Freshwater Trout Aquaculture Dialogue Barcelona, Spain November 5-6, 2009

**Meeting Summary** 

Prepared by World Wildlife Fund and Consensus Building Institute David Plumb- Dplumb@cbuilding.org Merrielle Macleod- <u>Merrielle.Macleod@wwfus.org</u> Christoph Mathiesen- <u>C.mathiesen@wwf.dk</u>

> World Wildlife Fund - US 1250 24<sup>TH</sup> St., NW Washington, DC 20037 www.worldwildlife.org

#### Meeting Background

The Freshwater Trout Aquaculture Dialogue (FTAD) met November 5-6, 2009 in Barcelona, Spain to discuss the development of standards for responsible freshwater trout production. This was the third freshwater trout meeting since the process began in November 2008. David Plumb of the Consensus Building Institute (CBI) facilitated the meeting. The expected outcomes of the meeting were to:

- Create a shared understanding among participants of the FTAD's purpose and process
- Receive feedback on draft impacts, principles and criteria developed at the first two FTAD meetings (November 2008 and May 2009)
- Begin drafting indicators
- > Develop strategies for outreach and ensuring success

Please note that all documents and presentations referred to in this meeting summary are available on the FTAD website: <u>http://www.worldwildlife.org/what/globalmarkets/aquaculture/troutdialogue.html</u> The meeting agenda is attached as Annex 2.

#### Key Meeting Outputs

- Provided an overview of the FTAD's purpose, process and achievements to date. Of the 43 participants, roughly two-thirds were attending their first FTAD meeting.
- Received participant feedback on goals, objectives and work to date of the FTAD, including draft impact, principles and criteria
- > Developed multiple ideas for potential indicators
- > Developed specific outreach steps for the FTAD and next steps for the Steering Committee

#### **Pre-Meeting Outreach**

In anticipation of this meeting, the FTAD's coordinator and steering committee members communicated with a broad range of stakeholders in Spain and around the world to inform them of the progress that has been made within the FTAD and encourage their participation in the process, including attending the November meeting. The FTAD also published public notices about the November meeting in trade publications and on the Aquaculture Dialogues' website. Meeting invitations were sent to environmental groups, trout producers, researchers and other stakeholders.

#### **Meeting Participants**

Forty-three (43) people participated in the meeting, representing feed manufacturers, NGOs, trade bodies/industry associations, aquaculture organizations, producers, insurance, retailers and researchers. They came from more than 10 countries, including the United States, Denmark, Russia, Portugal, the United Kingdom, Spain, France, Canada, Poland, Italy and South Africa. Roughly a third of attendees had been to a previous FTAD meeting. The full list of participants is in Annex 3.

#### Key Points Summary, By Discussion Area

#### Aquaculture Dialogues/ FTAD Purpose and Process

After introductory presentations and discussion, participants expressed a general understanding and agreement with the purpose and process of the FTAD. FTAD Coordinator Christoph Mathiesen and FTAD Steering Committee members said the goal of all of the Aquaculture Dialogues, including the FTAD, is to improve industry performance through measurable standards. The process is built on the premise that

farming should remain economically viable. FTAD is one of the newest Dialogues. This allows the FTAD to draw on the experiences of other Dialogues. The FTAD aims to develop final standards in late 2010. The FTAD Steering Committee (SC) is the decision-making body of the Dialogue.

#### Participant Feedback on Dialogue Process

Participants described and discussed what they thought was compelling about the FTAD process as well as concerns they had about it.

#### Why is the FTAD compelling? Responses from the group included:

- It's a global effort and can serve as a benchmark for other standard-setting initiatives
- A broad and diverse group of stakeholders participate in the process
- The process addresses conservation and economic development goals
- There is market interest in the process
- The standards will be measureable
- It's bringing people together
- Aligns peoples' incentives toward a common goal

#### Concerns associated with the FTAD? *Responses from the group included:*

- There are too many aquaculture certification schemes already. Can we combine this with others?
- Does it make sense for products from different nations (with different national laws) to have the same brand?
- Should we require producers to comply with national laws of the countries they export to?
- Should the standards also look at the quality of trout (i.e., the nutritional value they provide)?
- Who "owns" the ASC brand and who will pay for the ASC marketing?
- Will this really be an achievable set of standards for farms? Is aiming for the top 20 percent of the industry the right target?
- The label has to mean something. The ASC can't just certify everyone.
- Will we look at the positive impacts from fish farming?
- Is the FTAD moving fast enough? Can we finish in a reasonable time?
- We need to deal with the cumulative impacts of aquaculture.
- What are the costs for being certified against ASC FTAD standards?
- Who is going to pay for costs associated with certification?
- How does the FTAD coordinate with other Dialogues?
- Why isn't food safety going to be included in the standards?
- Will the standards look at agriculture and other impacts on water quality
- Will farms need to comply with 100% of the standards?

The FTAD coordinator and Steering Committee encouraged discussion about these compelling attributes and concerns.

#### **Developing Ideas for Potential Indicators**

Participants reviewed and provided input on the draft impacts, principles and criteria developed during the two previous FTAD Dialogue meetings. In small groups, participants then brainstormed potential indicators. The ideas from these discussions are captured in Annex 1. The ideas do not represent a consensus among participants, but rather a list of possible indicators.

#### Outreach

The FTAD coordinator explained that he and the FTAD Steering Committee are conducting outreach to key stakeholders from all sectors in major trout producing regions of the world, including Spain, Italy, Poland, France, Turkey and Iran. The goal is to share information, receive feedback, and encourage involvement in the process. Outreach is conducted in a variety of ways, including phone calls, emails, meetings and in association with trade shows and conferences. Participants suggested specific outreach steps for the FTAD, including reaching out to consumers through the Food Marketing Institute, Retail Consortium and other similar organizations. More effort should be made to involve small producers, participants said. In addition, advertisements about the FTAD should be placed in EAS, FEAP and NACEE (Network of Aquaculture Centers in Central-Eastern Europe).

#### Next Steps

The FTAD Steering Committee will spend the next several months creating a refined set of draft indicators with the assistance of technical experts. The SC expects to meet frequently, including an inperson meeting in late January 2010 to develop the indicators. The SC expects to make public a draft set of indicators, and will encourage comment on them. The SC expects to incorporate this feedback and develop draft standards by the middle of 2010. Draft standards will go through a formal public comment period. The FTAD expects to hold at least one more Full Dialogue meeting in 2010 to discuss the draft document.

# ANNEX 1

These proposed ideas for indicators resulted from brainstorming sessions during the FTAD's 3<sup>rd</sup> meeting on November 5 & 6, 2009. *They do not represent a consensus among participants or a refined list of draft indicators.* The proposed ideas will help inform the FTAD Steering Committee as is develops draft indicators.

Previous FTAD meetings developed the draft impacts, principles and criteria that participants used to create ideas for indicators. All the work remains in draft form and open to revision. Many of the indicator ideas expressed here require further refinement to form the basis of a measureable standard.

#### Principle 1: Comply with all applicable, national and local laws and regulations

#### INDICATORS DISCUSSED

1.1 Operate within the legal framework of applicable national and local laws and regulations

1.1.1 Presence of documents proving compliance with all taxes (standard: yes)

1.1.2 Presence of documents proving compliance with all labour laws and regulations (standard: yes)

#### Notes and other key points related to principle 1:

Look to other standards, such as GlobalGAP (and others), to see what laws related to auditing have already been compiled. A suggestion was made to take the stance that producers are innocent until proven guilty on the legal front due to the difficulties of no compendium of all legal laws from all countries.

Despite concerns about equivalent status (e.g., ASC label) being granted to products grown in countries with varying levels of legal requirements, it may not be appropriate for the FTAD to address differences in national legislation, providing that legislation is complied with. Trading patterns will be dictated by import/ export criteria. Compliance with taxes would only be a very small part of demonstrating compliance with national laws. Should possibly consider presentation of documentation to confirm that the farm has the relevant local permission to be there (planning permission/abstraction/discharge etc).

#### Principle 2: Conserve habitat and biodiversity

This principle encompasses the impacts of habitat conversion, escapees and predator control.

#### INDICATORS DISCUSSED

#### 2.1 Siting

2.1.1 Documents showing an Environmental Impact Assessment (EIA) before building a new

operation in order to assess baseline populations (standard: present/sufficient or absent/ deficient)

2.1.2 New farms are sited at a specified distance from areas identified as critical habitat for species at risk (standard: undecided, but explore the Salmon Dialogue standard on this)

#### Notes and other key points on siting:

Current regulations make this an almost moot point. It is more reasonable to constrain construction for biodiversity purposes in less industrialized landscapes. It is harder in more industrialized areas. Obligation for farmers to care for species at risk on farm land (This is already being discussed in Denmark). Because many farms are already located in areas with high nature values and because almost all water bodies are high value nature areas, coexistence (nature and aquaculture) is important. So aquaculture farms must have management and arrangement/constructions of farms in respect with nature.

EIA is fine, but not certain how relevant assessing baseline populations would be in all situations

#### 2.2 Exotics

2.2.1 Using native (or government authorized) genotypes when farms are established or stock changed (standard: consistent with EU regulations)

2.2.2 Farming is limited to geographical areas where the species is present or established, (Although this raises perverse incentive issues to introduce species. Standard: allowed where it is present in local waters, either naturally or established within x years)

#### Notes and other key points on exotics:

Because rainbow trout are genetically very homogeneous (more so than brown trout, for example), we may need to divide standards related to species. No need to be repetitive of EU existing legislation on exotics. Debate points: Is it safer to farm trout in areas where there are no native strains or better in areas where there is no rainbow trout at all? If we ban introductions, does this pose an unfair burden on developing countries that haven't had the same amount of time to develop native stock? Exotics are not seen as a problem for closed RAS systems.

#### 2.3 Escapees

- 2.3.1 Farmed animals come from non-breeding or sterile populations (possible standard: Y/N)
- 2.3.2 Presence of appropriate recovery equipment on farm (possible standard: Y/N)
- 2.3.3 Presence of fencing/ escape mechanism (screen of defined size) (possible standard: Y/N)
- 2.3.3 Presence of fencing/ mechanism to prevent incoming fish (possible standard: Y/N)
- 2.3.4 Monitoring program with records to quantify volume of fish outside of farm per unit area

2.3.5 Presence of standard operating procedure: in relation to e.g. fish transfer, net cage age, cage material and strength for net pen systems)

#### Notes and other key points on escapees:

Many of the indicator suggestions are seen as BMP-type suggestions that would vary with different farming systems. Some of the indicators in 2.3 are also listed as possible standards (for example 2.3.1). This has created some discussion on whether they should be obligatory or not.

#### 2.4 Indigenous flora and fauna

- 2.4.1 Structures are in place to assure free passage of migratory flora and fauna
- 2.4.2 Maintain minimum ecological flow
- 2.4.3 Presence/ absence of a structure to allow passage over dams on own land

#### Notes and other key points on indigenous flora and fauna

Need fencing/ screens to minimize interactions with wild species? Standards should address the quality of water leaving the farm, as well as volume (x-check with water use). Guideline might be no prevention of free passage. This is challenging, due to EU regulations on pathogen control as well as the fact that most farms cannot address free passage on their own land. Consider biological/ community surveys, despite challenges related to cumulative impacts/ multiple users/ costs. Change "conserve" to "respect" in the principle. This will better account for protecting actual ecological function rather than, in some cases, maintaining (conserving) an unnatural state. "Habitat conversion" needs a more holistic definition.

#### 2.5 Predator control

2.5.1 Presence/use of non-lethal deterrents (possible standard: Yes)

#### Notes and other key points on predators:

It should be possible to use non-lethal methods for controlling predators. With some predators and/or farm locations a lethal deterrent may be required as a final solution?

#### 2.6 Genetically Modified Organisms (GMOs)

2.6.1 Presence of transgenic trout on farm (standard: NO)

#### Notes and other key points on GMO:

GMOs should be defined as transgenic and the definition should be included in the standards document. There was a debate about whether there should be absolutely no transgenics, largely because of the uncertain science and potential for GMOs to make better use of limited resources. However, the majority of the meeting participants thought it was best to use a precautionary approach and revise the standards as the science related to GMOs advances.

It is important to distinguish between transgenic trout and the use of e.g. GMO soy products in feed. There are strong viewpoints in the group against and for GMO in vegetable feed ingredients.

#### Principle 3: Minimize negative effect on water resources

This principle encompasses the impacts of discharges and water use.

#### INDICATORS DISCUSSED

#### 3.1 Water use (volume)

3.1.1 Performance Index of multiple indicators (water usage, energy, co2, P, N)

3.1.2 Fraction of total flow diverted from river

3.1.3 Remaining surface water allows for normal health/ use

3.1.4 Annual tons producer/ unit water flow (ton/ year divided by m3/ year or ton/ m3)

3.1.5 Total flow used (not as relevant)

3.1.6 Groundwater measurements (Groundwater table elevation change/ Groundwater salinity change)

3.1.7 Salinity concentration in discharge

3.1.8 Carrying capacity (density?) for cages

#### Notes and other key points on water use:

There was some discussion on how "Performance Index of multiple indicators (water usage, energy, co2, P, N)" will be framed. Performance index should not allow fish farms to pollute the watershed with nitrogen and phosphorus simply to tradeoff energy usage and the resulting CO2 emissions. For example, it is not okay for a flow through farm to simply use dilution and then rate high because it does not use pumping and thus has a lower CO2 footprint. Water pollution can cause immediate and lasting environmental degradation in local watersheds and even regional waters. CO2 is also creating long-term and regional/global problems. However, reducing energy usage and the resulting CO2 emissions should not be used as an excuse to inadequately prevent water pollution.

Fraction of total flow diverted from river - to measure this accurately would require the flow in the river to be continually monitored also which may be impractical or costly. The 'theoretical' figure may be calculated easier i.e. average yearly flow in river is X, average abstraction by farm is Y

#### 3.2 Water quality/ effluent

3.2.1 Net total phosphorous and total nitrogen load (kg/ year), based on 24 hour composite sampling of inlet and outlet—matched to carrying capacity of receiving water

3.2.2 Total suspended solids (TSS) (Kg/ year)

3.2.3 Biological Oxygen Demand (BOD) (kg/ year)

3.2.4 Chemical Oxygen Demand (COD)

3.2.5 Total available nitrogen (TAN)

3.2.6 Measurement / concentration of chemicals (formalin) and therapeutics (antibiotics) in effluent (not very practical)

3.2.7 List each chemical/chemotherapeutic/antibiotic, number of time that each has been applied, and the total mass/volume of each applied during the year

3.2.8 Normalized pollution load per unit of annual product (net phosphorous discharged per ton of fish produced)

#### Notes and other key points on water quality:

Frequency of measuring? – Annual, quarterly, monthly????

#### 3.3 Impact on receiving water

3.3.1 Inflow/ outflow concentration comparisons within receiving water (e.g., dissolved O2, chlorophyll a, turbidity and total phosphorous)

3.3.2 Biological indicators comparison within receiving water inflow and outflow (e.g., benthic populations, sediment carbon concentration, biodiversity indices)

#### 3.3.3 Carrying capacity limits

#### Notes and other key points on water:

There was some (a minority) with the opinion that criteria 3.2 (effluent quality and load)) should be removed. There was some (a minority) with the opinion that criteria 3.3 should say "relative impact on intake and outlet water." Most thought that criteria 3.3 should clearly focus on impact on receiving water. This is important if the standards want to consider the cumulative impacts of farmers along a river. Some participants recognize the need for a disposal of bio-solids criteria but others do not think it fits in logically to the standards document. When do you start measurement of the natural ecosystem (baseline)? How do you judge against what is normal? How often do you monitor these elements effectively? High and low flow events? Is there a check of water quality as it comes in? Is there potential to inform authorities about water quality upstream? Comments were made about a biological indicator (3.3.2) not being a feasible indicator, because there are no international standards, so one cannot make comparisons. Also biological indicators can be very subjective and very expensive for the fish farmers.

# Principle 4: Proactively maintain health and welfare of cultured fish and minimize risk of disease transmission

This principle encompasses the impact of fish health/welfare and disease transfer.

#### INDICATORS DISCUSSED

#### 4.1 Survival and health of farmed fish

4.1.1 Percent (%) recovery 4.1.2 Record survival rate

#### Notes and other key points:

Regarding survival percent we would need to take into account predation, escapes and an inaccurate counting of survivals. May need to consider measuring at different stages (e.g., hatchery, juvenile and maturity). It will be difficult to set a standard, given that many farms have fish for specific stages, not the whole cycle. Maybe, as this is a product standard, this should be from egg to end product. If you don't have the data, inspect the fry provider or certify him/her as well.

#### 4.2 Bio-security

- 4.2.1 Health Status of live eggs/ fish (possible standard: disease free)
- 4.2.2 Disease category of area/ farm (possible standard: disease free area)
- 4.2.3 Location in a sanitary defense area (possible standard: government approved)
- 4.2.4 Presence and compliance with a veterinary health plan

4.2.5 Presence and compliance with standard operating procedures (sanitations, care and handling)

- 4.2.6 Mortality disposal
- 4.2.7 Mortality removal frequency
- 4.2.8 Outbreak records

#### 4.2.9 Number of outbreaks

#### Notes and other key points on Bio-security:

There is some discussion on the relevance on some of the indicators in relation to sustainability (for example 4.2.2 and 4.2.3)

#### 4.3 Medical and chemical treatment

4.3.1 Records of all treatments, including withdrawal period (standard: complete records)

4.3.2 Use of prescription medicine (standard: only with prescription)

4.3.3 Legality of drugs in production and importing country

4.3.4 Legality of water treatments

4.3.5 Prophylactic use of antibiotics (standard: banned, unless recommended by the sites veterinarian)

4.3.6 Quantity of antibiotics/ chemicals used

#### 4.4 Water quality on site

4.4.1 Monitoring procedures/ records/ limits for dissolved oxygen (DO) % saturation, flow rate, toxic ammonia (intended as undissociated ammonia or N-NH<sub>3</sub>) NO<sub>2</sub>, temperature, suspended solids and CO<sub>2</sub>. For cage systems, monitor chlorophyll, benthic environment monitoring and water transparency.

4.4.2 Presence of standard operating procedures for handling extreme conditions

#### Notes and other key points on water quality on site:

Monitoring benthic environment is envisioned here as an indicator of farmed fish health and welfare? Frequency of monitoring for all indicators should be related to risk analysis.

#### 4.5 Fish condition and welfare

- 4.5.1 Visual inspection
- 4.5.2 Freedom from hunger
- 4.5.3 Feeding ratio/ frequency/ response
- 4.5.4 Conversion efficiency
- 4.5.5 Freedom from stress
- 4.5.6 Slaughter methods
- 4.5.7 Density/ fin condition
- 4.5.8 Grading conditions/ frequency

#### Notes and other key points on welfare:

Still under debate is whether and how to include fish welfare. Operational welfare indicators probably make the most sense. Several of the proposed indicators here require greater refinement. Slaughter methods are only relevant to welfare consideration. There was debate around density as an indicator. Some participants thought it was a basic proxy for condition of the fish and disease risk. It is also related to fin condition. Others did not consider density or fin condition to be good indicators. When density is too low, fish go back to hierarchical competition. High density can be a way to improve flow rate when

your amount of water is limited. When flow rate is high, it is less important. Density is easier to measure than other indicators but is tells you much less about fish condition. There may be problems in using Density because of lack in scientific knowledge (science base).

It should be included not to use fodder which can lead to an obese fish

#### Principle 5: Use resources responsibly (suggestions to change this to "efficient" use)

This principle encompasses the impacts of energy efficiency, carbon footprint and feed ingredients.

#### INDICATORS DISCUSSED:

#### 5.1 Energy use (suggestion to change criteria to "energy usage and consumption")

5.1.1 KWh per MT of fish produced

5.1.2 Percent of renewable energy used from total energy use

5.1.3 Define a maximum energy use

5.1.4 Percent of renewable energy linked to availability of renewable energy in producing country

5.1.5 Buy carbon credits in countries with limited renewable energy resources

#### Notes on Energy Usage:

What to include in the energy consumption measurement, given this is a farm level standard and most energy use comes from feed production and transport. How to deal with equity issues in countries without renewable energy? Could this be a tiered approach?

Is buying carbon credits in third world countries sustainable or even ethical? Suggestion to that this should be replaced with site reforestation.

#### 5.2 Feeding regime (suggestion to change criteria to "Feeding efficiency")

5.2.1 Feed conversion ratio

5.2.2 Nutrient efficiency and balance coming in and going out of the farm

5.2.3 Organic matter in effluents

#### Notes on feeding regime:

Regarding FCR one needs to be aware that this is altered by composition of diet, so higher FCR may not actually be a sign of a poor farm (low energy/fish meal diet may give higher FCR)

#### 5.3 Source of marine raw materials

5.3.1 Marine Stewardship Council certified

5.3.2 International Fishmeal and Fishoil organization. GSRS (Global Standard for Responsible Supply) certified.

5.3.3 Friends of the Sea certified

5.3.4 FishSource score

5.3.5 FAO assessment 5.3.6 IUCN red lists

#### Notes and other key points on marine raw materials:

Some participants felt feed sourcing is out of the farmer's control. Credibility of some of the existing certifications e.g. Friends of the Sea was questioned.

#### 5.4 Source of non-marine raw ingredients/ materials in feed

5.4.1 Certifed soya (e.g. Proterra certification or similar)

5.4.2 ISEAL-certified soya (ISEAL -International Social and Environmental Accreditation and Labeling Alliance

5.4.3 Organic certified

5.4.4 Use of sustainable/ traceable land animal proteins, including blood meal

5.4.5 Use of innovative feed ingredients (e.g., algae oil, rag worm)

#### Notes and other key points on non-marine raw materials:

The importance of looking at organic as an indicator for non-marine raw material is being questioned.

#### 5.5 Use of wild fish for feed (efficiency)

5.5.1 Feed Fish Efficiency Ratio (FFER)

5.5.2 Inclusive Feed Fish Equivalency Ratio (IFFER)

5.5.3 IFFER, excluding certified sustainable feed fisheries from the equation as well as trimmings

#### Notes and other key points on wild fish for feed:

Debate on reducing the pressure on wild fish through aquaculture standards and why this is important. Also debate over the relevance of this measurement if the source of wild fish is certified as sustainable. Some participants felt FFER wasn't important if feed used is certified as sustainable marine inputs. The importance of having a FFER system was supported by arguments against potential certification schemes which are to be based on existing governmental management regimes as these are not capable of preventing overfishing.

Participants had concerns over the credibility of "certified sustainable" feed today and in the future. Currently there are no MSC certified forage fisheries. By including this, are we making aquaculture in general look bad? Are we creating unfair comparisons to other protein sources? The market drives the price, which encourages efficiency. Should we leave it to that mechanism? This is a consumer concern, so there are risks to credibility if it is not included. Will the fish feed just go to pigs in China if not to Aquaculture? What do we lose nutritionally by doing this? How are we influencing the transfer of land/ sea protein? Some participants stressed the importance of reducing the farmed fish industry's dependence on a scarce resource. The question of how consumers view the use of wild fish being used for feed was also raised. FFER is a good tool to incentivize efficient use of feed and reduced dependence on forage fish.

#### Principle 6: Be socially responsible

This principle encompasses social/community impacts.

#### INDICATORS DISCUSSED

#### 6.1 Freedom of association and collective bargaining

#### 6.2 Child labor

6.2.1 Number of incidences of child labor (possible standard: 0)

#### 6.3 Forced, bonded or compulsory labor

6.3.1 Number of incidences of forced, bonded or compulsory labor (possible standard: 0)6.3.2 Zero tolerance approach to abusive disciplinary practices in the workplace (possible standard: yes, in the workplace)

#### 6.4 Discrimination

6.4.1 Evidence of proactive anti-discrimination practice (possible standard: Yes)

#### 6.5 Health and safety

6.5.1 Percentage of workers trained in health and safety practices (possible standard: 100%)
6.5.2 Company responsibility and proof of insurance (accident/ injury) for employee costs in a job-related accident or injury when not covered under national law (possible standard: 100%)
6.5.3 Health and safety related accidents and violations (possible standard: 100% recorded and corrective actions taken)

#### 6.6 Wages

6.6.1 Percentage of employees paid fair and decent wages (possible standard: 100%)

#### 6.7 Labor contracts

6.7.1 Percentage of employees with access to trade unions and ability to bargain collectively (possible standard: 100%)

#### 6.8 Conflict resolution

No indicators discussed under this criteria

#### 6.9 Working hours

6.9.1 Incidences/ violations/ abuse of working hours and overtime laws/ expectations (possible standard: 0)

#### 6.10 Living conditions

No indicators discussed under this criteria

#### 6.11 Co-existence with other community activities

No indicators discussed under this criteria

#### Notes and other key points on principle 6:

Waiting for suggestions/ guidance for suggestions on effective off-farm community criteria, indicators and standards. Social auditing will not take the place of national law enforcement. Audit checks will be at a level to indicate responsible practice/ adherence to standards. In general, this social principle may

result in less metrics-based standards than other principles because this is the nature of effective social auditing. However, as much as possible these standards need to be easily auditable and measurable.

#### General Comments (not related to a specific indicator):

- The issue of weighing/ prioritizing impacts against each other was raised. For example, will reducing impacts in pollution result in higher energy costs? Can we create indices for these types of issues/ tradeoffs?
- For several of the criteria, consider a Life-Cycle Analysis (LCA). How far back do we go to account for these issues? This is farm-level but how far back in the life cycle do we measure (e.g., raw materials)?

### ANNEX 2

#### Attendes list for FTAD 3

Organisation – enterprise	Name	Country
Grupo Tres Mares	Luz Arregui Maraver	Spain
Carrefour	Carmen Gomez de Carvallo Crossa	France/Spain
Consensus Building Institute	David Plumb	USA
MCS (Seas at Risk)	Dawn Purchase	UK
FishWise	Sian Morgan	USA
Manitoba Agriculture, Food and		
Rural Initiatives	Jeff Eastmann	Canada
University of Insubria	Marco Saroglia	Italy
Freshwater Institute	Steve Sommerfeldt	USA
Research / Hands on Fish		
Farmers Co-op	Salie Khalid	South Africa
Russian Federal Center of Fish		
Genetics	Andrey Bogeruk	Russia
Head of the Section on		
Information and International		
Contacts	Irina Lukanova	Russia
Deutche See	Andreas Lippmann	Germany
WWF Denmark	Christoph Mathiesen	Denmark
WWF France	Eric Bernard	France
WWF US	Merrielle Macleod	USA
The Organisation Danish		
Aquaculture	Brian Thomsen	Denmark
The Organisation Danish		
Aquaculture	Lisbeth Jess Plesner	Denmark
British Trout Association	David Basset	UK
marítima S A (Portugese		
producer Association)	Jose Calheiros	Portugal

Dawnfresh Farming Ltd	Calvin Knight	υκ
Dawnfresh Farming Ltd	John Carmichael	υκ
Organization de produtores de		
acuicultura continental	Carlos San Miguel	Spain
Piscifactoría Sierra Nevada		
Riofrío	Ignacio Alba	Spain
Gropu Piszolla	María Angel Palacios	Spain
Gropu Piszolla	Rufino Del Omo	Spain
Polish Trout Breeders		
Association	Ania Pyć	Poland
Polish Aller Aqua	Jacek Juchniewicz	Poland
Associazione Piscicoltori Italiani	Andrea Fabris	Italy
Associazione Piscicoltori Italiani	Pier Antonio Salvador	Italy
French trout farmer	Anault Chaperon	France
ADLER	Victoria Yankovskaya	Russia
The Organisation Danish		
Aquaculture	Jesper Heldbo	Denmark
Fish Reproduction and Culture		
IRTA	Niel Duncan	Spain
Biomar	Niels Alsted	Denmark
BLAT Insurance and		
Reinsurance Broking Company	lker Guimarães	Spain
OFSA	Carmen Gutierrez Barcena	Snain
Aquasosa (feed)		Portugal
Department of Environment	Thomas Bierre	Donmark
	momas bjerre	

#### **ANNEX 3**

## Freshwater Trout Aquaculture Dialogue (FTAD) 5-6<sup>th</sup> November 2009 Barcelona

Hotel AC Diplomatic Pau Claris, 122 08009, Barcelona Tel. 932 723 810

#### Agenda

#### **Meeting Goals**

- Create a shared understanding among participants of the FTAD's purpose and process
- Receive feedback on draft principles, impacts and criteria developed in 1<sup>st</sup> and 2<sup>nd</sup> FTAD meetings (Nov 2008 and May 2009)
- Begin drafting indicators
- Develop strategies for outreach and ensuring success

Day 1	
8:30 - 9:00	Registration
9:00 - 9:10	Welcome and introduction to the FTAD – Luz Arregui
9:10 - 9:30	Overview of the agenda, meeting guidelines, participant introductions
9:30 – 10:45	Overview of the Freshwater Trout Aquaculture Dialogue (FTAD) – What are the Aquaculture Dialogues? What is the FTAD's purpose? What has happened to date? How will standards be developed going forward? How does this link to the Aquaculture Stewardship Council? What is the role of the Steering Committee? - Christoph Mathiesen and Steering Committee
10:45 - 11:00	Break

11:00 – 12:30	Overview of draft impacts, principles and criteria developed in the $1^{st}$ and $2^{nd}$ FTAD - <i>Christoph Mathiesen</i>
12:30 - 13:30	Lunch
13:30 – 15:15	Breakout group discussions on draft impacts, principles and criteria.
15:15 – 15:30	Break
15:30 – 16:45	Report from breakout groups, followed by facilitated group discussion
16:45 - 17:00	Wrap up discussion
Day 2	
8:30 – 9:10	Perspectives from Day 1 – Christoph Mathiesen and David Plumb
9:10 - 10:30	Breakout group discussion – creating a package of indicators around key impacts.
10:30 - 10:45	Break
10:45 – 12:30	Breakout group continued
12.30 - 14.00	Lunch (NB! 1½ hrs)
14:00 – 15:30	Report from breakout groups, followed by facilitated group discussion about indicators
15:30 – 15:45	Break
15:45 - 16:15	Outreach
16:15 – 17:00	Reflections on meeting and way forward – Steering Committee