Providing assurance through GIS – standard owner experience

Dennis Wittmann
Assurance Coordinator – Aquaculture Stewardship Council

ISEAL Conference – GIS Masterclass – São Paulo, Brazil 2018
Who are we?

- Established in 2010: WWF & IDH
- Independent, not-for-profit certification & labelling programme
- Global & voluntary
- Work with industry, NGOs and all others who want to participate
- Based on science, industry best practices & transparency
- Market-based mechanism
ASC Vision - A world where aquaculture plays a major role in supplying food and social benefits for mankind whilst minimising negative impacts on the environment

ASC Mission - To transform aquaculture towards environmental sustainability and social responsibility using efficient market mechanisms that create value across the chain
ASC’s Farm standards

- **Scope:** Environmental & Social

- **Key impacts per species**

- **Performance Indicators setting ‘thresholds’**
  - Realistic, measurable and auditable
  - Best Management Practices in industry & scientific data
Environmental principles

• Law
• Biodiversity & ecosystems
• Water
• Wild species
• Feed & energy
• Fish health
GIS, just mapping locations? – application in ASC standards
Shrimp
Working with GIS - Quality and assurance at ASC

- Data verification
- Where is this shrimp farm?
- 19°29'31.56" -147°29'11.65"

<table>
<thead>
<tr>
<th>Site Name</th>
<th>GPS Coordinates</th>
<th>Other Location Information</th>
<th>Planned Site Audit(s)</th>
<th>Date of planned audit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ayr</td>
<td>19°29'31.56&quot; -147°29'11.65</td>
<td></td>
<td>4 September 2017</td>
<td>4-7 September 2017</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard</th>
<th>Species (scientific name) produced</th>
<th>Included in scope (Yes/No)</th>
<th>ASC endorsed standard to be used</th>
<th>Version Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrimp</td>
<td><em>Peneaus monodon</em></td>
<td>Yes</td>
<td>ASC Shrimp Standard</td>
<td>v1.0</td>
</tr>
</tbody>
</table>
Oversea territory???

Hawaii
The ponds drain into Little Alva Creek, a saltwater estuary. Extensive area of mangroves has been established within the overall farm site to help with water filtering and environmental management. Little Alva Creek flows into the Coral Sea.

Queensland, Australia

Little Alva Creek saltwater estuary
Criterion 2.2 Conservation of protected areas or critical habitats (ASC Shrimp Standard)

2.2.2. Allowance for siting in mangrove ecosystems and other natural wetlands, or areas of ecological importance as determined by the B-EIA or national/state/local authority plans/list.

None for farms built (with or without permits) after May 1999, except for pumping stations and inlet/outlet canals provided they have been permitted by authorities and an equivalent area is rehabilitated as compensation. For farms built or permitted before May 1999, farmers are required to compensate/offset impacts via rehabilitation as determined by the B-EIA, or the national/state/local authority plans/list, or 50% of the affected ecosystem (whichever is greater).
Requirements to GPS data in ASC standard(s)

- Provide coordinates of the farm
- degrees and minuets latitude and longitude
- accuracy of two decimals in the geographical minutes
- World Geodetic System 84 (WGS84) coordinates

The center of the production site in case of farms smaller than 1 hectare, corners of the contours of larger farms.
BIODIVERSITY AND ENVIRONMENTAL IMPACT ASSESSMENT (BEIA)
Criterion 2.2 Conservation of protected areas or critical habitats (ASC Shrimp Standard)

2.2.2. Allowance for siting in mangrove ecosystems\textsuperscript{14} and other natural wetlands\textsuperscript{15}, or areas of ecological importance as determined by the B-EIA or national/state/local authority plans/list.

None for farms built (with or without permits) after May 1999, except for pumping stations and inlet/outlet canals provided they have been permitted by authorities and an equivalent area is rehabilitated\textsuperscript{16} as compensation. For farms built or permitted before May 1999, farmers are required to compensate/offset impacts via rehabilitation as determined by the B-EIA, or the national/state/local authority plans/list, or 50\% of the affected ecosystem (whichever is greater).\textsuperscript{17}
Simple but sufficient? - Google earth
How to prove compliance?

- Satellite Images
- Aerial photographs
- Historical data or records
- Community and non owning farmer testaments
Working with GIS 2 – Google my maps & timeline, track my trip

• Corners of farm provided?
  **Well sort of**

• another farm in the area
• Natural waterbody within the polygon
• Not clear which ponds belong to the farm
• 0,981 km² (98 ha) – not true
Thank you for the attention

Dennis.Wittmann@asc-aqua.org