address the responsible sourcing for alternative ingredients in the standards. We have included FFER and terrestrial ingredient sourcing standards in an effort to help address this concern.

Inger Naslund
ISEAL is a good base to start from as accepted mostly for certified products.

WWF Germany
In this area we do not see the need for independent certified sources for all plant raw materials, except for some potentially hazardous crops such as soy or palm oil. We do propose to put an

indicator for such crops only

- ISEAL Compliance covers both soy and palm oil. We will put those standards in the document before completion.

7.2.1

WWF-US

This should be addressed in the preamble and then the following proposed indicator be considered by the GSC:

"Presence and evidence of a responsible sourcing policy for the feed manufacturers for feed ingredients which comply with internationally recognized moratoriums and local laws. Specifically, the policy will include that vegetable ingredients, or products derived from vegetable ingredients, must not come from Amazon Biome as geographically defined by the Brazilian Soya Moratorium. Standard: Yes."

- We have modified the current standards and rationale to address this concern.

Flavio Corsin

How is "commercial availability" defined? Suggest also adding a measure of amount of ingredients to be available.

- We have modified the standard accordingly.

CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE

The standard can read as ' Within 5 years of commercial availability within the country'

- We have modified the standard accordingly.

WWF Germany

Within 2 years of commercial availability only (5 years is too long). In this area, we do not propose an overall deadline, since for such crops, an ISEAL compliant scheme is not yet available (in comparison to the MSC which is on the market since 10 years).

- We have modified the standards accordingly. Please comment on the new version of the standards.

7.2.2

WWF-US

All commercial feed manufacturers list their ingredients by order of % inclusion rates in their formulations. They also list the results of the feed proximate analysis on external tags located on feed bags. Diet formulations are proprietary formulas and are not available for review by farmers or auditors. Suggested action: Strike 7.2.2.

WWF Germany

All plant ingredients must be known (not only for components more than 5%).

- The ShAD has clarified the language and changed the requirement to ingredients greater than 1%

7.2.1a

New England Aquarium

This should be a current requirement and should be kept

- We agree and have modified the standards accordingly, as it has been moved to the newly created 7.1.

CP Thailand

Surely the place to address the Amazon biome is in Brazil directly, not through farm standards for shrimp. If it is intended to really make a difference, why not specifically target poultry and swine feeds that use Brazilian soybean meal.

- The GSC recognizes the challenge posed by this issue, but feed ingredients are identified as a critical issue and must be addressed to the greatest extent possible by the standards.

7.2.1b

ShAD Response

- With the existence of the RTRS and Responsible Palm Oil standards, the GSC has decided that controlling for pesticides is no longer necessary and has removed it from the standards. We believe that compliance with the aforementioned standards should address this issue. If there are reports that this is not the case, future versions of the ShAD standards document may revisit this issue.

WWF-US

This Indicator extends significantly past the realm of influence of individual farmers. The ability for an auditor to ascertain compliance with this Indicator / Standard is highly suspect. Suggested action: Strike 7.2.1b.

Eric De Muylder

no presence of insecticides in raw materials. This does not mean that the farmer can not use, but there should be no remains in the end product. This is similar to when you produce vegetables for human consumption.

Aldin Hilbrands

The current standard should not look into "Pesticide Use in Agriculture" since this is a very complex area which is already addressed through food safety standards. Therefore it is suggested to refer to GFSI recognised third-party food safety certification schemes (http://mygfsi.com/about-gfsi/gfsi-recognised-schemes.html) that address this issue at farm level.

CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE

Tracing the chemical and pesticide use in agriculture ingredients will not be possible at the present stage and only it can be insisted that the feed should not contain any residue of heavy metals and pesticides.

Criterion 7.3: Use of GMO ingredient in feed

- Since the first public comment period, the GSC has decided to neither ban nor allow GM feed ingredients in order to accommodate the main markets for ASC shrimp in America and Europe. There remains significant debate in the ShAD about how to consider GM feed ingredients in a way that is acceptable for all of the stakeholders. Please see the options currently being discussed by the GSC in the 2nd public draft. The GSC welcomes further feedback on all of them or alternative proposals.

New England Aquarium
As written creates the requirement of pond level traceability and separation throughout the chain of custody, as this is only a farm level certification can this be assured? This standard, in addition to 7.2-7.4, implies that the ShAD is proposing to become an organic standard. This is different from other standards, such as the tilapia standard. Clarity is required on this issue. Additionally terrestrial animal byproducts are not allowed in feed in some countries, this should be considered in terms of a global certification.

Arjen Roem
Furthermore, the ambition is to reduce the dependency on (wild) marine resources in time. That means we need to feed shrimp other sustainable protein feedstuffs and it is counterproductive and unsustainable to put unnecessary restrictions on those alternatives, as proposed in 7.3 and 7.4 The use of GMO raw materials should not be blocked per se. I am not going to write a lot here on scientific pros and cons. When these GMO raw materials are approved and allowed in foods, they can certainly be approved for animal feed.Transparency is needed and clear labelling is the right approach: when you use GMO raw materials you have to put this on the feed label.

William Rash
What is the practicability and availability of feed mills being able to source maize, soya and other implicated ingredients with 100% assurance that the ingredients are GMO free? Accredited 'identity persevered' (IP) procedures of the supply chain need to be in place; and on such internationally traded ingredients the practicality of achieving this is extremely difficult if not impossible.

Dallas Weaver
Any restrictions on GMO in feed indicates a flawed, self interested process, whose intent is commercial advantage, not sustainable food production. As you know omega 3 fatty acids for aquaculture are in limited supply (your fish meal issue) and that includes shrimp diets. Monsanto is releasing this summer a high omega-3 strain of high oil production soybean and this is just the beginning. This was accomplished using GMO technology to shift from omega-6 to omega-3 pathways.
There will be another 3 billion people on this planet in the next 40 years and they will be richer and want to eat meat. We will need the improvement in food conversion that we can get by going from pigs and chicken to aquatic organisms. Shrimp can become the new chicken, if you don't kill the industry with senseless and irrelevant things like restrictions on GMO.

Kenneth Boyce
Fairtrade has a clear non-GMO policy so our feedback favours the 0% option. As an industry already under criticism for environmental and social problems caused by its operation, shrimp farmers should be encouraged to improve not only their farming methods but also the effect of their sourcing policies. This is an area where progress criteria may be useful to allow producers transition from dependence on GMO based feed to non-GMO feeds as is the case elsewhere in the standard for sourcing of ISEAL certified fishmeal. This would be especially relevant for small producers who would have difficulty changing their sourcing plans and influencing local feed mills to provide them with non-GMO feed.

WWF Sweden

NO GMO accepted I feed of any kind!!

7.3.1

WWF France

In addition, the development of GMOs (Genetically Modified Organisms), the impacts on human health and the environment of which are very poorly documented, already raises a certain number of problems:

- in favouring a small quantity of species, they contribute to the decline of domestic biodiversity;
- their use entails an increase in the use of pesticides (80% of commercialised GMOs have been created to be resistant to herbicide – plants are known to develop resistance to chemical products;
- they deprive farmers the world over of the possibility to freely dispose of the seeds needed for their crops in remaining manufacturer property.

It is for that reason that WWF France calls for a ban on the use of GMO plants. In the specific case of sustainably certified products, the use of products stemming form GMO crops must needs be banished.

CP Thailand

Again I do not see this as anything to do with farming standards; it is being driven by other agendas. This is an ideological stance that is at odds with the available scientific evidence, especially when stated as a blanket ban. However, again, this has no place in a farm standard.

WWF-US

WWF-US recognizes that the issue of the incorporation of GMO or not in feed formulations is highly controversial. We also recognize the spirited and credible ongoing debate on both sides of this issue. WWF-US does not endorse the use of GMO but also does not believe that the Aquaculture Dialogues should be technologically biased. The Dialogues should remain technologically neutral. There are multiple issues involved in this debate. WWF-US recognizes that almost 80% of global soybean meal production is from GMO sources. There is an additional 5-10% of global non-GMO soybean that is stored and/or transported in conditions that allow for cross-contamination with GMO product and would effectively preclude compliance with a non-GMO standard. Additionally, with tropical aquaculture commodity species feed mfg manufacturing; there is little availability of non-GMO ingredients available. From an ethical perspective, WWF-US believes that in the medium-term, food production needs to produce more with less. If the global population is to increase by 50% in 30-years, we will need to produce more food with less to ensure the developing world has access to sufficient nutrition. WWF-US recognizes that certain northern European aquaculture species may have access to non-GMO vegetable protein feedstuffs in their commercial diet formulations, but the majority of global tropical farmed product will be excluded compliance.

To mandate the requirement or stipulate the labeling of GMO use in product packaging material will imply excessively onerous cost and traceability requirements to compliance.However, the use of GMO in feed ingredients and its subsequent use in production should be recorded in the auditor guidance and checklist reports which will be ultimately available to the standard label user, “retailer” which can then ascertain or demand from its supply chain to -use GMO or otherwise. The decision to disclose this information to consumers is a decision of the “retailer”. The information will be available in auditor reports but not messaged publicly. This proposal is

consistent with the TAD and PAD standards and will promote the concept of cross-cutting alignment of similar issues with multiple species.
Suggested action: (e) GMO allowed, with the identification of GMO use in the audit report and this report is available to the retailer to make commercial decision.

Eric De Muylder
For protein meals: GMO free (which means less than 0,9 %). For oils/lecithin: doesn't matter, there is no DNA in this product and it would be very difficult (impossible) to make feeds without GMO Lecithin There are however enough alternatives for GMO soybean meal to produce good quality feeds, such as rapeseed/canola, sunflower, peanut, cottonseed etc.

Aldin Hilbrands
Option b is preferred because of the different trade-offs and consumer preferences, it is up to the market or legal provisions to determine what is preferred. But the information around its use must be displayed so that the consumer can use this information in the buying decision made when shopping for ASC shrimp.

Flavio Corsin
Suggest adopting option (a) as this would be feasible and would be in line with adopting a precautionary approach.

Dr. A.G. Ponniah
GMO in feed may be permitted with proper label indicating the level of inclusion.

WWF Germany
If the ASC wants to have credibility and success on the EU market, there is simply no way for GMO in feedstuffs It is the strong position of many retailers and importers partnering with WWF in Europe that Non-GMO policy is expected for ASC products. If ASC is allowing use of GMO, many market partners will not go for this certification scheme and therefore risking the desired market impact of the ASC in Europe (this is specifically for important markets like Germany, UK, Switzerland, UK, the Netherlands, France and Scandinavia). We therefore vote very strongly for the option of non GMO feedstuffs under the ASC (= option (a) within the legislation limits on GMO detection and residues by the EU law)

Belize Shrimp Growers
Non-GMO feeds are not available to the Belizean market (or any Central American market) without a minimum of a 20% increase in market price of the product. This mark-up would make the ShAD economically impossible to follow.

Carlos Perez?
I have a clear position on GMO feed ingredients. The availability of TRUE!!! NON GMO ingredients is very limited and when REAL tremendously expensive thereby guaranteeing a niche standard for WWF.I point out that in cases of organic acuaculture the profit incentive to trade in NON GMO which is GMO in various instances is great therefore delinquency is rampant. DNA profiling is available as policing tool but not practical for volume aquaculture supply chain only maybe for niche. We as producers think that GMO technology only accelerates what already happens in nature (DNAmodifications and mutations (which in some cases its favorable)-When increasing capacity of the organism to survive or negative when organism dies

due to disturbance of control of vital process. The manipulation of DNA poses reduced or no risk to organisms which consume it; daily we consume DNA(food)which might have a mutation, change in DNA with no consequence for our health. If we eat fish we eat its DNA and it does not affect us even if it is transformed or not. There are two types of GMO those in which a foreign DNA material has been inserted (ex:fish genes put into potato DNA)or the same DNA(potato genes from cold areas-Alaska-has been inserted into potato DNA from Ecuador).One of the main fears from GMO in the field is the possibility that the construct used to insert DNA to an organism may be used by the host or other organisms to use/transfer DNA such a resistance/susceptibility to pesticides, antibiotics, etc. Nevertheless the risk is low considering that specific conditions are required in order to insert DNA to a cell and later propagate.
Concerns of GMO in acuaculture - The use of GMO ingredients in shrimp feed does not pose a human health concern. Shrimp feed acuaculture ingredients which are subject of GM technology (soy, wheat, corn etc)prior to human consumption have to pass through several phases. First feed preparation. Later the feed will be subjected to digestion when the shrimp consumes it and will transform it into muscle/tissue. The consumption of these shrimp should not pose any risk to humans. If the concern of the use of GMO ingredients in shrimp feeds is an environmental concern, it is not realistic to think that banning or limiting the use of GMO in agricultural ingredients is a solution since there is not enough non GMO agricultural products available to cover the needs for shrimp feeds or any aquaculture feed. GMO shrimp up to my knowledge do not exist since there is not enough knowledge of shrimp genetics or DNA to produce them.
Follow up message on numeral 2.1.13 will send tomorrow along with other numerals where i have concerns. Your initial draft is the most complete aquaculture draft i have ever seen.

Criterion 7.4: Use of land animal by product in feed

WWF France
Concerning the use of land animals flour (7.4.1), it does not seem appropriate for us to give priority to these technologies in the face of sustainable consumption patterns or the quest for new protein sources presenting neither ethical nor food security problems.

Arjen Roem
likewise for the use of Land animal protein (LAP). It should not be blocked per se. It is in line with 7.1.2 to promote the use of fish and meat industry byproducts not suitable for human consumption in animal feed provided those byproducts are food and feed safe. Using LAP contributes to sustainability. For transparency, of course declare on the label what has been used in the feed in terms of LAPs or any kind of raw material for that matter.
What is safe? Modern meat processing plants with dedicated lines per animal species or dedicated plants per animal species with proper collection and heat treatment where needed. In general, blood meals, feather meals, poultry meals, pig meals can be safe. For ruminant meals special attention is needed for TSE-screening.
'Marketing shrimp with labels like fed GMO-free or LAP-free diets are short term opportunities and not sustainable adverts.'

Dallas Weaver
This issue should be irrelevant to your objectives of sustainability. This whole subject should be deleted. By keeping it in the discussion, you again indicate that the agenda is not sustainability. Feathers are best used as a protein source not as fertilizer, if we want to feed the human population.

Aldin Hilbrands
The preferred option is e) because in our view this is market and regulations (legal compliance) driven should it should only be labelled when it is a customer requirement or a legal requirement. And this information is way too difficult for a consumer to digest anyway so labelling will not help but only confuse them.

Inger Naslund
NO land animal by-products in feed can be used unless we are talking about insects as feed production.

WWF Germany
In order to use natural resources more efficiently, we do propose to allow animal based by-products under following conditions: (a) safe manufacturing process (b) no residues of chemicals / therapeutics (c) no food-safety risk and other hazards involved (d) products must be from known and approved origin and fully traceable

Belize
Why must feed ingredients be unsuitable for human consumption? Most ingredients are suitable for human consumption in some form and this would preclude things like soy, fish and others. Very few ingredients in shrimp feed are not appropriate for human consumption in some form. A standard that does not allow for use of those ingredients cannot be followed as written.
It is not apparent why land animal by-products should not be used in shrimp feed.

7.4.1
ShAD Response

- There remains debate on the GSC as to whether or not standards that mandate labeling for the inclusion of Land Animal Byproducts should be included. The key question is whether or not it is important for the use of land animal byproducts to be expressed down to the consumer level. Some GSC members think it is important to be transparent for people buying ecocertified product. Furthermore, shrimp do not eat these types of nutrients in nature, which is also a concern for some GSC members. There is a further concern about what industries the ShAD should be promoting with the standards, as some GSC members believe that land animal byproducts should be promoted while others feel that they should not be promoted over alternatives such as insects, algae, etc. Finally, the issue of whether or not the production of these feed ingredients creates enough environmental and/or social impacts for consideration under the ShAD has yet to be resolved. The GSC welcomes opinions or suggestions on all of these issues.

CP Thailand
See above note on ISEAL compliance and active involvement of direct stakeholders from the feed and feed ingredients sectors.

WWF-US
Shrimp are opportunistic and detritivores in their natural habitat so WWF-US does not see the relevance of this Indicator / Standard. The use of terrestrial animal byproduct will reduce the

dependency on marine product ingredient feedstuffs. We believe that this standard is in conflict with the more relevant environmental issue of reducing dependency on wild fisheries.
Suggested action: Strike 7.4.1 or incorporate this proposed option (c) Land animal byproducts allowed, but no labeling.

William Rash
The UK retail trade will not accept the use of land animal byproducts in fish feed.

Eric De Muylder
Land animal products. Allthough these products come from conventionally produced livestock, their re-use increases the sustainability of both industries. I think teh same rule should apply as for pesticide use: no traces of antibiotics (or hormones) should be present in the by-products. I don't think there should be a difference for blood, feathers, bones etc. But one thing which is important is that 100 % of by-product meal should come from animals slaughtered for human consumption. This means that fallen stock from farms or other cadavers should not be included in the meal. If the rendering factory doesn't separate, then their products should not be used. The health risk is of course to big. The reasining behind this would be: if the meat is fit for human consumption, then the by-product should be fit for shrimp feeds. I must comment that I am consultant for Sonac, which is a rendering company, which increases my knowledge on the matter, but decreases my objectivity.
Other (often forgotten) raw materials such as worm meal or insect meal should not be considered as animal proteins. These products should be promoted, as well as single cell proteins (yeast, bacteria, algae and funghi), which are often produced in a very sustainable matter.

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Land animal by products can be permitted in feed with proper label.(At present Indian regulations prohibit the use of land animal by product in feed and this would be feasible only when this is relaxed.)

Criterion 7.5: Use of wild fish for fishmeal and oil

ShAD Response

- We recognize that this is a difficult issue and the ShAD is doing its best to find a balanced, precautionary starting point.
- We expect this to be improved with time and to move to greater efficiency.
- We think that FFER is useful because it is a performance metric that can be used to track progress over time. In addition, efficient use of resources is rising in importance as a sustainability issue and this is a core reason why the ShAD includes FFER.
- We have changed the calculations to include the use of byproducts

Inger Naslund
Use of wild caught fish feed form proofed sustainable managed fisheries only. Is the fish feed equivalence ratio set for full feed or not? This is not defined.

Flavio Corsin
We are puzzled on how these standards were set. They appear far too permissive. For example, looking at the Vietnam shrimp industry as a whole (i.e. not at individual farms) the FCR would be

around 1.5 and the FFER for fish meal and fish oil would be both at around 1.1. This would mean that if these figures were to be used as standards, about 50% of the farmers would be in compliance. Since Vietnam is the top monodon producer and it adopts a variety of farming systems common also to other top monodon producing countries, we suggest to lower the standards based on actual data collected globally (as suggested in the general comments) and to be at the very list FFER<1.1 and eFCR<1.5

WWF Germany

We do welcome to have an efficiency-parameter in the ShAD standard for use and conversion of fishmeal and fishoil into harvestable shrimp

However we do question if the FFER should not include all fishmeal and fish-oils, independent on its origin (reduction fisheries or processing by-products). If FFER is only taking forage fishery products into the equation, then there is no efficiency threshold in place for fishmeal / fishoil conversion from processing by-products. Such by-products are still valuable proteins which can be used by various means. Since aquaculture is only one option under various, sound and efficient use of this resource should be promoted by the ShAD

If the FFER is not including processing by-products (as currently proposed in the draft), we do see the potential for p.vannamei to have an FFER below 1. This is feasible for advanced producers. For Black Tiger shrimp, the proposed FFER of 1.5 will put a limit to the size of harvestable shrimp, which is o.k.

The proposed eFCR is too high in our view: This indicator is based on farming of Black Tiger in semi-intensive production for a harvest size of 30 35 g. For vannamei, this is too high. We do propose to have two species specific eFCR standards. For vannamei, we do propose an eFCR of 1.7.

7.5.1

New England Aquarium

At this point the FFER of *L. vannamei* to meet 1:1 is easier than *P. monodon* to meet 1.5:1

WWF-US

agreed with new standards for monodon:1.2.

Eric De Muylder

Other marine meals like squid meal should be added to the wild caught fish. If only wild caught marine animals are counted then the FFER could be less than 0,5 for vannamei and less than 1 for all other species (I would define like this instead of only monodon, this avoids difficulties to certify other species). monodon can be farmed with a feed containing 15 % fish meal from wildcatch (or even less). So with an FCR of 2, this will result in an FFER of about 0.9.

Aldin Hilbrands

This indicator should be deleted because as long as the fish meal and oil come from a well-managed resource, the market will determine where it goes and this is all that matters,

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Reduction of fish meal in feed is address in organic standards. This would result in cap on production and hence need not be included.

7.5.2

CP Thailand

Again how is this averaged; over the farm; by harvest etc. I personally find a eFCR which by the way for shrimp is the same as FCR to ridiculously high. No farm is going to make profit today with an FCR of 2.5 and with good feeds and feed management should be much lower than this. Absolutely 100% correct. FCR is essential as this is (in a farm standard) is something that is under the direct control of the farmer. An FCR (no need for eFCR in the case of shrimp) representing the top 20% producers would have to be based on Asian producer's performance. Using the French Official Organic Shrimp AB Regulation CC-REPAB-F published 13.2.2007 under EU Organic Regulation n°834-2007) is neither typical for the non-organic production of shrimp, nor an example of industry "best practice".

- We have removed the reference to those documents and have reduced the FCR standard to 2.1 at a maximum, although there is still significant debate on how to set the target for this and for FFER.

WWF-US

Suggested action: Strike 7.5.2. Although we believe it is redundant, if the GSC chooses to keep this indicator, we would propose to break up as such: vannamei: 1.7 and monodon: 2.1

- Currently, the GSC believes that there is still value in having this standard, although there is significant discussion as to how to handle it.

Dallas Weaver

Should an FCR standard be included in the ShAD standards document? If so, what should the rationale be for setting the appropriate limit?

The overall FCR is a function of the ingredients. In theory, I could make a zero protein diet just providing fat and carbs to the shrimp directly and adding NPK fertilizer to the pond and growing biomass as suspended solids (heterotrophic or ODAS type culture system) to produce the protein in the form of bacterial cells (biofloc). The overall FCR could be fairly high as you have to provide the chemical energy to drive the microbiological food chain.

Most of the shrimp production areas of the world are in the tropics. In these areas, growing high protein crops requires defending those crops against insects which have been playing chemical warfare games for millions of years and are good at it. Adding NPK fertilizer to the soil is rapidly lost to high rain fall and adds to environmental pollution. However, these same areas can produce cellulose with very little NPK, because the insects can't directly eat cellulose. This cellulose can be combined NPK fertilizer and could produce a shrimp feed in the pond or outside the pond (in fermeters), but the overall FCR would be poor relative to a high protein, high energy diet. However, the cost, environmental impact, and sustainability would be far superior and still better than cows fed cellulose and NPK (yes that also works).

The FFER discussion is also irrelevant. Fish meal is just another protein source for the linear programming models used to construct shrimp diets. The simple mindedness of the FFER concept is apparent when one thinks about wild shrimp and fish, what is their FFER in the 7 to 10 range if you count all the live food that they consume. Wild animals have to catch their dinner and that takes energy. This is just another orthogonal issue brought up by the activists to try and prevent aquaculture and raise funds. It is not relevant science. You can make 100%

non fish meal diets, but they are more expensive. It is all about cost and competition, not science.

If you eliminated all fish meal from all aquatic diets with a world wide law, the production of fish meal and harvest of wild fish wouldn't change, the fish meal would simply go back into chicken diets. Given this reality, FFER is just scientific nonsense and should be justified in this document.

- Thanks for your comments. However, the GSC does not share your position, therefore, both the FCR and FFER standards currently remain in the document because efficiency is identified as a critical issue.

Eric De Muylder

FCR <2 I think this is essential in sustainable farming. A low FCR will not only contribute to better utilisation of resources but also decrease effluent load, reduce energy for pumping and aeration etc. This is the way the salmon farming was able to reduce its FCR to below 1, only because the industry was forced to do it. Of course this will force farmers to invest in higher quality feeds and feed at lower feeding rates. Overfeeding has been the main problem in shrimp farming since many years (and still is). Only by forcing farmers to improve on their performance the mentality will change.

Farmers not able to achieve an FCR below 2 will be forced to reduce stocking and biomass density, using more the natural production of the pond, which also increases the sustainability of the industry. I also (similarly to the salmon industry) believe that a lower target should be set for the future, for example < 1.8 within 5 years, 1.6 within 10 years or sooner, since this is achievable and has already been proven now.

- We have dropped the FCR standard to 2.1 or lower and welcome further input on this issue.

Aldin Hilbrands

FCR should be deleted too because farmers will do their best to optimise use of feed anyway because it directly affects profitability. And again, appropriate management of the resources that deliver the raw materials is more important

- The GSC is still deciding on this issue but currently believes that FCR must be part of the standards.

Mark Nijhof

I am pleased to see the balanced discussion of implementing a FCR at all. Please remind that this is not really 'auditable'; the auditor has to rely entirely on the integrity of the farmer here. Only 'good feeding practises' are really auditable; not FCR's.
FCR's are also highly affected by the source of non-protein energy in the feed. If this is lipids (39 KJ/g) or carbohydrates (17 kJ/g) makes a tremendous difference in FCR, although bio-energetically, the same efficiency may be achieved while having very different FCR's.
However, in order to continue the 'mass balance approach' of determining phosphorus and nitrogen output, FCR's remain necessary.
I would therefore not set a maximum for FCR and leave the use of fertilizer free, because fertilizer is environmentally spoken equivalent to feed. My suggestion is to allow any FCR and/or use of fertilizer, but stick to the N, P and organic mater release per tonne of shrimp produced.
See further under 7.6.4

- We have modified the FCR to < 1.7 for *vannemei* and < 1.5 – 2.1 for *monodon* because this seems to strike a good balance between the opinions expressed by the public and the GSC. However, the GSC is still debating exactly how to objectively set the target and welcomes feedback on this issue.

Criterion7.6: Effluent contaminant load

William Rash

Criterion 7.6: Standard should include sludge disposal

- We identified sludge disposal as an important environmental risk and have addressed it under indicators 2.2.6, 2.2.7 and 7.6.3. We have decided to clarify this point further through a new indicator (7.6.4) based on the former indicator 2.2.6, which was removed from Criteria 2.2.

Inger Naslund

The effluent on nitrogen and phosphorus should be minimized as much as possible and reduction should be in efficient "cleaning" systems. Of course this has to be in relation to the least possible affection of the surrounding environment.

- There is an obligation in the standards to treat effluents from intensive ponds (indicator 7.6.3) to control the concentration of settleable solids. Studies have shown a strong correlation between the removal of settleable solids and the reduction in other pollutants, including nitrogen and phosphorus.

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It will be easier to monitor if the standards address the nutrient load in waste water rather than this round about way which includes a number of assumed values. Hence the development of quality standards for discharge water can instead be introduced.

- Nutrient load measurements would be ideal, but are extremely challenging for shrimp farmers to perform, especially small holders because:
  - It requires an extensive water sampling protocol to take into account the different periods of water release (routine water renewal, harvest) and related water composition (very different depending on activity and time of harvest).
  - The cost of water analyses would be difficult to assume for many small holders, which could result from unfairly excluding them from certification. The access to a laboratory could also be a challenge in some areas.
  - An accurate estimation of volumes of water released is usually difficult because of periodic water exchange, partial recycling of water and the method of releasing water from farms by simply opening a gate.
  - As a result, we preferred to use standards based on calculations from data that is easily accessible to all farmers (feed and fertilizer composition) rather than expensive measurements that we know do not necessarily accurately reflect the nutrient load.

Page No.69 Last pera -1st line : TSS Total suspended solids wrongly mentioned as total settleable solids.

- You are correct and this mistake was corrected in the latest version of the standards.

Belize

It is counter-intuitive to use settleable soilds as a standard from aerated ponds rather than TSS (or preferably ash free dry weight). Focusing on the treatable portion of the effluent avoids the

real issue of effluent, with is their impacts that escape treatment. By focusing on treatable rather than total solids and on the effluent from ponds rather than the aggregate effluent downstream from treatment, the standard completely fails to address the actual impacts of farm operation or the actual influence of settling ponds and other mitigations. This standard should be restructured to address ash free dry weight of aggregate effluents from settling ponds downstream of effluent treatment.

- It is the intention of this indicator to focus on the treatable fraction of the solids because this limit of 3.3 mL/L would imply an obligation to have a treatment in place for compliance in the case of intensive, aerated ponds. Therefore, in practice, it would apply to waters "downstream of effluent treatment". However, in order to clarify this point, we have introduced a new indicator that specifically requires the treatment of effluents from aerated ponds. SS are the most environmentally harmful fraction of the TSS, so it seems logical to focus on that parameter. Additionally, TSS is difficult to measure for shrimp farmers. Expensive equipment is required and analysis can only be done in laboratories, which are not available in all producing countries. However, SS measures are inexpensive and can be easily performed on any farm. This allows for more intensive, meaningful and verifiable monitoring of effluent water.

WWF Malaysia

The dilution factor of the waterways where the effluent is discharged into should be taken into consideration. This is especially important in areas where there are distinct rainy and dry seasons. In the dry seasons, the dilution factor of the river will be less and might not be able to dilute the same amount of pollution load as during the rainy seasons.

- We agree that the dilution factor is a key parameter to consider for determining the assimilation capacity of the receiving water body. Unfortunately, after consulting the literature and scientists with experience in assimilation (or carrying) capacity of coastal waters and estuaries, we came to the conclusion that there is no simple and accurate way of evaluating such a parameter. Therefore, we identified the concentration of dissolved oxygen as the best alternative because it will indicate if the assimilation capacity of a water body has or has not been passed. It is also more easily measured by farmers.

7.6.1

CP Thailand

I have run through some calculations with the very best performance in Asian farms; and none can pass this standard. Where did this number come from? Maybe I calculated wrong; but my farms have FCR of 1.3, 1% water exchange, no fertilization, and a feed protein level of 32%. When I calculate for a production of 800 tons of shrimp on my farm the result is 24 kgs N/ton of production. Playing with the numbers either I will require average FCR below 1.1 or lower my protein level to less than 25%, which is presently prohibited by Thai Fisheries. And looking at this very hypothetical calculation; what if the farm is lined; there is zero uptake by sediments; and I know from actual measurements of denitrification on the farm that I ran in Belize that gaseous losses can be greater than a factor of 0.2. And to match this with 7.5.2 will a farm that has an fcr of 2.4 ever achieve this nitrogen standard

- The calculation for the case exposed is as follows (Formula 3): Effluent N=((800*1.3*.0512)+0)-(800*0.0286)-((53.248*0.25)+ (53.248*0.2))0.95)/(800/1000)=(53.248-22.88-22.76)/0.8=9.5 kg N/ton of shrimp.

- The assumptions are based on studies made using earthen ponds, therefore, it is true that the same assumptions about bottom soil uptake may not apply to lined ponds.
- Consequently, we propose a generalization of the base formula:
- Effluent N= (Feed N + Fertilizer N) – Shrimp N- Waste N removed or recycled

William Rash

What is the rationale behind the figures?

- This is detailed in the rationale and guidance sections. The standard was determined based on an efficient intensive culture of *P. vannamei* with FCR 15:1 for 35%-protein feed, no fertilizer and 0% water exchange. The calculation for 1000kg of shrimp produced (Formula 3): Effluent N=(((1000*1.5*.056)+0)-28.6-((84*0.25)+(84*.2))1)/1000=(84-28.6-21-16.8)/1000=17.6 kgN/ton of shrimp.

Dallas Weaver

Interesting that you claim 10% volatilization of the ammonia. That could only be true in high pH, high ammonia systems. You need less simple minded science to understand these problems.

- This is an approximation based on studies done on outdoor, earthen aquaculture ponds. Studies done in shrimp ponds do not differentiate the different forms of atmospheric losses. Studies done at stocking densities of 7 to 72 shrimp/m^2 (hence covering most of the range of shrimp culture practiced worldwide) indicate atmospheric losses between 23 and 32% of total nitrogen inputs. Therefore, by assuming 10% denitrification and 10% ammonia volatilization, we adopted a rather conservative position that maximizes the potential discharge through effluent water, hence providing an incentive to reduce water exchange.
- Considering that:
    - the formula appeared difficult to apply,
    - some assumptions could result in a significant level of inaccuracy for some farms, hence resulting in unfair comparisons,
- We propose a simplified indicator based on parameters that can all be measured, or calculated based on estimations that would not introduce unfair biases.

Amount of nitrogen or phosphorous released from the culture system per ton of shrimp produced (kg/ton of shrimp) = Quantity of N/P inputs from feeds and fertilizers – Quantity of N/P removed through shrimp harvest – Quantity of N/P removed through sludge or biomass extraction – Quantity of N/P recycled through water recirculation.

Feed N/P (kg) = (kg Feed 1 applied) x (% N/P Feed 1 content) + (kg Feed 2 applied) x (% N/P Feed 2 content) + etc.

Fertilizer N/P (kg) = (kg Fertilizer 1 applied) x (% N/P Fertilizer 1 content) + (kg Fertilizer 2 applied) x (% N/P Fertilizer 2 content) + etc.

Shrimp N/P (kg) = (kg Shrimp harvested) x (% N/P Shrimp content)

Sludge or biomass N/P = kg dry material x (% N/P content)

Water N recycled = Total N/P concentration x volume of water reused.

7.6.2

None

7.6.3

None

7.6.4

M.N. Kutty

35% air saturation when undefined can change from about 3.5 ppm to 2 ppm depending on temperature from 20 to 35C! (It is worth noting that the DO saturation goes down with increase in temperature the metabolic rates increase leading to faster depletion of available DO) To reach this cumulative value in the receiving waters the effluents from a single farm or several – assuming more are located in the periphery - some individual farm effluent DO could be quite low, much lower than the critical value/s depending on the species.

The definitions of specific effluent values for individual species restrict the other species use. This is also a wrong approach if cumulative effects of other water users are not taken into consideration – apparently the standards will work for isolated large enterprises capable of effecting the standards, but not for small farmers in the major shrimp producing countries in Asia. As in the case of other standards in this section it might be better to base on DO level in the specific farm effluents, though the overall benefit of a cumulative DO value, perhaps also BOD, in the receiving water is a clear advantage.

New England Aquarium

35% saturation is too low.

Mark Nijhof

Is the better farming practices, the effluent is discharged in streaming water bodies. In that case, any change in DO values at the position of the farm is not attributed to the farm obviously. This is also clearly recognized by the ShAD. An additional aspect is that the drop in DO is caused by microbial activity using the BOD as substrate, thereby having a considerable time lag! I would therefore not encourage the use of this DO parameter and suggest another method.
Similar to the retention efficiency of phosphorus and nitrogen, the retention of organic substance (expressed for instance as its oxygen equivalent, COD values) can be determined and used similarly. See attached a copy of the first pages of an article of me in Journal of Applied Ichthyology (1994). You could use 1,25, 2,90 and 1,07 gram oxygen per gram of protein, fat and carbohydrates respectively to assess the use of 'organic matter' in an aquaculture enterprise in view of environmental aspects. However, you will still require FCR's to do so.

- We agree that DO concentration of receiving water bodies does not necessarily result from the impact of the farm only. Your suggestion that organic loads expressed as COD could be used instead is a totally different approach that, in the context of shrimp farming, is not directly related to the actual impact of a farm. The method you suggest is based on the assumption that the oxygen demand is a direct function of the amount and the composition of feeds (and other organic matters) applied. But, in reality, part of this oxygen demand is covered by oxygen supplied to or produced in the pond, and in intensive farming other parts are removed with sediment after harvest and through effluent water treatment. Therefore, the actual impact of any farm on the receiving water body through oxygen demand is not directly related to the amount of feed applied. Because there is no easy way of measuring the impact of a single farm on a receiving water body, we have taken this approach of considering the current oxygen condition of the receiving water body. Even if it results from a number of other

parameters and human activities, the ShAD has considered that certified farms should not be located on water systems that have been passed assimilative capacity.

- BOD is used to assess potential for effluents to cause harm to the environment. The effluent volume and BOD_5 concentration can be used to calculate the BOD load that a particular effluent source will impose on a water body. However, no basis exists for relating BOD_5 in samples from a water body to the assimilative capacity of that water body. We concluded that DO is the only practical parameter, as it is easy an inexpensive to measure and also is easy to interpret.

- We acknowledge that 35% saturation could result in very low concentrations at high temperature and high salinity. The most characteristic feature of eutrophication is wide, daily, excursions in dissolved oxygen concentration resulting from the large abundance of algae and other microorganisms. Therefore, we propose to use the same indicator as TAD and PAD: Percentage change in diurnal dissolved oxygen (DO) of receiving waters relative to DO at saturation for the water's specific salinity and temperature <=65%.

- Exceptions will be made for farms that discharge water with TN and TP lower than the TN and TP of the receiving water body respectively or have not discharged any water since the last audit (or for the last 12 months in the case of the first audit), thanks to the use of recirculation techniques.

Criterion 7.7: Energy efficiency

William Rash

Carbon foot print / energy distinction should be in place that identifies different operating models - Tidal water exchange, water pumping exchange, aeration etc.

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Very much essential for intensive farming systems

WWF Germany

We do welcome the future incorporation of energy efficiency standards into the ShAD based on data available from audited farms. We do propose to incorporate also the feed as component for energy efficiency / carbon emissions, since the feed is a major contributor to overall carbon footprint of farmed shrimp

7.7.1

None

7.7.2

WWF-US

Agreed and check unit MJ or kJ.

Criterion 7.8: Handling and disposal of hazardous materials and wastes

WWF-US

WWF US would like to see some alignment with other dialogue standards and we suggestion rephrasing the 6 indicators that are prescriptive with the following 2:

- Presence and evidence of a functional policy for proper and responsible treatment and storage of non biological waste from production (disposal and recycling); standards: yes
- Evidence that all non biological waste from grow out site is stored and disposed of properly and/or recycled; standards: yes
- These suggestions do not cover storage and handling of hazardous materials (prior to their use) and biological wastes. It is possible to use these types of indicators but the guidance would need to be detailed enough as to clearly define responsible management.

Mark Nijhof

lubricants are to a large extent being used and need refilling (e.g greasing bearings). Recovering (as used engine oil in a car) is surely not always possible!

- I don't think that landfill to dispose wastes is a good option anywhere. Besides, the verdict of what is 'non-hazardous and non-recyclable' says more about the decision maker then about the garbage mostly. I would suggest that ALL wastes are disposed in a transparent way by a recognized company.
- Waste handling companies might be certified (e.g. ISO 14000), but not 'accredited' as is mentioned here.

- We revised the standards so that the requirement is to recycle wherever possible.
- Waste management companies are not available in many shrimp farming areas.

Inger Naslund

All waste and especially hazardous material should be disposed in an appropriate way with assurance of non leakage into the natural environment. All waste handling should be recorded and for the hazardous waste a secured management system should be shown before certification. Companies handling hazardous material should be accredited for this.

- We agree with these considerations and have done our best to incorporate them in the guidance section.

Flavio Corsin

Provide the definition of "bund"

Standards in this criterion are largely impractical in many Asian countries, where accredited waste management companies are largely unavailable or prohibitively expensive. Suggest removing these standards and replace them with a request for evidence that specific solid wastes (to be defined) have been discharged in the natural environment (to be defined)

- A bund is defined as a waterproof wall and floor built around tanks of oil or other hazardous liquids to contain them in the event of a spill.
- We acknowledge that waste management companies might not be available in all areas, so we have reviewed the standards to include more flexibility for the auditor to consider alternative actions available on each site.

CENTRAL INSTITUTE OF BRACKISHWATER AQUACULTURE

Accredited waste management company may not be available in all the countries and hence other safe modes of disposal may have to be considered.

Please make the comments box area larger and more user friendly.

- We agree and revised the standards accordingly.

WWF Germany

Besides having quantifiable indicators and standards for proper management and handling of hazardous materials and waste, if may be reasonable to include some BMP's with this regards, since the suggested indicators are not yet covering all potential hazardous areas of concern Additional indicators should include: Proper siting and management of burning sites on the farm, disposal of ashes from burning site (most often such ashes is being washed into soils and water which is both an environmental and food-safety hazard), proper disposal of old and damaged machinery and equipment, old engines and batteries, plastic and non-biodegradable materials that are disposed in the surrounding areas of farms, proper coverage and prevention of leaking / erosion / washing of oil and grease into the soil and water by machinery on the farm (e.g. diesel-powered aerators, pumps, wells, trucks, building-machines etc. (e.g. covering of all diesel powered engines to protect from rain), leakage of oil from machinery into the soil and water

- The ShAD is seeking to set performance standards to the greatest extent possible and have developed the standards with this in mind.

7.8.1

WWF-US

presence and evidence of a functional policy for a proper and responsible treatment and storage of non biological waste from production (disposal and recycling)
Standards: yes

7.8.2

WWF-US

Evidence that all non biological waste from grow out site is stored and disposed properly and or recycled. Standards: yes

7.8.3

M.N. Kutty

This is not true for many farms in SF countries in Asia where the farm are small and often clustered. But smaller stocking densities advocated and regulated through farmers' societies now reduce the effluent load in receiving waters – this should be given consideration (see also related comments). It would appear that consideration for small farmers have not been given adequately.

- We have simplified the standard requirements and hope that this has addressed these concerns. We understand the concerns about small holders and are working on solutions with the ASC.

7.8.4

None

7.8.5

None

7.8.6

None