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Cajon Farm
Aquafinca Saint Peter Fish
Regal Springs

Final Audit Report*

CAB: Institute for Marketecology (IMO)
Author: M.Stark
Date: 09.11.12

**This report is for public release and does not contain any confidential information.*

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Glossary

CC	Certification Committee IMO
CO	Carlos Orozco
d	day(s)
IMO	Institute for Marketecology
KIB	Kim Bedford
Lead	Lead Auditor
MIS	Michèle Stark
UOC	Unit of certification
TOS	Tori Spence

1. Executive Summary

Any version of this report in any other language than English is an unverified translation, and in case of differences the English version shall take precedence.

Aquafinca Saint Peter Fish was set up in Honduras on July 11th 1994, dedicated to breeding, fattening, processing and marketing of fresh tilapia fillets for the U.S. market. In order to successfully carry out this activity a vertically integrated company capable of producing the fry in the breeding farm located in the village of Borboton was created, from where fry are moved to Cajon reservoir and Lake Yojoa for fattening. In both lakes floating plastic circular cage systems are used. Subsequently, approximately 950 grams tilapia are transported to the processing plant located in the village of Borboton, where they are processed and packaged in presentation of fresh fillet, whole fish gutted and finally exported via air to the U.S. market where it is marketed under the Regal Spring brand.

Both Cajon farm and Yojoa farm are under assessment for ASC certification. This report only covers the assessment of Cajon farm.

Cajon farm site was audited against principle one to seven in one day. The audit was carried out by three auditors in Spanish and partly in English with translation.
During the environmental assessment, no major, four minor (0 closed prior to publication of this report) and three recommendations were raised. During the social assessment, no major, one minor (all closed prior to publication of this report) and no recommendation was raised.

Besides the grow-out, the scope of the assessment includes the harvest, landing and subcontracted transport in sealed tanks to processing. COC certification is required from the point of unloading from the sealed tanks.

IMO determines that all the requirements of the standard are sufficiently met and has certified Cajon farm.

2. CAB contact information

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Fisheries & Aquaculture
Weststr. 51
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Email: aqua@imo.ch

Website: www.imo.ch

3. Background on the applicant farm

Cajon farm was constructed in 1998 in the artificial lake of Cajon and today consists of 399 circular cages. There is another tilapia farm on the lake named Module Community. The lake has a surface area of 94 km^2 and is 180 m deep at the deepest point. The lake experiences two very different systems with a transition point between summer and winter. Thermal and chemical stratification is inverted depending on the wind currents and depending on which side of the transition point the cages are located.

Cajon farm is currently under assessment for GlobalG.A.P certification. No other farm certificates are held.

4. Scope

The assessment was carried out against the ASC Tilapia Standard v1.0.
The species produced at the farm is *Oreochromis Niloticus.*
Audit scope: Cajon farm (single site), Tilapia.
Receiving water bodies delineations: the artificial lake of Cajon situated in Honduras. This is distinct from the receiving water body of the hatchery; therefore, the hatchery has been excluded from the scope.

5. Audit plan

action	locations	persons	dates*
Desk review: pre-audit data	IMO Head office	MIS	June/July
Audit (principle 1-6)	Cajon	MIS (lead) RGS	26.7.12
Audit (principle 7)	Cajon	CO	26.7.12
Stakeholder & community meetings/interviews	Cajon	CO	26.7.12
Writing of the report	IMO Head office	MIS	28.7.12
Reviewing the report	IMO Head office	KIB	August
Client report to client	IMO Head office	KIB	14.10.12
Updating report	IMO Head office	TOS	22.10.12
Draft public report to ASC	IMO Head office	TOS	22.10.12
Stakeholder comments			10 days
Updating report	IMO Head office	TOS	08.11.12
Certification decision	IMO Head office	TOS CC	09.11.12
Final public report to ASC	IMO Head office	TOS	11.11.12

* The previous versions of the report are not public.

The audit was carried out with Jorge Maradiaga and Ernesto Vargas. Other staff/workers such as Orlando Delgado, Anne Laurence, Marlon Alvarenga, Carlos Linares, Tobias Roman, Human resources team, Denis Mancia, Amner Ramos, informatics team and corporate social Responsibility (RSE), joined parts of the audit, depending on their responsibility and the criteria being assessed.

Stakeholder and community interviews were carried out with the following persons:

Name	Affiliation
Arnaldo Palacios	Watershed Unit ENEE
Hector Castillo	Community Module
Luis Rivera	Educatodos
Felix Fajardo	Cooperative of Fishermen Union y Esfuerzo
Raul Rivera	Coninca
Leonel Sachez	ENEE Cuencas
Brigida Ulloa	El Ocotal
Edy Florez	Escuela El Ocotal

6. Findings

Details of the evidence of compliance found during the audit for each individual criteria of the standard can be found in Annex 1.

Any outstanding non-conformities and their respective action plans are listed under section 10. of this report. Any recommendations or closed non-conformities are not listed here and are part of Annex 1.

Community interviews further confirmed the audit findings and interviewed persons emphasized their support for this project.

All water measurements and analysis were found to be sufficiently compliant. Aquafinca takes a whole series of water measurements and continuously analyses this data to better understand the lake, determine any impacts from farming and to support the best set-up of the farm. This analysis goes beyond the requirements of these standards. The location of the water monitoring points RWFO, RWFA and RWRP may not be situated in the best location for the intention of the ASC monitoring, and may need to be adjusted when there is more guidance from ASC on how to determine these locations. In the fourth quarter due to the rainy season, the reservoir may reach critical oxygen levels for the operation. In this period thermal inversion also occurs and may be more acute when the hydroelectric plant operation requires opening the floodgates.

Under these conditions it is necessary to protect the tilapia, and fattening units are moved to a distant area of the reservoir (sector Yunque and Sulaco), however, only one RWFA has been selected for monitoring. Also, RWFO seems too far away from the cages and will mainly catch nursery rather than grow-out impacts. Until further clarification from ASC has been produced, monitoring should be continued in order to benefit from comparable data.

In general, the farm under assessment was very well prepared for the audit with all pre-audit data available prior to the audit. The auditors had open access to all documentation, the farm and staff/workers as required. The farm is well managed and documented and staff trained to implement the internal procedures which go beyond simple compliance to these standards. Efforts are made to cooperate with the local villages.

The management of Aquafinca has taken great care to integrate the business into society by supporting and creating a number of social projects (fish for trees, building of roads, renovations of schools etc) and supporting the local economy by creating much needed working opportunities in the region.

A description of the certification status can be found under section 8 of this report.

7. Evaluation results

Details of the evidence of compliance for each criteria in the standard can be found in Annex 1.

8. Decision

IMO determines that Cajon farm meets all the requirements of the standard and has issued a certificate for the scope defined under section 4. of this report. Any outstanding non-conformities and their respective action plans are listed under section 10. of this report.

9. Determination of the start of the COC

Risk assessment - COC within the farm

L – low risk: no such activities or a controlled system in place (e.g. license)
M – medium risk: such activities occur within the farm but there is a good system in place
H – high risk: such activities occur, there is a risk of mixing and the system in place is not sufficient

Ref to CR	Integrity of certified products	Associated risk	rationale
17.5.1	System in use	L	Robust internal traceability system and continuous documentation of lots, fish numbers and quantities produced.
17.5.1.2	The opportunity of substitution prior to or at harvesting	L	Little incentive (see 17.5.1.3) or opportunity (see 17.5.1.5) to substitute any live fish from the cages prior to or at harvesting.
17.5.1.3	The possibility of introducing product from outside the unit of certification	L	The entire farm as well as the second supplier of Aquafinca, Yojoa, is undergoing assessment to be ASC

			certified. Therefore, there is no incentive and little possibility to introduce product from outside of the UOC. See also 17.5.1.5
17.5.1.4	Robustness of the management system	L	Robust management system
17.5.1.5	Any transshipment activities taking place	L	The farm is situated in a small lake close to the harvest/landing site. No transshipment activities take place.
17.5.1.6	The number and/or location of points of harvest	L	There is only one landing site used for all harvests, where fish are loaded into sealed tanks.
	Overall risk estimation	L	

If the CAB determines the system is sufficient, products can enter into further certified chains of custody and be eligible to carry the ASC Label.

Scope of aquaculture certificate, including the points of change of ownership after which COC certification is needed:
Besides the grow-out, the scope of the assessment includes the harvest, landing and subcontracted transport in sealed tanks to processing. COC certification is required from the point of unloading from the sealed tanks, even if no change in ownership occurs. No retrospective approval has been applied for. Only products harvested as of the date of certification are approved to carry the ASC logo.

If the CAB determines the system is not sufficient, products may not enter into further certified chains of custody and are not eligible to carry the ASC Label.

The following products may not enter into further certified chains of custody and are not eligible to carry the ASC Label:
NA

This determination will remain in force until revised by the CAB in a subsequent audit.

10. Non-conformity report(s)

Producer: Cajon farm

N° of CC	Year	Cat.	Non-conformity (summary)	Action plan	Deadline
2.2.1	2012	min	Established species The farm is situated in a lake where tilapia was introduced by the government in the 50s. Stocking by the government	Document diagnosis of aquaculture in Honduras, Secretary of Agriculture and Livestock (SAG) and the Directorate General of	December 17 ,2012

Producer: Cajon farm					
N° of CC	**Year**	**Cat.**	**Non-conformity (summary)**	**Action plan**	**Deadline**
			in receiving waters continues. Several peer-reviewed articles, EIAs, government statements and community testimonials are available confirming that tilapia was introduced, is restocked annually and adults can be found in the wild. During the audit, multiple size classes (not fry) were visible. However, there is no written evidence specifically mentioning that the different life stages of *Oreochromis niloticus* (*O. mossambicus* is available) can be found naturally in the lake.	Fisheries (DIGEPESCA) IMO: submitted action plan approved	
2.3.1	2012	min	See 2.5.1	Develop procedures and training for personnel performing water sampling required by Aquafinca and monitoring of the ASC and the difference between measurements DDDO and Aquafinca monitoring requirements. IMO: submitted action plan approved	December 17 ,2012
2.5.1	2012	min	Water quality monitoring DO measuring was witnessed. This was mostly carried out according to the requirements. Procedures are clear and staff adequately trained, however, during the audit there was some confusion what kind of water sampling/monitoring should be carried out and monitoring was done at 1m instead of 30cm and	Develop procedures and training for personnel performing water sampling required by Aquafinca and monitoring of the ASC and the difference between measurements DDDO and Aquafinca monitoring requirements. IMO: submitted action plan approved	December 17 ,2012

Producer: Cajon farm					
N° of CC	**Year**	**Cat.**	**Non-conformity (summary)**	**Action plan**	**Deadline**
			samples were taken in a simple bottle instead of over a 1mwater column. See also 2.3.1. The company takes daily water measurements over a much greater depth than required by ASC and it seemed staff may be confusing the two types of sampling, as the required ASC sampling had already been carried out for that period. Data and analysis is recorded in separate confidential sheet of this annex.		
2.6.1	2012	min	Wetlands The farm was constructed prior to 1999. Since, there have been no constructural changes, apart from moving a maintenance store within the farming grounds away from the shore by some meters after extreme flooding in 2010. There is no evidence of wetland conversion. This was also confirmed in stakeholder interviews. However, the natural lake clearly is surrounded by wetland areas and no map is available showing wetlands within a 5km radius. No map showing pre-and post-1999 wetland coverage is available.	Document life zone around the dam of El Cajon. IMO: submitted action plan approved	December 17 ,2012

N° of CC	*Number of not fulfilled compliance criteria (e.g. 1.1.1). In case of doubts indicate at least chapter of report.*
Year	*First year when the non-conformity has been observed.*
Cat.	*Sanction Category: rate using rec, min or Maj*
Non-conformity	*Discrepancy to standard.*
Action plan	*Measure to correct non-conformity stated by company and to be approved by IMO. Implementation of corrective measure to be completed by deadline.*
Deadline	*Date when IMO will assess the implementation of the corrective measure.*
Status	*Status of implementation of corrective measure: done, partly done, not done*
rec	*Recommendation (no action plan required)*
min	*Minor non-conformity: see Annex 2*
Maj	*Major non-conformity: see Annex 2*

11. Next scheduled audit

Next planned surveillance audit; (year, month):	2013, July
Complete re-certification every three years; at the latest (year):	2015

IMO has the right to carry out additional unannounced audits according to the IMO standard operation procedures (SOPs). Likewise, an additional audit can be carried out within the framework of a document review.

Operator's comments (optional): none
The operator has confirmed their agreement with this report and has committed to implementing the action plan/corrective measures. The final certification decision is made by the responsible certification officer at IMO.

Annexes

Annex 1a. Evaluation results P1-6

Please see separate document. The following information is confidential and has been removed from the public report:

- Water monitoring data and analysis
- Description of specific farm management

Annex 1b. Evaluation results P7

Please see separate document.

Annex 2. Classification of minor / major non-conformities

Minor non-conformities

a) For initial certification, the CAB may recommend the applicant for certification once an action plan to address non-conformity has been agreed to by both the client and the CAB.

i. The action plan shall include a brief description of:

A. The root cause(s) of the non-conformity

B. The corrective action(s) to be taken is intended to satisfactorily address the non-conformity

C. The timeframe for implementation of corrective action(s)

ii. Minor non-conformities may be extended once for a maximum period of one (1) year if full implementation of corrective action was not possible due to circumstances beyond the control of the client.

b) The CAB should raise a major non-conformity where minor non-conformities are repeatedly raised against a particular requirement.

c) The CAB shall require that minor non-conformities raised during surveillance audits are satisfactorily addressed in one (1) year.

Major non-conformities

a) The CAB shall require that major non-conformities shall be satisfactorily addressed by an applicant:

i. Prior to certification being granted.

ii. Within three months of the date of the audit or a full re-audit shall be required.

iii. That the root cause of the non-conformity is identified.

b) In the case of a major non-conformity raised during the period of validity of a certificate, the CAB shall require:

i. That the certificate holder satisfactorily addresses the non-conformity within a maximum of three (3) months

ii. Major non-conformities may be extended once for a maximum period of another three months if full implementation of corrective action was not possible due to circumstances beyond the control of the client

iii. That the root cause of the non-conformity is identified

Annex 3. Form 1– Request for Interpretation or Variance

This form is for the submission of requests by CABs to ASC to request interpretations of ASC normative requirements and/or requests for variance from specific normative requirements.

I CAB Request

1.1 Name of CAB	1.2 Date of Submission	1.3 CAB Contact Person	1.4 Email Address of CAB Contact Person
Not used			
1.5ASC Document Reference			
1.6Background (Provide full explanation of the issue)			
1.7Recommended Action/Decision			

II ASC Determination

2.1 Status	2.2 Date of ASC Determination
□Closed	
2.3 ASCDetermination on Variance	
2.3 ASCInterpretation	

Annex 4. Stakeholder submissions

including written or other documented information and CAB written responses to each submission.

Public consultation period	Stakeholder submission	IMO Response
Audit announcement (30 days prior to audit)	No submissions received	n/a
Draft public report (10 days from report publication)	No submissions received	n/a

criteria	recomen-dation	minor NC	major NC	NC	action plan	action plan approved by IMO	status
2.2.1		1		Established species The farm is situated in a lake where tilapia was introduced by the government in the 50s. Stocking by the government in receiving waters continues. Several peer-reviewed articles, EIAs, government statements and community testimonials are available confirming that tilapia was introduced, is restocked annually and adults can be found in the wild. During the audit, multiple size classes (not fry) were visible. However, there is no written evidence specifically mentioning that the different life stages of Oreochromis niloticus (O. mossambicus is available) can be found naturally in the lake.	Document diagnosis of aquaculture in Honduras, Secretary of Agriculture and Livestock (SAG) and the Directorate General of Fisheries (DIGEPESCA)	OK	Open
2.3.1		1		see 2.5.1	Develop procedures and training for personnel performing water sampling required by Aquafinca and monitoring of the ASC and the difference between measurements DDDO and Aquafinca monitoring requirements.	OK	Open
2.5.1		1		Water quality monitoring DO measuring was witnessed. This was mostly carried out according to the requirements. Procedures are clear and staff adequately trained, however, during the audit there was some confusion what kind of water sampling/monitoring should be carried out and monitoring was done at 1m instead of 30cm and samples were taken in a simple bottle instead of over a 1mwater column. See also 2.3.1. The company takes daily water measurements over a much greater depth than required by ASC and it seemed staff may be confusing the two types of sampling, as the required ASC sampling had already been carried out for that period. Data and analysis is recorded in separate confidential sheet of this annex.	Develop procedures and training for personnel performing water sampling required by Aquafinca and monitoring of the ASC and the difference between measurements DDDO and Aquafinca monitoring requirements.	OK	Open
2.6.1		1		Wetlands The farm was constructed prior to 1999. Since, there have been no constructural changes. There is no evidence of wetland conversion. In addition, the receiving water is a artificial dammed lake. However, there is no map available showing wetlands within a 5km radius. There is no evidence of wetland conversion. However, no map showing pre-and post-1999 wetland coverage is available.	Document life zone around the damming El Cajon.	OK	Open
5.1.4	1			Recommendation - FS score For all species included in FM or FO, a FS score or a letter of intent from the feed manufacturer is required. Some FM sources are listed as wild catch in the feed manufacturers statement, although they are classified as processing by-product and hence do not need a FS rating. Feed manufacturers should update their documentation to coincide with each other and will be the critical background inoformation for FS score requirements for the second audit.		na	na
5.1.4	1			Recommendation - Feed names Feed names are difficult to relate to suppliers, feed supplier statements, feed labels etc. as different names and a mixture of supplier, producer and feed type names and abbreviations are used. For third party auditing a clear relation between the documentation and the feed type/producer is required.		na	na
5.2.1	1			Recommendation - Sustainability policies A letter of intent/letter confirming policy is in place to "preferably" sourcing from sustainable resources. However, as the level of requirement and intent of this criteria becomes more clear, it is expected that a policy would include a clear procedure, aim and accompanying decision tree rather than being a statement of intent.		na	na
Total	3	4	0				

AUDIT MANUAL - ASC TILAPIA STANDARD
Created by the Tilapia Aquaculture Dialogue

Scope: Species of the Family Cichlidae commonly referred as Tilapia (Oreochromis niloticus, O. mossambica, O. aureus and O. hybrids)

add "1" per criteria in applicable column below

PRINCIPLE 1. OBEY THE LAW AND COMPLY WITH ALL NATIONAL AND LOCAL REGULATIONS				Evaluation results			
1.1 Criteria: Evidence of legal compliance		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**	**Description**	**ok**	minor	major
1.1.1	**Indicator:** Presence of documents proving compliance with local and national authorities on land and water use (e.g., permits, evidence of lease, concessions and rights to land and/or water use) **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Maintain copies of applicable land and water use laws.	A. Review compliance with applicable land and water use laws.	Checked compliance with national law. Requirements from national authorities are fullfilled => SERNA	1		
		b. Maintain original lease agreements or land titles on file.	B. Confirm client holds original lease agreements or land titles.	Checked licences of Yoyoa and Cajón. Both OK. Licences are valid until 2019. For Yojoa they are allowed to use 4 ha surface and for Cajón 9 ha.	1		
		c. Keep records of inspections for compliance with national and local laws and regulations (only if such inspections are legally required in the country of operation).	C. Review inspection records for compliance with national and local laws and regulations (as applicable).	During the audit there could be verified all aplicable registers Aquafinca had to had available to show compliance with national laws on water and land use. There is available and up to date: licence contract with the statal electric company (on water use), all licence payments, water analysis- results acording to required SERNA water control plan, up to date assessments on environmental issues.			
		d. Obtain permits and maps showing that farm does not conflict with national preservation areas.	D. Verify facility does not conflict with national preservation areas.	It could be verified that there is no conflict with preservation areas	1		
1.1.2	**Indicator:** Presence of documents proving compliance with all tax laws **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Keep records of tax payments.	A. Verify client has records of tax payments to appropriate jurisdiction(s).	All required payments could been shown to the auditors during the audit	1		
		b. Maintain copies of tax laws for jurisdiction(s) where company operates.	B. Confirm client has a basic knowledge of tax requirements for farm.	The client has a very deep knowledge of tax requirements of the whole company	1		
		c. Register with national or local authorities as an “aquaculture activity".	C. Verify client is registered with local or national authorities.	All registered, all in order	1		
1.1.3	**Indicator:** Presence of documents proving compliance with all labor laws and regulations **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Maintain copies of national labor codes and laws applicable to farm.	A. Confirm client has specified documentation.	During records reviewed, it was found that the company is in compliance with all permits and licenses required by government, as well as with Honduran Labor Laws and regulations; in addition, auditor was shown the register of last visit of Ministry of Labor (July 13th 2012), which states that the company is also in compliance with their requirements. Durante la revisión de los registros, se encontró que la empresa está cumpliendo con todos los permisos y licencias requeridos por el gobierno, así como también con las Leyes Laborales y reglamentos de Honduras; además, se le mostró al auditor el registro de la última visita del Ministerio de Trabajo (Julio 13 2012), el cual declara que la empresa también está cumpliendo con sus requerimientos.	1		
		b. Keep records of farm inspections for compliance with national labor laws and codes (only if such inspections are legally required in the country of operation).	B. Review inspection records for compliance with national labor laws and codes (as applicable).	see A	1		
	Indicator: Presence of documents proving compliance with regulations or	a. Obtain permits for water quality impacts where applicable.	A. Verify that client obtains permits as applicable.	All permitions to use water for Tilapia production in lake Cajón and Yojoa & all necesarry facilities are available and up to date.	1		

1.1.4	permits concerning water quality impacts **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	b. Comply with all discharge laws or regulations.	B. Review evidence of compliance with discharge laws or regulations.	SERNA is national authority controling discharges and water quality. (measurements on Dissolved Oxigen, DB05, NH4, Nitits, Phosphates, Suspended Solids, Coliformes). AQUAFINCA is able to show compliance with those national requirements. There are all required analyisis done and could be veriified during audit. No eveidences found that requirements are not fulfilled.	1		
		c. Maintain records of monitoring and compliance with discharge laws and regulations as required.	C. Verify that records show compliance with discharge laws and regulations.		1		
PRINCIPLE 2. MANAGE THE FARM SITE TO CONSERVE NATURAL HABITAT AND LOCAL BIODIVERSITY							
2.1 Criteria: Site information		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
2.1.1	**Indicator:** Site location, history and stewardship activities matrix located in Appendix 1, Table 1 is completed and validated **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Complete the Receiving Water Information Checklist in Audit Reference 2 (Table 1 in Appendix 1 of the Standard).	A. Do not schedule on-site audit of client until checklist review is complete.	information was available prior to on-site audit.	1		
		b. Submit checklist and attachments to CB before the on-site audit.	B. Review client submission for completeness, accuracy, and currency of information. Request clarification if needed.	required data submissions were received prior to the audit. Some data was missing and can not feasibly be submitted prior to the audit e.g. net inspection and trapping inspection records (these are usually hand written and it does not seem feasible to have these sometimes daily records to be typed up digitally over several months if the company has confirmed that inspections are being carried out.	1		

		-	C. Verify client information by cross-checking with independent sources (e.g. local authorities).	client information cross-checked with permits and stakeholder information.	1		
2.2 Criteria: Presence of natural or established tilapia species		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
2.2.1	**Indicator**: Demonstration that the tilapia species cultured is established[1] and naturally reproducing in the receiving waters[2], of the operation on or before 1 January 2008[3] **Requirement:** Yes **Applicability:** All farm locations outside Africa (see 2.2.2), Farm-Wide	a. Collect documentary evidence that cultured species was established in receiving waters on or before 1 January 2008, or Collect first hand accounts showing evidence for natural reproduction of tilapia species in receiving waters on or before 1 January 2008. Submit evidence with checklist (Audit Reference 2).	A. Review evidence for compliance with the Requirement. Acceptable documentary evidence: peer-reviewed literature; verifiable Environmental Impact Assessment; and government certification. Acceptable first hand accounts: community testimonials and direct evidence for multiple size classes of tilapia species in receiving waters captured with cast nets, trapping devices or fishing.	The farm is situated in a lake where tilapia was introduced by the government in the 50s. Stocking by the government in receiving waters continues. Several peer-reviewed articles, EIAs, government statements and community testimonials are available confirming that tilapia was introduced, is restocked annually and adults can be found in the wild. During the audit, multiple size classes (not fry) were visible. However, there is no written evidence specifically mentioning that the different life stages of *Oreochromis niloticus* (*O. mossambicus* is available) can be found naturally in the lake. During a meeting with representatives of associations of local fishermen, they stated that specimens of the specie known as "red tilapia", are usually found in the lake, not only thanks to stocking of alevines programs but also due to several escapes that have occured accidentally during the last years.		1	
		b. If system does not have receiving waters according as defined in this requirement[2] then the requirements of Indicator 2.2.1 are not applicable.	B. Auditor response to 2.2.1A is "not applicable" (NA).	NA, cage systems.	1		
		c. If water is discharged into municipal water systems, show that there is a mechanism for treating effluent to eradicate/eliminate macro-biological organisms such as fish.	C. Review evidence to confirm compliance.	NA, cage systems.	1		
Footnote	[1] "A non-indigenous species is considered established if it has a reproducing population within the basin, as inferred from multiple discoveries of adult and juvenile life stages over at least two consecutive years. Given that successful establishment may require multiple introductions, species are excluded if their records of discoveries are based on only one or a few non-reproducing individuals whose occurrence may reflect merely transient species or unsuccessful invasions." (National Oceanic and Atmospheric Administration)						
Footnote	[2] "Receiving water" is defined as all distinct bodies of water that receive runoff or waste discharges, such as streams, rivers, ponds, lakes and estuaries (adapted from World Health Organization). This does not include farm-constructed water courses, impoundments or treatment facilities.						
Footnote	[3] Where there are no-discharge systems, or no discharge to receiving waters, requirements 2.2.1 and 2.2.2 are not applicable.						
2.2.2	**Indicator:** In Africa, demonstration that the tilapia species and strain cultured is established and naturally reproducing in the receiving waters of the operation or before 1 January 2008 **Requirement:** Yes **Applicability:** Farms located in Africa only (see 2.2.1), Farm-Wide	a. Collect documentary evidence that cultured species and strain was present in receiving waters on or before 1 January 2008 or Collect first hand accounts showing evidence for natural reproduction of tilapia species and strain in receiving waters on or before 1 January 2008. Submit evidence with checklist (Audit Reference 2).	A. Review evidence for compliance with the Requirement. Acceptable documentary evidence: peer-reviewed literature; verifiable Environmental Impact Assessment; and government certification. Acceptable first hand accounts: community testimonials and direct evidence for multiple size classes of tilapia species in receiving waters captured with cast nets, trapping devices or fishing.	NA	1 1		
		b. If system does not have receiving waters as defined in this Requirement[2] then the requirements of Indicator 2.2.2 are not applicable.	B. Auditor response to 2.2.2A is "not applicable" (NA).	NA	1		
		c. If water is discharged into municipal water systems, show that there is a mechanism for treating effluent to eradicate/eliminate macro-biological organisms such as fish.	C. Review evidence to confirm compliance.	NA	1		

2.3 Criteria: The effects of eutrophication		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
2.3.1	**Indicator:** The percent change in diurnal dissolved oxygen of receiving waters relative to dissolved oxygen at saturation for the water's specific salinity and temperature **Requirement:** ≤ 65% **Applicability:** All Farms, Farm-Wide	**Instruction to Clients for Indicator 2.3.1 - Diurnal Difference in Dissolved Oxygen (DDDO)** - Sampling for DDDO is done at least once per month and is measured only at Receiving Water Farm Afar (RWFA) site. - Measure dissolved oxygen (DO), conductivity (or salinity), and temperature at 0.3 m depth. Take all three measurements at the same time. - For each monthly sampling of DDDO, take measurements two times: 1 hour before sunrise and 2 hours before sunset. - Equations for calculating DDDO are given in Audit Reference 6 (also Equation 1 in Appendix III of the Standard). Note 1: For farms located in temperate zones, audits will occur during the 4-month window of peak primary productivity in receiving waters. Note 2: For farms where thermal destratification occurs (a natural event when oxygen is depleted due to mixing of deep waters with surface waters), the detection of low oxygen concentration will be recorded but will not be considered a non-conformance. Note 3: The pre-sunset measurements are taken at the same time that samples are collected for water quality monitoring (see Instructions for 2.5.1) at the day of the audit.					
		a. Collect ≥ 12 months of DDDO samples if farm was built after December 2009 (farms built before December 2009 need only 6 months of data).	A. Do not schedule on-site audit until client provides baseline DDDO data.	DDDO was provided prior to the audit.	1		
		b. Calibrate all equipment at the frequency and by the method recommended by the manufacturer. Calibrate daily if there is no manufacturer's recommendation.	B. Verify that client calibrates equipment as required.	equipment was calibrated prior to taking measurements, as required for the individual equipment.	1		
		c. Adjust DO at saturation to reflect temperature, salinity and altitude during calibration or in calculations (see Audit Reference 6).	C. Verify that client adjusts for temperature, salinity and altitude through calibration or in calculations (Audit Reference 6).	Equipment adjusts for temperature, salinity and altitude automatically.	1		
		d. Calculate DDDO using equation 1 (Audit Reference 6) and oxygen saturation values (Audit Reference 5). Enter DDDO values into Water Quality Monitoring Matrix (Audit Reference 4).	D. Review Water Quality Monitoring Matrix. Verify that all DDDO measurements from the receiving water comply with the Requirement.	data available and calculated accordingt to the requirements.	1		
		e. Calculate average annual DDDO for the prior 12-month period. Enter result into Water Quality Monitoring Matrix (Audit Reference 4).	E. Review monitoring matrix and confirm that mean annual DDDO ≤ 65 %.	Annual DDDO values are < 65% .	1		
		f. Arrange to take DO measurements while the auditor is at the farm.	F. Witness client measuring DO. On-site values should fall within range of farm data for DDDO. If an out of range measurement is observed, raise a non-conformity.	DO measuring was witnessed. This was mostly carried out according to the requirements. Procedures are clear and staff adequately trained, however, during the audit there was some confusion what kind of water sampling/monitoring should be carried out and monitoring was done at 1m instead of 30cm and samples were taken in a simple bottle instead of over a 1mwater column. See also 2.3.1. The company takes daily water measurements over a much greater depth than required by ASC and it seemed staff may be confusing the two types of sampling, as the required ASC sampling had already been carried out for that period. Data and analysis is recorded in separate confidential sheet of this annex. Results are within range.		1	
2.4 Criteria: Water quality in oligotrophic receiving waters		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
2.4.1	**Indicator:** Secchi disk visibility[4] limit above which production is not certifiable **Requirement:** 10 meters **Applicability:** All Farms, Farm-Wide	**Instruction to Clients for Indicator 2.4.1 - Upper Limit of Secchi Disk Visibility (SD)** The TAD concluded that "Water bodies with an average annual Secchi disk visibility at or above 10 meters are not permitted to be used as receiving waters under the ISRTA because of their ecological uniqueness and rarity." Thus, Indicator 2.4.2 sets an upper limit on eligibility for certification: SD ≤ 10 m. - Testing of the upper limit of SD is done only at the RWFA sampling station. - When depth at RWFA station is < 10 meters, the Requirement does not apply. - The required methods and equipment for measuring SD are given in Audit Reference 1.					
		a. Collect ≥ 12 months of SD readings at RWFA station (for first audits, farm must have ≥ 6 months of data). Enter SD values into Water Quality Monitoring Matrix (Audit Reference 4).	A. Review matrix to verify that average annual SD < 10 m. If average annual SD equals or exceeds 10 m, production is not certifiable.	Average annual readings <10m.	1		
		b. Arrange to take SD measurements at RWFA during the audit of the farm. The auditor will witness and replicate your SD measurements.	B. Witness client measuring SD. Repeat the SD measurement yourself at the same time and location. Record both sets of values.	Monitoring was witnessed. This was carried out according to the requirements. Data and analysis is recorded in separate confidential sheet of this annex.	1		

		-	C. Calculate percent error of farm data using Equation 2 (Audit Reference 6). If < 5% difference is observed between auditor and farm min and max SD readings, then accept the annual average from farm data. If > 5% difference is observed between auditor and farm min and max SD readings, then raise a non-conformity (see Audit Reference 3).	Percent error <1%. Data and analysis is recorded in separate confidential sheet of this annex.	1		
Footnote	[4] Measurements shall be taken at the Receiving Water Farm Afar (RWFA) sampling station. See Appendix II for RWFA definition.						
2.4.2	**Indicator:** Compliance with Requirements 2.4.3. & 2.4.4. when Secchi disk visibility[4] ≤ 5.0 meters **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	**Instruction to Clients for Indicator 2.4.2 - Decision about Oligotrophy using SD** The TAD concluded that it was necessary to protect oligotrophic waters from excessive nutrient loading. They imposed strict limits on concentration of Total Phosphorus (Indicator 2.4.3) and Chlorophyll a (Indicator 2.4.4). To decide whether a given waterbody is oligotrophic or not, the TAD mandated a functional definition: "Oligotrophic receiving waters are characterized as those that have a Secchi disk visibility equal to or greater than 5.0 meters." Thus, the Secchi disk measurement (SD) will determine whether Standard nutrient limits shall apply to a given receiving water. The flow chart in Audit Reference 7 shows how to make decisions using SD measurements. A few points about the logic of the decision-making process must be noted: - Highly oligotrophic waters (i.e. where the average annual SD is > 10 m) are automatically ineligible from certification because they do not comply with Indicator 2.4.1. - The decision about oligotrophy is made based solely on SD measurements taken at RWFA (i.e. SD measures from RWRP, RWFO or other locales are not considered). - The auditor will verify accuracy of farm SD measurements while on site. Where farm and auditor measurements differ, the auditor's SD measurement shall prevail. - When deciding if Requirement nutrient limits apply to a receiving water body, the auditor shall also compare the annual average SD to the on-site SD measurement. - If water depth at RWFA is < 5.0 meters and the SD measurement is to 'bottom' then 2.4.3 and 2.4.4 are not applicable. Note: If the client suspects that an abrupt reduction in SD as measured by the auditor (e.g. case D below) was caused by natural seasonal variations (i.e. summer blooms or rainy season turbidity), the client may request exemption from 2.4.3 and 2.4.4 but only if it can be shown annual average SD has not decreased by > 5% over the previous 2 years.					
		a. If auditor measurement shows SD > 5.0 m and annual mean SD < 5.0 m, then (see next column -->)	A. Proceed to Indicator 2.4.3 and 2.4.4.	NA, audit secchi disk readings <5m.	1		
		b. If auditor measurement shows SD > 5.0 m and annual mean SD > 5.0 m, then (see next column -->)	B. Stop	NA	1		
		c. If auditor measurement shows SD ≤ 5.0 m and annual mean SD < 5.0 m, then (see next column -->)	C. Stop	ok	1		
		d. If auditor measurement shows SD ≤ 5.0 m and annual mean SD > 5.0 m, then (see next column -->)	D. Proceed to Indicator 2.4.3 and 2.4.4.	NA	1		
2.4.3	**Indicator:** Total phosphorus concentration limit in receiving waters[4] **Requirement:** ≤ 20 µg/L **Applicability:** All Farms, Farm-Wide	a. If required under Indicator 2.4.2, collect water samples at RWFA. Determine total phosphorus concentration.	A. Take duplicate water sample at RWFA. Have sample analyzed by a qualified independent laboratory for total phosphorus concentration (for handling, see Indicator 2.5.1)	NA, audit secchi disk readings <5m.	1		
		b. Report results to CB.	B. Calculate percent error of farm data using Equation 2 (Audit Reference 6). If > 5% difference is observed between auditor data and farm min/max, raise a non-conformity (see Audit Reference 3).	NA	1		
		c. Analyze total phosphorus concentrations in all subsequent water samples from monthly water quality monitoring. Continue until instructed otherwise by the CB.	C. Verify that samples from receiving waters comply the Requirement.	NA	1		

2.4.4	**Indicator:** Chlorophyll a concentration limit in receiving waters[4] **Requirement:** ≤ 4.0 µg/L **Applicability:** All Farms, Farm-Wide	a. If required under Indicator 2.4.2, collect water samples at RWFA. Determine chlorophyll a concentration.	A. Take duplicate water sample at RWFA. Have sample analyzed by a qualified independent laboratory for chlorophyll a concentration (for handling, see Indicator 2.5.1)	NA, all secchi disk readings are <5m.	1		
		b. Report results to CB.	B. Calculate percent error of farm data using Equation 2 (Audit Reference 6). If > 5% difference is observed between auditor data and farm min/max, raise a non-conformity (see Audit Reference 3).	NA	1		
		c. Analyze chlorophyll a concentrations in all subsequent water samples from monthly water quality monitoring. Continue until instructed otherwise by the CB.	C. Verify that samples from receiving waters comply the Requirement.	NA	1		
2.5 Criteria: Receiving water monitoring		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
2.5.1	**Indicator:** Receiving water quality monitoring matrix completed and validated (Appendix II) **Requirement:** Yes (6 months data, pre-audit, required) **Applicability:** All Farms, Farm-Wide	**Instruction to Clients for Indicator 2.5.1 - Water Quality Monitoring** - Required parameters for the water quality monitoring program are shown in Appendix II of the Standard. - Samples are collected from each of the 3 sampling stations: RWRP; RWFO; and RWFA. - A minimum of one sample is taken per station but the TAD encourages multiple sampling to investigate waterbody dynamics. - Water samples are taken from a 1-meter column of water or deeper. - Water samples are taken 2 hours before sunset. - Water samples must be kept in sealed coolers and kept at a temperature of less than 10°C. Note 1: Laboratories used by the auditor for analyses not performed on site with auditor equipment will use ISO methods as described in Audit Reference 1, and farms are suggested to periodically send water samples to these laboratories to assure farm analyses are within a 5% level of error. Note 2: Water samples from RWFA should be taken at the same time that DO is measured for the calculation of DDDO (see Instructions for Indicator 2.3.1) at the day of the audit.					
		a. Conduct ≥ 6 months of water quality monitoring before first audit.	A. Do not schedule the on-site audit until client has monitoring dataset.	The monitoring was received prior to the audit.	1		
		b. Complete the Water Quality Monitoring Matrix (Audit Reference 4) and submit to CB.	B. Review Matrix to verify that client monitored all required parameters at the required frequency.	all required parameters were monitored at the required frequency.	1		
		c. Calibrate all equipment at the frequency and by the method recommended by the manufacturer. Calibrate daily if there is no manufacturer's recommendation.	C. Verify that client calibrates equipment as required.	equipment was calibrated prior to taking measurements, as required for the individual equipment.	1		
		d. During the audit of the farm, arrange to conduct water quality monitoring. The auditor will witness and replicate water sampling.	D. Witness client conducting water quality monitoring. Repeat on-site measurements at the same time and location. Record both sets of values.	Water quality monitoring was witnessed. This was mostly carried out according to the requirements. Procedures are clear and staff adequately trained, however, during the audit there was some confusion what kind of water sampling/monitoring should be carried out and monitoring was done at 1m instead of 30cm and samples were taken in a simple bottle instead of over a 1mwater column. See also 2.3.1. The company takes daily water measurements over a much greater depth than required by ASC and it seemed staff may be confusing the two types of sampling, as the required ASC sampling had already been carried out for that period. Data and analysis is recorded in separate confidential sheet of this annex.		1	
		e. Collect water samples and prepare them for shipment as applicable.	E. Collect duplicates of water samples for independent analyses performed by either the CB or an independent laboratory (i.e. not by farm staff). At a minimum, the independent analyses shall include determination of: chlorophyll a (ug/L), phosphate-phosphorus (ug/L), ammonia-nitrogen (ug/L), and turbidity (NTU). Keep samples in a sealed cooler at < 10°C.	Dublicate samples were collected and analysed for chlorophyll a (ug/L), phosphate-phosphorus (ug/L), ammonia-nitrogen (ug/L), and turbidity (NTU) by the CB.	1		

		f. Perform routine analysis of water samples (i.e. done in the same manner as for previous months of water quality monitoring).	F. Keep samples under auditor control until analyses are complete or until samples are placed into custody of a qualified independent laboratory.	Samples were close to auditor until analysed in the lab.	1		
		g. Record values for each parameter and submit results to CB.	G. Calculate percent error of farm data using Equation 2 (Audit Reference 6). If > 5% difference is observed between auditor and farm data, raise a non-conformity (see Audit Reference 3).	>5% error was observed between farm and auditor data for some of the water parameters. However, for some of the measurements the background noise and error in reproducibility/expected variation during lab analysis is higher than 5% and it seems that all variation can be easily/logically explained. Notes on such variation is added in separate confidential data sheet of this annex. Together with the assessment of reasons leading to percentage variation between the different data sets, this criteria is judged to be adequately compliant, although it was difficult to demonstrate the reproducability of lab analysis/results during the audit. however, the lab participates in testing rings with comparable results.	1		
2.6 Criteria: Wetland conservation		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
2.6.1	**Indicator:** Hectares of allowable wetland[5] conversion since 1999[6] **Requirement:** 0 ha **Applicability:** All Farms, Farm-Wide	a. Provide a map delineating all wetlands currently within a 5-km radius of the farm.	A. Evaluate whether there is evidence for any wetland conversion occuring within a 5-km radius of the farm since 1999.	The farm was constructed prior to 1999. Since, there have been no constructural changes. There is no evidence of wetland conversion. In addition, the receiving water is a artificial dammed lake. However, there is no map available showing wetlands within a 5km radius.		1	
		b. Prepare a map showing pre- and post-1999 wetland coverage at farm site.	B. If evidence shows that farm siting or related activities have resulted in loss of wetland habitat since 1999, then the client is not certifiable.	There is no evidence of wetland conversion. However, no map showing pre- and post-1999 wetland coverage is available. According to local people testimonies, the amount of hectares of wetland have been maintained basically on the same level through the last years and it was verified that the company has not influence on this factor, since its activities are done mainly in the middle of the lake.		1	
Footnote	[5] "Wetland is defined as lands where saturation with water is the dominant factor determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface." (United States Environmental Protection Agency)						
Footnote	[6] The year Ramsar contracting parties adopted strategic framework for the development of the Ramsar List						
PRINCIPLE 3. CONSERVE WATER RESOURCES							
3.1 Criteria: Nutrient utilization efficiency		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
3.1.1	**Indicator:** The total amount of phosphorus added to the culture system per metric ton of fish produced per year. Use equations from Appendix III. **Requirement:** ≤ 27 kg **Applicability:** All Farms, Unit of Certification Only Clients may omit/delete pricing details from purchase documents.	a. Calculate total weight of feed used. Keep invoices.	A. Review invoices to confirm the total weight of feed used.	Total weight of feed confirmed during on-site visit.	1		
		b. Calculate total weight of all fish purchased. Keep invoices.	B. Review invoices to confirm the total weight of fish purchased.	Total weight of fish purchase confirmed during on-site visit.	1		
		c. Calculate total weight of fish produced. Keep invoices for all fish sold or shipped.	C. Review invoices to confirm the total weight of fish sold or shipped.	Total weight of fish sold confirmed during on-site visit.	1		
		d. Obtain a signed letter from feed manufacturer stating phosphorus content of the feed.	D. Confirm that a letter from the feed manufacturer states phosphorus content.	Letter from feed suppliers is available.	1		
		e. Complete nutrient budget worksheet (Audit Reference 8).	E. Review nutrient budget worksheet for accuracy.	Nutrient budget worksheet completed and submitted prior to audit.	1		
		-	F. Confirm that total phosphorus added does not exceed requirement.	Original data (feed invoices, feed supplier statement etc) and calculations were verified. Total amount of phosphorus added to the culture system per metric ton of fish produced per year is below the requirements in the standard.	1		

3.1.2A	**Indicator:** The total amount of phosphorus released from the culture system per metric ton of fish produced per year. Phosphorus loading will be either calculated using equations from Appendix III or measured in effluent if there is post-culture treatment. **Requirement:** ≤ 20 kg **Applicability:** Farms with no post-culture treatment for phosphorus, Unit of Certification Only Clients may omit/delete pricing details from purchase documents.	*Farms without post-culture treatment for phosphorus*	*Farms without post-culture treatment for phosphorus*				
		a. Calculate total weight of feed used. Keep invoices.	A. Review invoices to confirm the total weight of feed used.	Total weight of feed confirmed during on-site visit.	1		
		b. Calculate total weight of all fish purchased. Keep invoices.	B. Review invoices to confirm the total weight of fish purchased.	Total weight of fish purchase confirmed during on-site visit.	1		
		c. Calculate total weight of fish produced. Keep invoices for all fish sold or shipped.	C. Review invoices to confirm the total weight of fish sold or shipped.	Total weight of fish sold confirmed during on-site visit.	1		
		d. Complete nutrient budget worksheet (Audit Reference 8)	D. Review nutrient budget worksheet for accuracy.	Nutrient budget worksheet completed and submitted prior to audit.	1		
		-	E. Confirm that phosphorus released does not exceed requirement.	Original data (feed invoices, fish invoices, nutrient budget worksheet etc) and calculations were verified. Total amount of phosphorus released from the culture system per metric ton of fish produced per year is below the requirements in the standard (see separate annex).	1		
3.1.2B	**Indicator:** The total amount of phosphorus released from the culture system per metric ton of fish produced per year. Phosphorus loading will be either calculated using equations from Appendix III or measured in effluent if there is post-culture treatment. **Requirement:** ≤ 20 kg **Applicability:** Farms that use post-culture treatment for phosphorus, Unit of Certification Only Clients may omit/delete pricing details from purchase documents.	*Farms with post-culture treatment for phosphorus*	*Farms with post-culture treatment for phosphorus*				
		f. Complete steps a-d (above) for Indicator 3.1.2A.	F. Complete steps A-D (above) for Indicator 3.1.2A.	NA, no post-culture treatment.	1		
		g. Describe method for treatment (e.g. sludge removal for fertilizer, water treatment facilities, etc.) and means of quantifying phosphorus capture.	G. View evidence for effective post-culture treatment.	NA	1		
		h. Keep records of the quantity of phosphorus captured by treatment.	H. Review records for phosphorus capture.	NA	1		
		i. Subtract net phosphorus captured in treatment facility from total output of phosphorus, expressed as kg P/mt fish produced over prior 12-month period.	I. Review calculations for accuracy.	NA	1		
		-	J. Confirm that the total amount of phosphorus released does not exceed requirement.	NA	1		
3.1.3	**Indicator:** Calculation and verification of the total amount of nitrogen applied to the culture system. Use equations from Appendix III. **Requirement:** Measured in kg nitrogen/mt fish/year **Applicability:** All Farms, Unit of Certification Only Clients may omit/delete pricing details from purchase documents.	a. Calculate total weight of feed used. Keep invoices.	A. Review invoices to confirm the total weight of feed used.	Total weight of feed confirmed during on-site visit.	1		
		b. Calculate total weight of all fish purchased. Keep invoices.	B. Review invoices to confirm the total weight of fish purchased.	Total weight of fish purchase confirmed during on-site visit.	1		
		c. Calculate total weight of fish produced. Keep invoices for all fish sold or shipped.	C. Review invoices to confirm the total weight of fish sold or shipped.	Total weight of fish sold confirmed during on-site visit.	1		
		d. Obtain a signed letter from feed manufacturer stating nitrogen content of the feed.	D. Confirm that a letter from the feed manufacturer states nitrogen content.	Letter from feed suppliers is available.	1		
		e. Complete nutrient budget worksheet (Audit Reference 8)	E. Review nutrient budget worksheet for accuracy.	Original data (feed invoices, feed supplier statement etc) and calculations were verified. Total amount of nitrogen applied to the culture system is calculated (see separate confidential annex).	1		

3.1.4	**Indicator:** Calculation and verification of the total amount of nitrogen released from the farming activity. Use equations from Appendix III. **Requirement:** Measured in kg nitrogen/mt fish/year **Applicability:** All Farms, Unit of Certification Only Clients may omit/delete pricing details from purchase documents.	a. Calculate total weight of feed used. Keep invoices.	A. Review invoices to confirm the total weight of feed used.	Total weight of feed confirmed during on-site visit.	1		
		b. Calculate total weight of all fish purchased. Keep invoices.	B. Review invoices to confirm the total weight of fish purchased.	Total weight of fish purchase confirmed during on-site visit.	1		
		c. Calculate total weight of fish produced. Keep invoices for all fish sold or shipped.	C. Review invoices to confirm the total weight of fish sold or shipped.	Total weight of fish sold confirmed during on-site visit.	1		
		d. Use equation from Audit Reference 6 to calculate total amount of nitrogen released.	D. Confirm calculation.	Original data (feed invoices, fish invoices, nutrient budget worksheet etc) and calculations were verified. Total amount of nitrogen released from the farming activity is calculated.	1		
		e. Complete nutrient budget worksheet (Audit Reference 8)	E. Review nutrient budget worksheet for accuracy.	Nutrient budget worksheet completed and submitted prior to audit.	1		
3.2 Criteria: Groundwater salinization		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
3.2.1	**Indicator:** Percent change in specific conductance of freshwater from a drilled well at the time of drilling and the time of audit. This is required when freshwater wells are used in combination with brackish surface water for the culture of tilapia. Freshwater aquifers are defined as having a specific conductance less than 1,300 µS/cm. **Requirement:** ≤ 10 % **Applicability:** Only farms where brackish water is used for tilapia culture, Farm-Wide	a. Inform CB if brackish water is used for tilapia culture (3.2.1 applies only to farms where surface water is > 1,300 µS/cm or initial well water is < 1,300 µS/cm).	A. Confirm whether client uses brackish water for tilapia culture. If not, then auditor response to 3.2.1B-E is "not applicable" (NA).	NA, no brackisch water is used.	1		
		b. Show well locations on map of farm.	B. Confirm well locations.	NA	1		
		c. Record date of drilling and initial specific conductance (µS/cm) at each well.	C. Retain a record of location and initial specific conductance for wells.	NA	1		
		d. Measure specific conductance of all wells less than 4 weeks before audit.	D. Review updated measurements of specific conductance. Compare values to initial measurements taken from the same wells.	NA	1		
		-	E. Verify that specific conductance at wells did not change by > 10 %.	NA	1		
PRINCIPLE 4. CONSERVE SPECIES DIVERSITY AND WILD POPULATIONS							
4.1 Criteria: Escapes from aquaculture facilities		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
4.1.1	**Indicator:** Presence of net mesh or grills/screens, barriers on inlets and outlets of culture vessels (e.g., tanks, ponds and raceways), and mesh on all netted confinement units (e.g., cages and impoundments), appropriately sized to retain the stocked fish **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Install net mesh, screens and barriers in required locales.	A. Inspect site to verify that net mesh, screens and barriers are in place.	NA, cage system.	1		
		b. Use meshes that are appropriately sized to retain stocked fish.	B. Inspect site to verify meshes are appropriately sized to retain stocked fish.	Different mesh sizes are used depending on the size of the fish. Mesh sizes seems appropriate. Besides the mesh sides, double neeting is also used where appropriate.	1		
4.1.2	**Indicator:** Presence of net mesh, or grills/screens and permanent barrier inspection register recording dates, findings and actions taken, including mitigation or fish containment structure repairs **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Establish program for regular inspection of permanent barriers.	A. Inspect site to verify effectiveness of inspection program.	cage system. Nets were found to be appropriately sized according to 4.1.1. Nets are inspected daily by divers and where any issues arise, a form is completed showing the location and size/shape of the defect.	1		
		b. Record the dates, findings and actions taken in an 'Inspection Register'.	B. Review records.	records available for required period and records are complete.	1		
			C. Do not schedule the first audit until client submits 6 months of inspection data.	6 month inspection data available prior to the audit.	1		
4.1.3	**Indicator:** Presence of trapping devices placed in effluent/drainage canals or in between cages to sample for escapees, and a record of findings and actions taken **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Establish program for monitoring escapes with trapping devices.	A. Inspect farm to verify that trapping devices are used in an effective and representative way for monitoring escapees.	Trapping devices regularly catch fish, showing the system is working. However, it seems difficult to distinguish if tilapia caught are escapes or wild stock.	1		
		b. Record all traps used, findings and actions taken.	B. Review records.	records available for required period and records are complete.	1		
		C. Collect data for 6 months before first audit.	C. Do not schedule the first audit until client submits 6 months of monitoring data.	6 month monitoring data available prior to the audit.	1		

4.1.4	**Indicator:** In cage culture systems, the minimum distance between the bottom of the cage and the bottom of the receiving waters where the cage is placed **Requirement:** ≥ 3.0 m **Applicability:** Cage systems only, Farm-Wide	-	A. For cage systems, confirm that distance between cage bottom and bottom sediment is ≥ 3 m.	Water depth is, depending on the level of the lake (big annual variation), around 25 meters at its deepest point. For the locations where fish are farmed, this leaves >3m distance between the cage bottom and the sediments.	1		
4.1.5	**Indicator:** The minimum percentage of males or sterile fish in a culture unit **Requirement:** 95 % **Applicability:** Land-based systems only, Farm-Wide	*If the farm is a land-based system, the client shall arrange to have tilapia cultures sampled for percentage of male fish (or sterile fish) as follows:*	*For land-based systems, the auditor shall confirm that clients follow requirements for determination of percentage of male fish (or sterile fish) in culture.*				
		a. Select three (3) culture vessels at random.	A. Verify samples were selected at random.	NA, cage systems.	1		
		b. Capture 40 fish from each culture vessel for a total of 120 fish.	B. Verify that fish originated from different culture vessels.	NA, cage systems.	1		
		c. Determine the number of fish in the sample that are male (or sterile).	C. Verify method used to determine sex (or sterility).	NA, cage systems.	1		
		d. Calculate the percentage of male fish (or sterile fish) in culture.	D. Review results to confirm compliance with the requirement.	NA, cage systems.	1		
		e. Alternate approach when farm has fewer than 3 culture vessels: capture a total of 100 fish and determine the percentage male fish (or sterile fish).	E. As for 4.1.5D.	NA, cage systems.	1		
4.2 Criteria: Transporting live tilapia		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
4.2.1	**Indicator:** Presence and evidence of use of fish transport containers that have no escape path for fish **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. For transport of live fish to the farm (e.g. fry), ensure that containers do not provide escape paths for fish.	A. Inspect site to verify containers do not provide escape paths for live fish transported to the farm.	Fry are transported in lidded tanks, allowing little escape paths. A seal is used to verify no exchange/escape of fish. Prior to sealing, water is oxygenated.	1		
		b. For transport of live fish away from the farm (e.g harvested fish), ensure that containers do not provide escape paths for fish.	B. Inspect site to verify containers do not provide escape paths for live fish transported from the farm.	Harvesting was observed during the audit. The harvesting system is arranged in such a way that there is minimal risk of any fish during harvest.	1		
4.3 Criteria: Transgenic fish		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
4.3.1	**Indicator:** Allowance for the culture of transgenic tilapia **Requirement:** No (None allowed) **Applicability:** All Farms, Farm-Wide	a. Maintain records for the origin of all cultured stocks including the supplier name, address and contact person(s) for stock purchases.	A. Review records to confirm compliance with the requirement	Records for all supplies are available. All alevines come from the same hatchery. A signed statement from the hatchery is available confiming that no trangenic stock is used. The brood stock was bought prior to the availability of transgenic fish. No technology for transgenic tilapia available in Honduras.	1		
		b. Purchase documents must confirm that culture stock is not transgenic.	B. If the auditor suspects that transgenic fish are in culture, test stock identity by collecting 3 fish and sending to an ISO 17025 certified laboratory for genetic analysis.	no suspicion of transgenic stock.	1		

4.4 Criteria: Predator control		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
4.4.1	**Indicator:** Use of lethal[7] predator control **Requirement:** No (None allowed) **Applicability:** All Farms, Farm-Wide	a. Prepare a list of all predator control devices and their locations.	A. Review list.	no lethal predator control devices. Predator nets on fingerling stages. Some birds around lake, and some on cages. Therefore, no list available.	1		
		-	B. Inspect sites to verify no use of lethal predator controls.	no lethal predator control devices visible.	1		
Footnote	[7] The use of lethal predator control is prohibited, unless a predator becomes impinged in netting and is required to be euthanized.						
4.4.2	**Indicator:** Mortality of IUCN red listed species **Requirement:** 0 (zero) **Applicability:** All Farms, Farm-Wide	**Instruction to Clients for Indicator 4.4.2 - Presence of IUCN Red List Species** Determine whether IUCN red list species are present in the region as follows: - go to http://www.iucnredlist.org/ - follow to "other search options" - select "Taxonomy" - select "Animalia" - indicate appropriate "Location", "Systems", "Habitat", - click on "run search" and record species listed and whether they are threatened by the farming activity. Note: The IUCN Red List uses nine categories for ranking species according to threat, and search results may include species that are not currently threatened. For the purposes of determining whether a farm complies with indicator 4.4.2, 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 list species and farm-related threats.	A. Repeat analysis to verify that client obtained an accurate result.	The analysis was repeated and the result is confirmed.	1		
		b. If an IUCN Red List species is identified in region of the farm (including receiving and source waters), take appropriate precautions as required.	B. Verify that client takes appropriate precautions as required.	The only red listed species in the area is a frog species which inhabits the woodlands. Therefore, no specific precaution for the lake based operation is required.	1		
PRINCIPLE 5. USE RESOURCES RESPONSIBLY							
5.1 Criteria: Use of wild fish for feed (fishmeal and oil)		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
5.1.1	**Indicator:** Feed Fish Equivalence Ratio (FFER). See Appendix IV for feed calculations. **Requirement:** ≤ 0.8 **Applicability:** All Farms, Unit of Certification Only	a. Obtain a signed letter from feed manufacturer stating percentage of fish meal and/or fish oil (Audit Reference 9) in feed used during the past 12 months.	A. Verify that values are stated in a letter from the feed manufacturer.	There is a letter from the feed supplier confirming these values/information.	1		
		b. For FFER calculations, exclude fish meal and fish oil derived from rendering of seafood by-products (e.g. the 'trimmings' from a human consumption fishery).	B. Verify client excludes rendered seafood byproducts from calculation of FFER.	rendered byproducts are excluded from calculation.	1		
		c. Calculate FFER using equations in Audit Reference 6 (also Appendix IV of Standard).	C. Verify that FFER calculations were done correctly.	Original data and calculations were verified.	1		
		-	D. Confirm that FFER complies with the Requirement	Calculation results confirm compliance.	1		

5.1.2	**Indicator:** Allowance for the use of fishmeal and fish oil in tilapia feed containing products from fisheries that are listed on the IUCN's Red List or the species list maintained by the Convention on the International Trade of Endangered Species of Wild Fauna and Flora **Requirement:** None **Applicability:** All Farms, Unit of Certification Only	a. Obtain a signed letter from feed manufacturer identifying the origin (genus, species and region harvested) of fish used in fish meal/oil (Audit Reference 9).	A. Verify that species used in fishmeal are identifed in a letter from the feed manufacturer.	There is a letter from the feed suppliers confirming species used in fishmeal.	1		
		b. Determine if any of the species used in fish feed are on the IUCN's Red List following the instructions given for Indicator 4.4.2.	B. Repeat search of IUCN database to verify that client obtained an accurate result.	The results are accurate	1		
		c. Determine if any of the species used in fish feed are listed by CITES as follows: - go to http://www.cites.org/eng/resources/species.html - select option "Species" and click "find it"	C. Repeat search of CITES database to verify that client obtained an accurate result.	The results are accurate	1		
5.1.3	**Indicator:** Timeframe for producers to source feed containing fishmeal or fish oil originating from fisheries deemed sustainable by an ISEAL member's accredited certification scheme **Requirement:** 5 years following the date of ISRTA publication **Applicability:** All Farms, Unit of Certification Only	a. Prepare a policy stating the organization's support of efforts to shift feed manufacturers to an ISEAL-accredited certification scheme for fish meal/oil origins.	A. Verify that the client's policy supports sustainable feed sourcing (e.g. programs at http://www.isealalliance.org/portrait/full%20member).	A policy is available. See also 5.2.1	1		
		b. Prepare a letter stating the organization's intent to source feed containing fishmeal or fish oil originating from fisheries deemed sustainable by an ISEAL member's accredited certification scheme by 19 December 2014.	B. Obtain a copy of client's letter of intent.	a letter of intent is available.	1		
		c. Affirm support of the process through internal and external communications (e.g. correspondence with feed manufacturers).	C. Confirm client's support with documented evidence (letters, communications).	Close correspondence with feed company and commitment to shift feed manufacturers to and purchase from sustainable fishery sources available.	1		
5.1.4	**Indicator:** Prior to achievement of 5.1.3, the average FishSource score characterizing the fishery(ies) from which the fishmeal or fish oil is derived. See Appendix V for explanation of FishSource scoring. **Requirement:** ≥ 6.0 with no individual score < 6.0 or an N/A in the stock assessment category **Applicability:** All Farms, Unit of Certification Only	**Instructions to Clients for Indicator 5.1.4 - FishSource Scores of Feed Species** For species from which fishmeal or fish oil is derived, determine FishSource scores as follows: - go to http://www.fishsource.org/ - select "Species" drop down tab to the left and enter relevant species - select the top tab that reads "Scores"					
		a. Record FishSource scores for each species from which fishmeal or fish oil is derived.	A. Confirm that client has recorded scores for each species. Repeat FishSource analysis to verify that client obtained an accurate result.	NA, FS score not calculated, but letter of intent issued.	1		
		b. Confirm that average score is ≥ 6.0 with no individual score < 6.0.	B. If any scores is < 6.0 then the feed does not comply with the Requirement. If the average score is < 6.0 then the feed does not comply with the Requirement.	NA, FS score not calculated, but letter of intent issued.	1		
		c. Confirm that there is no 'N/A' in a stock assessment category.	C. If an 'N/A' appears in the sock assessment category then the feed does not comply with the Requirement.	NA, FS score not calculated, but letter of intent issued.	1		
		d. If the species is not on the website it means that a FishSource assessment is not available. Contact FishSource via Sustainable Fisheries Partnerships to identify the species as a priority for assessment.	D. If the species does not have a FishSource score then the fish feed does not comply with the Requirement.	NA, FS score not calculated, but letter of intent issued.	1		
		e. In lieu of FishSource scores, a farm undergoing a first audit may substitute a signed letter of intent from their feed manufacturer stating commitment to provide feed complying with FishSource scoring requirements. However at the second audit, all farms shall demonstrate that they have used feed that complies with the FishSource scoring requirements for a minimum of 6 months.	E. Verify that client has manufacturer's letter of intent as applicable to first audits. Thereafter, client must demonstrate that all feeds used are in compliance with the Requirement.	Aquafinca sent letters to feed suppliers requesting all species to be assessed by fishsource and/or change source of fishmeal/-oil. Letter of intent is available. Letter of intent from manufacturer is available.	1		

Criteria 5.2 Criteria: Preference for better feed manufacturers		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
5.2.1	**Indicator:** Timeframe for producers to provide evidence of preferential sourcing of feed products from feed manufacturers that have a sustainable sourcing policy for feed ingredients, and traceability of feed ingredients **Requirement:** 2 years following the date that the ISRTA are published **Applicability:** All Farms, Unit of Certification Only	a. Compile a list of all feed suppliers with contact information.	A. Review feed supplier list and cross-check against feed purchases.	The list is given in the operator profile, which coincides which feed purchases viewed during the audit.	1		
		b. Prepare a letter of intent to preferentially source feed from suppliers who have a traceability and sustainability policy by 19 December 2011 (Audit Reference 9; also see Indicator 5.1.3B).	B. Verify that client has prepared the letter (it must cover traceability; see Indicator 5.1.3B).	NA	1		
		c. Communicate your oganization's policy to each feed supplier.	C. Verify that client communicated policy to feed supplier.	intent/policy has been communicated to suppliers and internally.	1		
		d. Request a traceability policy from each feed supplier (or letter of intent to establish one) before 19 December 2011.	D. Verify client requested documents from each supplier.	Evidence (emails) is available that documents have been requested from all suppliers.	1		
		e.Request sustainability policy from each feed supplier (or letter of intent to establish one) before 19 December 2011.	E. Verify client requested documents from each supplier. Auditors shall allow clients one year (until 19 December 2012) to demonstrate full compliance with 5.2.1c-e in accordance with forthcoming ASC guidelines.	traceability policy and sustainablility policy is available from all suppliers.	1		
5.3 Criteria: Energy use		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
5.3.1	**Indicator:** Identification of the energy sources and calculation and verification of total energy used at the culture facility **Requirement:** Measured in kilojoules/mt fish/year **Applicability:** All Farms, Farm-Wide	**Instructions to Clients for Indicator 5.3.1 - Calculating Total Energy used by Farm** Calculate the total energy consumption of the farm over the prior 12-month period by completing the Energy Budget Worksheet (Audit Reference 10). Include all sources of energy consumption on the farm site such as aeration, boat engines, electricity for housing, etc. Do not include off-site energy consumption such as transport of personnel to or from the farm, or transport of fish to or from the farm. Report energy consumption in kilojoules (Note: 1 megajoule = 1,000 kiojoules). The different energy units can be converted to kilojoules using the following website: http://tonto.eia.doe.gov/energyexplained/index.cfm?page=about). Report the grand total energy used as kilojoules/mt fish produced/year.					
		a. Complete the Energy Budget Worksheet (Audit Reference 10).	A. Verify that client completed the Energy Budget Worksheet.	energy budget worksheet received.	1		
PRINCIPLE 6. MANAGE FISH HEALTH AND WELFARE IN AN ENVIRONMENTALLY RESPONSIBLE MANNER							
6.1 Criteria: Stocked tilapia recovery							
6.1.1	**Indicator:** Percent recovery of fish stocked in production stages after they have attained a size of 100 grams **Requirement:** ≥ 65 **Applicability:** All Farms, Unit of Certification Only	**Instructions to Clients for Indicator 6.1.1 - Calculating Percent Recovery of Production Stages** Calculate the annual percent recovery of fish stocked in production stages after they have attained a size of 100 grams. All steps refer to quantities for the entire preceding 12-month period. 1) Stage of production where fish attain an average weight of 100 g (estimated) identified. 2) Estimated loss of fish (#) prior to average size of 100 g being achieved for all production cycles (in ponds, cages, tanks, etc.) for the prior 12-month period. 3) Standing stock of fish (#) after average size of 100 g achieved. 4) The number of fish harvested to market for the 12 month period divided by (#3 above) multiplied by 100 is equal to the percent recovery after 100 g. 5) Average percent recovery for prior 12-month period at grow-out site and verification of calculations from farm records. Note 1: The method presented above is the required formula for calculating annual percent recovery of fish stocked in production stages. It is acknowledged that some farms may have production cycles which make it difficult to accurately collect the information needed to complete this calculation. In such cases, the client may propose to modify the abovementioned formula provided that the client can show such change is justified. Written justification shall be submitted to the CB together with a detailed description of farm production cycles and a complete explanation showing how a modified formula will yield a more accurate calculation of annual percent recovery of fish stocked in production stages. Proposals must be reviewed and approved by the CB before the audit. Note 2: Recovery does not include recruitment of tilapia resulting from reproduction within the culture system.					

		a. Collect 12 months of data on recovery before the first audit.	A. Make sure client has collected 12 months of data on recovery before first audit.	>12 months data is available.	1		
		b. If the farm proposes to modify the formula for calculating percent recovery, submit written justification to the CB before the first audit.	B. Review justification for using an alternate calculation if applicable.	no deviation in calculation method requested.	1		
		c. Calculate percent recovery according to the instructions above.	C. Review calculations and verify that client's production records support the conclusions.	Calculations were carried out correctly and are backed by farm diary data.	1		
		-	D. Verify that percent recovery complies with Requirement.	The calculation results comply with the requirements.	1		
6.2 Criteria: Chemicals		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
6.2.1	**Indicator:** Allowance for the use of chemicals and therapeutants for disease and pest control that are banned in the importing or producing country **Requirement:** None **Applicability:** All Farms, Farm-Wide	a. Prepare a list of all chemicals used on the farm in the previous 12 months. [Note: The TAD considers any substance added by the producer to culture system - aside from water and feed - to be a chemical.]	A. Review list. Cross-check against purchases (6.2.2) and health events (6.2.4).	There has not been any use of antibiotics or other allopathic treatments during the last two years. This was verified while revision of registers and also in interviews with farm manager and workers. AQUAFINCA has implemented a traceability system which allows to filter every farm unit and cage in case there has to be applied allopathic treatment to get assurance that there is no mixing up of products.	1		
		b. Prepare a list of suppliers of all chemicals or therapeutants used.	B. Review supplier list to identify the country of origin for each chemical.	There is no supplier for antibiotics or other alopathic treatments because there is no use of such products until now. For other chemicals (Equipment desinfection, shoe desinfection, hand washing material) full technical descriptions and buying documentation is available .	1		
		c. Prepare a list of all the countries where the product has been exported to in the prior 12-month period.	C. Review list and cross-check against documentary evidence (e.g. sales documents).	OK	1		
		d. Prepare a list of banned substances for the producing and exporting country and the national authority or regulating body in producing country (contact information required).	D. Review evidence and cross-check against published information.	N/A No chemicals/therapeutants are used for disease/pest control.	1		
		e. Maintain records of voluntary and/or mandatory chemical residue testing conducted or commissioned by the farm from prior 12-month period.	E. Verify records.	N/A No chemicals/therapeutants are used for disease/pest control.	1		
6.2.2	**Indicator:** Allowance for the prophylactic use of antibiotics, prior to any evidence of a disease problem **Requirement:** None **Applicability:** All Farms, Farm-Wide	a. Maintain records for all purchases of antibiotics (invoices, prescriptions) .	A. Review purchase records and calculate total amount procured by client. Inspect storage area to verify quantities on site.	N/A, no use of antibiotics	1		
		b. Maintain a log of all health related events. For each event record the duration and the requirements for use of antibiotics or therapeutants (see also 6.2.4).	B. Review log of health events to verify that the quantity of antibiotic applied by the client does not suggest prophylactic use.	N/A, no use of antibiotics	1		
		c. Determine the total amount of antibiotics used in prior 12-month period.	C. Verify total amount of antibiotics used is equal to total amount prescribed.	N/A, no use of antibiotics	1		

6.2.3	**Indicator:** Minimum hold time required before any water in which fish have been fed with feed containing methyl or ethyl testosterone can be released **Requirement:** ≥ 48 hours **Applicability:** All Farms, Farm-Wide	*This indicator applies only to farms where the hatchery is located at the grow-out site (e.g. the grow-out facility owns and operates the hatchery) and where the hatchery discharges into the receiving waters. During the holding period, there shall be no risk of exposure of humans or livestock to methyl or ethyl testosterone.*				
		a. Hatchery facility must have the capacity to retain any water that contains hormones for sex reversal for a period of ≥ 48 hours .	A. Inspect hatchery to verify effectiveness of the systems to retain any water that contains hormones for sex reversal.	NA, discharging into a different water body than the farms.	1	
6.2.4	**Indicator:** Health records proving all therapeutants were used or are being used as prescribed by a veterinary or accredited fish health professional **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Keep a record of all therapeutants used for prior 12-month period.	A. Review record of therapeutant usage.	N/A, no use of therapeutants. However, a fish health specialist is on site.	1	
		b. Maintain all prescriptions for therapeutants for prior 12-month period.	B. Verify that therapeutants were used only under prescription.	N/A, no use of therapeutants. However, a fish health specialist is on site.	1	
		c. If prescriptions are made by health professionals who are not veterinarians, obtain evidence of competency (e.g. accreditation) in the diagnosis of fish disease and drug therapy.	C. If a non-vetrenarian wrote prescriptions, confirm that the individual is qualified as an accredited fish health professional.	N/A, no use of therapeutants. However, a fish health specialist is on site.	1	
6.2.5	**Indicator:** Calculation and verification of the total amount of each antibiotic (active ingredient) used per mt fish produced per year. **Requirement:** Measured in kilograms of active ingredient of individual antibiotic/mt of fish produced/year **Applicability:** All Farms, Farm-Wide	a. Determine total amount of antibiotic used for prior 12-month period.	A. Verify against record of antibiotic use (see 6.2.2C).	N/A, no use of antibiotics	1	
		b. Adjust total weight of antibiotic by the fraction of active ingrediant.	B. Verify fraction of active ingredient in antibiotic with manufacturer's data.	N/A, no use of antibiotics	1	
		c. Determine total weight of fish produced for prior 12-month period. Calculate kg active ingredient/mt of fish produced/year.	C. Verify that calculations are accurate.	N/A, no use of antibiotics	1	
6.3 Criteria: Mortalities		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**			
6.3.1	**Indicator:** Presence of records demonstrating that fish mortalities are removed consistently on a minimum daily basis **Requirement:** Yes **Applicability:** All Farms, Unit of Certification Only	a. Ensure that fish mortalities are removed from cultures on a daily basis.	A. Do site inspection to confirm there are no dead fish in cultures whose advanced state of decomposition would suggest mortality is > 1 day.	On-site inspection and interviews confirmed that dead fish are removed daily.	1	
		b. Maintain records of daily removals of fish mortalities.	B. Verify client's records show daily removals of fish mortality for prior 12-month period.	Morts removed daily by divers. Hand written records available and data entered into farm control. Data available for more than past 12 months.	1	
6.3.2	**Indicator:** Evidence proving acceptable disposal of dead fish, (i.e., landfill receiving receipts, sales receipts, permits or approvals for onsite burial, and assurance if converted to animal meals not destined for the culture of tilapia) **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Prepare a farm policy that addresses all requirements of the Standard in regards to the acceptable disposal of dead fish.	A. Review policy to verify it addresses all requirements of 6.3.2 of the Standard.	Dead fish are used for the company own biofuel production.	1	
		b. Maintain records of mortality disposals as evidence of compliance.	B. Review disposal records to verify compliance.	Disposal records are available and confirm compliance.	1	
		-	C. Do site inspection to confirm that farm policy towards mortality is implemented and mortality records are accurate.	On-site inspection and interviews confirmed the implementation of the company policy and showed accurate records.	1	

6.4 Criteria: Fish health management		**Compliance Criteria (Required Client Actions):**	**Auditor Evaluation (Required CB Actions):**				
6.4.1	**Indicator:** Presence and evidence of implementation of a fish health plan that is site-specific and contains effective methods for 1) Protecting the farm from introduction of pathogens, 2) Preventing the spread of pathogens within the farm and to the receiving waters and 3) Reducing the potential for development of disease resistance by ensuring responsible therapeutant use **Requirement:** Yes **Applicability:** All Farms, Farm-Wide	a. Prepare a fish health plan that addresses all requirements of the Standard, including: 1) Protecting the farm from introduction of pathogens, 2) Preventing the spread of pathogens within the farm and to the receiving waters, and 3) Reducing the potential for development of disease resistance by ensuring responsible therapeutant use	A. Review fish health plan to verify it addresses all requirements of Indicator 6.4.1 of the Standard and that the plan is site-specific.	The fish health plan addresses all the required topics and is site specific.	1		
		b. Obtain review and written approval of the fish health plan by the farm's veterinarian or health professional.	B. Confirm that the farm's veterinarian or health professional has reviewed and approved the fish health plan.	The health plan is approved and signed.	1		
		-	C. Do site inspection to verify that fish health plan is effectively implemented and understood by farm staff.	the health plan is effectively implemented and all staff are well trained and can explain the contents and required actions as required.	1		
				Total	**145**	**5**	**0**

22.10.12 Client report Cajon

criteria		recomen-dation	minor NC	major NC	NC	action plan	action plan approved by IMO	status
7.5.2	Wages, overtime and working hours		1		At the moment of the visit, the company is using a manual attendance sheet filled out by the supervisor and signed by each worker, to record hours of work, but the monitor found several mistakes that shows that the system is not 100% reliable, specially due to the amount of workers (459), so it is recommended to change time record system.	The company has tested a new electronic finger print time system, which was installed and operating by the end of August 2012.	OK	Done
Total		0	1	0				

AUDIT MANUAL - ASC TILAPIA STANDARD
Created by the Tilapia Aquaculture Dialogue

Scope: Species of the Family Cichlidae commonly referred as Tilapia (Oreochromis niloticus, O. mossambica, O. aureus and O. hybrids)

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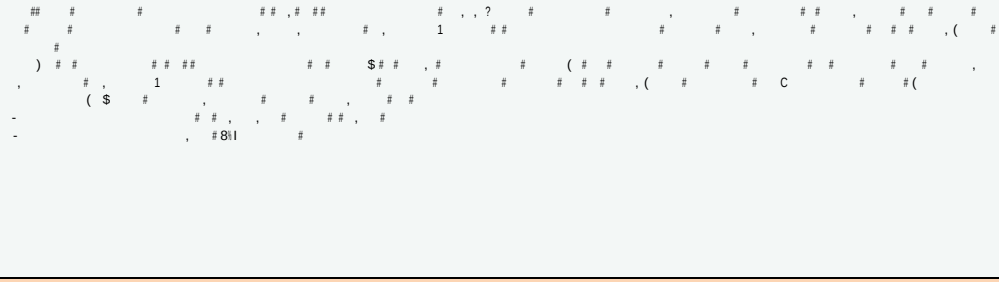
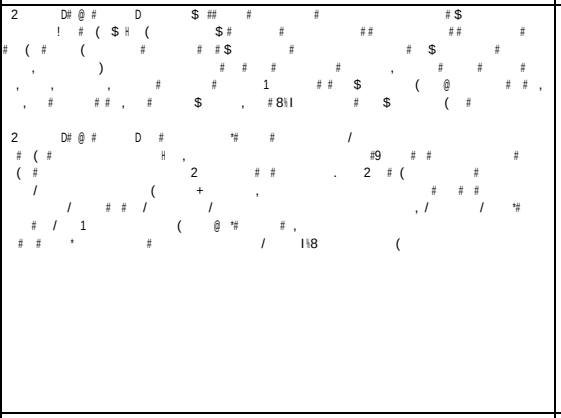
6	#					
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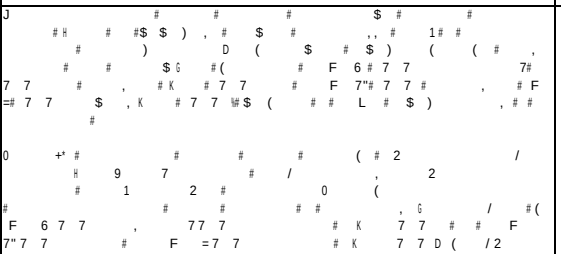
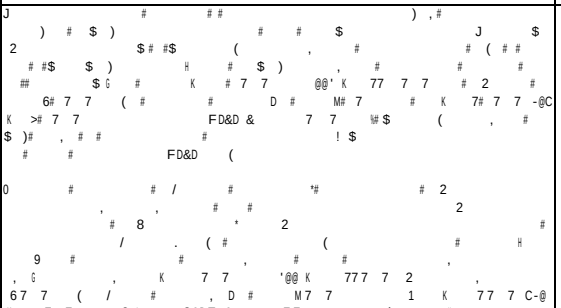
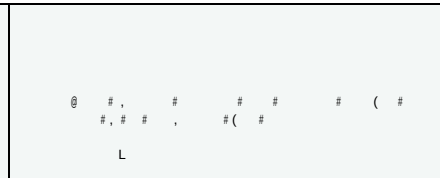
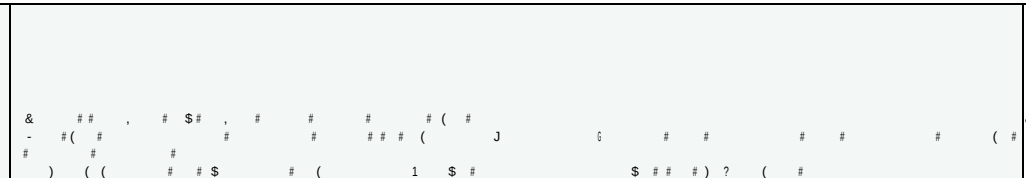
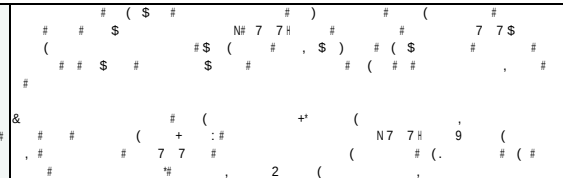
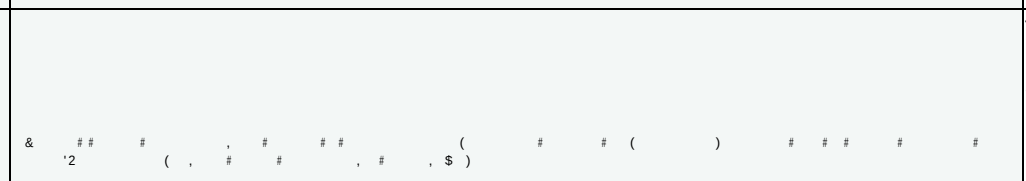
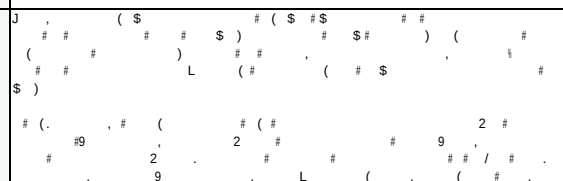
67	'(#(# # # E					
>	@ # , $) # # # # ? ? L					

> 7						
> 6						

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= 7	% $) , ? (# $	# # , # # # # (# % , # # (# # % , #) 0 # # , # # # ,& ((,? # (# # # # - # # $, ## ,) $ # ' $ # $ # # # # $) , 3 $)$)4 $ # # , # # # 1 >" 5 $ $ (# # # >" , $)$) # @ ($ # # # ((, (# # # 1 7 $) 5(# $) $ (#	J # (# # , $ # # ! $, J $) ! # , #) # (= # % # $ $) ! # # , # # # # $ ## $, # # J , # $) # # # $ # # , $) $) >> $ ## # (# # # $) # (1 7 $) 8 0 0 $ 2 # 7 (# $)% (# $) $ # , # # 7=L = L =L L # # # $ (# ## # # (# # # (, $) # $) ## # (#) # # $ # ## # # L # # $) >=N # # , # # D (/ 2 # , 0 , # (. / # = # D # (# # # , # 9 # (. , # # # # # / 2 , >> 2 # * 2 1 7 # * 7 1# % # 1# # , # 7=L = L =L L 2 1# (# ' # (# # # (# , # # # # # / (2 # 2 # L # # >=N # # , # #				
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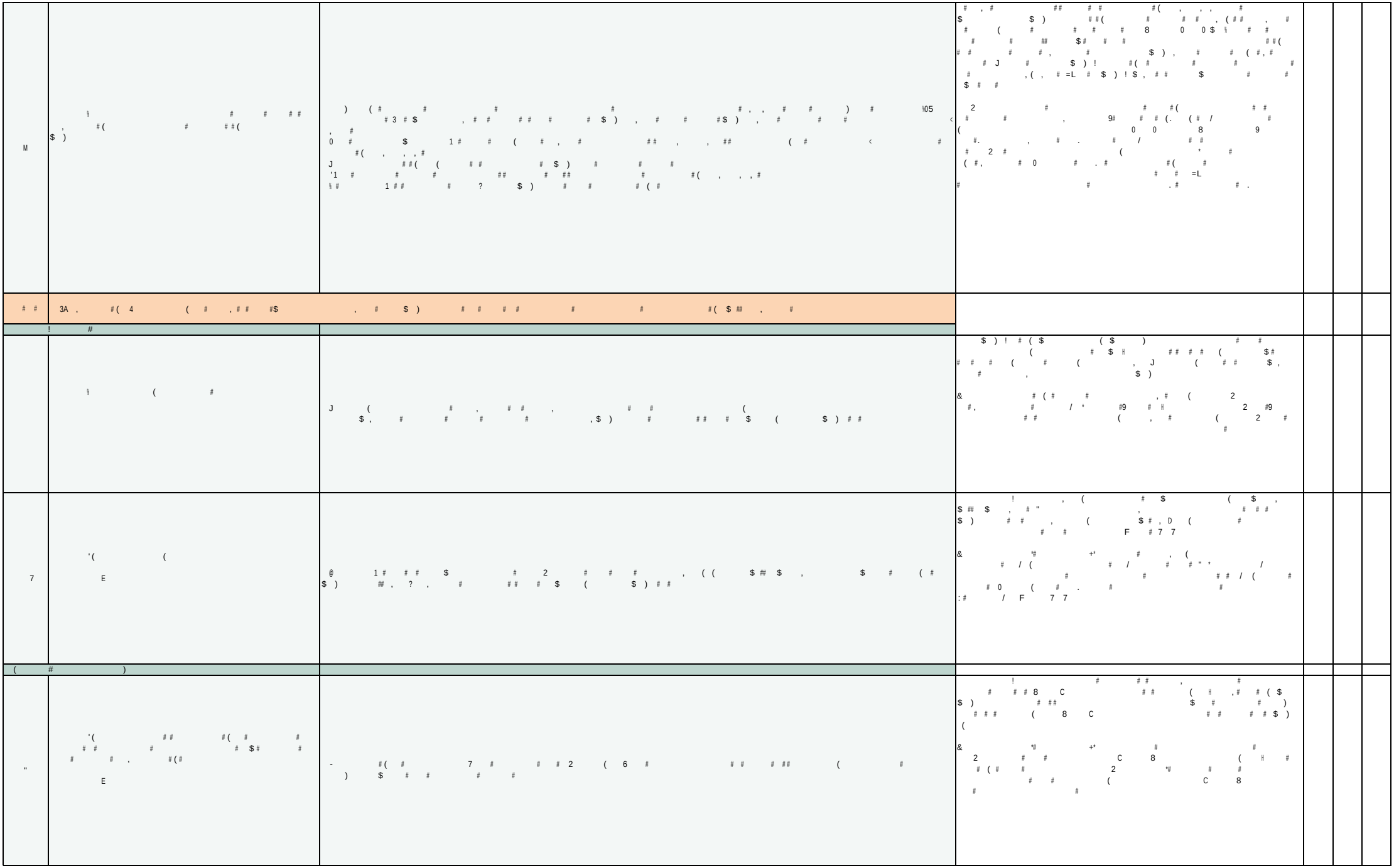

"7	'(## , # 2 # # # , #(# E	- , 1 # 2) # # # 7 # # # 2 (6 # # # # (#) # # # 2 , ,	J , # , # # , $# # # # # # K 6# 7 7 0 # / , , # # 9 # # / # :# / K 67 7			
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