

Scope: *Pangasianodon hypophthalmus*, *Pangasius bocourti*

**Preamble:**

In order to determine the level of compliance against the ASC Pangasius Standard it is essential to use information of completed crop cycle(s), or on a specific point in time in the crop (e.g. stocking) for several requirements. For this reason, for first audits, it is necessary for farms to present full data on at least one or more completed crop cycle(s) per site at the time of the assessment.

Therefore, at the time of the first audit:

- farmer must be able to show full records (e.g. feed-use, mortality rate, etc.) of at least 1 completed crop cycle per site (i.e. from stocking to harvest) and the relevant information for all the crops stocked after having stocked that crop
- certifier must use these records of each site to calculate the level of compliance of the relevant indicators

Applicable to all relevant requirements in this Audit Manual:

**Client:** At first audit: data of at least 1 full crop cycle per site must be made available to certifier.

**Auditor:** At first audit: data of at least 1 full crop cycle per site must be used to determine compliance.

**PRINCIPLE 1. LOCATE AND OPERATE FARMS WITHIN ESTABLISHED LOCAL AND NATIONAL LEGAL FRAMEWORKS**

*1.1 Criteria: Local and national regulations*

|       |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>  |
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| 1.1.1 | <b>Indicator:</b> Presence of all pertinent permits and registrations required by local and national authorities<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> All | a. Maintain records to show the farm has all registrations as required by local and national authorities.   | A. Verify farm has all registrations as required by local and national authorities.   |
|       |  | b. Obtain an aquaculture farming licence (as applicable).   | B. Verify farm has aquaculture farming licence (as applicable).   |
|       |  | c. Obtain a commercial licence (as applicable).   | C. Verify farm has a commercial licence (as applicable).  |
|       |  | d. Obtain any other contracts, licences, or permits as required by local and national authorities (also see 1.1.3. and 1.1.4).  | D. Verify compliance.   |
| 1.1.2 | <b>Indicator:</b> Presence of documents proving compliance with pertinent tax laws<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> All                               | a. Maintain records of tax payments to appropriate authorities (e.g. land use tax, water use tax, revenue tax) for the last 12 months. For first audits, farm records must cover ≥ 6 months | A. Verify client has records of tax payments to appropriate authorities.<br>[Note: For integrated systems, tax may only apply at the processing level. Nonetheless clients must show evidence of tax payment] |
|       |  | b. Keep updated information on applicable tax laws for the jurisdiction in which the farm is operating.   | B. Verify client has current tax law information and a basic understanding of tax requirements.   |

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| 1.1.3  | <p><b>Indicator:</b> Presence of documents proving compliance with pertinent water discharge (including water effluents) regulations</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> Ponds</p> | <p><b>Instruction to Clients for Indicator 1.1.3 - Showing Compliance with Water Discharge Regulations</b></p> <p>Indicator 1.1.3 requires the farm to show compliance with all water discharge regulations at the local and national level. If the authoritative regulatory agency has imposed limits on farm water discharge (i.e. by issuing a discharge permit or other comparable mechanism) the obligation shall rest with the client to demonstrate compliance. Four types of evidence are acceptable:</p> <ol style="list-style-type: none"> <li>Statement by a fully independent ISO 17025 accredited laboratory showing that their staff collected samples at discharge;</li> <li>Results of water testing from a fully independent ISO 17025 accredited laboratory;</li> <li>Relevant legal documents showing compliance; or</li> <li>Statement from local authorities with competence on water quality and capacity to test water quality parameters stating compliance.</li> </ol> <p>Where regulations require monitoring of farm water discharge, that monitoring shall be conducted annually (at a minimum) or more frequently if required under local or national regulations. If there is insufficient evidence to show that the farm complies with water discharge regulations then the auditor will raise a non-conformity.</p> <p>Note 1: The ASC Pangasius Standard also specifies criteria for some water quality parameters. These are considered separately under Principle 3 below.</p> |  |
|  |  | a. Submit a statement by a fully independent ISO 17025 accredited laboratory showing that their staff collected samples at discharge  | A. Verify compliance. If (b), (c) or (d), then enter 'not applicable' for (a).   |
|  |  | b. Submit results of water testing from a fully independent ISO 17025 accredited laboratory.  | B. Verify compliance. If (a), (c) or (d), then enter 'not applicable' for (b).   |
|  |  | c. Submit relevant legal documents showing compliance.  | C. Verify compliance. If (a), (b) or (d), then enter 'not applicable' for (c).   |
|  |  | d. Obtain a statement from local authorities with competence on water quality and capacity to test water quality parameters stating compliance.   | D. Verify compliance. If (a), (b) or (c), then enter 'not applicable' for (d).   |
| 1.1.4  | <p><b>Indicator:</b> Presence of documents proving compliance with local and national legal regulations on land and water use</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>          | a. For ponds, maintain copies of land ownership or contract of lease. For pens or cages, maintain permits showing allowance to farm in the designated location.   | A. Verify client has documents to show legal access to and use of land and water.  |
|  |  | b. Obtain required permits to use and discharge water for the purposes of operating a farm. Comply with any and all permit restrictions stated therein (e.g. maximum capacity of production, water allocation volumes, etc).  | B. Verify farm has obtained permits and complies with the terms.   |
|  |  | c. If the farm operates in a country and region with no permitting system for land and water use, provide documentary evidence (e.g. letter from authorities) attesting to this fact.   | C. As applicable, review evidence to confirm that the farm does not need permits for land and water use in the country and region of operation.                      |
| <b>PRINCIPLE 2. FARMS MUST BE LOCATED, DESIGNED, CONSTRUCTED AND MANAGED TO AVOID (OR, AT LEAST, MINIMIZE) THEIR NEGATIVE IMPACTS ON OTHER USERS AND THE ENVIRONMENT</b> |  |   |  |
| <b>2.1 Criteria: Meeting official development plans</b>  |  |   |  |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 2.1.1  | <p><b>Indicator:</b> Farms [4] located in approved aquaculture development areas</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | a. Provide a detailed map of the farm with at least 4 GPS coordinates.  | A. Review map to confirm farm location and accuracy of GPS coordinates. If possible, verify spatial information using Google Map, satellite images or similar means. |
|  |  | b. Provide official plans that identify approved aquaculture development areas. If there are none, obtain a statement from the authorities as confirmation.   | B. Review plans. If farm states there is no plan, confirm that the country and region of operation does not have approved aquaculture development areas.             |

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|  |  | c. Show that the farm is located in an area approved for aquaculture using evidence from maps or list of officially designated locations.   | C. Verify farm is located in an approved aquaculture area. If there are no such areas, auditor response is 'not applicable'.   |
| Footnote                                       | [4] Pond, cage and pen-based facilities  |   |  |
| 2.2 Criteria: Conversion of natural ecosystems |  |   |  |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 2.2.1  | <b>Indicator:</b> For ponds [5], evidence [6] that only land that has been allocated to agriculture or aquaculture for 10 years prior is used for new pond development or for farm expansion<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> Ponds established after August 31, 2010 | a. Provide a declaration that identifies the month and year of farm construction, and specify dates of any subsequent farm expansions.  | A. Verify the declaration gives date of farm construction and any subsequent expansions. Identify any ponds established after August 31, 2010.   |
|  |  | b. If the farm (or any of its expansions) was constructed after August 31, 2010, obtain a statement/historical land use map from a government organization indicating that the land was agriculture or aquaculture land for 10 years prior to their construction. | B. Review evidence from government organizations. Where land-use maps or spatial information is provided, cross-check against map of farm (see 2.1.1).   |
|  |  | -   | C. Verify accuracy of (a) and (b) above during interviews with local community members to confirm there is no evidence for conversion of wetlands or any other ecosystem (other than agriculture or aquaculture land) as applicable under Indicator 2.2.1. |
| Footnote                                       | [5] For Ponds established after the publication of the PAD standards.  |   |  |
| Footnote                                       | [6] From government organizations.   |   |  |
| 2.2.2  | <b>Indicator:</b> Evidence that a contribution of at least USD \$0.50 per ton of fish produced has been paid to the environmental and social restoration fund [7] annually<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> All   | a. Submit a signed letter to the ASC committing to pay a contribution to the fund for all certified fish harvested from the day of first certification.   | A. Verify the farm has signed a letter stating commitment to contribute to the fund.   |
|  |  | b. Retain the receipt from ASC showing that farm's signed letter was received.  | B. Verify evidence that ASC has received the letter.   |
|  |  | c. Retain evidence of all payments made into the fund.  | C. Verify farm has made payment(s) into the fund. As soon as ASC has set-up the fund, this information will be posted on the ASC website.  |
| Footnote                                       | [7] To be identified by the Aquaculture Stewardship Council (ASC). If a fund has yet to be created and recognized by ASC at the time of auditing, then requirement 2.2.2 will not be considered.   |   |  |
| 2.2.3  | <b>Indicator:</b> Evidence [8] that no earth has been discharged into common [9] water bodies<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> Ponds established after August 31, 2010  | a. Provide a declaration stating that the farm has not discharged earth into common water bodies after August 31, 2010.   | A. Verify the farm has made a declaration.   |
|  |  | b. For construction activities listed in 2.2.1a that involved earth moving and that occurred after August 31, 2010, provide a statement indicating where the earth was moved to or how it was disposed of.  | B. Review list of construction activities and means for disposing of earth.  |
|  |  | -   | C. During local community interviews, verify there is no evidence that the farm has discharged earth into common water bodies.   |
| Footnote                                       | [8] For ponds established after the publication of the PAD standards.  |   |  |
| Footnote                                       | [9] Exception made for discharge into water bodies belonging to the farm and without negative impacts to other water resource users.   |   |  |
|  |  | a. Do a search of published and grey (e.g. local newspapers, magazines) literature to identify endangered species that occur in the area.   | A. Review search results for adequacy and completeness.  |
|  |  | b. Determine whether any species occurring in the area are listed as endangered by relevant national authorities.   | B. Review the source and accuracy of the list.   |

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| 2.2.4                                  | <b>Indicator:</b> Evidence [10] of no negative impacts on endangered species [11]<br><b>Requirement:</b> Yes<br><b>Applicability:</b> All  | c. Prepare a list of all endangered species occurring in the area by combining results from 2.2.4(a) and 2.2.4(b) with results from the IUCN database search (see 6.6.2). | C. Review list for completeness. Compare with results from search of IUCN database for red list species (see 6.6.2).  |
|  |  | d. Prepare written procedures describing how the farm avoids negative impacts to endangered species that may occur on the farm.   | D. Review procedures for adequacy.  |
|  |  | -   | E. During local community interviews, verify there is no evidence that:<br>- the farm is presently having a negative impact on endangered species<br>- the farm has recently had a negative impact (since August 2010).   |
| Footnote                               | [10] Farmers shall submit the result of a search of published and grey (e.g. local newspapers, magazines) literature. Statements from local communities and organizations shall also be produced.  |   |   |
| Footnote                               | [11] As set by IUCN and national authorities.  |   |   |
| <b>2.3 Criteria: Site connectivity</b> |  |   |   |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>  |
| 2.3.1                                  | <b>Indicator:</b> Farm does not impede navigation, aquatic animals or water movement<br><b>Requirement:</b> Yes<br><b>Applicability:</b> Pens and Cages  | a. Obtain community testimonials or similar evidence to show the farm does not impede navigation, aquatic animals or water movement.                                      | A. Inspect site to verify that pens, cages and/or associated farm structures do not impede navigation, aquatic animals or water movement.   |
|  |  | -   | B. During local community interviews, verify there is no evidence that the farm impedes navigation, aquatic animals or water movement.  |
| 2.3.2                                  | <b>Indicator:</b> Minimum width of the water body [15] without cages (see Diagram 1, Annex C)<br><b>Requirement:</b> ≥ 50%<br><b>Applicability:</b> Cages  | a. Provide a map or diagram showing measurements of cages and width of the water body.  | A. Cross-check the current farm map or diagram using Google Map, satellite images or similar means (if detailed information is available). If current farm layout differs from the most recent available image, verify that the map or diagram reflects the actual farm layout. |
|  |  | b. Provide measurements and calculations sufficient to show compliance (see Diagram 1 from Annex C of the ASC Pangasius Standard)   | B. Verify that calculations are accurate and confirm compliance.  |
| Footnote                               | [15] Water body: Any pond, lake, canal, river, stream or any other distinct mass of water, whether publicly or privately owned, including the banks and shores thereof.  |   |   |
| 2.3.3                                  | <b>Indicator:</b> Maximum width a farm can occupy calculated when the water body level/width is at its minimum (see Diagram 2, Annex C)<br><b>Requirement:</b> ≤ 20% percent of the width of the water body<br><b>Applicability:</b> Pens                                    | a. Provide a map or diagram showing measurements of pens and width of the water body.   | A. Cross-check the accuracy of the farm map or diagram using Google Map, satellite images or similar means (if detailed information is available).  |
|  |  | b. Provide measurements and calculations sufficient to show compliance (see Diagram 2 from Annex C of the ASC Pangasius Standard)   | B. Verify that calculations are accurate and confirm compliance.  |
|  |  | -   | C. Inspect site to verify that farm diagrams accurately show the size and position of pens within the water body.   |
| 2.3.4                                  | <b>Indicator:</b> Maximum number of contiguous pens allowed (see Diagram 3, Annex C)<br><b>Requirement:</b> Two, only if a stretch of river bank that is at least the length of the two pens is left free from farms on both sides of the pens<br><b>Applicability:</b> Pens | a. Provide a map or diagram showing the size and number of pens, and showing the shoreline distance between pens.   | A. Inspect site to verify the farm's diagrams accurately show the size and position of pens, and the shoreline distance between pens.   |
|  |  | b. On the map, show how the arrangement of pens complies with the requirement for number and separation distance (see Diagram 3, Annex C)                                 | B. Verify the farm's arrangement of pens is in compliance.  |
| <b>2.4 Criteria: Water use</b>         |  |   |   |

|          |   | Compliance Criteria (Required Client Actions):   | Auditor Evaluation (Required CB Actions):   |
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| 2.4.1    | <p><b>Indicator:</b> Farm complies with water allocation [16] limits as set by local authorities or a reputable independent institution [17]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> Ponds</p>  | a. Maintain records of water intake. For first audits, records must cover at least 1 full crop per site (see preamble).  | A. Verify the farm keeps complete records of water intake.  |
|          |   | b. Obtain a statement from local authorities indicating the water allocation limits (units given) for the farm. If local authorities do not set water allocation limits for farms operating in the region, obtain a statement from local authorities attesting to this fact.   | B. Review the water allocation limits set for the farm by local authorities. If local authorities do not set water allocation limits, confirm the farm has an attestation.  |
|          |   | c. If water allocation limits are not set by local authorities (see 2.4.1b), obtain a statement from a reputable independent institution (see Footnote 17) indicating the water allocation limits (units given) for the farm.  | C. Review evidence that water allocation limits have been set for the farm by a reputable independent institution (as applicable).  |
|          |   | d. Demonstrate the reputability of the authority/institution identified in 2.4.1(b) by providing peer reviewed articles and/or reports on water allocation (if applicable).  | D. Review evidence for reputability of the authority/institution responsible for water allocation (as applicable).  |
|          |   | e. Calculate the farm's water intake on a crop-by-crop basis to show compliance with water allocation limits.  | E. Check the farm's water intake against the water allocation limits. Verify compliance with limits set by local authority. Cross-check against reported values for total water abstracted (see 2.4.2).   |
| Footnote | [16] Valid for both surface water and groundwater. Surface water is defined as "water collecting on the ground or in a stream, river, lake, wetland or ocean." Groundwater is defined as "water beneath the earth's surface that supplies wells and springs." Note the term "surface water" is used here in place of the original term "surficial water" that appeared in the Pangasius Aquaculture Dialogue Standards.   |  |   |
| Footnote | [17] A reputable independent institution can be a government organization, an academic institution or an organization that is not linked specifically to the aquaculture sector, but has generated water use parameters for the region, or is responsible for water allocation. Reputability of the institution shall be demonstrated by the farmer showing peer reviewed articles and/or reports on water allocation. Documents produced for a sector other than aquaculture are also acceptable. A track record of at least three years of operation must be available. |  |   |
| 2.4.2    | <p><b>Indicator:</b> For ponds. Maximum ratio of total water abstracted [18] (not consumed) per ton of fish produced (calculate abstracted water using formula in Annex D)</p> <p><b>Requirement:</b> 5,000 m3/metric ton of fish produced</p> <p><b>Applicability:</b> Ponds</p>   | <p><b>Instruction to Clients for Indicator 2.4.2 - Calculating the Ratio of Total Water Abstracted per Ton of Fish Produced</b></p> <p>Annex D of the ASC Pangasius Standard provides a formula for calculating "Q" which is the ratio of total water abstracted per ton of fish produced. Farms must perform these calculations using harvest data from individual ponds (i.e. it is done on a crop-by-crop basis) and then using those results to determine a farm-wide average across all ponds. Calculations can be done as described here. For the first pond:</p> <ul style="list-style-type: none"> <li>- compute the total volume of water abstracted ("TEV") in cubic meters (m<sup>3</sup>) during the production cycle;</li> <li>- compute the total weight of fish produced ("A") in metric tons at harvest time; and</li> <li>- calculate Q for the first pond using the equation: <math>Q = TEV / A</math></li> </ul> <p>Repeat the calculations for the second pond, third pond... etc. until Q has been determined for each pond that was harvested. Use the Q values from each pond (Q<sub>1</sub>, Q<sub>2</sub>, Q<sub>3</sub>...Q<sub>n</sub>) to compute the farm-wide average, or Q<sub>avg</sub>.</p> |   |
|          |   | a. Using records of water intake (see 2.4.1a), calculate total water abstracted (m3) for each pond harvested by the farm. For first audits, records must cover at least 1 full crop per site (see preamble).   | A. Review calculations against intake records to confirm accuracy.  |
|          |   | b. Maintain records showing amount of fish harvested from each pond.   | B. Verify the farm keeps records showing the amount of fish harvested.  |
|          |   | c. Calculate the total weight of fish produced (in metric tons) from each pond.  | C. Review calculations against sales records and estimates of current stock biomass to confirm accuracy. If needed, reconcile the totals with the weight of any fish that were harvested but not sold (i.e. crops lost after a disease outbreak). |

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|  |   | d. For each pond, calculate the ratio of total water abstracted per ton of fish produced (see above Instructions and Annex D of the ASC Pangasius Standard as an example).  | D. Review farm's calculations for accuracy. Cross-check that water volumes (2.4.2a) and harvest weights (2.4.2b) from individual ponds can be reconciled with total annual production (2.4.2c) and total annual water intake (2.4.1e). |
|  |   | e. Using results from all harvested ponds, calculate the farm-wide average ratio of total water abstracted per ton of fish produced (see Instructions above).   | E. Confirm the farm-wide average Q is $\leq 5,000$ m <sup>3</sup> /metric ton of fish produced.  |
| Footnote   | [18] Water abstracted is water removed from the water body and introduced into the farm. It includes both surficial water and groundwater.  |   |  |
| <b>PRINCIPLE 3. MINIMIZE THE NEGATIVE IMPACT OF PANGASIOUS FARMING ON WATER AND LAND RESOURCES</b> |   |   |  |
| <b>3.1 Criteria: Nutrient utilization efficiency</b>   |   |   |  |
|  |   | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
|  |   | <p><b>Instruction to Clients for Indicators 3.1.1 and 3.1.2 - Laboratory Analysis of TP and TN in Feed</b></p> <p>In order to demonstrate compliance with Indicator 3.1.1 and 3.1.2, farms must be able to establish the amount of total phosphorus (TP) and total nitrogen (TN) in feeds. Farms shall obtain from each of their feed suppliers a declaration stating the maximum TP and TN content. Farms shall then verify supplier declarations by testing a representative number of batches (e.g. 1 sample for every 1,000 tonnes of a feed used) for TP and TN content. Tests shall be performed by a fully independent laboratory that is accredited to perform these analyses in accordance with ISO 17025. Results should show that declarations made by the feed supplier are accurate and that the feed is within the limits stated in the declaration. Farms must demonstrate compliance for all feeds used in the crops that are included in the calculation, regardless of whether those feeds were farm-made or commercially sourced. All calculations should be made on a crop-by-crop basis.</p> <p><b>Note 1:</b> For first audits, farms are not required to check the TP and TN content of feeds using an independent laboratory.<br/> <b>Note 2:</b> Feed refers to all feeds or feed items, regardless of where or how they are produced, and applies to all farms seeking certification.</p> |  |
|  | <p><b>Indicator:</b> Maximum amount of total phosphorus (TP) [19] added as feed per metric ton of fish produced.</p> <p><b>Requirement:</b> 20 kg/t</p> <p><b>Applicability:</b> Pens and Cages</p> | a. Maintain records showing the type of feed and the amount used. This requirement applies to all feed used in the crops that are included in the calculation. For first audits, records must cover at least 1 full crop per site (see preamble).   | A. Confirm the farm has complete and accurate records for feed used.   |
| 3.1.1  |   | b. Obtain relevant declarations of TP content from feed suppliers for all feed used in the crops included in the calculation. For first audits, records must cover at least 1 full crop per site (see preamble).  | B. Verify the farm has obtained declarations for TP content in feed.   |
|  |   | c. Provide evidence that the farm tested TP from a representative sample of feeds (see instructions) to verify that declarations from the feed supplier are accurate and that the feed is within limits stated in declarations (as applicable).   | C. Review evidence to confirm that farm checks whether TP content is reported accurately by feed suppliers (if applicable).  |
|  |   | d. Use results of 3.1.1a and 3.1.1b to calculate the amount of TP in kilograms (kg) added to each enclosure. For first audits, records must cover at least 1 full crop per site (see preamble).   | D. Review farm's calculations. Cross-check purchase records against the feed quantities reported by the farm.  |
|  |   | e. Using total weight of fish produced (answer from 2.4.2c), calculate the amount of TP added as feed per metric ton of fish produced. For first audits, records must cover at least 1 full crop per site (see preamble).   | E. Review farm's calculations to confirm the farm complies with the Requirement.   |
| Footnote   | [19] TP includes all forms of phosphorus found in the sample (Adapted from Australian Government, Department of Meteorology).   |   |  |
|  |   | <b>Note:</b> see instructions for Indicator 3.1.1   |  |

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| 3.1.2    | <p><b>Indicator:</b> Maximum amount of total nitrogen (TN) [20] added as feed [21] per metric ton of fish produced.</p> <p><b>Requirement:</b> 70 kg/t</p> <p><b>Applicability:</b> Pens and Cages</p>  | a. Maintain records showing the type of feed and the amount used. This requirement applies to all feed used in the crops that are included in the calculation. For first audits, records must cover at least 1 full crop per site (see preamble). | A. Confirm the farm has complete and accurate records for feed used.  |
|          |   | b. Obtain relevant declarations of TN content from feed suppliers for all feed used in the crops included in the calculation. For first audits, records must cover at least 1 full crop per site (see preamble).                                  | B. Verify the farm has obtained declarations for TN content in feed.  |
|          |   | c. Provide evidence that the farm tested TN from a representative sample of feeds (see instructions) to verify that declarations from the feed supplier are accurate and that the feed is within limits stated in declarations (as applicable).   | C. Review evidence to confirm that farm checks whether TN content is reported accurately by feed suppliers (if applicable). |
|          |   | d. Use results of 3.1.2a and 3.1.2b to calculate the amount of TN in kilograms (kg) added to each enclosure. For first audits, records must cover at least 1 full crop per site (see preamble).   | D. Review farm's calculations. Cross-check purchase records against the feed quantities reported by the farm.               |
|          |   | e. Using total weight of fish produced (answer from 2.4.2c), calculate the amount of TP added as feed per metric ton of fish produced. For first audits, records must cover at least 1 full crop per site (see preamble).                         | E. Review farm's calculations to confirm the farm complies with the Requirement.  |
| Footnote | [20] TN means the measure of all forms of nitrogen found in the sample, including nitrate, nitrite, ammonia N and organic forms of nitrogen (Australian Government, Department of Meteorology).   |   |   |
| Footnote | [21] Feed refers to all feeds or feed items, regardless of where or how they are produced, and applies to all farms seeking certification. Farms that meet the requirements should be able to demonstrate compliance, regardless of whether their feed is made by a commercial feed mill or on site. See Principle 5 for further details. |   |   |

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| <p>3.1.3</p>  | <p><b>Indicator:</b> Amount of TP discharged per metric ton of fish produced (See TP measurement methodology and calculation in Annex D)</p> <p><b>Requirement:</b> 7.2 kg/t</p> <p><b>Applicability:</b> Ponds</p> | <p><b>Instruction to Clients for Indicator 3.1.3 and 3.1.4 - Sampling and Laboratory Analysis of TP and TN Discharged</b></p> <p>Determination of the concentration of total phosphorus (TP) in water samples shall be made using the method: Kejl Dahl and Indo-phenol Blue. Determination of the concentration of total nitrogen (TN) in water samples shall be made using the method: Kejl Dahl and Ascorbic acid. Determinations will be made by a fully independent laboratory that is accredited to perform these analyses in accordance with ISO 17025.</p> <p>Farms will measure the amount of TP and TN discharged from a minimum of 1 pond in production; at least one of these ponds shall be randomly selected. The farm must record the number and identity of selected ponds before sampling. Required procedures for collecting water samples are as follows:</p> <ul style="list-style-type: none"> <li>- two water samples are taken: one from the pond (=pond water) and one from the intake (=intake water). The two samples are taken on the same day.</li> <li>- all water sample collections are done following the methodology provided by a fully independent ISO 17025 accredited laboratory and will be available to the certifier at the day of the audit. The accredited laboratory will be required to verify that sampling was conducted in accordance with this methodology.</li> <li>- all water samples are collected in second half of crop production (i.e. ≥ 90 days after stocking)</li> <li>- pond water samples are collected at 50% of pond depth</li> <li>- all water samples are collected before 11:00am</li> <li>- pond water samples are collected &gt; 6 hours after the intake of water into the pond</li> </ul> <p>For first audits farm records for monitoring TP and TN discharged must cover ≥ 6 months.</p> <p>To prepare for first audit:</p> <ul style="list-style-type: none"> <li>- farm invites accredited laboratory to the farm to have the water sampled</li> <li>- if samples are out of compliance, farm takes corrective actions prior to ASC audit</li> <li>- in case of non-compliances, farm does have the water sampled by accredited laboratory after implementation of corrective actions to show compliance</li> <li>- all sampling results are supplied to auditor by the accredited laboratory to show that corrective action has been taken and that farms is now in compliance with the ASC Standard</li> </ul> |   |  |  |   |  |   |   |   |   |  |
|   |   | <table border="1"> <tr> <td data-bbox="1032 1062 1908 1220"> <p>a. Specify the name and relevant qualifications/accreditations of the independent laboratory that is used to perform water quality monitoring and a copy of the contract specifying that water sampling and analyses are to be conducted in line with instructions for 3.1.3</p> </td> <td data-bbox="1908 1062 2778 1220"> <p>A. Confirm the laboratory is suitably qualified and briefed to conduct water sampling and analyses.</p> </td> </tr> <tr> <td data-bbox="1032 1220 1908 1320"> <p>b. Obtain laboratory results for TP concentration in pond water samples and intake water samples.</p> </td> <td data-bbox="1908 1220 2778 1320"> <p>B. Review laboratory results for TP concentration.</p> </td> </tr> <tr> <td data-bbox="1032 1320 1908 1465"> <p>c. For each pond, identify the total weight of fish produced (result from 2.4.2b), and the total volume of water discharged (answer from 2.4.1) during the crop production cycle.</p> </td> <td data-bbox="1908 1320 2778 1465"> <p>C. Review accuracy of farm's data.</p> </td> </tr> <tr> <td data-bbox="1032 1465 1908 1623"> <p>d. Enter the values from b and c (above) into the Total TP Discharge Formula (Annex D of the ASC Pangasius Standard) to calculate amount of TP discharged per metric ton of fish produced per pond. Repeat for each pond that was sampled.</p> </td> <td data-bbox="1908 1465 2778 1623"> <p>D. Review farm's calculations to confirm accuracy.</p> </td> </tr> <tr> <td data-bbox="1032 1623 1908 1724"> <p>e. Use the TP values (answer d) from different ponds to calculate the farm-wide average amount of TP discharged per metric ton of fish produced.</p> </td> <td data-bbox="1908 1623 2778 1724"> <p>E. Review farm's calculations of average TP to confirm compliance with the Requirement.</p> </td> </tr> </table>  | <p>a. Specify the name and relevant qualifications/accreditations of the independent laboratory that is used to perform water quality monitoring and a copy of the contract specifying that water sampling and analyses are to be conducted in line with instructions for 3.1.3</p> | <p>A. Confirm the laboratory is suitably qualified and briefed to conduct water sampling and analyses.</p> | <p>b. Obtain laboratory results for TP concentration in pond water samples and intake water samples.</p> | <p>B. Review laboratory results for TP concentration.</p> | <p>c. For each pond, identify the total weight of fish produced (result from 2.4.2b), and the total volume of water discharged (answer from 2.4.1) during the crop production cycle.</p> | <p>C. Review accuracy of farm's data.</p> | <p>d. Enter the values from b and c (above) into the Total TP Discharge Formula (Annex D of the ASC Pangasius Standard) to calculate amount of TP discharged per metric ton of fish produced per pond. Repeat for each pond that was sampled.</p> | <p>D. Review farm's calculations to confirm accuracy.</p> | <p>e. Use the TP values (answer d) from different ponds to calculate the farm-wide average amount of TP discharged per metric ton of fish produced.</p> | <p>E. Review farm's calculations of average TP to confirm compliance with the Requirement.</p> |
| <p>a. Specify the name and relevant qualifications/accreditations of the independent laboratory that is used to perform water quality monitoring and a copy of the contract specifying that water sampling and analyses are to be conducted in line with instructions for 3.1.3</p> | <p>A. Confirm the laboratory is suitably qualified and briefed to conduct water sampling and analyses.</p>  |   |   |  |  |   |  |   |   |   |   |  |
| <p>b. Obtain laboratory results for TP concentration in pond water samples and intake water samples.</p>  | <p>B. Review laboratory results for TP concentration.</p>   |   |   |  |  |   |  |   |   |   |   |  |
| <p>c. For each pond, identify the total weight of fish produced (result from 2.4.2b), and the total volume of water discharged (answer from 2.4.1) during the crop production cycle.</p>  | <p>C. Review accuracy of farm's data.</p>   |   |   |  |  |   |  |   |   |   |   |  |
| <p>d. Enter the values from b and c (above) into the Total TP Discharge Formula (Annex D of the ASC Pangasius Standard) to calculate amount of TP discharged per metric ton of fish produced per pond. Repeat for each pond that was sampled.</p>                                   | <p>D. Review farm's calculations to confirm accuracy.</p>   |   |   |  |  |   |  |   |   |   |   |  |
| <p>e. Use the TP values (answer d) from different ponds to calculate the farm-wide average amount of TP discharged per metric ton of fish produced.</p>   | <p>E. Review farm's calculations of average TP to confirm compliance with the Requirement.</p>  |   |   |  |  |   |  |   |   |   |   |  |
|   |   | <p><b>Note:</b> see instructions for Indicator 3.1.3</p> <table border="1"> <tr> <td data-bbox="1032 1724 1908 1866"> <p>a. Specify the name and relevant qualifications/accreditations of the independent laboratory that is used to perform water quality monitoring.</p> </td> <td data-bbox="1908 1724 2778 1866"> <p>A. Confirm the laboratory is suitably qualified to conduct water sampling and analyses.</p> </td> </tr> </table>  | <p>a. Specify the name and relevant qualifications/accreditations of the independent laboratory that is used to perform water quality monitoring.</p>   | <p>A. Confirm the laboratory is suitably qualified to conduct water sampling and analyses.</p>             |  |   |  |   |   |   |   |  |
| <p>a. Specify the name and relevant qualifications/accreditations of the independent laboratory that is used to perform water quality monitoring.</p>   | <p>A. Confirm the laboratory is suitably qualified to conduct water sampling and analyses.</p>  |   |   |  |  |   |  |   |   |   |   |  |



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| 3.1.4  | <p><b>Indicator:</b> Amount of TN discharged per metric ton of fish produced (See TN measurement methodology and calculation in Annex D)</p> <p><b>Requirement:</b> 27.5 kg/t</p> <p><b>Applicability:</b> Ponds</p>  | b. Obtain laboratory results for TN concentration in pond water samples and intake water samples.  | B. Review laboratory results for TP concentration.                                      |
|  |   | c. For each pond, identify the total weight of fish produced (answer from 2.4.2c), and the total volume of water discharged (answer from 2.4.1) during the crop production cycle.  | C. Review accuracy of farm's data.  |
|  |   | d. Enter the values from b and c (above) into the Total TN discharge Formula (Annex D of the ASC Pangasius Standard) to calculate amount of TN discharged per metric ton of fish produced per pond. Repeat for each pond that was sampled.   | D. Review farm's calculations to confirm accuracy.                                      |
|  |   | e. Use the TN values (answer d) from different ponds and to calculate the farm-wide average amount of TP discharged per metric ton of fish produced.   | E. Review farm's calculations of average TN to confirm compliance with the Requirement. |
| <b>3.2 Criteria: Measuring water quality in receiving water body</b> |   |  |   |
|  |   | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>  |
| 3.2.1  | <p><b>Indicator:</b> Percentage change in diurnal dissolved oxygen [22] (DO) of receiving waters [23] relative to DO at saturation for the water's specific salinity and temperature. An exception is made for ponds that discharge water with TN and TP lower than the TN and TP of the intake water respectively (see DO measurement methodology in Annex D)</p> <p><b>Requirement:</b> &lt;=65%</p> <p><b>Applicability:</b> All</p> | <p><b>Instruction to Clients for Indicator 3.2.1 - Measuring Percent Change in Diurnal Dissolved Oxygen</b></p> <p>Farms shall monitor the percent change in diurnal dissolved oxygen in receiving waters. Dissolved oxygen (DO) concentration is reported relative to DO at saturation for the water's specific salinity, temperature and altitude. DO is measured using a hand-held oxygen meter or a more accurate (chemical) method, with accuracy established in peer-reviewed documents. The location of measurements should be the first natural receiving water body and as close as practical to the point of discharge but at a distance not exceeding 200m from the point of discharge. In addition, the following procedures are followed:</p> <ul style="list-style-type: none"> <li>- DO monitoring is conducted fortnightly (i.e. once every two weeks)</li> <li>- On each sampling day, two DO measurements are taken: at 1 hour before sunrise and at 2 hours before sunset (+/- 30 min).</li> <li>- DO measurements are taken at 0.3 meters below the water surface.</li> <li>- Temperature and salinity is recorded at the same time that DO is measured.</li> </ul> <p><b>Note 1:</b> An exemption to Indicator 3.2.1 is made for farms that have "cleaner" water (i.e. where the value of the farm TP and TN is lower than that of the intake water. This applies regardless of whether the receiving water is eutrophic. See Indicators 3.3.1 and 3.3.2 for more information about measuring differences in TN and TP between pond inlet and outlet.</p> |   |
|  |   | a. Provide DO measurements .   | A. Review dataset to confirm that monitoring covers the required timeframe.             |
|  |   | b. Calibrate all equipment at the frequency and by the method recommended by the manufacturer. Temperature, salinity and altitude are to be adjusted for in calibration or calculations.   | B. Verify the farm technicians calibrate equipment as required.                         |
|  |   | c. Calculate percent change in DDO for each monitoring date using the equation in Annex D.   | C. Review calculations to confirm accuracy.   |
|  |   | d. Use results of 3.2.1c to calculate the average percent change in DDO over the entire 12-month monitoring period. For first audits, farm records must cover ≥ 6 months.  | D. Confirm the average percent change in DDO is ≤ 65%.                                  |

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|   |  | e. Arrange to take DO measurements while the auditor is at the farm.   | E. Witness the farm measuring DO to confirm compliance with procedures. On-site values should fall within range of farm data for DDO. If an out of range measurement is observed, raise a non-conformity.  |   |
| Footnote  | [22] DO is the concentration of oxygen dissolved in water, expressed in mg/l or as percent saturation, where saturation is the maximum amount of oxygen that can theoretically be dissolved in water at a given altitude and temperature (biology-online.org). |  |  |   |
| Footnote  | [23] "Receiving water" is the first natural water body that receives the water from the farm and does not belong to the farm.  |  |  |   |
| <b>3.3 Criteria: Measuring quality of pond effluents Water quality of pond effluents [24]</b> |  |  |  |   |
|   |  | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>   |   |
| Footnote  | [24] This criteria is not pertinent to either cage or pen cultures.  |  |  |   |
| 3.3.1   | <p><b>Indicator:</b> Maximum average percentage change of TP between inlet and outlet (See TP measurement methodology and TP discharge formula in Annex D).</p> <p><b>Requirement:</b> 100%</p> <p><b>Applicability:</b> Ponds</p>                             | <p><b>Instruction to Clients on Indicators 3.3.1 and 3.3.2 - Measuring Change in TP and TN Between Inlet and Outlet</b></p> <p>Determination of the concentration of total phosphorus (TP) in water samples shall be made using the method: Kejl Dahl and Indo-phenol Blue. Determination of the concentration of total nitrogen (TN) in water samples shall be made using the method: Kejl Dahl and Ascorbic acid. Determinations will be made by a fully independent laboratory that is accredited to perform these analyses in accordance with ISO 17025. Laboratory results will be accompanied by a statement that indicates compliance to the methodology set in the ASC Pangasius Standard and this Audit Manual.</p> <p>Farms will measure the change in TP and TN from only a subset of the total number of ponds in production: 15% of all ponds (value rounded up to the nearest whole number). At least one of these ponds shall be randomly selected. The farm must record the number and selection of ponds before sampling. Required procedures for collecting water samples are as follows:</p> <ul style="list-style-type: none"> <li>- samples are collected by staff from the fully independent accredited laboratory;</li> <li>- samples are taken from the 'inlet' and the 'outlet' (inlet = the water in the intake canal, as close as possible to the farm being certified. Outlet = the actual water being discharged, not the receiving water. For farms using a water treatment system this could be the water in the final part of the treatment system before being discharged);</li> <li>- samples are collected from pond inlets and outlets during the second half of crop production (i.e. ≥ 90 days after stocking);</li> <li>- on each sampling day, at least two samples are collected from the outlet and these are taken at least 1 hour apart (use the average value in calculations below); and</li> <li>- at a minimum the farm must sample from one pond per year.</li> </ul> <p>Percent Change in TP = (Outlet TP Conc.) - (Inlet TP Conc.) / (Inlet TP Conc.) x 100</p> <p>Percent Change in TN = (Outlet TN Conc.) - (Inlet TN Conc.) / (Inlet TN Conc.) x 100</p> <p>When more than one pond is sampled, determine a "farm-wide average" by calculating the average percent change for all sampled ponds.</p> <p>For first audits, farm records for monitoring percent change in TP and TN must cover ≥ 6 months.</p> | <p>a. Provide laboratory results for TP in water samples from inlet and outlet.</p> <p>b. For each pond, calculate the percent change of TP between inlet and outlet on each sampling day using the equation shown above.</p> <p>c. Use results of 3.3.1(b) to calculate the average percent change in TP over the entire monitoring period.</p> <p>d. Provide evidence of the on-site visit for the sampling of pond effluents for TP and TN by staff from the accredited laboratory.</p> | <p>A. Review laboratory results for TP.</p> <p>B. Review calculations to verify accuracy.</p> <p>C. Confirm the average percent change in TP is ≤ 100%. If any single value falls outside limits, raise a non-conformity.</p> <p>D. Review visit evidence for sampling for TP and TN to confirm compliance with procedures.</p> |
|   |  | <b>Note: see instructions for Indicator 3.3.1</b>  |  |   |

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| 3.3.2  | <p><b>Indicator:</b> Maximum average percentage change of TN between inlet [25] and outlet [26] (See TN measurement methodology and TN discharge formula in Annex D).</p> <p><b>Requirement:</b> 70%</p> <p><b>Applicability:</b> Ponds</p>  | a. Provide laboratory results for TN in water samples from inlet and outlets.  | A. Review laboratory results for TN.   |
|  |  | b. For each pond, calculate the percent change of TN between inlet and outlet on each sampling day using the equation shown above.   | B. Review calculations to verify accuracy.   |
|  |  | c. Use results of 3.3.2(b) to calculate the average percent change in TN over the entire monitoring period.  | C. Confirm the average percent change in TN is $\leq 70\%$ . If any single value falls outside limits, raise a non-conformity.                                   |
|  |  | d. During the on-site visit, arrange for the auditor to observe sampling of pond effluents for TP and TN.  | D. Witness sampling for TP and TN to confirm compliance with procedures.   |
| Footnote   | [25] Inlet: The water in the intake canal, as close as possible to the farm or pond being certified.   |  |  |
| Footnote   | [26] Outlet: The actual water being discharged, not the receiving water.   |  |  |
| 3.3.3  | <p><b>Indicator:</b> Minimum dissolved oxygen (DO) concentration in water discharged (See DO measurement methodology in Annex D)</p> <p><b>Requirement:</b> 3 mg/l</p> <p><b>Applicability:</b> Ponds</p>                                    | <p><b>Instruction to Clients for Indicator 3.3.3 - Measuring DO in Water Discharged</b></p> <p>See Indicator 3.2.1 for a general description of the equipment and method used to measure dissolved oxygen (DO). Take DO measurements at the outlet where water is discharged (i.e. measure DO in the actual water being discharged, not in the receiving water. For farms using a water treatment system this could be the water in the final part of the treatment system before being discharged). Test DO at least once per week.</p> |  |
|  |  | a. Provide records of DO in water discharged to the natural environment. For first audits, farm records must cover $\geq 6$ months   | A. Review dataset to confirm that monitoring covers the required timeframe.  |
|  |  | b. Use data from all weekly measurements to calculate the average DO in water discharged over the entire monitoring period. For first audits, farm records must cover $\geq 3$ months.   | B. Confirm DO in water discharged by farm is $\geq 3$ mg/l. If any single value falls outside limits, raise a non-conformity.                                    |
|  |  | c. During the on site visit, make arrangements for the auditor to observe calibration of equipment and measurements.   | C. During the on-site visit, observe how the farm calibrates equipment and takes DO measurements (or takes samples for chemical analysis) to confirm compliance. |
| 3.4 Criteria: Sludge disposal for ponds and pens, not cages [27] |  |  |  |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>   |
| Footnote   | [27] For cage culture, there are no requirements for benthic monitoring included, as cages account for a small percentage of production. This situation will be monitored and revised if the production of cage culture rises significantly. |  |  |
| 3.4.1  | <p><b>Indicator:</b> Evidence that sludge is not discharged directly into receiving waters or natural ecosystems [28]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | a. Provide a detailed sludge management plan (also see 3.5.1). The plan will ensure that no sludge in any form is discharged directly into receiving waters or natural ecosystems.   | A. Review the farm's sludge management plan.   |
|  |  | b. Maintain records of sludge disposal to show volume or weight and condition (i.e. fresh or dried) when disposed. For first audits, farm records must cover $\geq 3$ months.  | B. Review records to confirm appropriate disposal according to plan.   |
|  |  | c. If sludge is transferred (e.g. for agricultural use), obtain a declaration from the receiving party that specifies the sludge volume, delivery date, and expected use. The party shall declare that the sludge will not be discharged directly into receiving waters or natural ecosystems.   | C. If yes to (c), confirm farm has appropriate documentary evidence.   |

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|                                       |   | d. If a sludge repository is used, provide a map showing its location within the farm or documents showing legal access to the repository (either ownership or a statement from the owner of right of use).   | D. If yes to (d), inspect sludge repository during on-site visit.  |
|                                       |   | -   | E. During local community and employee interviews, verify there is no evidence that the farm discharged sludge directly into receiving waters on natural ecosystems  |
| Footnote                              | [28] "The complex of a community and its environment functioning as an ecological unit in nature." More simply, it's both living and non-living things that interact with each other. In these standards, both the terrestrial and aquatic ecosystems are considered. |   |  |
| 3.4.2                                 | <p><b>Indicator:</b> Evidence of a sludge repository of appropriate size (See Sludge Repository formula in Annex D)</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> Farms managing the sludge using a repository</p>                                      | <p><b>Instruction to Clients for Indicator 3.4.2 - Size of Sludge Repository</b><br/> A Sludge Repository Formula is given in Annex D of the ASC Pangasius Standard. Farms shall document how this formula was used to calculate the appropriate size (minimum volume) of a sludge repository. Farms may, for example, document their calculations in the sludge management plan (see 3.4.1a). All sludge areas and volumes must be considered in the calculation. For 'Area of Pond', consider only the area of the pond from which sludge has to be removed over the following 2 months.</p> <p><b>Note 1:</b> If the Sludge Repository Formula yields a negative number then the repository exceeds the minimum volume (i.e. it is an appropriate size).</p> |  |
|                                       |   | a. Provide calculations showing the sludge repository is of appropriate size.   | A. Review farm's calculations to verify accuracy. Confirm compliance.  |
|                                       |   | b. Provide evidence of legal access to the sludge repository (see 3.4.1c).  | B. During on-site visit, inspect the farm's sludge repository.   |
| <b>3.5 Criteria: Waste management</b> |   |   |  |
|                                       |   | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 3.5.1                                 | <p><b>Indicator:</b> Evidence of farm solid wastes being discharged into the natural environment</p> <p><b>Requirement:</b> None</p> <p><b>Applicability:</b> All</p>   | <p>a. Prepare a plan for farm solid waste management. The plan may encompass other forms of farm-generated wastes (see 3.4.1, 3.5.2, 3.5.3, and 3.5.4).</p> <p>b. During the on-site visit, arrange for the auditor to inspect the farm's solid waste management system.</p> <p>-</p>   | <p>A. Review the farm's solid waste management plan.</p> <p>B. Inspect the farm for any evidence of solid waste (e.g. bags, containers) being discharged into the natural environment surrounding the farm.</p> <p>C. Confirm that the farm's solid waste management plan is implemented and effective. Evaluate if there is a risk or potential for discharges.</p>   |
| 3.5.2                                 | <p><b>Indicator:</b> Evidence of human and animal solid wastes being discharged into the natural environment</p> <p><b>Requirement:</b> None</p> <p><b>Applicability:</b> All</p>   | <p>a. During the on-site visit, give the auditor a general description of the farm's system for removal of human and animal solid waste. Allow the auditor to inspect.</p> <p>b. For septic systems, provide a schedule for emptying and maintenance (see 3.5.4c).</p> <p>c. During the on-site visit, provide the auditor with locations of all septic toilets and a schedule for their emptying and maintenance.</p> <p>d. Provide evidence for burial of animal feces (as applicable).</p>   | <p>A. Inspect the farm's solid waste system for any evidence of human or animal solid wastes being discharged into the natural environment.</p> <p>B. Verify that emptying and maintenance follow the schedule.</p> <p>C. Inspect septic toilets to verify there is no leakage or direct discharge into the natural environment. Verify that emptying and maintenance follow the schedule.</p> <p>D. Inspect site to verify that the farm buries any animal feces (if applicable).</p> |

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|       |   | e. Identify septic toilets in construction contracts if possible.   | E. Review construction contracts (if applicable).   |
| 3.5.3 | <b>Indicator:</b> Evidence of chemical and medicine wastes being discharged into the natural environment<br><b>Requirement:</b> None<br><b>Applicability:</b> All | a. Prepare a plan for farm management of chemical and medicine wastes.  | A. Review farm's plan for management of chemical and medicinal wastes.  |
|       |   | b. During the on-site visit, allow the auditor to inspect the farm's management of chemical and medicinal wastes.   | B. Inspect the farm for any evidence of chemical or medicinal waste being discharged into the natural environment surrounding the farm.                 |
|       |   | -   | C. Confirm that the farm's plan is implemented and effective. Evaluate if there is a risk or potential for discharges.                                  |
| 3.5.4 | <b>Indicator:</b> Evidence of proper disposal [30] of dead/moribund fish<br><b>Requirement::</b> Yes<br><b>Applicability:</b> All                                 | <b>Instruction to Clients for Indicator 3.5.4 - Preparing a Plan for Disposal of Dead/Moribund Fish</b><br>Prepare a plan for the proper disposal of dead/moribund fish that specifies the means of disposal using one or more of the following categories: incineration (excluding regular burning, as not allowed); burial; fermentation and use as fertilizer; septic tank; production of fish meal or fish oil; feed for animals other than pangasius (requires statement from aquatic animal health specialist, see Principle 6); sold.<br><br>Dead fish should never be used for human consumption unless specifically slaughtered and processed for that purpose in an appropriate facility. |   |
|       |   | a. Provide auditor with the farm's plan for disposal of dead/moribund fish.   | A. Review the farm's plan for compliance with Indicator 3.5.4.  |
|       |   | b. <u>burial, incineration, fermentation</u> : plan identifies processes, location(s) and containers.   | B. Verify by inspection (as applicable).  |
|       |   | c. <u>septic tank</u> : plan gives procedures for disposal of fish in septic tanks, specifies the schedule for emptying tanks, and identifies personnel involved (e.g. contracts with external parties).  | C. Verify by review of documentary evidence (as applicable).  |
|       |   | d. <u>production of fish meal or fish oil</u> : specified in plan (if done by farm). Note that this option is allowed only if aquatic animal health specialist rules out pesticides.  | D. Verify by inspection (as applicable).  |
|       |   | e. <u>feed for animals other than pangasius (excluding fish meal and fish oil as covered in "d")</u> : Option is allowed only if an aquatic animal health specialist concludes that mortality was not caused by an infectious agent or a pesticide/chemical pollutant.  | E. Verify that farm obtains written statement(s) from aquatic health specialist (as applicable).  |
|       |   | f. <u>sold</u> : Plan identifies the option of sales. For all sales, the farm must prepare a contract that states how the buyer will use the dead fish. If intended as animal feed (either directly or as fish meal/oil) the contract and the statement of the specialist confirm compliance with requirements.   | F. Verify by review of documentary evidence (as applicable).  |
|       |   | -   | G. Confirm the farm's plan is effectively implemented. Evidence will include interviews with farm workers who confirm that disposals followed the plan. |

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| Footnote | [30] Proper disposal of dead fish include: incineration, burial, fermentation and use as fertilizer and production of fish meal or fish oil. Dead fish should never be used for human consumption. Also acceptable if there is strong evidence that the mortality was not caused by an infectious agent or a pesticide/chemical pollutant, the fish can be used as feed for animals other than pangasius. Evidence on the cause of mortality shall be provided by the aquatic animal health specialist (see Principle 6). |
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3.6 Criteria: Energy consumption

|       |   | Compliance Criteria (Required Client Actions):   | Auditor Evaluation (Required CB Actions):                                    |
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| 3.6.1 | <b>Indicator:</b><br>Information available on the following variables (per year per farm in the certification unit):<br>- Fuel used<br>- Quantity of electricity<br>- Amount of dead fish for each disposal method.<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> All | a. Maintain records (e.g. receipts) of farm energy consumption. Compute the quantity of fuel and electricity used by the farm in the last 12 months. For first audits, farm records must cover ≥ 6 months. | A. Review calculations. Verify the farm keeps records of energy consumption. |
|       |   | b. Provide records of mortality quantities (see Indicator 6.4.4) and their disposal method (see Indicator 3.5.4). For first audits, farm records must cover at least 1 full crop per site (see preamble).  | B. Verify the farm maintains accurate records of mortalities and disposals.  |

PRINCIPLE 4. CONSERVE SPECIES DIVERSITY AND WILD POPULATIONS

4.1 Criteria: Presence of pangasius in the water drainage system

|       |   | Compliance Criteria (Required Client Actions):  | Auditor Evaluation (Required CB Actions):  |
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| 4.1.1 | <b>Indicator:</b> Farm located in a river basin where the farmed species is indigenous or has a self-recruiting [32] stock established before 1st January 2005<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> Farms in a river basin where the species is either indigenous or has a self-recruiting stock established | <b>Note:</b> If the farmed species is not indigenous to the river basin and the species does not have a self-recruiting stock established, then Indicator 4.1.1. does not apply. Enter 'not applicable' here and proceed to assess farm compliance against Indicator 4.1.3.   |  |
|       |   | a. Provide a declaration from farm and seed supplier identifying the species (Latin name) of pangasius farmed. Maintain records of seed purchases.  | A. Review declarations. Confirm that the farmed species is accurately identified in purchase records.  |
|       |   | b. Provide a map of the river basin showing the location of the farm (see 2.1.1).   | B. Review map to confirm farm location within river basin.   |
|       |   | c. If the farmed species is indigenous to the river basin, provide documentary evidence (peer-reviewed papers, IUCN, FAO or other international organization).  | C. Confirm that documentation shows the farmed species is indigenous to the river basin.   |
|       |   | d. If the species is not indigenous and has a self-recruiting stock established in the river basin, provide documentary evidence (peer-reviewed papers, official government [competent authority] statements or other comparable references on multiple incidences of different age classes at different times and location) indicating that the stock was self recruiting before 1st January 2005. | D. Confirm that documentation shows the farmed species has a self-recruiting stock that was established in the river basin before 1st January 2005.  |
|       | -   | E. Verify the identity of the farmed species by direct observation during on-site visit.  |  |
| 4.1.2 | <b>Indicator:</b> If a self-recruiting stock is established, evidence of no negative impacts on the environment [33]<br><br><b>Requirement:</b> Yes   | a. Provide documentary evidence: peer-reviewed papers, official government (competent authority) statements or other comparable references indicating no negative impacts.<br><br>Negative impact by a self-recruiting stock includes but is not restricted to:<br>- changing the genetic diversity of wild pangasius through interbreeding   | A. Review evidence of no negative impact. If a self-recruiting stock has not become established in the river basin, or if the species is indigenous to the river basin, Indicator 4.1.2 is not applicable. |

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|  | <b>Applicability:</b> Farms in a river basin where the species is not indigenous and a self-recruiting stock is established  | <ul style="list-style-type: none"> <li>- changing the genetic diversity of wild pangasius through interbreeding</li> <li>- competition (e.g. displacement of local species)</li> <li>- habitat destruction</li> </ul>  | None is not applicable.   |
| Footnote                               | [32] Self-recruiting is defined as naturally reproducing. Peer-reviewed papers, official government (competent authority) statements or other comparable references on multiple incidences of different age classes at different times and location are necessary as evidence.   |  |   |
| Footnote                               | [33] Peer-reviewed papers, official government (competent authority) statements or other comparable references are necessary as evidence.  |  |   |
| 4.1.3                                  | <p><b>Indicator:</b> If the species is not indigenous and does not have a self-recruiting stock established, evidence that the species cannot establish in the river basin [34]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> Farms in a river basin where the species is not indigenous and does not have a self-recruiting stock established</p> | a. Provide peer-reviewed papers based on field data. Theoretical analysis is not acceptable.   | A. Review evidence provided by the farm to confirm that the farmed species cannot establish in the river basin.   |
| Footnote                               | [34] Peer-reviewed publication in a reputable journal is required as evidence that the species cannot be established.  |  |   |
| <b>4.2 Criteria: Genetic diversity</b> |  |  |   |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>  |
| 4.2.1                                  | <p><b>Indicator:</b> Demonstration [35] that the seed [36] has been generated from the pangasius population naturally reproducing in the river basin [37]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> Farms in a river basin where the species is either indigenous or has a self-recruiting stock established</p>                               | <p>a. Obtain evidence for either of the following:</p> <ul style="list-style-type: none"> <li>- the species is indigenous to the river basin (result from 4.1.1); or</li> <li>- a self-recruiting stock has established in the river basin (result from 4.1.2).</li> </ul> <p>b. Provide a map of the river basin showing the location of the farm (see 2.1.1).</p> <p>c. Obtain a declaration from seed supplier(s) stating that the seed was generated from broodstock deriving (even if through several generations of spawning in captivity) from the pangasius population naturally reproducing in the river basin.</p> <p>d. For all seed purchases, maintain sufficient records (e.g. receipts) to identify the river-basin source of broodstock. For first audits, farm records must cover ≥ 6 months.</p> | <p>A. Review evidence to confirm pangasius is indigenous to the river basin or else has a self-recruiting stock established there.</p> <p>B. Review map to confirm the farm's location coincides with an indigenous pangasius population or a self-recruiting stock that has established in the river basin.</p> <p>C. Review declarations. Confirm that the source of the seed is accurately identified in purchase records.</p> <p>D. Verify that sourcing of seed is in compliance with the Requirement.</p> |
| Footnote                               | [35] A thorough map of pangasius establishment that indicated the range of the species, as well as distinct stocks, will be necessary.   |  |   |
| Footnote                               | [36] Throughout these standards, the word "seed" is used for pangasius seed only.  |  |   |
| Footnote                               | [37] This standard is applicable to all farms using seed sourced from either populations which are indigenous or populations which are established before January 2005.  |  |   |
| <b>4.3 Criteria: Source of seed</b>    |  |  |   |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>  |
|  | <b>Indicator:</b> Allowance for use of wild-caught seed for grow out   | a. Provide a declaration that the farm does not use wild-caught seed for grow out.   | A. Verify declaration of no wild-caught seed for grow out.  |

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| 4.3.1  | <b>Requirement:</b> None   | b. Obtain statement from seed supplier(s) that the seed is not wild-caught (e.g. seed is derived from a broodstock held in captivity).  | B. Verify that farm has statements from seed suppliers.  |
|  | <b>Applicability:</b> All  | c. Maintain seed receipts for all stocking events. For first audits, farm records must cover ≥ 6 months.  | C. Verify the farm maintains accurate records for sourcing of seed.  |
| <b>4.4 Criteria: Genetically engineered and hybridized strains</b> |  |   |  |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 4.4.1  | <b>Indicator:</b> No use of genetically engineered (transgenic) or hybrid seed   | a. Provide a declaration that the farm does not use genetically engineered (transgenic) or hybrid seed.   | A. Verify declaration of no use of genetically engineered or hybrid strains.   |
|  | <b>Requirement:</b> Yes<br><b>Applicability:</b> All   | b. Obtain statement from seed supplier that the seed is not genetically engineered (transgenic) or hybrid. For first audits, farm records must cover ≥ 6 months.  | B. Verify that farm maintains statements from seed suppliers.  |
| Footnote   | [31] A genetically modified organism (GMO) is an organism, with the exception of human beings, in which the genetic material has been altered in a way that does not occur naturally by mating and/or natural recombination (Directive 2001/18/EC).  |   |  |
| <b>4.5 Criteria: Escapees.</b>                                     |  |   |  |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 4.5.1  | <b>Indicator:</b> Evidence that inlets and outlets to culture systems and all confinements are equipped with net mesh or grills appropriately sized to retain the stocks in culture preventing fish of any size (in the holding unit being assessed) to escape<br><b>Requirement:</b> Yes<br><b>Applicability:</b> All | a. Provide farm records indicating fish sizes (e.g. average weight recorded monthly). For first audits, records must cover at least 1 full crop per site (see preamble).  | A. Review records for fish size in different holding units.  |
|  |  | b. Maintain records indicating the size of net mesh or grills for the entire farm. For first audits, farm records must cover ≥ 6 months.  | B. Review records for mesh or grill size.  |
|  |  | -   | C. During the on-site visit, inspect the size of net mesh or grills to confirm compliance.   |
| 4.5.2  | <b>Indicator:</b> Evidence of regular, timely inspections (at least once a day); mitigation and repairs are performed on net mesh or grills and recorded in a permanent register (available for inspection)<br><b>Requirement:</b> Yes<br><b>Applicability:</b> All  | a. Provide farm records for daily inspection of net mesh or grills used in production (e.g. grow-out) units.  | A. Review records to verify inspections are regular and timely.  |
|  |  | b. Keep records of mitigation and repairs in a permanent register. For first audits, records must cover at least 1 full crop per site (see preamble).   | B. Review the register to verify repairs are performed and recorded.   |
|  |  | c. Arrange for the auditor to observe an inspection during the on-site visit.   | c. Witness the farm performing an inspection of meshes and grills to confirm that the program is effective.  |
| 4.5.3  | <b>Indicator:</b> Bund [38] height sufficient [39] to prevent water spillage, along with escapees, in the rainy season when flooding occurs<br><b>Requirement:</b> Yes<br><b>Applicability:</b> Bunde  | a. Provide official records or statement showing local maximum water level (river levels, tide levels, flooding levels, etc) in the previous 10 years.  | A. Review records covering ≥ 10 years or statement to establish the maximum height of high water when flooding occurs.   |
|  |  | b. Obtain a statement from local authorities or reputable organisation reporting the altitude (m above sealevel) of the bund in its lowest point. Show location of bund low-point on a map of the farm (see 2.1.1). | B. Review statement and map. During the on-site visit, inspect farm to verify that bund height is sufficient to prevent spillage when flooding occurs.<br>Note: dyke, dike, bund and berm all have the same meaning for this criteria. |



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|                                       | <b>Applicability:</b> Pond  | c. Provide a written statement that there were no incidents of significant spillage or escapement due to flooding in the last 12 months.  | C. During local community and employee interviews, verify there is no evidence for significant spillage or escapement from the farm in the last 12 months.   |
| Footnote                              | [38] Bund: berm containing the water in the pond.   |   |  |
| Footnote                              | [39] Consider 10 years maximum water level (including cases of storms).   |   |  |
| 4.5.4                                 | <b>Indicator:</b> Presence of trapping devices [40] placed in effluent/drainage canals or on water outlets to capture escapees, a record of findings and actions taken (available for inspection)<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> All | a. Identify the quantity and location of all trapping devices. The term 'trapping device' does not include mesh or grid barriers (see 4.5.1).   | A. Review how the farm uses trapping devices to monitor escapees. Verify that trapping devices do not injure/compromise fish (e.g. gill nets).   |
|                                       |   | b. Maintain a record of regular (at least weekly) trap inspections and observed escapees.   | B. Review records of inspection and observed escapees.   |
|                                       |   | c. When escapees are detected, record any actions taken to reduce or eliminate escapement. For first audits, these records must cover at least 1 full crop per site (see preamble).   | C. Review the suitability of any actions taken by the farm to reduce escapement.   |
|                                       |   | -   | D. During the on-site visit, inspect to verify that traps are configured properly and located suitably to ensure effective farm-wide monitoring of escapees.   |
| Footnote                              | [40] These devices should not injure or compromise fish health (e.g., gill nets).   |   |  |
| <b>4.6 Criteria: Pond Maintenance</b> |   |   |  |
|                                       |   | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 4.6.1                                 | <b>Indicator:</b> Evidence that the bund has remained intact [41] throughout the culture cycle<br><br><b>Requirement:</b> Yes<br><br><b>Applicability:</b> All  | a. Prepare a procedure for the monitoring and repair of damaged bunds.  | A. Review farm's procedure for bund monitoring and repair.   |
|                                       |   | b. Maintain a record of bund monitoring and repair that identifies date of damage detection and when the farm initiated and completed repairs.  | B. Review records for evidence that the bund has remained intact in the last 12 months. If a bund was found to be compromised, there shall be evidence that repairs were completed as soon as practical. |
|                                       |   | c. During the on-site visit, arrange for auditor to inspect farm's bunds.   | C. Inspect bunds to confirm compliance. Examine for any signs of collapse and note evidence of repairs.  |
|                                       |   | -   | D. During local community and employee interviews, verify that bunds have remained intact throughout the culture cycle.  |
| Footnote                              | [41] Has not been affected in such a way to allow the escape in part or all of the farmed stock.  |   |  |
| 4.6.2                                 | <b>Indicator:</b> Evidence assuring there has been no intentional release [42]<br><br><b>Requirement::</b> Yes<br><br><b>Applicability:</b> All   | a. Prepare a declaration that the farm has made no intentional releases in the last 12 months.  | A. Review declaration to confirm compliance.   |
|                                       |   | b. Maintain records and receipts to show that all crops stocked have been harvested and sold (see 2.4.2 and 5.2.1) or properly disposed (see 3.5.4). For first audits, records must cover at least 1 full crop per site (see preamble). | B. Review records to confirm that all stockings can be accounted for by harvest or disposal.   |
|                                       |   | c. Prepare a written justification for any periods of inactivity lasting longer than 3 months. For first audits, records must cover at least 1 full crop per site (see preamble).   | C. Review annual production records to determine if there are significant discrepancies that could indicate the possibility of intentional release.  |

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| Footnote  | [42] The original intent of footnote 42 from the Pangasius Aquaculture Dialogue Standards has been clarified here for auditing purposes. It now reads: "Significant discrepancies between the number (or biomass) of fish stocked and the number (or biomass) of fish sold in the absence of disease outbreaks, major theft or escapes would indicate the possibility of intentional release." |  |  |
| <b>PRINCIPLE 5. USE FEED AND FEEDING PRACTICES THAT ENSURE THAT FEED INPUTS ARE SUSTAINABLE AND MINIMIZED</b> |  |  |  |
| <i>5.1 Criteria: Sustainability of feed ingredients</i>   |  |  |  |
|   |  | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>   |
| 5.1.1   | <p><b>Indicator:</b> Use of uncooked or unprocessed fish and/or fish products [43] (including trash fish) as feed</p> <p><b>Requirement:</b> No</p> <p><b>Applicability:</b> All</p>   | <p>a. Maintain records (e.g. receipts) for all purchases of commercial feed in the last 12 months. For first audits, farm records must cover ≥ 6 months.</p> <p>b. If any farm-made feed was used, provide a description of ingredients and preparations. Maintain evidence of purchase (e.g. receipts) or ownership of all ingredients. For first audits, farm records must cover ≥ 6 months.</p> <p>-</p>  | <p>A. Review farm records for commercially sourced feeds.</p> <p>B. Review ingredients to verify that farm-made feed had no uncooked or unprocessed fish and/or fish products (including trash fish).</p> <p>C. Verify that farm records are sufficient to account for all feed used. There should be no indication of unexplained sources of feed.</p>    |
| Footnote  | [43] Fish products are defined as all forms of fish or products derived from fish (e.g., whole fresh, frozen, minced, dried, meals, oils, and processing by-products).   |  |  |
| 5.1.2   | <p><b>Indicator:</b> Use of pangasius fish processing by-products [44] as feed or feed ingredients</p> <p><b>Requirement:</b> No</p> <p><b>Applicability:</b> All</p>  | <p>a. Prepare a declaration that no by-products of pangasius fish processing were used as feed for pangasius at any time during the last 12 months.</p> <p>b. For all feed used in the last 12 months, obtain a declaration from the manufacturer showing compliance. For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site.</p> <p>c. If farm-made feed was used in the last 12 months, prepare a declaration that no pangasius by-products were used as feed ingredients. If fish meal or fish oil was used, obtain a statement from the respective supplier confirming compliance. For first audits, farm records must cover ≥ 6 months.</p>  | <p>A. Review farm's declaration to confirm that no by-products of pangasius fish processing were used as feed for pangasius.</p> <p>B. Review manufacturer's declaration to confirm no pangasius by-products were in feed.</p> <p>C. Review farm documentation to confirm that no pangasius by-products were used in feed preparation (if applicable).</p> |
| Footnote  | [44] Trimmings, viscera, heads and frames from the processing of fish—either wild or farmed—are processing by-products. Generally, these are not counted as part of the “fish product” amount when calculating feed fish equivalencies, as this helps promote the best use of the wild-caught fish. However, it is not acceptable to use pangasius by-products in pangasius diets.             |  |  |
| 5.1.3   | <p><b>Indicator:</b> Fish products used in feed are not in the “threatened categories” [45] on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species [46]</p> <p><b>Requirement:</b> Yes</p>  | <p><b>Instructions to Clients for Indicator 5.1.3 - Confirm there are no IUCN Red List Species in Feed</b></p> <p>For the purposes of this Indicator, the ASC definition of 'fish products' shall encompass all wild-capture marine resources, including finfish and invertebrate species (e.g. shrimp, crab, squid). Farms must be aware that feeds which contain any IUCN Red Listed species do not comply with the Standard. This restriction extends to feeds that use by-products (e.g. trimming) or aquacultured products of IUCN Red Listed species.</p> <p>For each fish product used as a feed ingredient, determine whether the species is on the IUCN Red List as follows:</p> <ul style="list-style-type: none"> <li>- go to <a href="http://www.iucnredlist.org/">http://www.iucnredlist.org/</a></li> <li>- in the primary search field enter the genus and species</li> <li>- click on "run search" and record the status of the species.</li> </ul> <p>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 the feed complies with Indicator 5.1.3, consider only species identified as "Vulnerable", "Endangered", or "Critically Endangered". Species that are listed in other IUCN categories (e.g. "Not evaluated", "Data Deficient", and "Least Concern") may be excluded from further analyses.</p> |  |

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|          | <b>Applicability:</b> All   | <p>a. Obtain a statement from feed manufacturer identifying the origin of all fish products used as feed ingredients (to specify genus, species and region of harvest). For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site.</p>   | A. Confirm that farm has records of ingredients from all commercially sourced feeds.  |
|          |   | <p>b. Verify that none of the species identified in 5.1.3(a) are in "threatened categories" on the IUCN Red List of Threatened Species.</p>  | B. Repeat search of IUCN database to verify that farm obtained an accurate result.  |
|          |   | <p>c. If farm-made feed was used, verify that no species are in "threatened categories" on the IUCN Red List. If fish meal or fish oil were used, obtain a statement from the respective supplier confirming compliance.</p>   | C. Confirm that farm has provided sufficient evidence of compliance.  |
| Footnote | [45] Vulnerable, Endangered and Critically Endangered.  |  |   |
| Footnote | [46] www.iucnredlist.org Use latest version. A period of one year is allowed for adaptation to any new amendment, therefore if a new animal is added to the IUCN list, producers have one year to meet the standards.   |  |   |
| 5.1.4    | <p><b>Indicator:</b> Fish products used in feed are not from species listed in the Convention on International Trade in Endangered Species (CITES) Appendices I, II and III [47]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | <p>a. Obtain a statement from feed manufacturer identifying the origin of all fish products used as feed ingredients (to specify genus, species and region of harvest). [See Indicator 5.1.5 about sourcing of trimmings and aquacultured products as feed ingredients]. For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site</p>   | A. Confirm that farm has a statement from the feed manufacturer verifying the origin of all fish products used as ingredients in all commercial feeds.                            |
|          |   | <p>b. Determine if any species identified in 5.1.4(a) is listed in CITES appendix I, II, or III by doing the following:<br/> - go to <a href="http://www.cites.org/eng/resources/species.html">http://www.cites.org/eng/resources/species.html</a><br/> - select option "Species", enter genus and species, and click "find it"</p>  | B. Repeat search of CITES database to verify that farm obtained an accurate result.   |
|          |   | <p>c. If farm-made feed was used, verify that no species are listed in CITES Appendix I, II or III. If fish meal or fish oil were used, obtain a statement from the respective supplier confirming compliance.</p>   | C. Confirm that farm has provided sufficient evidence of compliance.  |
| Footnote | [47] <a href="http://www.cites.org/eng/app/appendices.shtml">http://www.cites.org/eng/app/appendices.shtml</a>  |  |   |
| 5.1.5    | <p><b>Indicator:</b> ISEAL-certified fishmeal and fish oil products must be used in feed</p> <p><b>Requirement:</b> Within 3 years of becoming available in a region</p> <p><b>Applicability:</b> All, after 3 years of ISEAL-certified fishmeal and fish oil becoming available in the region of production. Not applicable if only trimming and aquaculture products are used</p> | <p><b>Note 1:</b> "becoming available in a region" means being commercially available in the region (UN regions) by at least two independent suppliers and indicated in grey literature (the date of appearing in grey literature is to be used).</p> <p><b>Note 2:</b> "products" does not apply to trimmings and aquacultured products used as feed ingredients (see Indicator 5.1.3).</p> |   |
|          |   | <p>a. Obtain a statement from feed manufacturer identifying the origin of all fish products used as feed ingredients (to specify genus, species and region of harvest). For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site.</p>   | A. Confirm that farm has statement from feed manufacturer identifying the origin of all fish products used as feed ingredients (to specify genus, species and region of harvest). |
|          |   | <p>b. Provide evidence that fish meal and fish oil products used in feed are from sources certified as compliant to the standards of an ISEAL member.</p>  | B. Review evidence and confirm compliance.  |
| 5.1.6    | <p><b>Indicator:</b> ISEAL certified fishmeal and fish oil products must be used in feed</p> <p><b>Requirement:</b> Within 5 years from the publication date of the PAD standards</p>   | <p>a. Obtain statement from feed manufacturer as for Indicator 5.1.5. For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site.</p>   | A. Confirm that farm obtains information about feed ingredients.  |

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|   | <p><b>Applicability:</b> All, after August 2015. Not applicable if only trimming and aquaculture products are used</p>   | b. Provide evidence of certified fish feed ingredients as for Indicator 5.1.5.   | B. Review evidence and confirm compliance.  |
| 5.1.7   | <p><b>Indicator:</b><br/>Interim Option A: Fishmeal or fish oil products used in feed have been sourced from fisheries with an average FishSource (FS) score</p> <p>Interim Option B: Fish Products used in feed have been sourced from facilities certified as being in compliance with Sections 11 (Responsible Sourcing), 2 (Traceability), and 3 (Responsible Manufacturing) of the International Fishmeal and Fish Oil Organisation's (IFFO) "Responsible Sourcing Program for Certification of Responsible Practice for Fishmeal and Fish Oil Production"</p> <p><b>Requirement:</b> ≥ 6.0 with no individual score &lt; 6.0 or an N/A in the stock assessment category</p> <p>Yes</p> <p><b>Applicability:</b> Up to when standard 5.1.5 or 5.1.6 can be met. Not applicable if only trimming and aquaculture products are used</p> | <p><b>Instruction to Clients for Indicator 5.1.7 - FishSource Score of Products Used in Feed</b><br/>To determine FishSource scores of fish species used as feed ingredients, do the following:<br/>- go to <a href="http://www.fishsource.org/">http://www.fishsource.org/</a><br/>- select "Species" drop down tab to the left<br/>- select the species that is utilized by the farm as a source of fish meal or oil<br/>- confirm that the search identifies the correct species, then select the top tab that reads "Scores"<br/>- Review scores to verify average FS scores ≥ 6.0; no individual score &lt; 6.0, and no "N/A" for "Stock Assessment" category (category 4 in FishSource scoring).</p> <p>If results show the species does not meet all three of the above criteria, then the feed does not meet requirements of the ASC Pangasius Standard. If the species has not been assessed (i.e. it is not listed on the FishSource website), then the feed does not meet requirements of the Standard. Contact FishSource via Sustainable Fisheries Partnerships to identify the species as a priority for assessment.</p> |   |
|   |  | a. Obtain statement from feed manufacturer as for Indicator 5.1.5. For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site.  | A. Verify that farm obtains information about feed ingredients.   |
|   |  | b. Provide an FS score or verification of IFFO certification for each species used as a feed ingredient in all feeds used by the farm during the last 12 months. For first audits, farm records must cover ≥ 6 months and all the feed requirements apply only to fish on site.  | B. Review FS scores and IFFO certification for species used in feed. Cross check against species listed in feed supplier declarations (see 5.1.3a). |
| <b>5.2 Criteria: Efficient management of feed use on the farm</b> |  |  |   |
|   |  | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>  |
| 5.2.1   | <p><b>Indicator:</b> Maximum weighted [50] average of economic Feed Conversion Ratio (eFCR) for the complete production cycle</p> <p><b>Requirement:</b> 1.68</p> <p><b>Applicability:</b> All</p>   | a. Obtain receipts and/or statements from seed supplier indicating average weight of seed and numbers. For first audits, farm records must cover ≥ 6 months and records must cover at least 1 full crop per site (see preamble).   | A. Review records to confirm that farm has records for all seed.  |
|   |  | b. Maintain records showing the type of feed and the total amount used (see 3.1.1a).   | B. Confirm that farm has complete and accurate records for feed.  |
|   |  | c. Maintain records (e.g. receipts) showing amount of fish harvested (see 2.4.2b). For first audits, records must cover at least 1 full crop per site (see preamble).  | C. Verify the farm keeps records showing amount of fish harvested.  |
|   |  | d. Calculate eFCR and yield for each crop harvested during the last 12 months using the formulas given in Annex D of the Pangasius Standard. For first audits, records must cover at least 1 full crop per site (see preamble).  | D. Review calculations for accuracy and completeness.   |
|   |  | e. Calculate maximum weighted average eFCR for the complete production cycle using the formula given in Annex D of the Pangasius Standard.   | E. Review calculations for accuracy. Confirm compliance.  |
| Footnote  | [50] Weighting to be conducted by the amount of fish produced in different farming units (e.g. ponds, pens and cages).   |  |   |

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| 5.2.2 | <b>Indicator:</b> Maximum Fish Feed Equivalence Ratio (FFER) | a. Obtain statement(s) from feed manufacturer indicating the maximum inclusion percentage of fish meal and fish oil in each type of feed used. For first audits, farm records must cover ≥ 6 months.   | A. Verify that farm obtains information about percent inclusion of fish meal and fish oil for all feed types. |
|       | <b>Requirement:</b> 0.5<br><b>Applicability:</b> All         | b. Calculate the FFER using the formula given in Annex D of the Pangasius Standard. By-products from fish processing of species other than pangasius but not on the IUCN Red List or CITES lists can be used and not be factored in as "fish meal or oil" for this calculation | B. Review calculations to verify accuracy. Confirm compliance.  |

**PRINCIPLE 6. Minimize ecosystem and human health impacts, while maximizing fish health, welfare and ensuring food safety**

**6.1 Criteria: Mortalities**

|       |   | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>   |
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| 6.1.1 | <b>Indicator:</b> Maximum average real percentage mortality, from stocking to harvest, during the grow-out period (See Real Percent Mortality formula in Annex D).<br><br><b>Requirement:</b> 20 %<br><br><b>Applicability:</b> All | <b>Instructions to Clients for Indicator 6.1.1 - Calculating Average Real Percentage Mortality (RPM)</b><br>Calculate the weighted average of Real Percentage Mortality using the stocking & harvesting data from every enclosure used by the farm in the last 12 months. Do one calculation per enclosure as follows:<br>1) Determine the number of fish stocked. This number may be obtained from<br>- direct counts of fingerlings, or<br>- computed by taking the total weight of stocked fish and dividing by the average weight of the fish stocked<br>2) Determine the number of fish harvested. This number may be obtained from<br>- direct counts of harvested fish, or<br>- computed by taking the total weight of harvested fish and dividing by average weight of the fish harvested<br>3) Using the formula in Annex D, compute the Real Percentage Mortality for the enclosure (Note 1).<br>4) Repeat steps 1-3 for every other enclosure used by the farm.<br>5) Compute the weighted average RPM for all enclosures over the last 12 months as follows<br><br>$\text{Weighted Average RPM} = [ (\text{RPME1} \times \text{YieldE1}) + (\text{RPME2} \times \text{YieldE2}) \dots + (\text{RPME}_n \times \text{YieldE}_n) ] / (\text{YieldE1} + \text{YieldE2} \dots + \text{YieldE}_n)$<br>Where E1, E2, E <sub>n</sub> are the 1st enclosure, the 2nd enclosure and the nth enclosure<br><br>For first audits, records must cover at least 1 full crop per site (see preamble).<br><br><b>Note 1:</b> Only use counts of live fish in these calculations. Do not include counts of dead fish when determining number of harvested fish or number of stocked fish.<br><b>Note 2:</b> Only use information from complete crops. |  |
|       |   | a. Obtain receipts and/or statements from seed supplier indicating average weight of seed and numbers (see 5.2.1a). Maintain records to show the total number of fish stocked into each enclosure during the last 12 months. For first audits, farm records must cover ≥ 6 months and records must cover at least 1 full crop per site (see preamble).   | A. Review receipts. Confirm that farm records are sufficient to determine number of seed stocked into each enclosure.  |
|       |   | b. Maintain harvest records for each crop (e.g. selling receipts or processing plant receipts) that are sufficient to show the total number of fish harvested from each enclosure. For first audits, records must cover at least 1 full crop per site (see preamble).  | B. Review records. Confirm that farm records are sufficient to determine number of fish harvested from each enclosure. |
|       |   | c. Calculate the weighted average of the Real Percentage Mortality (see above) using the formula given in Annex D of the Pangasius Standard. Provide calculations to the auditor.  | C. Review farm's calculations to verify accuracy. Confirm that average real percentage mortality is ≤ 20%.             |

**6.2 Criteria: Veterinary medicines and chemicals**

|  |  | <b>Compliance Criteria (Required Client Actions):</b> | <b>Auditor Evaluation (Required CB Actions):</b> |
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| 6.2.1 | <p><b>Indicator:</b> Use only veterinary medicines, chemicals and biological products approved for aquaculture by relevant national authorities and not banned for food fish use in the potential importing country.</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | a. Prepare a list of all veterinary medicines, chemicals and biological products used on the farm in the past 12 months. For first audits, records must cover at least 1 full crop per site (see preamble).  | A. Review list of medicines, chemicals and biological products.  |
|       |  | b. Provide records detailing the use of any veterinary medicines, chemicals and biological products on the farm in the last 12 months. For first audits, records must cover at least 1 full crop per site (see preamble).  | B. Review records to confirm farm usage of products. During on-site inspection, verify there is no evidence for unrecorded use of any veterinary medicines, chemicals or biological products (i.e. no empty containers or non-inventoried warehouse supplies). |
|       |  | c. For the list provided in 6.2.1a, identify suppliers and contact information.  | C. Review list.  |
|       |  | d. For the list provided in 6.2.1a, show that each item is approved for aquaculture by relevant national authorities.  | D. Confirm that listed products used are approved for aquaculture.   |
|       |  | e. Provide a list of the farm's exports (i.e. sales to parties in foreign countries) over the last 12 months.  | E. Review list and compare to farm's sales receipts.   |
|       |  | f. If the farm cannot determine the country of export (6.2.1e), prepare a list of the top five countries importing pangasius from the country where the farm operates (regions operating within the same legislation on this matter, e.g. the EU, are considered as a single country). | F. Review list (as applicable).  |
|       |  | g. For each country identified in 6.2.1e (or 6.2.1f as applicable), provide a list of veterinary medicines, chemicals and biological products that are banned from imports of pangasius for human consumption.   | G. Review list.  |
|       |  | h. Show that in the last 12 months, the farm did not use any veterinary medicines, chemicals or biological products that are banned or non-approved in the importing country.  | H. Review evidence. Cross-check the farm's export markets (i.e. the importing countries) against the list of products that are banned (see 6.2.1e) in those countries.   |
| 6.2.2 | <p><b>Indicator:</b> Use only veterinary medicines and chemicals for therapeutic use prescribed by an aquatic animal health specialist [55] based on a verified condition; follow the label specifications concerning the use of the substance for the given purpose [56].</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p> | a. Provide records of prescriptions, or the written advice of a suitably qualified aquatic animal health specialist [55], for veterinary medicines and chemicals used on the farm. For first audits, farm records must cover ≥ 6 months.   | A. Review records of prescriptions or written advice for veterinary medicines and chemicals.   |
|       |  | b. For each application of veterinary medicines and chemicals for therapeutic use, provide a description of condition and evidence showing endorsement (prescription) from an aquatic animal health specialist. For first audits, farm records must cover ≥ 6 months.                  | B. Review written descriptions. Confirm use approved by AAH Specialist.  |
|       |  | c. If application differs from the label specification, obtain written justification from aquatic animal health specialist. For first audits, farm records must cover ≥ 6 months.  | C. Review justifications from AAH Specialist as applicable.  |
|       |  | d. Provide copies of the title(s) of the aquatic animal health specialist showing how s/he is suitably qualified for the position.   | D. Review evidence. Confirm that AAH Specialist is suitably qualified.   |

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| Footnote | [55] Aquatic animal health specialist defined following government's regulations, if such regulations exist in the producing country. If the government does not regulate on this, the following people can be considered as specialists:<br><ul style="list-style-type: none"> <li>• Veterinarians with at least three months of academic training on fish health management (for a total of at least 60 hours). This training may be included with the veterinary degree.</li> <li>• Aquaculturists (with university or vocational degree) who have completed at least three months of training on fish pathology and treatment (for a total of at least 60 hours). This training may be included with the university or vocational degree.</li> </ul> |  |  |
| Footnote | [56] Label specifications may be overridden by the recommendations of the aquatic animal health specialist when justification for the decision is documented in the farm book or approved in the animal health plan.   |  |  |
| 6.2.3    | <p><b>Indicator:</b> Follow the aquatic animal health specialist recommendations on:<br/> 1- how to apply the veterinary medicine and chemicals prescribed<br/> 2 - how to handle &amp; store the veterinary medicines and chemicals prescribed<br/> 3 - who needs to be informed about the disease and how<br/> 4 - how to limit the spread of the disease to neighboring wild or farmed populations</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | a. For veterinary medicines or chemicals applied and for all mortality events notified, provide statements of the specialist indicating his/her recommendation on:<br>- how to apply the veterinary medicine and chemicals prescribed;<br>- how to handle & store the veterinary medicine and chemicals prescribed;<br>- who needs to be informed about the disease; and<br>- how to limit the spread of the disease to neighboring wild or farmed populations.<br>For first audits, farm records must cover ≥ 6 months. | A. Review health events to verify that the farm has written recommendations from the AAH Specialist addressing each of these four points.            |
|          |  | b. Provide a declaration that the farm followed the recommendations of the aquatic animal health specialist.   | B. Review farm's declaration to confirm following recommendations of the AAH Specialist.   |
|          |  | -  | C. During on-site visits, inspect to verify proper storage according to the AAH Specialist's recommendations.  |
|          |  | -  | D. During on-site visits, make direct observations to confirm there is no evidence of any of the recommendations not having been followed.           |
| 6.2.4    | <p><b>Indicator:</b> Allowance to sell fish or fish products before the completion of the withdrawal period specified on veterinary medicine or chemical labels or 750 °D if no withdrawal is specified on label</p> <p><b>Standard:</b> None</p> <p><b>Applicability:</b> All</p>   | a. For chemical/medicinal treatments in the last 12 months, provide daily records of product use and water temperature during withdrawal periods. For first audits, records must cover ≥ 6 months and at least 1 full crop per site (see preamble).  | A. Review records from all withdrawals.  |
|          |  | b. Provide labels indicating duration of withdrawal periods. If labels do not specify a withdrawal period, provide evidence that withdrawal periods were > 750 degree days.  | B. Review labels and completion dates of withdrawal periods.   |
|          |  | c. Provide evidence (e.g. receipts) to show no fish were harvested before completion of withdrawal period during the last 12 months. For first audits, farm records must cover ≥ 6 months.   | C. Evaluate evidence to verify that no fish were harvested before completion of withdrawal period.   |
| 6.2.5    | <p><b>Indicator:</b> Allowance for the use of antibiotics critical for human medicine, as categorized by the World Health Organization [57].</p> <p><b>Requirement:</b> None</p> <p><b>Applicability:</b> All</p>  | a. Maintain a list of all antibiotics used on the farm in the last 12 months. For first audits, records must cover at least 1 full crop per site (see preamble).   | A. Review list of antibiotics used.  |
|          |  | b. Prepare declaration stating that farm did not use any antibiotics critically important for human medicine as categorized by the WHO in the last 12 months.  | B. Review declaration. Cross check list of antibiotics used by the farm (see 6.2.5a) against the WHO list of antibiotics critical to human medicine. |
|          |  | c. Provide the up-to-date list of the WHO [57]   | C. Verify farm holds an up-to-date copy of the WHO list [57]   |

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|  |  |   | D. During on-site visits, verify there is no evidence of use of antibiotics critical for human medicine through direct observation and inspection.                      |
| Footnote                                   | [57] Refer to the second WHO Expert meeting on Critically Important Antimicrobials for Human Medicine: Categorization for the Development of Risk Management Strategies to Contain Antimicrobial Resistance due to Non-Human Antimicrobial use, 29–31 May 2007 <a href="http://www.who.int/entity/foodborne_disease/resistance/antimicrobials_human.pdf">http://www.who.int/entity/foodborne_disease/resistance/antimicrobials_human.pdf</a> |   |   |
| 6.2.6                                      | <b>Indicator:</b> Allowance for prophylactic use of veterinary medicines (excluding vaccines) prior to any evidence of a specific disease problem.<br><b>Standard:</b> None<br><b>Applicability:</b> All   | a. Provide declaration stating that farm does not use any unauthorized prophylactic veterinary medicines (prior to evidence of a specific disease problem)  | A. Verify farm holds declaration  |
|  |  | b. Obtain a declaration from the aquatic animal health specialist indicating that s/he is not aware of any unauthorized prophylactic use of veterinary medicines (prior to evidence of a specific disease problem) by the farm in the last 12 months. For first audits, the period covered by the declaration must be ≥ 6 months. | B. Verify the AAH Specialist declares there is no known unauthorized prophylactic use of veterinary medicines.  |
|  |  | c. Maintain receipts for all purchases of veterinary medicines. For first audits, records must cover at least 1 full crop per site (see preamble).  | C. Verify farm maintains records of all purchases of veterinary medicines.  |
|  |  | -   | D. During on-site visits, inspect the inventory of veterinary medicines to verify that all supplies are accounted for.  |
|  |  | -   | E. Reconcile the quantities purchased against stocks held on-site and records for usage (e.g. 6.2.5a) based on reviewing a sample of medicines.                         |
| 6.2.7                                      | <b>Indicator:</b> Allowance for use of veterinary medicine (excluding vaccines) to serve as growth promoters [58].<br><b>Requirement:</b> None<br><b>Applicability:</b> All  | a. Obtain a declaration from the applicant, endorsed by an aquatic animal health specialist indicating that there has been no use of veterinary medicines (excluding vaccines) as growth promoters by the farm in the last 12 months. For first audits, the period covered by the declaration must be ≥ 6 months.                 | A. Verify the AAH Specialist supports the declaration that there is no use of veterinary medicine as growth promoters.  |
|  |  | -   | B. Reconcile the quantities of veterinary medicines purchased against stocks held on-site and records for usage (e.g. 6.2.5a) based on reviewing a sample of medicines. |
| Footnote                                   | [58] Growth promoters: Veterinary medicines, such as antibiotics, to be given to healthy fish for the sole purpose of making them grow faster (i.e., not to treat a specific disease).   |   |   |
| <b>6.3 Criteria: Pangasius health plan</b> |  |   |   |
|  |  | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>  |
| 6.3.1                                      | <b>Indicator:</b> Presence of a written pangasius health plan reviewed yearly, updated and approved by a specified aquatic animal health specialist [59] (See Annex E for Health Plan).<br><b>Requirement:</b> Yes<br><b>Applicability:</b> All  | a. Prepare the farm's written pangasius health plan containing all required elements (Annex E).   | A. Review health plan for compliance with Annex E.  |
|  |  | b. Obtain review and written approval of the pangasius health plan by the farm's aquatic animal health specialist.  | B. Confirm that the farm's aquatic animal health specialist has reviewed and approved the pangasius health plan.  |
|  |  | c. Review the health plan at least once every 12 months. Update as needed and obtain approval by the farm's aquatic animal health specialist.   | C. Confirm that farm has health plan reviewed, updated, and approved every 12 months. For first audits, the response is 'not applicable'.                               |
|  |  | -   | D. During on-site visit, verify that the plan is implemented and effective.   |
| Footnote                                   | [59] GlobalG.A.P. AB 5.2.3 was taken as reference and amended to fit with the requirements of the PAD stakeholders.  |   |   |



| 6.4 Criteria: Holding-unit specific record-keeping |   |  |   |
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|  |   | Compliance Criteria (Required Client Actions):   | Auditor Evaluation (Required CB Actions):   |
| 6.4.1  | <p><b>Indicator:</b> Availability of records of the name, reasons for use, dates, amounts and withdrawal times of all veterinary medicines and chemicals used in hatchery and grow-out facilities</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | a. Maintain records that identify all the veterinary medicines and chemicals used at the grow-out facility. For first audits, farm records must cover ≥ 6 months.  | A. Verify the farm maintains purchase records.  |
|  |   | b. Maintain copies of labels showing withdrawal times at the grow-out facility. For first audits, records must cover at least 1 full crop per site (see preamble).   | B. Verify the farm maintains records showing withdrawal times at the grow-out facility.         |
|  |   | c. Maintain signed declarations by the farm's aquatic animal health specialist stating the date, diagnosis, treatment and withdrawal times (if different from the label) of all veterinary medicines and chemical used at the grow-out facility. For first audits, farm records must cover ≥ 6 months.   | C. Verify the farm maintains relevant declarations from the AAHS at the grow-out facility.      |
|  |   | d. Obtain a signed declaration from seed suppliers identifying any chemicals or veterinary medicines that were used in production of seed. For first audits, records must cover at least 1 full crop per site (see preamble).  | D. Verify the farm obtains declarations from all seed suppliers.                                |
| 6.4.2  | <p><b>Indicator:</b> Availability of records of the source, size and quality of the seed stocked. Records of seed quality should include:</p> <ol style="list-style-type: none"> <li>1- Description of gross signs and any abnormalities</li> <li>2- List of veterinary medicines, chemicals and biological products used in earlier life stages</li> <li>3- Results of pathogen testing as legislated</li> </ol> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p> | <p>a. For all stocking events in the last 12 months, obtain a signed letter from the seed supplier reporting:</p> <ul style="list-style-type: none"> <li>- the source, size and quality of seed supplied;</li> <li>- the date supplied;</li> <li>- a description of any external signs of abnormalities at the time of sale;</li> <li>- list of veterinary medicines, chemicals and biological products used in earlier life stages (i.e. used at any time from spawning onwards); and</li> <li>- results of pathogen testing following legislation (as applicable).</li> </ul> <p>For first audits, farm records must cover ≥ 6 months.</p> | A. Verify the farm maintains records for seed quality as required.                              |
| 6.4.3  | <p><b>Indicator:</b> Daily records showing regular monitoring of fish for signs of stress [60] or disease are kept</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | <p>a. Maintain daily records (e.g. diary) of monitoring for stress or disease. Records shall identify:</p> <ul style="list-style-type: none"> <li>- date;</li> <li>- presence of behavioural and external signs of abnormalities (i.e. feeding behaviour, swimming behaviour, lesions, spots, large ecto-parasites, fin erosion, etc); and</li> <li>- number of dead fish.</li> </ul> <p>For first audits, records must cover at least 1 full crop per site (see preamble).</p>  | A. Review daily records to confirm that all reporting elements are included. Verify compliance. |
| Footnote   | [60] Signs of stress or disease include abnormal behaviour (e.g., swimming), reduced appetite and external abnormalities (e.g., lesions, spots and fin erosion).  |  |   |

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| 6.4.4                       | <p><b>Indicator:</b> All mortality events with daily mortality above the average daily mortality in the farm are reported to the aquatic animal health specialist</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p> | <p><b>Instructions to Clients for Indicator 6.4.4 - Establishing a Threshold for the Reporting of Mortality Events</b></p> <p>Indicator 6.4.4 requires that farms report all significant mortality events to the aquatic animal health specialist. The ASC Pangasius Standard does not prescribe a specific threshold value for all farms to apply across all circumstances. Instead, the Pangasius Standard requires farms to confer with their aquatic animal health specialist to develop a threshold for reporting mortality events that is appropriate for identifying significant or "above average" mortality events based on farm data. In establishing a threshold, the farm must consider the following:</p> <ul style="list-style-type: none"> <li>- thresholds must be generated using farm data for mortality and this shall include farm information from at least 1 randomly selected pond;</li> <li>- thresholds must be stage-specific to account for differing mortality rates during the 1st week, the 1st month, and any month after that;</li> <li>- the farm's aquatic health specialist must set and approve the threshold value, not the farmer; and</li> <li>- the farm must describe how the threshold was established in the farm's Pangasius Health Plan.</li> </ul>                   |   |
|                             |   | a. Maintain a daily record of monitoring farm enclosures for mortality (see 6.4.3). For first audits, records must cover at least 1 full crop per site (see preamble).   | A. Review daily mortality records.  |
|                             |   | b. Have the farm's aquatic animal health specialist review the farm's daily records for mortality. Ask the AAH Specialist to specify a threshold for the reporting of mortality events based on review of farm mortality rates (see instructions).   | B. Verify the farm's AAH Specialist has reviewed daily mortality records before specifying a threshold for the reporting of mortality events. |
|                             |   | c. Describe how the threshold was established in the farm's Pangasius Health Plan (see 6.3.1).   | C. Review the proposed mortality threshold in the farm's Pangasius Health Plan to confirm compliance with requirements.                       |
|                             |   | d. Maintain records to show that the farm reports all mortality events exceeding threshold to the AAH Specialist. For first audits, farm records must cover ≥ 6 months.  | D. Review reporting records and cross-check against daily mortality records to confirm compliance with requirements.                          |
| 6.5 Criteria: Fish welfare. |   |  |   |
|                             |   | <b>Compliance Criteria (Required Client Actions):</b>  | <b>Auditor Evaluation (Required CB Actions):</b>  |
|                             |   | <p><b>Instructions to Clients for Indicator 6.5.1 - Calculating Average Growth Rate</b></p> <p>Annex D of the ASC Pangasius Standard provides formulas for calculating yield and average growth rate (AGR). Farms must perform these calculations using harvest and stocking data from individual ponds (i.e. it is calculated on a crop-by-crop basis). It should be done as follows:</p> <p style="padding-left: 40px;">Yield (from Pond1) = total weight of fish harvested (from Pond1) - total weight of fish stocked (Pond1)</p> <p style="padding-left: 40px;">AGRP1 = YieldP1 / duration of production cycle (Pond1)</p> <p>Where weights are given in grams (g), duration is given in number of days (d), AGR is computed in units of grams per day (g/d), and enclosures are identified by subscripts P1, P2, P3 etc.</p> <p>Repeat the AGR calculations for the second pond, third pond... etc. until an AGR has been determined for each pond that was harvested. For first audits, records must cover at least 1 full crop per site (see preamble). Next calculate the farm-wide weighted average AGR using the following formula:</p> <p style="padding-left: 40px;">Weighted Average AGR = [ (AGRP1 x YieldP1) + (AGRP2 x YieldP2) ... + (AGRPn x YieldPn) ] / (YieldP1 + YieldP2 ... + YieldPn)</p> |   |

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| 6.5.1 | <p><b>Indicator:</b> Minimum average growth rate</p> <p><b>Requirement:</b> 3.85 g/day</p> <p><b>Applicability:</b> All</p>  | <p><b>Clarification note:</b><br/>Indicator 6.5.1 was developed under the assumption that:</p> <ul style="list-style-type: none"> <li>- fish are stocked at 80 grams,</li> <li>- harvested at 1,000 grams and</li> <li>- average production cycle is 8 months.</li> </ul> <p>Given that specific growth rates of Pangasius are variable with body size (i.e. size and age dependent), formulas will yield a reduced level of absolute growth if fish are harvested at a substantially smaller size than 1 kg. (e.g. farms that harvest fish at 600-700g average body weight).</p> <p>Auditors are instructed as to evaluate Indicator 6.5.1 as follows. Farms must provide auditors with sufficient information to verify average fish weight at stocking, average fish weight at harvest, and average duration of production cycle. Auditors shall review the farm's calculations of observed growth rate and monitor whether the farm is in compliance.</p> |   |
|       |  | a. Maintain records (e.g. receipts from seed suppliers) showing the weight of fish stocked into each enclosure (e.g. see 6.1.1). For first audits, records must cover at least 1 full crop per site (see preamble).   | A. Verify farm maintains records of the weight of fish stocked in each enclosure.                               |
|       |  | b. Maintain records showing the weight of fish harvested from each enclosure (see 2.4.2b). For first audits, records must cover at least 1 full crop per site (see preamble).   | B. Verify farm maintains records of the weight of fish harvested from each enclosure.                           |
|       |  | c. Calculate the average growth rate of fish in each enclosure as described above (see instructions).   | C. Review calculations to confirm accuracy and completeness.  |
|       |  | d. Using results of 6.5.1c, calculate the farm-wide weighted average AGR.   | D. Verify that the farm-wide weighted average AGR complies with requirements.                                   |
| 6.5.2 | <p><b>Indicator:</b> Maximum fish density at any time</p> <p><b>Requirement:</b> 38 kg/m<sup>2</sup> for ponds and pen</p> <p><b>Applicability:</b> Ponds and Pens</p> | a. Provide a plan of the farm showing surface area (m <sup>2</sup> ) of each enclosure.   | A. Review farm's calculation of surface area for each enclosure and confirm by inspection during on site audit. |
|       |  | b. Maintain records of the total weight (kg) of fish harvested from each pond and/or pen (see 2.4.2b). For first audits, records must cover at least 1 full crop per site (see preamble).   | B. Confirm the farm keeps accurate record of total weight of fish harvested from each pond and/or pen.          |
|       |  | c. For each enclosure, divide the weight of fish harvested (result from 6.5.2b) by the surface area of the enclosure (results from 6.5.2a) to calculate fish density (kg/m <sup>2</sup> ). For first audits, records must cover at least 1 full crop per site (see preamble).   | C. Review calculations for fish density at harvest to verify compliance.  |
|       |  | d. In addition to calculating fish density at harvest (6.5.2.c), farms shall record monthly estimates of fish density for each enclosure using estimated biomass (e.g. from farm diaries) and surface area (see 6.5.2a). For first audits, farm records must cover ≥ 6 months.  | D. Review monthly estimates of fish density to verify compliance.   |
|       |  | a. Provide a description of the system specifying the total number of cages and volume (m <sup>3</sup> ) of each cage.  | A. Review farm's calculation of volume for each cage and confirm by inspection during on site audit.            |

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| 6.5.3   | <b>Indicator:</b> Maximum fish density at any time<br><b>Requirement:</b> 80 kg/m3 for cages<br><b>Applicability:</b> Cages   | b. Maintain records of the total weight (kg) of fish harvested from each cage. For first audits, records must cover at least 1 full crop per site (see preamble).   | B. Confirm the farm keeps accurate record of total weight of fish harvested from each cage.   |
|   |   | c. For each cage, divide the weight of fish harvested (result from 6.5.3b) by the volume of the cage (results from 6.5.3a) to calculate fish density (kg/m3). For first audits, records must cover at least 1 full crop per site (see preamble).  | C. Review calculations for fish density at harvest to verify compliance.  |
|   |   | d. In addition to calculating fish density at harvest (6.5.3.c), farms shall record monthly estimates of fish density for each cage using estimated biomass (e.g. from farm diaries) and cage volume (see 6.5.3a). For first audits, farm records must cover ≥ 6 months.  | D. Review monthly estimates of fish density to verify compliance.   |
| <b>6.6 Criteria: Predator control</b>   |   |   |   |
|   |   | <b>Compliance Criteria (Required Client Actions):</b>   | <b>Auditor Evaluation (Required CB Actions):</b>  |
| 6.6.1   | <b>Indicator:</b> Use of lethal predator [61] control<br><b>Requirement:</b> No<br><b>Applicability:</b> All  | a. Prepare a list of all predator control devices and their locations.  | A. Review list.   |
|   |   | -   | B. Inspect sites to verify no use of lethal predator controls.  |
| Footnote  | [61] Predators are defined as animals which have the potential to kill healthy pangasius. These standards include all types of predators during the production period, but only birds, reptiles and mammals during the period of preparation of the holding units (e.g., ponds, cages and pens). Rats and mice are excluded from consideration as they are unlikely to harm fish on the farm, be endangered or pose a conservation concern. |   |   |
| 6.6.2   | <b>Indicator:</b> Mortality of IUCN red listed species.<br><b>Requirement:</b> 0 (zero)<br><b>Applicability:</b> All  | <b>Instruction to Clients for Indicator 6.6.2 - Presence of IUCN Red Listed Species</b><br>Determine whether IUCN red list species are present in the region as follows:<br>- go to <a href="http://www.iucnredlist.org/">http://www.iucnredlist.org/</a><br>- follow to "other search options"<br>- select "Taxonomy"<br>- select "Animalia"<br>- indicate appropriate "Location", "Systems", "Habitat",<br>- click on "run search" and record animal species listed and whether they are threatened by the farming activity.<br>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 6.6.2, species in the following IUCN categories may be excluded from further analyses: "Not evaluated", "Data Deficient", and "Least Concern". |   |
|   |   | a. Perform analysis. Record all IUCN red listed species occurring in the area of the farm.  | A. Repeat analysis to verify that client obtained an accurate result.   |
|   |   | b. If any IUCN red listed species are identified in the area of the farm (including receiving and source waters), write a procedure which describes how the farm will avoid causing mortality.  | B. Verify that farm procedures are appropriate and implemented (as applicable).   |
|   |   | -   | C. During local community interviews, verify there is no evidence of the farm causing mortality of IUCN red listed species [also see Indicator 2.2.4(E)]. |
| <b>Social requirements in the standards shall be audited by an individual who is a lead auditor in conformity with SAAS Procedure 200 section 3.1.</b>        |   |   |   |
| <b>PRINCIPLE 7. DEVELOP AND OPERATE FARMS IN A SOCIALLY RESPONSIBLE MANNER THAT CONTRIBUTES EFFECTIVELY TO COMMUNITY DEVELOPMENT AND POVERTY ALLEVIATION.</b> |   |   |   |

| 7.1 Criteria: Labor law                               |  | Compliance criteria (Required Client Actions):   |
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| 7.1.1   | <p><b>Indicator:</b> Compliance with labor laws in the country where pangasius is produced</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | <p>a. Obtain all national and local labor regulations applicable to the farm. Regulations should cover at least the following issues: labor contracts, child labor, working time, working/living conditions, minimum wage and benefits/allowance, health and safety, presence of on-farm regulation.</p> <p>b. Ensure that the farm and all employees on the farm comply to the labor regulations.</p>   |
| 7.2 Criteria: Child labor [62] and young workers [63] |  | Compliance criteria (Required Client Actions):   |
| Footnote  | [62] Child: Any person less than 15 years of age, unless local minimum age law stipulates a higher age for work or mandatory schooling, in which case the higher age would apply. If however, local minimum age law is set at 14 years of age in accordance with developing country exceptions under ILO Convention 138, the lower age will apply. Child labor does not include children helping their parents on their own farm, provided that working does not jeopardize their schooling or health. |  |
| Footnote  | [63] Young worker: Any worker between the age of child as defined and under the age of 18.   |  |
| 7.2.1   | <p><b>Indicator:</b> Minimum age of workers</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | <p>a. Maintain a list of all employees employed in the farm indicating date of birth</p> <p>b. Maintain copies of the official ID of all the employees listed showing date of birth</p> <p>c. Ensure that no employee is younger than 15 years old (use birthdate to calculate exact age), see footnote [62]</p> <p>d. Provide a declaration stating that the farm is against child labor and will not employ anybody younger than 15 years old.</p>   |
| 7.2.2   | <p><b>Indicator:</b> For workers under 18 years olds</p> <p>1 - Work does not jeopardize schooling<br/>2 - Work, when added to the hours of schooling, does not exceed 10 hour/day<br/>3 - Work is restricted to light work [64]<br/>4 - Work is restricted to non-hazardous work [65]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> Farms with employees younger than 18 years old</p>  | <p>a. Ensure that the contracts for workers below 18 years old state the rights of young workers (as indicated in this Requirement) and job descriptions are detailed enough to allow auditors to assess that, for such workers, work is restricted to light work and is not hazardous</p> <p>b. Maintain records of schooling commitments of each employee younger than 18 years old</p> <p>c. Maintain daily records of working hours for all workers younger than 18 years old. For first audits, farm records must cover ≥ 6 months.</p> <p>d. Ensure that young workers' rights as indicated in this Requirement are duly respected in the farm</p> |
| Footnote  | [64] Light Work: (ILO convention 138, article 7.1) Light work is work that is 1) not likely to be harmful to a child's health or development and 2) not likely to prejudice their attendance at school, participation in vocational orientation or training programs, or diminish their capacity to benefit from instruction received.   |  |
| Footnote  | [65] Hazardous work: Work which, by its nature or circumstances in which it is carried out, is likely to harm the health, safety or morals of workers.   |  |
| 7.3 Criteria: Forced and compulsory labor [66]        |  | Compliance criteria (Required Client Actions):   |
| Footnote  | [66] Forced (Compulsory) labor: All work or service that is extracted from any person under the menace of any penalty for which a person has not offered him/ herself voluntarily or for which such work or service is demanded as a repayment of debt. "Penalty" can imply monetary sanctions, physical punishment, or the loss of rights and privileges or restriction of movement (withholding of identity documents).  |  |

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| 7.3.1   | <p><b>Indicator:</b> Workers are free to terminate their employment and receive full payment until the last day of their employment, based on reasonable [67] notice given to their employer [68]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | a. Ensure that all contracts clearly state workers' freedom to terminate their employment and receive full payment until the last day of their employment             |
|   |   | b. Ensure that workers' rights as indicated in this Requirement are duly respected.   |
|   |   | c. Ensure that nobody in the farm or on behalf of the employer withholds employee's original identity papers  |
|   |   | d. Ensure that the farm does not withhold any part of workers' salaries, benefits, property or documents in order to oblige them to continue working for the employer |
|   |   | e. Ensure that no employee is obligated to work at the farm to repay debt   |
| Footnote  | [67] As stated in the contract.   |   |
| Footnote  | [68] Employers are those workers who, working on their own account or with one or a few partners, hold the type of job defined as a self-employed job, and in this capacity, on a continuous basis (including the reference period) have engaged one or more persons to work for them in their business as employees. |   |
| <b>7.4 Criteria: Health and safety</b>                |   |   |
| <b>Compliance criteria (Required Client Actions):</b> |   |   |
| 7.4.1   | <p><b>Indicator:</b> The employer provides a non-hazardous working and living environment</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | a. Maintain a list of all the health and safety hazards in the working and living environment of employees  |
|   |   | b. Provide Standard Operating Procedures (SOP) or Safe Practice guidelines (SOP) for all health and safety hazards listed   |
|   |   | c. Ensure that employees are complying to the farm SOP on health and safety and that are adequately protected against hazards   |
|   |   | d. Ensure that employees have constant access to potable/safe drinking water  |
|   |   | e. Ensure that sanitary conditions for the safe disposal of human waste are in practice.  |
|   |   | f. Ensure that the employees' housing is constructed of materials able to withstand local conditions  |
| 7.4.2   | <p><b>Indicator:</b> Workers are aware of the health and safety hazards [69] at the work place and how to deal with them</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All, Farm-Wide</p>   | a. Ensure that all workers are aware of the hazards listed on 7.4.1a and of the SOP in 7.4.1b   |
| Footnote  | [69] Hazard: The inherent potential to cause injury or damage to people's health—for instance unequipped to handle heavy machinery safely/unprotected exposure to harmful chemicals.  |   |
| 7.4.3   | <p><b>Indicator:</b> The employer records all accidents, even if minor [70], and take preventive and corrective action for each</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>   | a. Maintain records of of all accidents and corrective actions taken. For first audits, farm records must cover ≥ 6 months.   |
|   |   | b. Ensure that corrective actions are in place as relevant  |

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| Footnote   | [70] Accidents that could not be handled in-house, the person was taken to the closest clinic  |   |
| 7.4.4  | <p><b>Indicator:</b> Employer ensures that all permanent workers have health insurance [71]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | <p>a. Maintain a list of all permanent workers</p> <p>b. Provide evidence showing health insurance coverage for all permanent workers</p>   |
| Footnote   | [71] Health insurance is required for workers who are employed for >3months/year. If not covered under national law employers must provide insurance to cover 100% of any job-related accident/injury for permanent workers. The cost associated with permanent disabilities generated from a job related accident is, however, not included.                      |   |
| <b>7.5 Criteria: Freedom of association and collective bargaining [72]</b>                           |  |   |
| <b>Compliance criteria (Required Client Actions):</b>  |  |   |
| Footnote   | [72] Collective bargaining: Voluntary negotiation between employers and organizations of workers in order to establish the terms and conditions of employment by means of collective (written) agreements.   |   |
| 7.5.1  | <p><b>Indicator:</b> Workers [73] have the right to form or join organizations to defend their rights (including their right to collective bargaining), without interference from the employer and without suffering negative consequences as a result of exercising this right [74].</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>          | <p>a. Maintain copies of employees' contracts and ensure that contracts explicitly state the right of freedom of association.</p> <p>b. Ensure that workers have the freedom to form and join any trade union, are free of any form of interference from employers or competing organizations set up or backed by the employer. ILO specifically prohibits "acts which are designated to promote the establishment of worker organizations or to support worker organizations under the control or employers or employers' organizations.</p> <p>c. Ensure that trade unions and/or civil society organizations involved in Labor rights, are able to access/inform all workers directly (posters, pamphlets, visits).</p> <p>d. Ensure that trade union representatives have access to their members in the workplace at reasonable times.</p> <p>e. Provide a declaration explicitly stating the employer's commitment to freedom of association and collective bargaining rights of all.</p> |
| Footnote   | [73] Worker: A person who enters an agreement of any duration with an enterprise to work for the enterprise in return for remuneration in cash or in kind. Immediate family members of the farm owner (i.e., children, spouse, parents, brothers and sisters) and exchange labor may not be considered as workers, unless they express their desire to be workers. |   |
| Footnote   | [74] Workers must not be prohibited from accessing such organizations when they exist. If they do not exist or are illegal, companies must make it clear that they are willing to engage in a collective dialogue through a representative structure freely elected by the workers.  |   |
| <b>7.6 Criteria: Discrimination</b>  |  |   |
| <b>Compliance criteria (Required Client Actions):</b>  |  |   |
| 7.6.1  | <p><b>Indicator:</b> Workers do not suffer any discrimination [75] from the employer or other workers</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | <p>a. Provide and ensure the implementation of an anti-discrimination policy, stating that the company does not engage/support 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.</p> <p>b. Maintain records of employees' salary changes, promotions and training opportunities. For first audits, farm records must cover ≥ 6 months.</p> <p>c. Provide and ensure the implementation of a policy protecting pregnant and lactating mothers.</p>   |
| Footnote   | [75] Including but not limited to: race, caste, origin, color, gender, age, disability, religion, sexual orientation, resident or migrant, union and political affiliations.   |   |
| <b>7.7 Criteria: Fair and progressive practices toward workers(including disciplinary practices)</b> |  |   |
| <b>Compliance criteria (Required Client Actions):</b>  |  |   |

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| 7.7.1   | <b>Indicator:</b> Employers treat all workers with dignity and respect  | a. Ensure that all employees are consistently treated with dignity and respect (e.g. no physical abuse).  |
|   | <b>Requirement:</b> Yes<br><b>Applicability:</b> All  | b. Ensure that no deductions in pay are made for disciplinary actions (e.g. for the accidental breaking of equipment)   |
| <b>7.8 Criteria: Working hours</b>                    |   |   |
| <b>Compliance criteria (Required Client Actions):</b> |   |   |
| 7.8.1   | <b>Indicator:</b> Maximum number of regular working hours   | a. Maintain timesheets for all employees. For first audits, farm records must cover ≥ 6 months.   |
|   | <b>Requirement:</b> 8h/day or 48h/week (although these do not have to be consecutive hours)<br><b>Applicability:</b> All  | b. Ensure that the regular time worked by farm workers does not exceed 8h/day or 48h/week   |
| 7.8.2   | <b>Indicator:</b> Workers have the right to leave the farm after completing the standard work-day   | a. Ensure that workers can leave the farm during their allocated free time (i.e. any time when they are not working).   |
|   | <b>Requirement:</b> Yes<br><b>Applicability:</b> All, Farm-Wide   | b. Maintain copies of employees contract and ensure that labor contracts clearly state workers' right to leave  |
| 7.8.3   | <b>Indicator:</b> Minimum time off  | a. Ensure that all workers residing at the farm have the right to 2 nights off/week   |
|   | <b>Requirement:</b> Two nights/week off if residing on the farm and a total of four days/month off for all workers  | b. Ensure that all workers have at least 4 days/month off   |
|   | <b>Applicability:</b> All, Farm-Wide  | c. Maintain timesheets for all employees (as in 7.8.1a). For first audits, farm records must cover ≥ 6 months.  |
| 7.8.4   | <b>Indicator:</b> Overtime hours<br>1- Are voluntary<br>2- do not exceed a maximum of 12 hours per week<br>3- occur on an exceptional (not regular) basis<br>4- are paid at a premium rate [76], ( i.e. an additional 20% is paid to the normal salary) | a. Ensure that for all employees, overtime hours:<br>- are voluntary<br>- do not exceed a maximum of 12h/week<br>- occur on an exceptional basis<br>- are paid at a premium rate (following the local/national regulation and at least 20% more than normal salary) |
|   | <b>Requirement:</b> Yes   | b. Maintain timesheets for all employees (as in 7.8.1a). For first audits, farm records must cover ≥ 6 months.  |
|   | <b>Applicability:</b> All, Farm-Wide  | c. Maintain copies of employees' contracts and ensure that employees' contracts state the overtime conditions and associated rights   |
|   |   | d. Maintain records of payments for overtime hours  |
| Footnote  | [76] Premium rate: A rate of pay higher than the regular work week rate. Must comply with national laws/ regulations and / or industry standards. Must be 120% of normal rate or higher.  |   |
| <b>7.9 Criteria: Fair and decent wages</b>            |   |   |
| <b>Compliance criteria (Required Client Actions):</b> |   |   |



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| 7.9.1   | <p><b>Indicator:</b> The employer pays at least minimum wages as defined by law, or ensures that wages cover basic needs [77], plus some discretionary income [78] , whichever is higher</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All, Farm-Wide</p>   | a. Obtain legal documents showing minimum wages for the location where the farm operates.   |
|   |   | b. If minimum wage has not been established by law, calculate basic needs wages, in consultation with workers and their representative organizations, and cost of living assessments from credible sources. Document the process and ensure that all workers have access to it at reasonable times. |
|   |   | c. Maintain copies of employees' contract and ensure that at least minimum wages are paid to employees  |
|   |   | d. Maintain receipts of salary payments. For first audit, receipts must cover ≥ 6 months.   |
| Footnote  | [77] Basic needs are determined by calculating the cost of the basic shopping basket needed for an adequate diet, the percentage of an average household's budget that goes to food and other necessary expenses, and the average size of a household in a given country. Recognized representative shopping basket surveys include those undertaken by national authorities and multi-lateral developmental agencies. A basic or living wage should be capable of sustaining 50% of an average-sized family with food, clean water, clothing, housing, transportation, schooling, obligatory tax payments, health care and an additional 10% discretionary income (SA8000). An employer shall minimally pay a full-time worker the basic needs wage (without financial deductions) or national legal minimum wage; whichever is higher. The basic needs wage/living wage refers to "take home payment". Any obligatory expenses at the side of the employee/worker (e.g., uniform, tools and lunches) will not bring "take home" pay below a basic needs standard. |   |
| Footnote  | [78] For guidance and methods for basic needs wage calculation, see SA8000 Guidance Document.   |   |
| 7.9.2   | <p><b>Indicator:</b> Workers have the right to know the mechanism for setting the wages and benefits</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | a. Provide a declaration stating the mechanism used for setting wages   |
|   |   | b. Ensure that employees are aware of the mechanism used for setting wages  |
| 7.9.3   | <p><b>Indicator:</b> Wages shall be paid in cash or in a manner most convenient to workers</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | a. Maintain records of the preferred method of payment for each employee  |
|   |   | b. Maintain records of payments indicating the method of payment  |
| <b>7.10 Criteria: Labor contracts</b>                 |   |   |
| <b>Compliance criteria (Required Client Actions):</b> |   |   |
| 7.10.1  | <p><b>Indicator:</b> Workers have copies of, and can understand, their labor contract [79]</p> <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | a. Ensure that employees have copies of their labor contracts   |
|   |   | b. Ensure that employees understand their labor contracts   |
| Footnote  | [79] 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. Cross interviews must take place to establish that the employer and the employee understand in the same way the terms of the verbal agreement.   |   |
| 7.10.2  | <p><b>Indicator:</b> Maximum length of probation period stated in the contract for workers, other than farm managers and workers with an university degree</p>  | a. Maintain copies of contracts of employees (other than farm managers and workers with a university degree) and ensure that the probation time is clearly stated and does not exceed 1 month   |

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| 7.10.2  | <p><b>Requirement:</b> 1 month</p> <p><b>Applicability:</b> All</p>  | b. Ensure that probation times are understood by employees and respected  |
| 7.10.3  | <p><b>Indicator:</b> Maximum length of probation period stated in the contract for farm managers and workers with an university degree</p>   | a. Maintain copies of contracts of farm managers and workers with a university degree) and ensure that the probation time is clearly stated and does not exceed 2 months                            |
|   | <p><b>Requirement:</b> 2 months</p> <p><b>Applicability:</b> All</p>   | b. Ensure that probation times are understood by employees and respected  |
| <b>7.11 Criteria: Management system</b>               |  |   |
| <b>Compliance criteria (Required Client Actions):</b> |  |   |
| 7.11.1  | <p><b>Indicator:</b> The employer ensures all workers have appropriate channels to communicate anonymously with employers on matters relating to labor rights and working conditions</p> | a. Maintain complaint boxes for employees throughout the farm.  |
|   | <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | b. Ensure that workers are aware of the use of complaint boxes and are encouraged to use them by farm management  |
| 7.11.2  | <p><b>Indicator:</b> Percentage of issues raised by workers which are registered, tracked and responded to by the employer</p>   | a. Maintain a register recording issues raised by workers (including complaint forms), date and response taken. For first audit, register must contain all records of the previous $\geq 6$ months. |
|   | <p><b>Requirement:</b> 100%</p> <p><b>Applicability:</b> All</p>   | b. Ensure that employees have access to the register at reasonable times  |
| 7.11.3  | <p><b>Indicator:</b> Percentage of complaints that are resolved<sup>[80]</sup> within one month after being received <sup>[81]</sup></p>   | a. Maintain evidence of issues raised by workers and being resolved. Evidence may include letters signed by employees or their representatives.   |
|   | <p><b>Requirement:</b> 90%</p>   | b. Record the issues being resolved in the register as for 7.11.2a  |
|   | <p><b>Applicability:</b> All</p>   | c. Maintain monthly summaries and calculations of the percentage of issues resolved within 1 month  |
| Footnote  | [80] Resolution of a conflict is defined as when both parties agree to remove it from the list of conflicts.   |   |
| Footnote  | [81] Complaints include the ones coming from other resource users, employees and buyers (e.g., middlemen or processors).   |   |
| 7.11.4  | <p><b>Indicator:</b> A plan for addressing the yet to be resolved conflicts is developed and complied with</p>   | a. Maintain a register recording issues raised by workers (as for 7.11.2a) and including the plan for addressing yet to be resolved conflicts   |
|   | <p><b>Requirement:</b> Yes</p> <p><b>Applicability:</b> All</p>  | b. Ensure that the plan is adhered to   |

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| 7.11.5  | <b>Indicator:</b> Timeframe for the contracting[82] of suppliers and service providers that ensure suitable health and safety conditions for their workers [83]   | a. For first audit, prepare a declaration of commitment to contract only suppliers and service providers that ensure suitable health and safety condition within 1 year.   |
|   | <b>Requirement:</b> Within 1 year from achieving certification<br><b>Applicability:</b> All   | b. For subsequent audits, ensure that all health and safety conditions as indicated in these Requirements (i.e. within Criteria 7.1, 7.2 and 7.4) are respected by all the employees of suppliers and service providers who are working in the farm  |
| Footnote  | [82] Including either written or verbal contracts.  |  |
| Footnote  | [83] As defined in these Requirements.  |  |
| <b>7.12 Criteria: Record-keeping</b>  |   |  |
| <b>Compliance criteria (Required Client Actions):</b>                               |   |  |
| 7.12.1  | <b>Indicator:</b> Records of the hours worked by every worker employed in the farm are available  | a. Maintain timesheets for all employees. For first audits, farm records must cover ≥ 6 months.  |
|   | <b>Requirement:</b> Yes<br><b>Applicability:</b> All, Farm-Wide   | b. Maintain a list of all employees employed in the farm   |
| <b>7.13 Criteria: Participatory social impact assessment for local communities.</b> |   |  |
| <b>Compliance criteria (Required Client Actions):</b>                               |   |  |
| 7.13.1  | <b>Indicator:</b> A participatory Social Impact Assessment (p-SIA) [84] is conducted (See Annex F for more information)   | a. Provide a p-SIA inclusive of all items reported in Annex F. For large scale farms (e.g. vertically integrated operations) the p-SIA must be commissioned to professional experts. A new p-SIA should be conducted at least every 3-years.   |
|   | <b>Requirement:</b> Yes<br><b>Applicability:</b> All  | b. For large scale farms, provide evidence of the experience of the professional experts commissioned. Evidence must indicate a track record of at least 3 years conducting participatory consultations with rural communities   |
| Footnote  | [84] p-SIA: An assessment of positive and negative consequences and risks of a planned or ongoing project (e.g., a farm or farm development) undertaken in such a manner that all stakeholder groups have input in process, results and outcome of such an assessment, and that steps taken and information gathered is openly accessible to all.   |  |
| 7.13.2  | <b>Indicator:</b> Local communities [85], local government and at least one civil society organization chosen by community have a copy of the p-SIA in locally appropriate language   | a. Maintain records of all the people having received copy of the p-SIA  |
|   | <b>Requirement:</b> Yes<br><b>Applicability:</b> All  | b. Obtain signatures from at least 50% of the people having received the p-SIA. The people signing must include at least: a representative of the local community (if such a representant can be identified by the majority of the community), a representative of the local government and one civil society organization (if available). |
| Footnote  | [85] Community: A group of people with possibly diverse characteristics who are linked by social ties, share common perspectives, and are joined by collective engagements within a geographically confined area. Four common indicators are 1.) a state of organized society in small form (town, village, hamlet) that recognizes a single representative (leader, formal or informal); 2.) the people inside a confined geographical area; small enough to allow face-to-face interaction as the main form of contact between the individuals within the group; 3.) having a common good or a common interest and recognizing that, and been recognized as having that; and 4.) A sense of common identity and characteristics (i.e., “we” versus “them” feeling) on either/or social, cultural, economic, ethnic grounds. |  |
| <b>7.14 Criteria: Complaints by local communities</b>                               |   |  |
| <b>Compliance criteria (Required Client Actions):</b>                               |   |  |

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| 7.14.1  | <b>Indicator:</b> A verifiable conflict resolution policy [86], [87], for local communities is developed and applied<br><b>Requirement:</b> Yes<br><b>Applicability:</b> All   | a. Prepare and ensure the application of a conflict resolution policy for local communities   |
|   |  | b. Maintain records of all the people having received copy of the policy  |
|   |  | c. Obtain signatures from at least 50% of the people having received copies of the policy. The people signing must include at least: a representative of the local community (if such a representant can be identified by the majority of the community), a representative of the local government and one civil society organization (if available).                               |
|   |  | d. Maintain records of meetings (at least twice per year) held with local communities to identify and resolve conflicts. Records must include list of participants, agendas and agreed action plan and summaries. For first audits records must cover at least one meeting (this could be part of the p-SIA process if the p-SIA was conducted less than 6 months before the audit) |
| Footnote  | [86] The policy shall state how conflicts and complaints will be tracked transparently and explain how to respond to all received complaints.  |   |
| Footnote  | [87] The process of resolution is documented and meetings are summarized. Summaries include an agenda (the list of concerns), resolutions or agreements reached, who shall take what action by when, and a list of participants. Local government and at least one civil society or customary organization chosen by the community shall have access to the conflict resolution process and the documentation thereof. A conflict is deemed resolved if both parties in the negotiation process have agreed to take it off the agenda. |   |
| 7.14.2  | <b>Indicator:</b> Complaint boxes, complaint registers, and complaint acknowledgement receipts in local language(s) are used<br><b>Requirement:</b> Yes<br><b>Applicability:</b> All   | a. Maintain complaint boxes in public locations reachable by the local community.   |
|   |  | b. Retain complaint forms submitted by local communities. For first audits, records must include at least previous $\geq$ 6 months.   |
|   |  | c. Provide evidence that complaints have been acknowledged to the local community (e.g. through a statement from the local community stating having received acknowledgement or acknowledgement receipts)   |
|   |  | d. Maintain a register of the complaints received. Register should include date, complaint and action taken. For first audits, register must contain records from at least previous $\geq$ 6 months.  |
| 7.14.3  | <b>Indicator:</b> Percentage of conflicts resolved within the date of being filed<br><b>Requirement:</b><br>Within 6 months 50%<br>Within 1 year 75%<br>Within 2 years 100%<br><b>Applicability:</b> All   | a. Maintain a register of complaints as per 7.14.2d, clearly identifying what complaints have been resolved and the resolution date   |
|   |  | b. Maintain minutes of community meetings as per 7.14.1d showing issues discussed and issues resolved   |
| <b>7.15 Criteria: Preferential employment for local communities</b> |  |   |
| <b>Compliance criteria (Required Client Actions):</b>               |  |   |
| 7.15.1  | <b>Indicator:</b> Evidence of advertising positions within local communities before migrant workers are hired<br><b>Requirement:</b> Yes   | a. Maintain a list of all employees employed in the farm indicating also place of origin  |
|   |  | b. For farms where employees are coming from a location other than the location of the farm (based on 7.15.1a) present copies of the dated advertisements posted around the farm to advertise. For first audit copies must cover more than previous $\geq$ 6 months   |

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|        | <p><b>Applicability:</b> All</p>  | <p>c. For farms where employees are coming from a location other than the location of the farm (based on 7.15.1a) present a list containing the name, address and contact number of all the people consulted to advertise the position in the local community. For first audit records must cover more than previous <math>\geq</math> 6 months</p> |
| 7.15.2 | <p><b>Indicator:</b> An explanation on the reasons for employing each worker is available and the explanation justifies not employing workers from local communities</p> <p><b>Requirement:</b> Yes, if workers outside the local community are employed</p> <p><b>Applicability:</b> All</p> | <p>a. Maintain a list of all employees employed in the farm indicating also place of origin as in 17.15.1a</p> <hr/> <p>b. For farms where employees are coming from a location other than the location of the farm (based on 7.15.1a) provide a written explanation for employing workers outside the local community.</p>                         |