Reviewing Automated AquaMaps Outputs

Procedures, requirements and recommendation for reviewing AquaMaps

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Computer Generated Native Distribution Map of *Pristis microdon* (un-reviewed)

Distribution: Indo-West Pacific: East Africa to New Guinea, north to the Philippines and Viet Nam, south to Australia. Also Atlantic and eastern Pacific if *Pristis perotteti* and *Pristis zephyrus* are synonymized with this species. The original description of *Pristis microdon* did not give a locality, but most authors have used the name *Pristis microdon* for the Indo-West Pacific sawfishes of this species group as contrasted from the Atlantic *Pristis perotteti* and the eastern Pacific *Pristis zephyrus*.

Native range (un-reviewed)

All suitable habitat
Create Your Own Map (CYOM)

Mapping parameters for *Pristis microdon* (Largetooth sawfish)

**AREA RESTRICTIONS:**
- **FAO Areas:** 1, 4, 6, 34, 41, 47, 51, 57, 61, 71, 87
- **Pelagic:** False
- **Bounding Box (NSWE):** 11, -39, 20, 143

**ENVIRONMENTAL ENVELOPE:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Min</th>
<th>Pref Min (10th)</th>
<th>Pref Max (90th)</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depth (m)</td>
<td>0</td>
<td>1</td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>Water temp. (°C) (bottom)</td>
<td>2.14</td>
<td>4.93</td>
<td>28.25</td>
<td>28.75</td>
</tr>
<tr>
<td>Salinity (psu) (bottom)</td>
<td>33.26</td>
<td>34.38</td>
<td>35.38</td>
<td>36.36</td>
</tr>
<tr>
<td>Primary Production</td>
<td>414</td>
<td>465</td>
<td>1596</td>
<td>2573</td>
</tr>
<tr>
<td>Sea Ice Concentration (%)</td>
<td>-1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Distance to Land (km)</td>
<td>0</td>
<td>2</td>
<td>165</td>
<td>539</td>
</tr>
</tbody>
</table>

Distribution: Indo-West Pacific. East Africa to New Guinea, north to the Philippines and Viet Nam, south to Australia. Also Atlantic and eastern Pacific *Pristis perotteti* and *Pristis zephyraeus* are synonymous with this species. The original description of *Pristis microdon* did not give a locality, but most authors have used the name *Pristis microdon* for the Indo-West Pacific sawfishes of this species group as contrasted from the Atlantic *Pristis perotteti* and the eastern Pacific *Pristis zephyraeus*.

**View Map options:**
- Bounding Box
- FAO Areas
- Both

**Cell used for creating environmental envelope** n = 12

Show available point data: CSIRO | Google
1. Area Restrictions

- FAO area where species is found
- Pelagic: True/False
- Bounding box:
  - Nmost, Smost, Wmost, Emost
  - N and E hemisphere: (+)
  - S and W hemisphere: ( - )

Note:
1. If changes are made, click on **Re-calculate Envelope and Good Cells** before adjusting other mapping parameters or re-generating map. Proceed following the pop-up prompts.
2. If no further changes are to be made, click on **Re-generate Map Data And View Map** to implement map changes.
II. Cells Used For Creating Environmental Envelope: Adding “good cell” to list

Use decimal degrees and conventions for N & E and S & W hemispheres.

**Note:**
1. Go back to CYOM window and click on **Re-calculate Envelope and Good Cells** before adjusting other mapping parameters or re-generating map. Proceed following the pop-up prompts.
2. If no further changes are to be made, click on **Re-generate Map Data And View Map** to implement map changes.

---

<table>
<thead>
<tr>
<th>#</th>
<th>Incl in gen envelope</th>
<th>Good cell</th>
<th>Cont</th>
<th>Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>✓</td>
<td>Y</td>
<td>-16</td>
<td>27</td>
</tr>
<tr>
<td>2</td>
<td>✓</td>
<td>Y</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>3</td>
<td>✓</td>
<td>Y</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>4</td>
<td>✓</td>
<td>Y</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>Y</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>✓</td>
<td>Y</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>7</td>
<td>✓</td>
<td>Y</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>8</td>
<td>✓</td>
<td>Y</td>
<td>13</td>
<td>27</td>
</tr>
<tr>
<td>9</td>
<td>✓</td>
<td>Y</td>
<td>144</td>
<td>27</td>
</tr>
<tr>
<td>10</td>
<td>✓</td>
<td>Y</td>
<td>144</td>
<td>27</td>
</tr>
</tbody>
</table>

**Species ID:** Fis-112788
**User Session:** 27

**You clicked here:** lat = -40.75, long = -160.25, CsquareCode = 5416.1003

**Environmental characteristics:**
- **Depth (m):** [5025-5411] 0 11 51 104
- **SST (°C):** [14.07] 5.58 11.09 20.23 27.6
- **Salinity (psu):** [34.57] 32.84 34.36 35.7 37.2
- **Primary Production:** [332] 319 940 1334
- **Sea Ice Concentration:** [0] 0 0 0
- **Distance to Land:** [1442] [1511] 114

**Add to good cells which will be used for prediction in 'Create Your Own Map' routine.**

**OK**
II. Cells Used For Creating Environmental Envelope: Adding “good cell” through map

Note:

1. Go back to CYOM window and click on **Re-calculate Envelope and Good Cells** before adjusting other mapping parameters or re-generating map. Proceed following the pop-up prompts.

2. If no further changes are to be made, click on **Re-generate Map Data And View Map** to implement map changes.
II. Cells used for creating environmental envelope: (cont’d)

Requirements for adding “good cells”:

**Situation 1** - When you have a literature with no exact known occurrence but rather a location with fairly reasonable geographic reliability (considering half-degree cell size).

1. It is possible to add cell directly if you are confident you are adding a right one (e.g., use gazetteer).
2. Consider general distribution and environmental envelope of species before adding good cell in approximate area.
3. Avoid adding cells outside of preferred min-max and definitely not outside min-max values except for factors being specifically associated with limiting the distribution from the area where fish is known to occur.

**Situation 2** - When you have an actual occurrence that is not in FishBase.

- Find source through literature or other database.
- Obtain detailed latitude and longitude required.
11. Cells Used For Creating Environmental Envelope: Removing “good cell” from list

<table>
<thead>
<tr>
<th>#</th>
<th>Include in generating envelope</th>
<th>Good cell</th>
<th>Center Long</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Y</td>
<td></td>
<td>-160</td>
</tr>
<tr>
<td>2</td>
<td>Y</td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Y</td>
<td></td>
<td>107</td>
</tr>
<tr>
<td>4</td>
<td>Y</td>
<td>Y</td>
<td>133</td>
</tr>
<tr>
<td>5</td>
<td>Y</td>
<td>Y</td>
<td>136</td>
</tr>
<tr>
<td>6</td>
<td>Y</td>
<td>Y</td>
<td>137</td>
</tr>
<tr>
<td>7</td>
<td>Y</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Cells used for creating environmental envelope: n = 40

Note: After making changes to this table, click 'Re-calculate Envelope and Good Cells' in the 'CREATE YOUR OWN MAP' window.

Environment and Good Cells recalculated.

You must now 'Re-generate Map Data' and then 'View Map'.
III. Environmental Envelope

Note:

1. Adjust environmental envelope values then click on **Save changes in environmental ranges** before adjusting other mapping parameters or re-generating map. Proceed following the pop-up prompts.

2. If necessary check/uncheck boxes to select/exclude environmental parameters from the map prediction before proceeding to **Re-generate Map Data and View Map**.

3. If no further changes are to be made, click on **Re-generate Map Data And View Map** to implement map changes.
Saving Expert-reviewed Map
User-specified map for *Salmo salar*

Distribution: Atlantic Ocean; temperate and arctic zones in northern hemisphere (Ref. 51442). In western Atlantic Ocean distributed in coast drainages from northern Quebec in Canada to Connecticut in USA (Ref. 5723). In eastern Atlantic Ocean distributed in drainages from the Baltic states to Portugal (Ref. 51442). Landlocked stocks are present in Russia, Finland, Sweden and Norway (Ref. 6439) and in North America (Ref. 1998). Appendix III of the Bern Convention (protected fauna; except at sea).
Activity password: (to be issued by FishBase)
Please fill up the form and click 'Save Expert Map'.

Expert ID: [blank]
Password: [blank] Are you a FishBase staff: No
Remarks: [blank]

Description of the proposed changes in the distribution or any related info.

Save Expert Map  Cancel

If you do not have an Expert ID, please fill up the form and click 'Save Expert Profile'.

Expert Profile Form
Name: Kathy Reyes
Password: FB_949
E-mail: kreyes@cgiar.org
Professional background: AquaMap Team Member

May include: institution, position, other relevant professional technical info.

Save Expert Profile  Cancel
Please fill up the form and click 'Save Expert Map':

- **Expert ID:** 12
- **Password:** FB_949
- **Are you a FishBase staff?** Yes
- **Remarks:** Map edited

Description of the proposed changes in the distribution or any related info.

**Save Expert Map** | **Cancel**

You are: Kathy Reyes
- **Expert ID:** 12
- **Password:** FB_949
- **Email:** k.reyes@cgiar.org
- **Profile:** AquaMap Team Member

You can now use these credentials (Expert ID, Password) to save expert maps in AquaMaps.

Print or copy-paste this info for your reference.

-- Exit --
Recommended format for Expert Remarks

• State problem with prediction (e.g., salinity min too high resulting low probability in a given area, missing distribution, distance to land too far, etc).

• Cite reference(s) if possible.

• What actions were taken (e.g., changed value in salinity envelope, adjusted bounding box, added “good cells”, etc.).

• Other comments affecting map prediction (e.g., bias of occurrence data, artifact of bounding box).

Note: Where applicable, changes implemented must also be captured/incorporated into the species database (e.g., bounding box coordinates added/adjusted, FAO areas excluded/added, etc.)
**Reviewed map for *Salmo salar*: n = 1**
Click on the 'Expert Name' to see map and data used in generating the distribution map.

<table>
<thead>
<tr>
<th>Name</th>
<th>Date Map Saved</th>
<th>Remark</th>
<th>Map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jonathan Ready</td>
<td>2007-02-16</td>
<td>Expert-reviewed: As this species is anadromous (<em>FishBase</em> Ref. 51242), it is sensible to reduce the preferred minimum salinity considerably as done here. The bias of occurrences in more saline areas artificially raises the preferred minimum in the salinity envelope. Modify</td>
<td><img src="image1" alt="Map 1" /> <img src="image2" alt="Map 2" /></td>
</tr>
<tr>
<td>FishBase</td>
<td></td>
<td>Computer Generated Native Distribution Map</td>
<td><img src="image3" alt="Map 3" /> <img src="image4" alt="Map 4" /></td>
</tr>
</tbody>
</table>

Close Window
Computer Generated Native Distribution Map of *Salmo salar* (reviewed)

Distribution: Atlantic Ocean: temperate and arctic zones in northern hemisphere (Ref. 51442). In western Atlantic Ocean distributed in coast drainages from northern Quebec in Canada to Connecticut in USA (Ref. 5723). In eastern Atlantic Ocean distributed in drainages from the Baltic states to Portugal (Ref. 51442). Landlocked stocks are present in Russia, Finland, Sweden and Norway (Ref. 6439) and in North America (Ref. 1998). Appendix III of the Bern Convention (protected fauna; except at sea).

<table>
<thead>
<tr>
<th>Name</th>
<th>Date Map Saved</th>
<th>Reviewed By</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jonathan Ready</td>
<td>2007-02-16</td>
<td>expert</td>
<td>As this species is anadromous (FishBase Ref. 51243), it is sensible to reduce the preferred minimum salinity considerably as done here. The bias of occurrences in more saline areas artificially raises the preferred minimum in the salinity envelope.</td>
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For further inquiries, please contact:

Rainer Froese, IFM-GEOMAR  rfroese@ifm.geomar.de
Kathleen Reyes, The WorldFish Center  k.reyes@cgiar.org