

**Audit Preparation Checklist (for ASC Bivalves Standard):**

**Purpose:**

This document has been developed to serve farms to prepare for their **first** (initial) on-farm ASC audit. *This document is not applicable for surveillance and/or re-audits (!).*  
 If a farm does not have the needed documents/preparations available at the day(s) of the audit, this *may* lead to delays in the audit process & *may* lead to higher costs (e.g. auditors may need more time to process documents).

**Reference:**

Information in this document has been taken from the ASC Bivalves Audit Manual (AM). All Appendixes in this document are referring to the ASC Bivalves Standard Appendixes.

*This document **does not** replace the Audit Manual! In case text in the checklists differs from Audit Manual, the Audit Manual is leading.*

Applicability	Reference in AM	Description	Timeframe	Check	Remarks
1.1.1	All farms	a. Obtain copies of applicable land and water use laws.	N/A		
		b. Obtain original lease agreements or land titles on file.	N/A		
		c. Keep records of inspections for compliance with national and local laws and regulations (only if such inspections are legally required in the country of operation).	N/A		
		d. Obtain all necessary permits relating to land and water use as required by local and national authorities.	N/A		
		e. Provide a detailed map of the farm with at least 4 GPS coordinates to show that farm location in relation to national preservation areas.	N/A		
		f. If the farm is sited within a national preservation area or marine protected area, maintain documents to show that the farm's activities are consistent with legal requirements and regulations of the protected area.	N/A		
2.1.1		<p><b>General Considerations for Criterion 2.1</b></p> <p><b>I. Contracting Studies through an Independent Party</b>                      The Steering committee recognizes that not all farms will have sufficient resources on hand nor suitable technical expertise available to complete all of the studies described in this audit manual. Farms may choose to contract such work through suitably qualified independent experts (i.e. consultants) who perform the studies on behalf of the farm. Regardless of whether the farm or their contractor completes the work, auditors will review the results of studies to ensure compliance with the standard. It is the farm's responsibility to maintain all necessary documentation for demonstrating compliance.</p> <p><b>II. Classification of Seabed Type</b>                      Farms utilizing off-bottom and suspended methods are required to perform a "tiered assessment" (see Appendix IV, Section 2 of the Bivalve Standard) to assess benthic impacts of the culture activity. The first step is to classify each farm according to the type of seafloor that occurs beneath it. Seafloors, and thus farms, must be classified into one of two main types: Depositional, or Non-Depositional. In order to make this classification, all farms utilizing off-bottom and suspended methods shall conduct an initial visual survey, using video or seabed imaging.</p> <p><u>Depositional / Soft Substrate</u>                      Criterion 2.1 applies only to farms utilizing off-bottom and suspended methods on depositional substrate (i.e. sediment bottoms of sand or silt). Farms must measure sulfides (S) concentrations in the sediment to determine compliance and subsequent monitoring frequency (see 2.1.1, 2.1.2, and 2.1.3). Direct measurement of S concentration may be replaced by an analysis of benthic community structure (see 2.1.4). Farms must determine areas containing biogenic structures of importance to the functioning of the ecosystem (2.1.5).</p> <p>The initial assessment shall be conducted within a <b>6 month period prior to the first audit</b>. Sediment samples for the assessment of total "free" sulfides. If the client is unable to conduct the initial assessment themselves, then a suitably qualified independent expert should be contracted. Methods for the measurement of "free" sulfides in marine sediments is outlined in Appendix 2.</p>			
	Off-bottom and suspended methods over depositional substrate	<p>a. <u>If the farm site is a non-depositional area:</u>                      Ensure that monitoring via video or seabed imaging transects is conducted prior to the first audit and at least once every five years thereafter (Proceed to 2.2.).</p> <p>b. <u>If the farm site is a depositional area of soft substrate:</u>                      An initial assessment of S concentration in sediments shall be conducted according to Appendix 1 &amp; 2 of the Bivalve Standard. Direct measurement of S concentration may be replaced by an analysis of benthic community structure in areas where this biotic approach is preferred by the client or is already mandated by a regulatory body [3] (see 2.1.4).</p> <p>The client shall present information detailing the sampling design used and results of the S assessment:                      - If S concentration is ≤ 1500 µM, monitoring shall be conducted every five years (Proceed to 2.2).                      - If S concentration is ≥ 1500 µM and &lt; 3000 µM, monitoring shall be conducted every year (Proceed to 2.2).                      - If S concentration is ≥ 3000 µM (Proceed to 2.1.2).</p>	N/A		

Applicability	Reference in AM	Description	Timeframe	Check	Remarks
2.1.1	Off-bottom and suspended methods over depositional substrate	c. If the farm intends to conduct measurements of total 'free' sulfides using a method different from the one prescribed in Appendix IV & V of the Bivalve Standard (e.g. in order to comply with local regulations), the farm must first request a variation from ASC showing how the alternate method will meet the intent of the Standard in an equivalent way.	N/A		
Footnote [1]		Farms utilizing in- and on-bottom husbandry practices are exempted from assessment for benthic organic enrichment. These requirements specifically target off-bottom and suspended-culture activities that permit greater stocking biomass per area than can be achieved using bottom culture approaches.			
Footnote [2]		Sampling design and sulfide methodology are included in Appendix IV & V of the Bivalve Standard.			
2.1.2	Off-bottom and suspended methods over depositional substrate	<i>For farms using off-bottom and suspended methods on depositional substrate and not compliant with 2.1.1.</i> a. If initial assessment of S concentration is $\geq 3000 \mu\text{M}$ , the farm is not certifiable unless natural background S levels exceed $3000 \mu\text{M}$ (proceed to 2.1.3). Management response is required to reduce S levels.	N/A		
2.1.3	Off-bottom and suspended methods over depositional substrate	a. Provide results comparing sampled S culture area to reference sites outside the farm (see Appendices I & 2 for the comparison to control sites). If S concentrations beneath the farm structures are not found to be significantly higher ( $p < 0.05$ ) than reference sites, monitoring shall be conducted every year (Proceed to 2.1.5.).	N/A		
Footnote [3]		Statistical significance (i.e. 95% confidence interval).			
Footnote [4]		Farming activity is permitted in areas where the natural benthic environment is already heavily enriched with organic matter prior to the initiation of any shellfish aquaculture activities.			
2.1.4	Off-bottom and suspended methods over depositional substrate	<p><b>Instructions for Indicator 2.1.4 - Replacement of Direct Free Sulfide Measurements with a Biotic Approach</b></p> <p>The Steering Committee of the Bivalve Aquaculture Dialog concluded that direct measurement of free sulfide concentration is the most reliable, cost-effective and straightforward way to demonstrate compliance with Indicators 2.1.1, 2.1.2, and 2.1.3. Nonetheless, the SC also recognizes that situations may arise where farms will need access to an alternate method for showing compliance. For example, monitoring of benthic community may already be mandated by a regulatory body. Therefore the SC makes an allowance for farms to utilize a biotic approach (i.e. a benthic index) by monitoring benthic community structure. But please note that the SC does not necessarily recommend that farms pursue this option as it is likely to be more technically challenging, costly, and time consuming than taking direct measurements of free sulfide.</p> <p>If farms elect to use a biotic approach, they must demonstrate how the results from infaunal surveys are consistent with the relevant sulfide levels specified in Indicators 2.1.1, 2.1.2, and 2.1.3. In establishing indices of benthic diversity, farms may follow one of the approaches outlined in Hargrave et al. (2008, see summary nomogram in Fig. 5) for relating macrobenthic infaunal biodiversity to free sulfide levels. The farm must identify a source reference (i.e. a scientific publication) for the method selected. Farms may contract with suitably qualified experts (i.e. consultants) to perform the benthic community analyses on their behalf. Auditors will review the results and include a full description in the audit report.</p> <p>Note: Indicator 2.1.4 applies to farms using off-bottom and suspended methods on depositional substrate.</p>			
		a. Notify the CAB if the farm used the biotic approach and identify a source reference (i.e. a scientific publication) for the method used.	N/A		
		b. Provide documentary evidence to show how the farm established equivalency of biotic indices with sulfide levels (e.g. reports from analysis of infaunal surveys).	N/A		
		c. If S equivalency is $< 3000 \mu\text{M}$ , proceed to 2.1.1. If S equivalency is $> 3000 \mu\text{M}$ , proceed to 2.1.2.	N/A		
Footnote [5]		Biotic indicator decision thresholds need to be assessed to ensure equivalency with the thresholds identified for total 'free' sulfide given in requirement 2.1.1. There are several papers that have been published linking specific benthic sulfide levels to indices for benthic biodiversity. Please refer to the reference section for examples (e.g., Hargrave et. al. 2008)			
2.1.5	Off-bottom and suspended methods	<i>For all farms using off-bottom and suspended method.</i>			
		a. Prepare results from video or seabed imaging survey of the farm.	N/A		
		b. Summarize information about sensitive habitats in proximity to farming operations (e.g. using a map of habitat distribution; see 1.1.1e) noting any areas where biogenic structures are located [8].	N/A		
Footnote [6]		Areas containing biogenic structures that are not particularly adapted to sedimentation or organic enrichment (e.g., tubeworm mounds, bryozoan mounds, bivalve beds and reefs or sponge gardens that form a structure for other epifauna).			

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		<p><b>Instructions to Clients for Criteria 2.2: Pelagic effects</b></p> <p>There is potential for bivalve farming operations to exceed the ecological carrying capacity of the body of water. This can occur when bivalve filter-feeding on phytoplankton exceeds the capacity of the ecosystem to replenish the supply. The ASC Bivalve Standard addresses this issue using relatively simple calculations that compare how long it takes a population of bivalves to clear a body of water (clearance time—CT) with how long it takes for tides to flush that body of water (retention time—RT). In cases where the value of CT/RT is too low (failure of Indicator 2.2.1), the farm may still be certifiable under conditions of high primary production. Please refer to Appendix I of the Bivalve Standard for the rationale and specific formulas for the carrying capacity measurement, including a protocol for defining applicable water body boundaries.</p> <p>General Guidelines:</p> <ol style="list-style-type: none"> <li>1) Farms will have to at least conduct an initial calculation of the water body area and the farm's area (Requirement 2.2.1.a). In many instances, such as enclosed bays or inlets, the geographic boundaries of the area in which the farm is located may be obvious and considered as the water body. In other situations, such as meandering complex waterways or the open coast, there may be no clear boundaries. In these cases, the water body will be defined by the "zone of influence", which will need to be calculated based on prevailing currents.</li> <li>2) Calculate the percent of the total water body area that is covered by all of the farms within the water body, inclusive of the certification unit. <ul style="list-style-type: none"> <li>- If less than 10%, Indicators in Criteria 2.2 must not be applied. Proceed to 2.3.1.</li> <li>- If greater than 10%, Indicators in Criteria 2.2 must be applied. Proceed to 2.2.1 for the two-tiered "Pelagic effects" indicators (below).</li> </ul> </li> <li>3) Two-tiered "Pelagic effects" indicators: <ul style="list-style-type: none"> <li>- Calculate the ratio between clearance time and retention time (CT / RT). <ul style="list-style-type: none"> <li>- If CT / RT is &gt;1, farm is certifiable. Proceed to 2.3.1.</li> <li>- If CT / RT is &lt;1, proceed to 2.2.2. Farm must calculate the ratio of clearance time over primary production time (CT / PPT). <ul style="list-style-type: none"> <li>- If CT / PPT is &gt;3, farm is certifiable. Proceed to 2.3.1.</li> <li>- If CT / PPT is &lt;3, farm is not certifiable.</li> </ul> </li> </ul> </li> </ul> </li> </ol> <p>*Note: Indicator 2.2.3 allows for the demonstration of compliance with Indicators 2.2.1 and 2.2.2 using equivalent calculations through more comprehensive carrying capacity modeling. Models must be published in peer-reviewed publications and must apply to the present state of the water body and all associated aquaculture to be accepted for equivalency.</p>			
2.2.1	<p>All farms*</p> <p>*If the area of all of the farms within a water body as defined in Appendix I of the Bivalve Standard, inclusive of the certification unit, is less than 10% of the total area of the water body, then requirements 2.2.1 and 2.2.2 need not apply.</p>	<p><b>Instructions for Indicator 2.2.1 Example calculations of clearance and retention times</b></p> <ol style="list-style-type: none"> <li>1) Calculate the volume of the water body: <ul style="list-style-type: none"> <li>- If the farm is located in easily definable water body (e.g. an estuary, bay or well defined area) and has tidally dominated water exchange, the total volume of the water body shall be calculated as follows: <ul style="list-style-type: none"> <li>- Calculate the mean depth at high tide and the surface area of the water body</li> <li>- Calculate the volume of the water body (<b>Vt</b>) as the depth times the surface area</li> </ul> </li> <li>- If the farm is located in offshore waters, then the water body volume will be based on a "zone of influence" calculation: <ul style="list-style-type: none"> <li>- Calculate the "radius of influence" (<b>RI</b>) as the cumulative current speed over a 24 hour period</li> <li>- Calculate the volume of the water body (<b>Vt</b>) by assuming a circular surface area multiplied by the depth (<b>Vt = (pi * RI<sup>2</sup>) * depth</b>). If the area is in deep waters, the depth used shall be that defining the lower limits of phytoplankton growth ("lower growth line").</li> </ul> </li> </ul> </li> <li>2) Calculate the clearance time (CT): <p><b>CT (days) = Vt / (N x C)</b></p> <p>Where <b>Vt</b> is the total volume of the water body (liters)*; <b>N</b> is number of bivalves in the water body; <b>C</b> is average clearance rate (liters/individual species/day) at harvest size</p> </li> <li>3) Calculate the retention time (RT): <ul style="list-style-type: none"> <li>-If the farm is located an easily definable inshore water body and has tidally-dominated water exchange: <p><b>RT (days) = -1 x P / ln (VI / Vt)</b></p> <p>Where <b>P</b> is the tidal periodicity, the length of the tidal cycle (days) (e.g. ~0.5 days for semidiurnal tides); <b>VI</b> is the total volume of the water body at low tide (liters); <b>Vt</b> is the total volume of the water body at high tide (liters)</p> </li> <li>- If the farm is located offshore: <p><b>RT = 24 hours</b></p> </li> </ul> </li> <li>4) Calculate the ratio of <b>CT / RT</b></li> </ol> <p>*Note: For deep stratified culture areas (e.g. open ocean and fjords), this calculation should be limited to the surface mixed layer. In areas where water exchange is not dominated by tidal flushing (e.g., controlled primarily by river flow or wind forcing) an appropriate volume exchange should be calculated.</p>			
		<p>a. Present a map showing the water body and all farm locations (including the unit of certification). Calculate the percent of the water body area covered by farms and present values used in the calculation.</p>	N/A		
		<p>b. If combined area of all farms is &lt; 10 % of total are of the water body, then 2.2.1 does not apply (Proceed to 2.3.1).</p>	N/A		

Applicability	Reference in AM	Description	Timeframe	Check	Remarks
2.2.1	All farms*	c. If the area of the farm is > = 10% of the water body, calculate clearance time (CT) of the dominant bivalve stocks (wild and cultured) for the water body. Provide all bivalve census information and published clearance rates [9] used in the calculation.	N/A		
		d. If the area of the farm is > = 10% of the water body, calculate the retention time (RT) of the water body. Calculate CT/RT ratio. Provide all data used in the calculation, including references.	N/A		
Footnote [7]		Clearance time is the number of days required for the dominant bivalve stock(s) (wild and cultured) to clear the volume of the bay or regional water body (i.e., sites with no clear boundaries). The dominant species census should be based on the peak standing stock during the year. The calculation is based on published clearance rate data for the bivalve group (mussels, scallops, clams and oysters).			
Footnote [8]		Retention time is the number of days for tides to flush a volume of water equal to the volume of the bay or water body.			
2.2.2	All farms not compliant with 2.2.1	<i>for farms not compliant with 2.2.1</i> <b>Instructions for Indicator 2.2.2- Calculation of clearance time (CT) over primary production time (PPT)</b>  PPT is calculated as follows: <b>PPT (days) = B / PPP</b> Where: B is the yearly averages of phytoplankton biomass, PPP is the phytoplankton primary production (PPP) within the system (e.g. mg C / m <sup>2</sup> / day).  * Note: B can be estimated from chlorophyll a measurements, published data or satellite predictions assuming a carbon to chlorophyll ratio of 50. PPP can be obtained from published results or model predictions. Phytoplankton biomass and primary production should be in the same units (e.g. mg C / m <sup>2</sup> ). All values should be based on yearly averages with at least one value per season. Values should also represent spatial averages for the water body.			
		a. Calculate the yearly averaged phytoplankton biomass (B) and primary production (PPP) for the entire water body. Provide all information regarding the sampling methods used and the locations and times of each sample. Provide all references used in the conversion of values into similar units.	N/A		
		b. Calculate primary production time (PPT) and CT/PPT ratio. Provide all data used in the calculation, including references.	N/A		
Footnote [9]		PPT is the number of days required for the replacement of the standing stock of phytoplankton in the bay (i.e., time-scale of phytoplankton population growth). PPT is the ratio of yearly averages of phytoplankton biomass (B) to phytoplankton primary production (PPP) within the system. B can be estimated from chlorophyll a measurements, published data or satellite predictions assuming a carbon to chlorophyll ratio of 50. PPP can be obtained from published results or model predictions.			
2.2.3	All farms not compliant with 2.2.1 and 2.2.2	<i>for farms demonstrating compliance with Indicators 2.2.1 and 2.2.2 using more comprehensive modeling estimates of carrying capacity.</i> <b>Instructions for Indicator 2.2.3 Carrying capacity estimate equivalency using comprehensive modeling</b>  In order to ensure a high level of quality for carrying capacity compliance, alternate estimates using more comprehensive modeling must be derived from published peer-reviewed studies based on the present state of the water body and all associated aquaculture. Only studies published in peer-reviewed journals listed by the Institute for Scientific Information (ISI) will be acceptable for the evaluation of compliance with Indicator 2.2.3. See <a href="http://ip-science.thomsonreuters.com/mjl/">http://ip-science.thomsonreuters.com/mjl/</a> for a listing of ISI journals.			
		a. Provide the published peer-reviewed publication describing the model as applied to the present state of the water body and all associated aquaculture.	N/A		
		b. Provide the model estimates of CT, RT, and PPT. If these were not directly presented in the publication, provide additional information as to how these parameters were calculated.	N/A		

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2.3.1	All farms	<b>Instruction to Clients for Indicator 2.3.1 - Presence of Species Listed as Threatened or Endangered on the IUCN Red List</b>  The farm must demonstrate that is knowledgeable of threatened/endorsed species and the habitats upon which they depend. Threatened or endorsed status may be based on national laws or the IUCN red list[10].  In order to determine whether IUCN red list species are present in the region, perform a search as follows: - go to <a href="http://www.iucnredlist.org/">http://www.iucnredlist.org/</a> - follow to "other search options" - select "Taxonomy" and select "Animalia" and "Plantae" - indicate appropriate "Location", "Systems", "Habitat", - click on "run search" and record species listed and whether they are threatened by the farming activity. Note: The IUCN Red List uses nine categories for ranking species according to threat, and search results may include species that are not currently threatened. For the purposes of determining whether a farm complies with indicator 2.1.1, species in the following IUCN categories may be excluded from further analyses: "Not evaluated", "Data Deficient", and "Least Concern".			
		a. Provide a list of threatened or endangered species as identified by national law or the IUCN Red List. To obtain the IUCN Red List designated species, perform the above search and record all IUCN Red List species and farm-related threats.	N/A		
		b. Provide a map showing location of the farm (see Indicator 1.1.1e) relative to the known distribution of endangered species or critical habitats in the area.	N/A		
2.3.1	All farms	c. If a threatened or endangered species is identified in region of the farm (including receiving and source waters), document the specific actions the farm takes to minimize impacts.	N/A		
Footnote [10]		As defined by national law or as found in the International Union for Conservation of Nature Red List of Threatened Species.			
2.4.1	All farms	<b>Instructions for Indicator 2.4.1 - Evidence of training, compliance to regional codes of practices or implementation of environmental management plans</b>  In order to demonstrate compliance of environmental awareness, all farms are required to document efforts taken to train staff in a set of environmental codes of practices and/or management plans. The set of environmental codes of practices and/or management plans used shall be demonstrated by evidence of <u>one</u> of the following at the time of the audit: 1) Documentation of farm worker environmental training (e.g. certificates, evidence of workshops attended etc.); or 2) Documentation of regional codes of practice and actions taken to ensure compliance; or 3) Implementation of an environmental management plan.			
		a. Provide documentation of environmental training/education of staff (e.g. certificates, evidence of workshops attended etc.) (OR).	N/A		
		b. Provide documentation of regional codes of practice and actions taken to ensure compliance, including staff training (OR).	N/A		
		c. Provide evidence for implementation of an environmental management plan.	N/A		
3.1.1	All farms	a. Maintain documentation showing the origin of culture stock including names, addresses, contact person(s) and delivery dates when applicable.	N/A		
3.1.2	All farms	a. Provide documentation of established protocol or best management practices used in preventing and managing disease and pest introductions.	N/A		
		b. Provide evidence that the farm has implemented established protocols or best management practices for preventing and managing disease and pest introductions with seed and/or farm equipment.	N/A		
3.2.1	All farms	<b>Instructions for Indicator 3.2.1. - Purchase or collection of wild seed from regulated sources</b>  The requirement that farms use only wild spat or seed collected from regulated sources is necessary to reduce the potential risk for overfishing and the reproductive sustainability of the wild source stock. Assessments are necessary to determine whether or not the manner in which the wild seed is collected for grow-out adversely affects recruitment or demography of local bivalve populations. Special exceptions may include situations where assessment and monitoring of the wild stock has resulted in the conclusion that the stock does not require additional regulation.			
		a. Maintain documentation showing the origin of culture stock with names, addresses, contact person(s) and delivery dates of each purchase.	N/A		
		b. Provide documentation that wild seed has not been collected from an open-access, unregulated source.	N/A		

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3.3.1	All farms	<p><b>Instructions for Indicator 3.3.1 - Evidence of responsible[11] introduction of non-native cultivated species</b></p> <p>Farms that cultivate non-native species must demonstrate how introductions were done responsibly. The International Council for the Exploration of the Sea (ICES) has established Code of Practice on the Introductions and Transfers of Marine Organisms (2005)* which covers considerations, recommended procedures, and guidelines for the implementation of new species introductions.</p> <p>Indicator 3.3.1 is intended to address the risks associated with the introduction of non-native species for the purpose of culture. Such introductions may pose a risk to the aquatic ecosystem through increased predation and competition, disease, habitat destruction and extinctions. Where introduction of a non-native bivalve species is allowed by law (e.g. a species identified on a "clean list" of non-harmful species), the best practice for reducing ancillary introductions is to follow the ICES Code of Practice. Longstanding and established non-native species that have historically been used for culture purposes are generally certifiable, while new introductions require compliance with ICES guidelines.</p> <p>* document link: <a href="http://www.ices.dk/publications/Documents/Miscellaneous%20pubs/ICES%20Code%20of%20Practice.pdf">http://www.ices.dk/publications/Documents/Miscellaneous%20pubs/ICES%20Code%20of%20Practice.pdf</a></p>			
		a. If the farm works with the culture of newly-introduced non-native bivalve species, obtain permit(s) substantiating compliance with ICES guidelines for introduction of exotic species and certification to ICES requirements regarding parasites and pathogens [11].	N/A		
Footnote [11]		At a minimum, farms must have a permit(s) substantiating compliance with ICES guidelines for introduction of exotic species and certification to ICES requirements regarding parasites and pathogens.			
3.4.1	All farms producing seed	<p><b>Instruction to Clients for Indicator 3.4.1 - Addressing Genetic Concerns Associated with Native Species Cultivation</b></p> <p>Farms that produce seed are required to demonstrate that they use appropriate designs and monitoring to minimize the risk to the genetic diversity of the wild stock. Farms have four options by which to demonstrate their compliance, and must provide documentation of <u>one</u> of the following:</p> <p>1) <u>Local wild broodstock</u> - Documentation that broodstock is from the wild, local population and that the spawned individuals are frequently rotated within spawning seasons and between years. Shall include the locations where local wild broodstock have been collected and the breeding history of individuals used in the production of seed in order to ensure their appropriate rotation within spawning seasons and between years.</p> <p>2) <u>Reproductive potential</u> - Documentation of the scale of farming activities and the reproductive potential of crops (e.g., whether diploid or triploid, or considering age at harvest and age at first maturation) are well-below the size and reproductive potential of the natural population within a reasonable "dispersal kernel" from the farm.</p> <p>3) <u>Sterile seed production</u> - Documentation of the production of sterile seed for out-planting from breeding programs that intentionally alter wild stocks for improved culture traits, such as growth, yield, survival and morphology.</p> <p>4) <u>Selective breeding for restoration</u> - Documentation of cooperation with restoration efforts in the geographic region using out-planting that involves the intentional divergence from wild stocks to produce disease resistant wild populations.</p>			
		a. Provide documentation of the use of local, wild broodstock to address genetic concerns specific to species and the geographic region where the seed will be out-planted (OR).	N/A		
		b. Provide documentation of the scale of farming activities and the reproductive potential of crops (e.g., whether diploid or triploid, or considering age at harvest and age at first maturation) are well-below the size and reproductive potential of the natural population within a reasonable "dispersal kernel" from the farm (OR).	N/A		
		c. Provide documentation on the production of sterile seed for out-planting from breeding programs that intentionally alter wild stocks for improved culture traits, such as growth, yield, survival and morphology (OR).	N/A		
		d. Provide documentation of cooperation with restoration efforts in the geographic region using out-planting that involves the intentional divergence from wild stocks to produce disease resistant wild populations.	N/A		
3.5.1	All farms	a. Maintain documentation showing the origin of culture stock with names, addresses, contact person(s) and delivery dates of each purchase (see 3.2.1a).	N/A		
		b. Prepare a declaration stating that the farm does not culture transgenic bivalves.	N/A		
Footnote [12]		Introduced genes from other species.			
4.1.1	All farms	<p><b>Instruction to Clients for Indicator 4.1.1 - Use of mutagenic, carcinogenic or teratogenic pesticides</b></p> <p>All farms must maintain a record of chemical use and chemical supplier contact information. Technical information on all chemical used by the farm shall be provided during the audit. Technical information on pesticides and other chemicals can be obtained through the World Health Organization, International Programme on Chemical Safety (IPCS): <a href="http://www.who.int/ipcs/en/">http://www.who.int/ipcs/en/</a>; <a href="http://www.inchem.org/">http://www.inchem.org/</a>.</p>			
		a. Maintain a record of all chemicals (any substance that is added by the producer to farm or farmed animals) used for prior 12 month period by farm and/or contractors. If the farm is located in an integrated facility, all chemicals used in hatcheries and processing plants must be recorded, in addition to those used in grow-out. Supply technical information on all chemicals used on the farm.	prior 12 months before first audit		
		b. Provide chemical supplier name and contact information.	N/A		

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4.1.2	All farms	<b>Instruction to Clients for Indicator 4.1.2 - Use of chemicals that persist as toxins</b> Chemicals that are known to persist as toxins include heavy metals and organic pollutants. A list of persistent organic pollutants (POPs), as recognized under the Stockholm Convention, can be found here: <a href="http://chm.pops.int/Convention/ThePOPs/ListingofPOPs/tabid/2509/Default.aspx">http://chm.pops.int/Convention/ThePOPs/ListingofPOPs/tabid/2509/Default.aspx</a>			
		a. Same as 4.1.1.a.	N/A		
		b. Same as 4.1.1.b.	N/A		
4.1.3	All farms	<b>Instructions to Clients for Indicator 4.1.3 - Non-lethal Management of Critical Species that are Pests or Predators</b> When the management of pests or predators includes species identified as threatened or endangered (as identified by Indicator 2.3.1 ), their management shall be through non-lethal methods only. In order to ensure compliance with Indicator 4.1.3, farms must provide a description of all methods of pest or predator management used at the site. Additionally, clients shall provide a list of all species of pests removed by lethal measures.  If a farm cannot comply with indicator 4.1.3 because the ASC requirement stands in conflict with local or national regulations, the farm should inform the CAB and provide relevant documentary evidence. In such situations, farms may request a variation from ASC provided there is full and satisfactory justification to show how the farm will meet the intent of the Standard in an equivalent way.			
		a. Provide a list of all predator and pest control devices used at the site and their locations.	N/A		
		b. Provide a description of all procedures used for managing pests and explain how the farm ensures that no harms is done to critical species (identified in 2.3.1.).	N/A		
Footnote [13]		As defined by national law or as found in the IUCN Red List of Threatened Species.			
4.1.4	All farms	a. Ensure that no leadline or sinkers are located on the farm or used on predator netting.	N/A		
4.1.5	All farms	a. Ensure that no explosives are used on the farm.	N/A		
5.1.1	All farms	a. Provide a description of the most common production waste materials and indicate which waste materials are recycled.	N/A		
5.1.2	All farms	a. Prepare a plan that details how the farm ensures proper disposal of all biological waste including separation and segregation of biological waste from non-biological waste.	N/A		
		b. Maintain records to show how the farm disposes of dead bivalves and other forms of biological waste.	N/A		
5.1.3	All farms	a. Ensure that the disposal of disused equipment and waste is done promptly, including hazardous waste from the site according to local law and Material Safety Data Sheets (MSDS). Farms shall maintain an inventory of all chemicals used or located on site.	N/A		
5.1.4	All farms	a. Prepare a prevention and response plan spills of chemical and hydrocarbon waste. The plan shall outline the preventative maintenance of equipment exist and in place for the avoidance of fuel spills from vehicles, winches, cranes, and mechanical equipment on land and water.	N/A		
		b. Maintain documentation regarding the training history of all employees in the proper disposal of waste and in the prevention and management of chemical and hydrocarbon spills as described in the above plan (5.1.4.a).	N/A		
		c. Maintain documentation of equipment or structures that have come into contact with spilled chemicals and have been subsequently cleaned.	N/A		
5.2.1	All farms	a. Maintain records (e.g. receipts) of on-farm fuel and electricity usage. A minimum of 12 months of continuous records are required before the first audit.	12 months before first audit		
		b. Compute the annual energy consumption for the last 12 months. Energy usage is itemized and summed in kilojoules. Conversions of energy components to kilojoules of energy can be found at: <a href="http://tonto.eia.doe.gov/energyexplained/index.cfm?page=about_energy_conversion_calculator">http://tonto.eia.doe.gov/energyexplained/index.cfm?page=about_energy_conversion_calculator</a> .	12 months before first audit		
		c. Using results from 5.2.1.b and the total weight (metric tons) of shellfish produced over the last 12 months, determine the farm's energy consumption relative to production.	12 months before first audit		
		d. Document the main procedures undertaken by the farm to improve energy efficiency and provide a short summary of the effectiveness of those procedures.	N/A		
5.2.2	All farms	a. Prepare a maintenance plan which identifies the schedule for regular maintenance of farm equipment including boats and generators.	N/A		
		b. Maintain records of equipment maintenance. A minimum of 12 months of continuous maintenance records must be provided for the first audit.	12 months before first audit		
6.1.1	All farms	a. If the farm uses visible floats, ensure that they are all uniform in color.	N/A		

Applicability	Reference in AM	Description	Timeframe	Check	Remarks
6.1.2	All farms	a. Ensure that visible farm structures are uniformly positioned and oriented and do not impede navigation.	N/A		
6.1.3	All farms	a. Ensure that no open-celled Styrofoam floats are used or located on the farm.	N/A		
6.1.4	All farms	a. Prepare a list of all sources of noise, light and odor originating on the farm and include actions taken to reduce them.	N/A		
		b. Ensure that designated storage areas and containers exist for the materials that create odors.	N/A		
6.1.5	Sea-based farms	a. Provide a copy of local navigation rules and regulations.	N/A		
		b. Maintain records of the training of relevant farm staff in local navigational rules and regulations.	N/A		
6.1.6	All farms	a. Maintain a record of effort spent cleaning the receiving shoreline in response to gear loss. Record shall span at least a 12 month period prior to the audit.	12 months before first audit		
6.1.7	All farms	a. Ensure that all substantial gear is clearly labeled and identifiable as belonging to the farm. At a minimum, labeled gear shall include floats, cages, bags, predator nets and racks.	N/A		
6.1.8	All farms	a. Ensure that the farm maintains equipment and /or mechanisms for recovering lost gear.	N/A		
6.1.9	All farms	a. Provide documentation of a mechanism for the collection and decommissioning of gear.	N/A		
6.1.10	All farms	a. Provide documentation outlining the farm's protocol for responding to complaints lodged by stakeholders, community members, and organizations.	N/A		
		b. Maintain publically available documentation of registered complaints and farm responses.	N/A		
6.1.11	All farms	a. Provide documentation of community outreach and measures taken to maintain positive communication. Documented evidence shall include one or more of the following: - meeting records, - newsletters, - records of consultation with communities and indigenous groups, - membership in an association with a documented outreach program.	N/A		
6.1.12	All farms	a. Provide a record of agreement or proof of acknowledgement of indigenous rights.	N/A		
7.1.1.	All farms	a. Minimum age of permanent workers is 15 or higher (per national legal minimum age).	N/A		
		b. System exists to monitor hours and conditions of young workers and light work by children.	N/A		
		c. Young workers from 15 to 18 years of age [as defined in footnote 16]: have no conflicts between work and schooling; do not spend more than 10 hours/day on transportation time, school and work; and do not perform hazardous work [as defined in footnote 17].	N/A		
		d. Children under 15 perform only light work. Light work & school not to exceed 7 hours/day.	N/A		
		e. Equal treatment for children of migrant workers.	N/A		
Footnote [14]	A "child" is defined as any person less than 15 years of age. A higher age would apply if the minimum age law stipulates a higher age for work or mandatory schooling. If, however, the local minimum age law is set at 14, in accordance with developing country exceptions under International Labor Organization (ILO) Convention 138, the lower age will apply.				
Footnote [15]	"Child labor" is defined as any work by a child younger than the age specified in the definition of a child, except for light work as provided for by ILO Convention 138, Article 7.				
Footnote [16]	A "young worker" is defined as any worker between the age of child, as defined above, and under the age of 18.				
Footnote [17]	"Hazardous work" is defined as work that, by its nature or circumstances in which it is carried out, is likely to harm the health or safety of workers.				
7.2.1.	All farms	a. Contracts clearly stated and understood by employees, no 'pay to work' schemes through labor contractors or training credit programs.	N/A		
		c. Employer does not withhold employee's original identity papers.	N/A		
		d. Employer shall not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for employer.	N/A		
Footnote [18]	"Forced labor" is all work or service that is extracted from any person under the menace of any penalty for which said person has not offered himself or herself voluntarily or for which such work or service is demanded as a repayment of debt. "Penalty" can imply monetary sanctions and physical punishment, such as loss of rights and privileges or restriction of movement (or withholding of identity documents).				
Footnote [19]	"Bonded labor" is when a person is forced by the employer or creditor to work to repay a financial debt to the crediting agency.				
		a. Written anti-discrimination policies in place, stating that the company does not engage/support in discrimination in hiring, remuneration, access to training, promotion, termination or retirement based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, age or any other condition that may give rise to discrimination.	N/A		



Applicability	Reference in AM	Description	Timeframe	Check	Remarks
7.3.1.	All farms	b. Worker testimony supports that the company does not interfere with the rights of personnel to observe tenets or practices, or to meet needs related to race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation or any other condition that may give rise to discrimination. Records indicate objective mechanisms for employee reviews and the offering of promotion and training opportunities.	N/A		
Footnote [20]		"Discrimination" is any distinction, exclusion or preference, 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.			
7.4.1.	All farms	a. Documentation is generated with regards to occupational health and safety violations.	N/A		
		b. Corrective action plans are implemented in response to accidents that have occurred. This should include: analysis of the root causes, address the root causes, remediate and prevent future accidents of similar nature.	N/A		
7.4.2.	All farms	a. Minimization of hazards/risks in the working environment, including documented systemic procedures and policies to prevent workplace hazards and their risks, shall exist and the information shall be available to employees.	N/A		
		b. Emergency response procedures shall exist and be known by employees.	N/A		
		c. Health and safety training for all employees is available, including training on potential hazards and risk minimization.	N/A		
		d. Potentially dangerous chemicals are stored properly and as prescribed.	N/A		
7.4.3.	All farms	a. Documentation maintained by management confirms that all personnel are provided sufficient insurance to cover costs related to occupational accidents or injuries. Equal insurance coverage must include temporary, migrant or foreign workers.	N/A		
7.5.1.	All farms	a. Employers/Managers understand and have policies to ensure the principle of equal pay for equal work.	N/A		
		b. Employers ensure wages paid for a standard working week (no more than 48 hours) always meet, at least, legal/industry minimum standards.	N/A		
		c. Labor conflict resolution policy in place to track conflicts and complaints raised, and responses to conflicts and complaints.	N/A		
		d. Ratio of lowest wage rate to basic needs wage always exceeds 100%.	N/A		
7.6.1.	All farms	a. Workers have the freedom to form and join any trade union, free of any form of interference from employers or competing organizations set up or backed by the employer. The ILO specifically prohibits "acts which are designed to promote the establishment of worker organizations or to support worker organizations under the control of employers or employers' organizations".	N/A		
		b. Local trade union, or where none exists a reputable civil-society organization, confirms no outstanding cases against the employer for violations of employees' freedom of association and collective bargaining rights.	N/A		
		c. Trade union representatives have access to their members in the workplace at reasonable times on the premises.	N/A		
		d. Explicit communications from the employer about their commitment to freedom of association and collective bargaining rights of all.	N/A		
		e. If trade unions exist, they are able to access/inform all workers directly (posters, pamphlets, visits).	N/A		
7.7.1.	All farms	a. There is never any use of or support for (e.g. subcontractors using) corporal punishment, mental or physical coercion, or verbal abuse.	N/A		
		b. Fines or wage deductions shall not be acceptable as a method for disciplining workers (indicated by policy statements, as well as evidence from worker testimony).	N/A		
		c. Procedures exist for situations in which disciplinary action is required, and they establish the use of progressive verbal and written warnings. Aim should always be to improve the worker before letting him/her go (Indicated by policy statements as well as evidence from worker testimony).	N/A		

Applicability	Reference in AM	Description	Timeframe	Check	Remarks
7.8.1.	All farms	a. No deductions in pay for disciplinary actions.	N/A		
		b. Wage and benefits are clearly articulated to employees and rendered to employees in a convenient manner; e.g. no need to travel to collect benefits, no promissory notes, coupons or merchandise; payment in cash or check.	N/A		
		c. Labor-only contracting or false apprenticeship schemes are not accepted, including: revolving/consecutive labor contracts used to deny benefit accrual.	N/A		
		d. Clear, transparent mechanism for wage setting known to employees.	N/A		
		e. Employer shall comply with applicable laws and industry standards related to working hours. "Normal workweek" can be defined by law but shall not on a regular basis (constantly or majority of the time) exceed 48 hours. Only if allowed by law, variations (to the 48-hour regular work week) based on seasonality may apply.	N/A		
		f. All overtime shall be paid at a premium and should not exceed 12 hours per week.	N/A		
		g. Overtime work shall always be voluntary.	N/A		