

SERIOLA/COBIA AQUACULTURE DIALOGUE

SEATTLE, WASHINGTON

FEBRUARY 19-20, 2009

Meeting Summary

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Meeting Background

The Seriola/Cobia Aquaculture Dialogue (SCAD) met for the first time February 19-20, 2009 in Seattle, Washington to discuss the development of standards for responsible Seriola/Cobia farming. Paul Holthus, a consultant who is coordinating the SCAD, and World Wildlife Fund (WWF) Aquaculture Specialist Aaron McNevin facilitated the meeting. The agenda and participants list for the meeting are included in the appendix.

The expected outcomes of the meeting included:

1.) Create a shared understanding of the Dialogue process and how meeting attendees can participate in the process. 2.) Develop a draft list of key impacts related to Seriola and Cobia aquaculture. 3.) Propose a general composition and structure of the SCAD Steering Committee. 4.) Develop draft goals and objectives for the SCAD. 5.) Develop draft principles to address proposed key impacts.

This document offers a summary of key issues related to the meeting and next steps for the SCAD. Please note that all documents and presentations referred to in the meeting summary are available at: <http://www.worldwildlife.org/what/globalmarkets/aquaculture/serioladialogue-additionalresources.html>

Pre-Meeting Outreach and Attendance

A press release about the meeting was sent to trade publications three months prior to the meeting. In November, a save-the-date message was sent to key stakeholders, including Seriola/Cobia producers, producer associations, research institutes, NGOs, processing companies and services industries. The final invitation was sent to a broader group of stakeholders in December 2008. Forty-three people participated in the meeting. This included producers, seafood distributors, aquaculture food producers, other affiliated industries, academics and a variety of international and local NGOs.

Aquaculture Dialogues Purpose and Process

A presentation was made by Aaron McNevin to provide an overview of the purpose of and process for the Aquaculture Dialogues. Several attendees were familiar with the Dialogues, as some have attended other Dialogue meetings.

Key issues focused on:

- The purpose of the SCAD is to create standards that will minimize the key impacts of Seriola and Cobia aquaculture.
- The standards can be used to certify products and benchmark other standards. They also can create the foundation for buyer and investment screens and be incorporated into government programs.

- Standards will be geared toward the best performers in the industry.
- The SCAD process is designed to be open and transparent, as well as to result in standards that are performance-based, science-based and measurable.
- Ways to participate in the SCAD include attending Dialogue meetings, joining a SCAD scientific or non-scientific advisory group (if these are established), providing input via other means of communication, and serving on the Steering Committee that manages the SCAD process.

There was general understanding among the participants on the purpose and process of the Aquaculture Dialogues, including the SCAD. Key issues raised by participants were the need to engage producers from different regions, and show rapid progress and specific results.

Discussion of SCAD Scope: Regional to International

Although the SCAD is open to stakeholders anywhere, it has been established with a focus on the production of *Seriola* and *Cobia* in North and South America. The rationale for this being that there are limited resources available for the SCAD at this point and that the interest in standards has emanated from producers in the Western Hemisphere. Several participants raised the issue of expanding the scope of the SCAD to a global scale, given the level of production of *Seriola* and *Cobia* in areas outside North and South America. It was agreed that the SCAD organizers should encourage participants from outside the “Americas” to attend the second SCAD and if there was sufficient interest in expanding the SCAD to a global scope, this could be considered. If that were to be the case, the SCAD Steering Committee would have to work with SCAD stakeholders to ensure there were sufficient resources available for a global level of stakeholder consultation.

Presentations

Presentations were made by scientific experts to describe the status of *Seriola* and *cobia* aquaculture, outline the sustainability issues and inform the discussion about the state of the art in monitoring water quality and benthic (seabed) areas around offshore cage aquaculture.

Dr. Daniel D. Benetti of the University of Miami provided an overview of cobia aquaculture issues. Key points and areas of discussion included:

- Expansion of *cobia* aquaculture is a certainty and demand and production will continue to grow.
- Aquaculture of *cobia* can produce high yields of high-value carnivorous fish to high-end market.
- Continued environmental monitoring with improved methods can help ensure sustainability and determine threshold/carrying capacity of different areas and sites.
- Advanced technology is being used in the US with much progress in hatchery and grow-out development.

- The development and implementation of cobia aquaculture is expanding in Asian, Latin America and Caribbean countries that have the infrastructure, access and expertise.
- Issues that need to be addressed in the Dialogue include the potential impacts on native species; the use of probiotics; the use of FDA-approved chemicals/drugs; feed issues (e.g., feed conversion ratios and the need to reduce the use of fish meal); and difficulties associated with operating in exposed open ocean sites.

*Pete Bridson of Monterey Bay Aquarium provided an overview of *Seriola* aquaculture issues. Key points and areas of discussion included:*

- The issues associated with developing standards for *Seriola* aquaculture include the use of marine resources, impacts on wild fish populations, local or regional pollution, effectiveness of management, and how the industry can meet strong standards.
- Impacts associated with the sustainable use of marine resources include the collection of wild juveniles or broodstock and the provision of feeds for a cultured carnivorous or piscivorous species.
- Impacts on wild fish populations include the potential of disease amplification or spread and the effects of escapes.
- Local or regional pollution and habitat effects could include nutrient loss from cages, both soluble and particulate (e.g., feces, feeds and fines) pollution, chemical pollution, problems from veterinary treatments, and the use of anti-foulants.
- The effectiveness of management is a key need and opportunity to ensure these impacts are addressed, through both regulation and the use of good practices by responsible industry operators.
- A much more comprehensive approach to the effects of *Seriola* aquaculture could be undertaken through the use of Life Cycle Analysis, although it is important to determine the boundaries to evaluating effects.

Dr. Jack Rensel of Rensel Associates Aquatic Sciences, gave a presentation on monitoring, modeling and performance standards for net pens. Key points and areas of discussion included:

- For monitoring benthic effects, benthic infauna community analysis is the best measure if a baseline is available.
- Several measurement methods for monitoring are used (e.g., total organic carbon, sulfides, redox, visual) and the overarching performance standard should be to maintain aerobic conditions of surficial sediments.

- Potential water column effects of net pens include oxygen deficit plume, nitrogen plume and the eventual primary productivity or higher trophic levels. With some exceptions, these are not significant compared to flux of these constituents or spatial effects.
- There are potentially cumulative and significant impacts for a large number of pens in highly oligotrophic bodies of water (with very low nutrient levels) or poorly flushed backwaters. The goal should be to avoid siting farms in “nutrient sensitive” areas and special habitats.
- Water column and benthic effects simulation modeling can be a very effective tool for government regulators or coastal managers to assess impacts and effects and for mariculturists to evaluate potential sites and plan operations.
- Modeling efforts show that water column effects are hard to measure because of dilution and the transport of pollutants by water movement; benthic effects are easier to predict for depositional environments; models create the opportunity to evaluate fish farm operations and environmental impacts; and with good site specific circulation data and the growth metabolism of cultured fish, models can provide accurate predictions, reducing trial and error in farm development and management.

Goals and Objectives

A set of draft goals and objectives for the SCAD were presented for discussion and consideration. A key issue raised during the discussion was the need for the SCAD goals to address all three pillars of sustainability: environmental, social and economic. The draft goals and objectives agreed to are:

Goals

Develop verifiable, science-based environmental and social performance standards that:

1. Are acceptable to SCAD stakeholders.
2. Measurably reduce or eliminate key negative impacts of *Seriola* and cobia farming.
3. Encourage and promote progress towards environmentally, socially and economically sustainable *Seriola* and cobia farming.

Objectives

1. Identify and share information on *Seriola*/*Cobia* production.
2. Ensure open and transparent dissemination of science-based information to stakeholders.
3. Agree on key areas of impacts of *Seriola*/*Cobia* farming.
4. Agree on a set of principles and criteria for *Seriola*/*Cobia* aquaculture.
5. Agree on indicators and performance-based, measurable and verifiable standards for environmentally, socially, and economically sustainable *Seriola*/*Cobia* farming based on the research and standard-setting process.
6. Seek funding for un-funded and emerging research priorities.
7. All participants commit to support and encourage adoption of performance levels.

8. Continuously update the body of knowledge on *Seriola*/*cobia* aquaculture to ensure science-based standards development.

Impacts

The SCAD participants were divided into three breakout groups to develop a list of the environmental and social impacts related to *Seriola* and *cobia* aquaculture. All the workshop participants then reconvened to discuss the potential impacts identified by each breakout group. Most impacts were similar, or could be combined into a single category. The group agreed on the composite list below and that this should be circulated as part of the meeting report and finalized at the next SCAD meeting.

The working list of impacts includes:

- Fish health
- Chemical use
- Antibiotic use
- Escapes
- Feed
- Water quality
- Waste
- Resource use and efficiency
- Benthic impacts
- General wildlife impacts
- Seed and brood stock issues
- User conflicts
- Social issues

Key issues focused on:

- The need to differentiate “impacts from” aquaculture (e.g., chemical use as a source of water pollution) and “impacts on” the environment or society (e.g., water quality as being affected by chemicals and other pollutants). The current list is a mix of these approaches. This will be addressed in future iterations of the SCAD impacts list.

- Some issues may be part of several different themes depending on the impact category (e.g., “waste” and “resource efficiency.”)
- The need to address fish health as a positive approach to tackling a range of issues, including the introduction of disease and the proliferation of pathogens and parasites.
- Distinguishing chemical use from antibiotic use, due to the distinctively different functions, use and impacts related to each.
- The need for the impact related to waste to encompass the appropriate disposal, reuse and recycling of all kinds of outputs from facilities and operations, including the range of outputs from daily waste products associated with fish processing (e.g., blood waste and the long-term decommissioning of ocean cage structures).
- The importance of biodiversity and water quality issues being focused on benthic biodiversity and water proximate to the aquaculture facilities and operations.

Steering Committee

Aaron McNevin made a presentation about the purpose and role of the SCAD Steering Committee. In general, the Steering Committee:

- Makes final decisions about standards;
- Considers input from all Dialogue participants, technical working groups and advisory groups; and
- Uses a consensus-oriented decision making process that follows International Social and Environmental Accreditation and Labeling Alliance (ISEAL) standards and is approved by the Steering Committee.

Aaron said the expected roles of each Steering Committee member are:

- Attend all Dialogue meetings.
- Participate in committee conference calls.
- Respond to committee-related email messages in a timely fashion.
- Help pay the cost of conducting the SCAD, such as conducting research as needed.

Following the presentation, the participants decided the Steering Committee should include 3-4 NGO representatives and 3-4 Seriola or Cobia producers. The group then chose Neil Sims (Kona Blue), Brian O’Hanlon (Open Blue Sea Farms) and Aaron McNevin (WWF-US) to serve on the committee, and identified the need to have at least 1 other NGO representative. The group agreed that the SCAD Coordinator should work with the initial 3 Steering Committee members to identify additional Steering Committee members.

Action items and post-Dialogue follow-up:

1. Before May, contact potential Steering Committee nominees to fill stakeholder vacancies (Paul Holthus and Aaron McNevin).
2. Develop draft of principles and criteria to discuss at future SCAD meetings (existing Steering Committee members).
3. Expand the SCAD distribution list. All participants are encouraged to send new names and email addresses to the SCAD Coordinator at paul.holthus@hotmail.com
4. Plan next meeting, which will be held in late May 2009, in conjunction with the World Aquaculture Society Annual Meeting (Vera Cruz, Mexico). Exact dates will be determined by the SCAD Steering Committee in consultation with the SCAD Coordinator.
5. Post meeting materials on SCAD website (Jill Schwartz of WWF-US).

Attachment 1: AGENDA

Day 1: 19 February

8:30 – 9:00	Registration
9:00 – 9:30	Welcome and introductions - Paul Holthus, SCAD Coordinator
9:30 – 10:30	Understanding the Aquaculture Dialogues - Aaron McNevin, WWF Aquaculture Specialist
10:30 – 10:45	Break
10:45 – 11:45	Discussion of goals and objectives - Paul Holthus
11:45 – 12:30	Introduction to Cobia aquaculture issues - Dan Benetti, Associate Professor and Director of Aquaculture, RSMAS - University of Miami
12:30 – 13:30	Lunch (provided by organizers)
13:30 – 14:00	Discussion of Cobia aquaculture issues
14:00 – 15:00	Introduction to Seriola aquaculture issues (Peter Bridson, Monterey Bay Aquarium)
15:00 – 15:15	Discussion of Seriola aquaculture issues
15:15 – 15:30	Break
15:30 – 16:30	Monitoring, modeling and performance standards for net pens - Jack Rensel, Rensel Associates Aquatic Sciences
16:30– 17:00	Discussion of Seriola and Cobia aquaculture impacts
17:00	Adjourn
Evening event	Informal social gathering

Day 2: 20 February

8:00 – 8:30	Perspectives from Day 1
8:30 – 10:00	Impacts and Objectives - breakout groups
10:00 – 10:15	Break
10:15 – 12:30	Impacts and Objectives - discussion
12:30 – 13:30	Lunch (provided by organizers)
13:30 – 14:30	Agreeing on initial list of impacts - discussion

14:30 – 15:30	Steering Committee structure and expectations - discussion
15:30 – 14:00	Next steps
14:00	Adjourn and close dialogue session

Attachment 2: LIST OF PARTICIPANTS

Name	Organization	Country
Diane Bellis	AgSource, Inc.	USA
Daniel Benetti	University of Miami	USA
Pete Bridson	Monterey Bay Aquarium	USA
Clayton Brenton	Rancheros del Mar	Canada
Jesse Chappell	Auburn University	USA
Darlene Coombes	Independent stakeholder	USA
Michael Cremer	U.S. Soybean Export Council	USA
Valerie Ethier	University of Victoria	Canada
James Ferro	Ocean Conservancy	USA
Eileen Flynn	Food & Water Watch	USA
John Forster	Marine Farms Belize Ltd	Belize
Langley Gace	OceanSpar LLC	USA
Jennifer Gee	University of Victoria	Canada
Rachel Hopkins	The Pew Charitable Trusts	USA
Francis Kane	International Copper Association	USA
Tom Kitano	Trident Seafoods	USA
Kees Kloet	RAS Consultancy	Netherlands
Todd Madsen	OceanSpar LLC	USA
Ian McComas	Kona Blue Water Farms	USA

Aaron McNevin	WWF US	USA
Gidon Minkoff	Fin-Aqua Consulting	Canada
Sid Mitchell	Earth Ocean Farms	
Terry Morris	La PaZ Aqua	Mexico
Brian O'Hanlon	Open Blue Sea Farms	USA
Corey Peet	David Suzuki Foundation	Canada
Scott Purinton	Anova Food Inc.	USA
Bill Quinby	Caicos Cobia Ltd	USA
Herbert Quintero	U.S. Soybean Export Council	USA
Jack Rensel	Rensel Associates Aquatic Sciences	USA
Neil Sims	Kona Blue Water Farms	USA
Mary Smith	The Plitt Company	USA
Chris Spring	Surefish	USA
Hal Stillman	International Copper Association	USA
Chris Stock	Ocean Farm Technologies	USA
Andrew Storey	Open Ocean Systems	Canada
Matt Thompson	New England Aquarium	USA
Pablo Trujillo	University of Victoris	Canada

Aaron Welch	University of Miami	USA
Jim Wierson, Sr.	Kikko Net USA	USA
Jim Wierson, II	Kikko Net USA	USA
Justine Williams	Food & Water Watch	USA
Jackie Zimmerman	Troutlodge Marine Farms	USA