

## **Best Aquaculture Practices Certification Program**

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## **Comments on BAP Standards**

Finfish, Crustacean and Mollusk Hatcheries and Nurseries

Comments concluded March 2014

## Darden Aquafarm, Inc.

Dr. Andrew Jeffs Sabah, Malaysia

Darden Aquafarm, Inc. is a global leader in the development of sustainable aquaculture of spiny lobsters with a particular focus on advancing commercial aquaculture in parts of Southeast Asia, especially Malaysia. The parent company, Darden, Inc., is a strong supporter of advancing sustainable aquaculture production and practices globally. Therefore, the company welcomes the development of the draft "Best Aquaculture Practice Certification Standards for Finfish, Crustacean, Mollusk Hatcheries, Nurseries" and ultimately will be looking to adopt such standards in relation to its lobster hatcheries and nurseries, which will be run in association with its lobster farming operations. In so doing, we would like to raise the following issues for further consideration in further refining this draft Best Aquaculture Practices framework.

Overall, the draft standard looks thoughtful and well-formed, and therefore our comments are only minor in extent.

#### Standard 3: Community

As written, this section requires that for implementation, certified hatcheries shall provide legal wages, a safe working environment and adequate living conditions. The requirement to provide adequate living conditions is often not consistent with common staffing arrangements, especially in many westernized economies, where the standard expectation is that staff make their own accommodation arrangements. This requirement needs to be amended to read that where provided, living conditions need to meet adequate standards.

**BAP:** Correct. In fact, Standard 3.23 already provides this qualification, but it will be changed also in the Implementation narrative.

Standard 5iii: Cages in Marine Water Above 25-ppt Salinity It needs to be explicitly stated that this standard applies to the use of sea cages for holding broodstock used, or intended for use, in hatchery production.

**BAP:** This standard was not intended to apply only to broodstock. Sea cages for holding juvenile marine fish and salmon during a nursery phase are increasingly common, and the standard applies to these, too. Even though these animals can be quite large, if they are being grown to be moved subsequently to another final ongrowing facility, they come under the hatchery standards' definition of "hatchery."

#### Standard 7: Environment

The standards 7.7-7.13 lack clarity and will be problematic for their universal application. For example, for standards 7.10 and 7.11, it is not clear exactly how the parameters for fish in:fish out are to be calculated, even with the clarifications provided in Appendix H. Are these based on dry weights or wet weights? And how is fish out to be measured – shrimp fry to be drained and wet weighed? There is no scientific explanation of the basis of why a fish in:fish out ratio of 1.5 is sustainable, versus any other ratio, and I would expect it would difficult to defend the scientific veracity of this figure for the generalities of hatchery production.

Standard 7.12 is also probably unworkable, because a very large number of hatcheries use third-party proprietary hatchery products for which the formulations are unlikely to be shared, and the manufacturers are unlikely to adopt BAP feed mill standards, given they operate highly specialized production facilities and not feed mills, per se. This standard also overlooks the sustainability of harvested wild live feeds, including *Artemia*, which may also warrant some mention.

**BAP:** Correct. 7.7.-7.13 would be problematic if applied universally for the reasons given. But these requirements apply only to hatcheries that use over 500 mt of <u>dry</u> feed per year. Therefore, concerns about wet or dry feeds, proprietary hatchery products or live feeds are unlikely, if ever, to be an issue. Should that change, the clarifications you ask for will have to be made, but this does not seem necessary at the present time.

As regards a scientific justification for a fish in:fish out ratio of 1.5, there isn't one. The BAP program focuses on "responsible operation." A value of 1.5 is considered a demanding target for the industry as it now is. This will be reduced in the future to reflect new advances in feed formulation. It is also the case that quality feeds for juvenile animals often contain higher levels of high-quality ingredients, such as fishmeal, than feeds for later stages in order to optimize juvenile health and vigor. Arguably, this is where the value of such ingredients offers the greatest benefit and provides for increased growth efficiency later on.

#### Standard 8: Environment

For standards 8.18-8.30, "Cages," it needs to be explicitly stated that the standards apply to the use of sea cages for holding broodstock used for, or intended for use, in hatchery production.

**BAP:** As noted in the response to your comment on 5iii, this standard was not intended to apply only to broodstock.

#### Appendix A: BAP Effluent Water Quality Criteria

Dissolved-oxygen standards for effluent waters appear to be based on the higher rates of oxygen dissolution that are possible in temperate or low-salinity waters, versus the high-salinity waters used in some tropical hatcheries, such as lobster hatcheries, for which oxygen dissolution is limited. It would be more appropriate to provide percentage-based oxygen saturation standards, which would be more applicable for a wide range of salinity, pH and temperature.

**BAP:** The saturation level for D.O. in seawater at 35 ppt and 30° C is 6.1 ppm. Therefore, the requirement for 5 ppm after five years is equivalent to 82% saturation. This standard has been used in other BAP standards, for example for shrimp farms, for many years and has not created difficulties. Given the relatively low saturation level of oxygen in high-salinity water, BAP considers it important to maintain reasonably high levels in any water that is discharged from farms or hatcheries.

## John N. Kraeuter

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While, in general, the information in this document is well done, it follows many other attempts to combine fish, crustacean and bivalve molluscan BAPs in one overriding document. Because of the uniqueness of most bivalve molluscan culture (no added feeds, usually an endemic species or if nonnative, a species that has become established in the wild, dominance of small operations -- to name the most obvious), it is difficult to achieve appropriate standards without making explicit sections for the bivalves.

To make this document work for the bivalves, I suggest that a special section be placed at the end of many of the numbered considerations that lists the exemptions for bivalve molluscan culture (particularly for small operations). Without this section, the BAPs as listed are going to be unduly burdensome and ignored by most.

**BAP:** Bivalve facilities are exempted from compliance with the effluent standard #5 and from the Environment, feed standard #7. However, exemptions are not considered appropriate, or fair to larger facilities, for other standards, just because facilities are small or produce bivalves. The BAP program considers it reasonable, for example, to expect compliance from all facilities with the Community

standards 1-3, the Environmental standards 4, 6, 8, 9, 10 and 11, and standards 12, 13, 14 and 15 on animal health, food safety, biosecurity and traceability.

The other important aspect that this document seems to ignore is the difference between larger operations and the small owner/operator or facilities where two or three culturists work together. They simply do not have the time or the resources necessary for a lot of record keeping and testing. There should be clear differentiation between various types of operations.

**BAP:** A BAP auditor's task involves a lot of record checking, so applicants will need to provide documentation, regardless of their scale. This is an unavoidable feature of a certification program.

3.11 -- There is nothing in this requirement that tells how long these records need to maintained. Most small operations will only have bank records of pay checks, at best.

3.13 -- The small hatcheries do not as a rule maintain such records and have no means of doing so.

3.14 -- Most small operations do not have any documents of this type.

**BAP:** The applicant decides what records must be kept so that assurances can be provided to the auditor about compliance with local labor laws and for the auditor to determine if these are adequate. BAP is unable to certify operations that do not comply with the law and cannot demonstrate that they do so.

3.17 -- There is no formal process to "appoint" anyone at small hatcheries. There are at most one or two individuals "in charge."

**BAP:** The primary goal of the audit it to assure that the applicant complies with the intent of the standards. If the applicant claimed that there were no safety hazards, the auditor might conduct a physical inspection to see if he or she agrees.

3.18 -- While this is a nice idea, small operations do not have any access to "risk assessment" methods. It would be far better to indicate that the owner/operator of small operations make time once a year to do a "walk through" to look for hazards and means to eliminate them.

**BAP:** A "walk though" is an important part of a risk assessment, and if the findings are recorded, this would potentially satisfy the intent of the standard.

3.27 – Again, small operations do not have documents or training programs. Safety information is often communicated "as needed" on the job and as situations occur. Training in "personal health" is way beyond what most of these operations could provide.

**BAP:** It is up to the applicant to determine how an auditor can be assured that operations are conducted safely and for the auditor to determine if the explanation is adequate, i.e., does the applicant meet the intent of the standards? Auditors may interview facility staff to check this. The BAP program is only of value to operations that are safe and can so demonstrate to an auditor.

3.28 -- Needless record keeping that will not be done by small operations.

**BAP:** BAP auditors will always seek assurance/evidence that facilities are in compliance with the law. Many of these sorts of issues would be covered in the written pre-audit self-assessment that an applicant must prepare.

3.29 -- If one was prepared by a small operation, it would not be found during an emergency. Needless paperwork for small ops.

3.30 -- This would be more palatable if it said that owner/operators should receive training in first aid for medical emergencies. It is not realistic to require an emergency response plan.

**BAP:** In an emergency, staff should know what to do without referring back to the plan. But that means a plan has been previously considered and discussed. Again, it is up to the applicant to determine how the intent to comply with the standard is met and for an auditor to be convinced of this. For example, an auditor may interview staff to verify their awareness of emergency procedures.

3.31 -- Workers in small ops are usually required to bring their own field gear.

**BAP:** This is acceptable if it is explained to the auditor. However, it may prompt questions in Standard 14 about biosecurity.

4.7 -- This is unduly vague. ALL operations that pump and discharge water will alter natural hydrological conditions. Perhaps putting the last four words of the sentence first would alleviate this vagueness.

#### BAP: Agreed. Modification made.

5. Cages -- There needs to be a different set of standards for filter-feeding mollusks with respect to cages.

5i -- I'm not sure what "sea-based" means. Does this exclude bivalve molluscan hatcheries/nurseries in estuarine areas? Why would they be any different than those that are "sea-based"?

In most cases, bivalve molluscan hatcheries will fall below the 3-mt guidelines. In the case of bivalves, it should be clear whether the 3 mt includes the shells. Practical guidelines should be based on tissue weight for all species (fish and shellfish) to avoid confusion.

5ii -- Why should a water body that does not comply with one of the BAP water quality guidelines be excluded from hosting cages? This paragraph (#2) seems to be in conflict with the one below it (#3). Which is correct?

Appendix F starts off the entire section with a fish/crustacean focus. This is why a special section should be written for mollusks. The third paragraph is also written assuming a large operation. Many small molluscan facilities simply take "cages" ashore let them air dry and shake off the debris. There is no way to divert these wastes to any of the options mentioned.

The paragraph that says that the cage should be above the bottom at least the depth of the cage is fine for net pens of fish, etc., but would not be enough to assure bottom scour for most molluscan cages. For these, the spacing between rows of cages may be more important.

5.14 -- More coherent rules are needed for cages of bivalve mollusks. There is no need for collecting most of the information in Appendix A or F. It is not clear from 5.14 what standards apply. This needs clarification and a separate section for bivalve cage systems.

5iii -- Additional information could also refer to the USEPA Aquatic Animal Production Industry effluent guidelines. A lot of effort went into the development of the standards.

5.15-5.22 -- While the mt guidelines would exclude bivalve molluscan hatchery/nursery operations, it should be made clear that none of the listed requirements for certification apply.

**BAP:** The exemption from this standard for mollusks is in the wrong place and has been moved to the general introduction to make this clear. This means that, in effect, for reasons of small tonnage or natural feeding, almost all mollusc facilities are exempt from all effluent requirements 5i, 5ii and 5iii.

6.6-6.8 -- It should be made clear that discharge of the accumulated sediments in flow-through bivalve mollusc facilities can be discharged. Since there is nothing added to the system, there should also be a provision that would explicitly say that no monitoring of these discharges is required.

**BAP:** While there is nothing added to the system from a mollusc hatchery, the system does act as a concentration device that could lead to accumulation of sediments that would be harmful if discharged in quantity without due care. Therefore, it is considered reasonable to expect that solid materials that are accumulated during the rearing process should be dealt with as stated.

8 -- Many small molluscan hatcheries have programs in which they seek to "improve" their stocks through breeding. These programs typically do not have written goals, and although the information listed would be desirable, it is unlikely that it will be done by these operations. To make this a requirement for "certification" will either yield them not trying for certification, or they will simply not indicate that they are doing selective breeding. There should be some "middle ground" developed.

**BAP:** First, note that Standard 8 in the public comment draft has been split into three smaller standards in the final published version. Your comments and the responses below relate to the former.

The auditor will again have regard to the intent of the standard. An informal improvement program is likely to have a rationale covering, for example, the attributes being selected for and the dangers of inbreeding. A written statement to this effect in the pre-audit self-assessment would probably demonstrate compliance with Standard 8.8.

There are no cost-effective provisions that can prevent all "escapes" from small molluscan hatcheries. See comments below on specific items. This does not mean that those hatcheries that work with GMOs, non-native species that are not already introduced into the area, etc., should not be certified, but the normal small bivalve hatchery does not work with such organisms. Exemption provisions should also be made for bivalve broodstock held in cages if the stock is native or established in the area.

**BAP:** Note that the standard requires facilities to "take steps to <u>minimize</u> escapes," not prevent them altogether. BAP recognizes that this is a difficult area, since it is not possible to assure no escapes (releases) of very small animals. However, since escapes are a source of concern in aquaculture, it is reasonable for BAP to require that efforts be made to minimize such releases where this is possible and for the auditor to judge if this effort meets this standard.

Also, if a non-native species is established, is it certain that release of more is always harmless?

8.1 -- While some small bivalve hatcheries maintain production records, most only produce stocks of one or two species and thus do not keep records of stock characteristics. Therefore, they would not be eligible for certification under these standards.

**BAP:** A statement to that effect that the operators know what stock they are producing in the pre-audit self-assessment would suffice.

8.3 -- Many bivalve seed are sold by volume and thus do not meet this standard. How long should records be kept?

**BAP:** Presumably volume equates to numbers in some way? The standard provides for this in its provisions for estimation of numbers. This is also a requirement for traceability. Records should be kept at least for the period since the last audit.

8.6 -- In many instances, wild bivalve stocks may be used, but there is no means of obtaining "government approval" other than a license for harvest.

BAP: A license to harvest would be considered government approval.

8.8-8.9: For small bivalve hatcheries that are producing native or established non-native stocks, this is a needless costly exercise.

BAP: Disagree. See response under 8 above.

8.10 -- See above under 8 for comment.

**BAP:** See response under 8 above.

8.12 -- Not practical for molluscan hatcheries, where eggs can be <25 microns, and most all larvae are below 350 microns when they are ready to set. Installing such screens to prevent escape of such small animals in hatcheries using native species is not needed.

**BAP:** See response under 8 above. There is a difference between "not practical" and "not needed." BAP requires that a best faith effort be made. Installation of screens would accomplish that.

8.14 -- Another useless paperwork exercise for small operations.

**BAP:** Disagree. It is reasonable that all operations that interact with and potentially have an impact on their local environment should know what species are endangered in their vicinity.

8.17 -- Does this refer to the organisms listed in 8.16 or all organisms in the facility?

**BAP:** It refers to the organisms listed in 8.16.

8.18-8.19 -- Many cages, etc. used by molluscan hatcheries/nurseries are self-built and have no engineering specifications. This requirement is a needless burden for most operations that use small cages in shallow water situations.

**BAP:** 8.19 provides the opportunity for applicants to demonstrate that their stock containment procedures are sound. It is up to the operator to determine how this is done and for the auditor to determine if the information provided supports this contention. Self-built or not, however, where animals are contained, containment facilities must be soundly built and moored, and it is for the applicant to demonstrate that to the auditor. Additions have been made to the implementation guidelines to make this clear (new Standard 9).

8.23 -- What does this do for bivalve molluscan facilities? I have never seen a guard used on any of the industry boats I have been on. This must refer to fish and crustaceans.8.25-26 -- Another case of the fish/crustacean focus that is nonsense for bivalve hatcheries.

**BAP:** See response to 8.19 above. 8.20-8.25 do not apply if it can be demonstrated that stock containment procedures are sound. An example would be if the mesh covering for mollusk containment facilities is hard plastic and not netting, or, as in the case of mussel ropes, there are no nets to be damaged. Part of such demonstration also would be demonstration that all staff understand whatever risks there are even if they may be very limited (8.26).

8.28 -- And what does maintaining a map do but add to paperwork?

**BAP:** The standard requires operators to know if they are in an area of critical or sensitive marine habitat and to take additional precautions if they are. If this can be demonstrated without some sort of map, an applicant is free to do this in the pre-audit self-assessment and for the auditor to determine if this is adequate.

8.29 -- Another case of the fish/crustacean focus that is nonsense for bivalve hatcheries.

**BAP:** If predators are not an issue, then this can be stated and explained in the pre-audit self-assessment as a reason for why it is not necessary to comply with this requirement.

9.1 -- The first part of the standard is certainly applicable, but maintaining lists and MSDs for everything is a needless paperwork exercise for small hatcheries.

**BAP:** Disagree. Such paperwork is an essential part of being able to demonstrate compliance with any standard, whether the hatchery is large or small.

10 -- While few small hatcheries will develop a written plan, it would be useful for many of them to ascribe to a general plan that is written by an organization and then slightly modified for the particular hatchery. Many of the listed items do not translate well to bivalve hatcheries, so these would have to be modified to fit. How to handle broodstock (10.3) is a case in point. For instance, how would strip spawning of oysters be covered? How do you maintain records to show that a bloodstock oyster was euthanized by an "appropriate" method?

**BAP:** There are species-specific issues that mean that these standards as written do not always translate well. Therefore, applicants should interpret them in the context of their specific situations and explain in the pre-audit self-assessment how and why this interpretation is appropriate. The BAP program considers, however, that best practices require that all the animals grown are treated with care, and this standard attempts to establish the principles by which this should be done.

10.5 -- This is nonsense for most small molluscan facilities. Larval work is batch culture in tanks to control water quality. Nurseries use flow through from the environment, and while some hatcheries monitor this, most do not. There is little the hatchery operator can do (other than shutting off the pumps) to alleviate poor water quality in the nursery phase.

**BAP:** The standard requires operators to establish "acceptable water quality limits." If there are valid reasons not to do so, these can be explained in the pre-audit self-assessment.

10.7-10.8 -- While these sound nice, for most molluscan facilities, there are no density standards. Operators keep stocks at densities that assure adequate growth based on flow rate and experience. Since the flow is raw water, there is no easily measured parameter that could "assure" the animals are not "stressed." For animals kept in cages, the optimum conditions are even more nebulous.

**BAP:** If operators "keep stocks at densities that assure adequate growth," that is a standard, and presumably they know what these densities are. Compliance would require evidence from records that such densities and/or adequate growth are consistently met. Conversely, if records show that growth and/or survival are consistently poor, it is reasonable to assume that the animals were stressed, and best practice would require that the problem be investigated and corrected. Again, compliance would require evidence from records to show this.

13 -- There should be some time limit on how long records are to be retained.

**BAP:** BAP certification is subject to annual audit. Therefore, at minimum there should be records dating back to the last audit, though it is presumed that operational records could be of value to operators for longer than that.

Appendix G -- There should be a caution placed in this appendix to be sure that local regulations are consulted. In some jurisdictions, a sedimentation "basin" could trigger a requirement that it be monitored daily by an engineer.

**BAP:** This seems heavy-handed, but if that is the local requirement, BAP requires compliance with that such rules. Standard 1 also calls for knowledge of local regulations.

## Cooke Aquaculture Inc.

Blacks Harbour, New Brunswick, Canada

Possibly the clause/annex with the highest level of concern for us is the table in Annex A. The general principle of an efficient recirculation system is to reuse as much water as possible and only remove the waste. This waste would be in a concentrated form, thus making some values higher than the criteria set forth in Annex A. To us, it would be better to have values for recirculation systems vs. flow-through.

**BAP:** This is a fair question that was also posed by one of the Standards Oversight Committee members. In response, we propose adopting language on "Limited Use Systems" from BAP's fish and crustacean farm standards, which provides for an exemption from monitoring if discharge volumes are below 1% of system volume daily:

"Hatcheries that maintain water-exchange rates below 1% of system volume daily. Hatcheries qualifying for this exemption shall report an annual effluent discharge volume, water use and nutrient load as described in Appendix C."

And the clause that goes with it is a new one:

5.3: If the applicant is claiming exemption because daily water exchange rates are less than 1% of system volume, data for annual effluent discharge volume, water use and nutrient load shall be provided.

However, 1% may be too low and, if so, it would be helpful to know what you think is reasonable.

The value here would be dependent upon the method used for calculating system volume. At a facility running 50-200 lpm, the total recirculated flow replacement ranges from 0.1 to 0.7% or 99.3 to 99.9% recirculation rates. However, if the volume is calculated over a 24-hour period for the same facility with average makeup water rates, this would result in 3 to 15% of the system volume replaced daily.

**BAP:** Revised wording to make it clear that the calculation is an annual average:

5.3: If the applicant is claiming exemption because daily water exchange rates on an annual basis are less than 1% of system volume, data for annual effluent discharge volume, water use and nutrient load shall be provided.

Note also this language in Standard 5.5: "Effluent water quality concentrations shall comply with BAP water quality criteria <u>or applicable regulations if they are equivalent or more rigorous</u>." This is not a full answer to your concern, but a good case can be made that for facilities operating under NPDES

standards, or the equivalent in Canada or in most other developed countries, these are equivalent to or more rigorous than the BAP rules because, in these cases, the permit conditions are usually site-specific and take into account exactly the point you are making.

This prompts a question about the nature of the concentrated waste that is discharged -- does this include solids, and if so, is this all the solids generated in the system, or are these mostly settled and dealt with separately first -- see Standard 6, which requires separation? I presume the latter. All the solid waste from a big RAS facility would be a lot of solids.

All solids are removed from the system mechanically, with the majority of the pollutants being in dissolved form.

#### BAP: Noted.

We also have some concerns regarding discharge into freshwater and saltwater. Usually those facilities that discharge into saltwater do so underneath the water, where the "near the point of discharge" sampling would be impossible. Also, there are different water quality parameters between freshwater and saltwater themselves that will affect the final sample values.

**BAP:** Could this be fixed by saying "near the point of discharge or, where the discharge point is submerged, at a point immediately upstream where there is access"?

This would depend on whether a mixing zone is incorporated in the final discharge. Sampling before the mixing zone will make a difference to the results.

**BAP:** BAP water quality standards do not assume a mixing zone. Therefore, sampling before the point of discharge should make no difference. It seems most likely that in jurisdictions where mixing zones are included in the effluent discharge permits, these would qualify under the "equivalent or more rigorous" exemption, so it will rarely, if ever, be an issue.

#### Clause 11.2

Records shall be maintained for every application of drugs and other chemicals for therapeutic treatment that include the date, compound used, approving veterinarian or health professional, dose and date on which the animals were transferred to another facility.

#### Proposed Change

Records shall be maintained for every application of prescription drugs and other controlled chemicals for therapeutic treatment that include the date, compound used, approving veterinarian or health professional... OR

Records shall be maintained for every application of drugs and other chemicals for therapeutic treatment that include the date, compound used, approving veterinarian or health professional (if applicable)...

#### Reason for Change

Hatcheries record all treatments given. However, not all treatments given require the approval of a veterinarian, such as a formalin treatment on eggs, a salt treatment on recently handled fish, etc. The proposed changes should reflect the intention of the clause. Is it to keep track of those treatments that require a prescription or to track all treatments given, regardless whether a prescription is required or not?

**BAP:** Good point. Your second suggestion is preferable, since "prescription" and "controlled" may have different meanings or be interpreted differently in different countries. Change made.

Annex A, Table Table: All Land-Based

#### **Proposed Changes**

Separate tables for land-based facilities that operate a recirculation system vs. flow through.

#### Reason for Change

Recirculation systems by design reuse as much water as possible to dispense as little waste as possible in a concentrated form. A recirculation system may be penalized for producing a higher value, although it is operating much more efficiently.

# **BAP:** Do you think this is adequately dealt with in the suggested changes and provision in Standard 5.i that I have discussed above?

We feel that this still seems a bit subjective to the auditor and would prefer to have two sets of values. However, this may work itself out during the actual audits.

#### BAP: If not, would you like to propose some values?

We could provide our average values for our different systems, but feel that this would be unfair. After a year of conducting hatchery/facility audits, and collecting information, perhaps BAP would be able to set what they feel would be appropriate values after seeing which facilities are operating under the intent of the standard.

**BAP:** We could get into difficulties here with systems using different levels of recirculation. The real control is on the total quantity of wastes discharged related to the characteristics of the receiving water and not the concentration of the effluent itself. That's why facilities that operate in jurisdictions where these matters are taken into consideration in the operating permit conditions should be able to make the case that these are "equivalent or more rigorous" than the BAP criteria.

The challenge for BAP is that these are global standards that have to work in countries with widely different regulations, growing different species in many different environments, and the benefit of concentration limits is their simplicity. The current limits have worked for BAP in its farm standards for many years. But the industry gets more sophisticated, and there are always going to be facilities doing things differently and probably better. That's why auditors are always told that their job is to judge if an applicant meets the intent of the standard if, in some cases, the letter of the standard does not exactly cover the situation.

To keep the integrity of the standards, it is important to have a "BAP" level, as those countries/areas that may have less-stringent requirements may have facilities that are operating at the requirement level but are not on par with other operational areas.

#### BAP: Agreed.

Annex A, Text under Table Under Sampling -- First bullet: collected near the point

Proposed Changes

Define "near the point." Align with regulatory requirements or set a value/distance for those locations without regulations.

#### Reason for Changes

Near is not a consistent value. Should try to align with regulatory requirements. Should there be different values for those who discharge into saltwater vs. those who discharge into fresh?

**BAP:** Good point. We are always struggling with qualitative descriptors like "near," but setting specific values can create difficulties the other way in some cases. So, the auditor's judgment of "intent" is what tends to decide matters. In this case, most auditors can make a judgment on whether or not an applicant is making a good-faith effort to sample "near" an outlet. Nonetheless, your suggestion of including mention of regulatory requirements is helpful. Perhaps "collected near the point or as required by local regulations."

Again, similar to the above comment, while this is fine for our operations in North America, where local governments set very specific rules with regards to water/effluent monitoring. However, those areas where the requirements are less specific may benefit from a lack of descriptive parameters. Again, this could fall under the discretion of the auditor, as you mentioned above. This may be another example of an indicator that may be able to have a more definitive value once the BAP hatchery standards have been audited against and a comparison of methods conducted.

**BAP:** Agreed. It is also a point that will be covered specifically with auditors during training.