

## SC-03-06.3.2 (07)

3<sup>rd</sup> Meeting of the Southern Indian Ocean Fisheries Agreement (SIOFA) Scientific  
Committee  
20-24 March 2017, Saint Denis, La Reunion

Proposal for designation of the 'FOOLS FLAT' fishery closure for the  
purpose of the protection of its bioregional and geographic  
representation and its biodiversity

*Relates to agenda item: 6.3.2*

Working paper  Info paper

### Delegation of Australia

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#### Abstract

The purpose of this paper is to propose that the Fools Flat feature meets the following criteria under the SIOFA Standard protocol for protected areas designation (see Annex H of SC2 report):

2b. Bioregional representation – Area is known to contain unique, rare or distinct, habitats or ecosystems that bottom fishing operations will disturb.

3a. Geographic and/or unique representation – The area proposed is known to contain unique or unusual geomorphological features that fishing operations may damage.

4b. Biodiversity representation – The area is known to contain unique, rare (occurs only in few locations) species, populations or communities.

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## Recommendations *(working papers only)*

It is recommended that the SC:

- **Note** that the proposed Fools Flat feature meets the following criteria in the protocol: 2b. Bioregional representation – Area is known to contain unique, rare or distinct, habitats or ecosystems that bottom fishing operations will disturb; 3a. Geographic and/or unique representation – The area proposed is known to contain unique or unusual geomorphological features that fishing operations may damage; and 4b. Biodiversity representation – The area is known to contain unique, rare (occurs only in few locations) species, populations or communities.
  - **Recall** Article 4(c) of the Agreement which obliges Contracting Parties to apply the precautionary approach in accordance with the FAO Code of Conduct for Responsible Fisheries and the 1995 UN Fish Stocks Agreement, whereby the absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.
  - **Recommend** to the Meeting of the Parties that, in line with a precautionary approach, the proposed Fools Flat feature be designated as a fishery closure for the purposes of the protection of its bioregional and geographic representation and its biodiversity, with all forms of fishing to be prohibited and with a review period of at least 10 years.
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**Proposal for designation of the 'FOOLS FLAT' fishery closure for the purpose of the protection of its bioregional and geographic representation and its biodiversity**

Australia

**Acknowledgement**

Australia have prepared this proposal in consultation with the Cook Islands, SIODFA, Ms Lynda Goldsworthy AM, and an informal steering committee of SIOFA SC members who met to advise Australia on its review of the SIOFA Standard protocol for future protected areas designation.

**Purpose and rationale**

The purpose of this paper is to propose that the Fools Flat feature meets the following criteria under the SIOFA Standard protocol for protected areas designation (see Annex H of SC2 report):

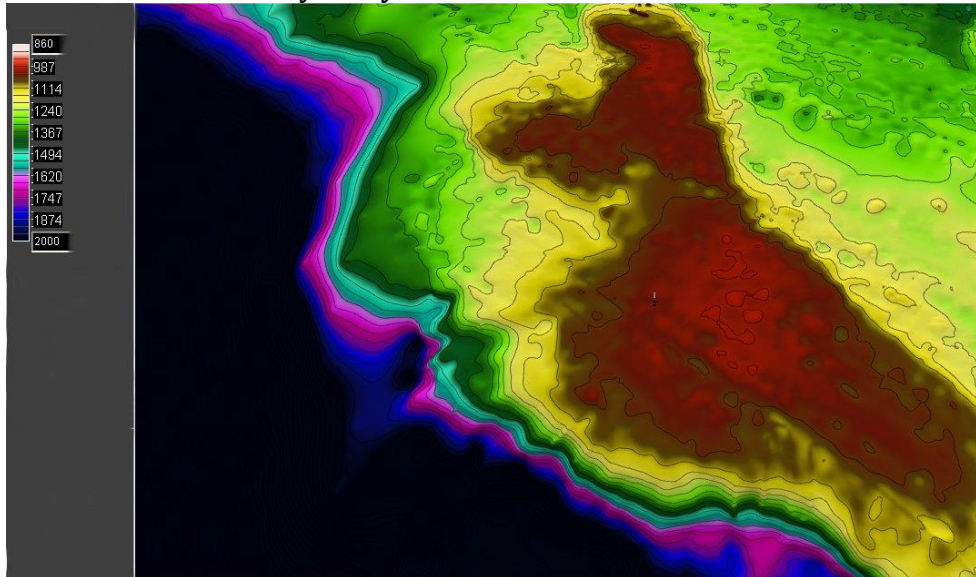
2b. Bioregional representation – Area is known to contain unique, rare or distinct, habitats or ecosystems that bottom fishing operations will disturb.

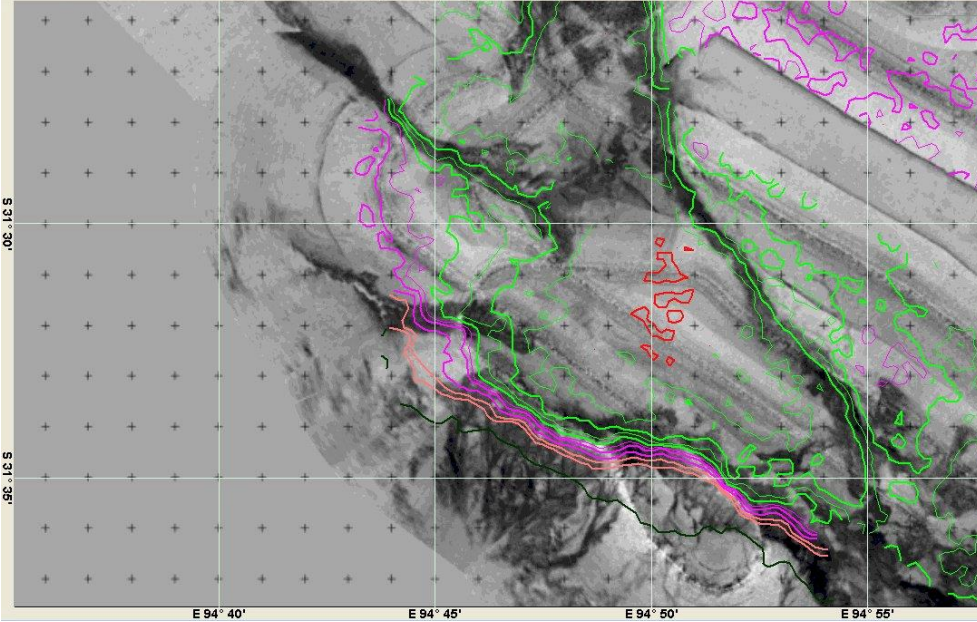
3a. Geographic and/or unique representation – The area proposed is known to contain unique or unusual geomorphological features that fishing operations may damage.

4b. Biodiversity representation – The area is known to contain unique, rare (occurs only in few locations) species, populations or communities.

**Background**

At the 4<sup>th</sup> Meeting of the Parties in 2017, Australia signalled its intention to review the SIODFA 'benthic protected areas' against the protocol for protected area designation. The proposal follows a template suggested at the intersessional meeting of the informal SIOFA steering committee in November 2017.

<b>Name</b>	Fools Flat												
<b>Proponent/s</b>	Australia, Cook Islands (SIOFA Contracting Parties) <i>Prepared in collaboration with the Southern Indian Ocean Deepsea Fishers Association (SIOFA Observer)</i>												
<b>Geographic description</b>	<p><b>Coordinates:</b> Latitude 31° 20' S, 94° 55' E and 31° 30' S and 95° 00' E.  <b>Area:</b> 585.3 km<sup>2</sup>  <b>Area by depth range:</b></p> <table border="1" data-bbox="488 517 858 734"> <thead> <tr> <th>Depth (m)</th> <th>Area (km<sup>2</sup>)</th> </tr> </thead> <tbody> <tr> <td>&lt; 700</td> <td>0</td> </tr> <tr> <td>701 - 1000</td> <td>1.7</td> </tr> <tr> <td>1001 - 1500</td> <td>299.7</td> </tr> <tr> <td>&gt;1500</td> <td>283.9</td> </tr> <tr> <td>Total</td> <td>585.3</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Figure 1</b>  <b>General bathymetry of the Fools' Flat Sea floor feature</b></p>  <p>The figure is a bathymetric map of the Fools' Flat sea floor feature. It displays depth contours and a color scale on the left side. The color scale ranges from 800 meters (dark red) to 2000 meters (dark blue). The map shows a large, irregularly shaped area with depths ranging from approximately 800 meters to over 2000 meters. The shallowest areas are colored red and orange, while the deepest areas are colored blue and purple. The map is oriented with the shallowest part on the left and the deepest part on the right.</p>	Depth (m)	Area (km <sup>2</sup> )	< 700	0	701 - 1000	1.7	1001 - 1500	299.7	>1500	283.9	Total	585.3
Depth (m)	Area (km <sup>2</sup> )												
< 700	0												
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	<p style="text-align: center;"><b>Figure 2</b> Swath Sidescan Image of Fools Flat</p>  <p>The figure is a grayscale swath sidescan image of the Fools Flat seafloor. It features a grid overlay with latitude and longitude coordinates. The y-axis (latitude) is labeled with 53° 30' and 53° 35'. The x-axis (longitude) is labeled with E 94° 40', E 94° 45', E 94° 50', and E 94° 55'. The image shows a complex seafloor topography with various features highlighted by colored contour lines in green, purple, and red. A prominent feature is a large, irregularly shaped area in the center-right, possibly a seamount or a specific geological formation, outlined in red. The surrounding areas are marked with green and purple contours, indicating different bathymetric levels. The overall appearance is that of a detailed bathymetric map of a specific seafloor region.</p>
<p><b>Objectives</b></p>	<p>The objectives for this area are:</p> <ul style="list-style-type: none"> <li>• Protection of its bioregional representation</li> <li>• Protection of its geographic and/or unique representation</li> <li>• Protection of its biodiversity.</li> </ul>
<p><b>Criteria that the protected area meets</b></p>	<p>The area meets the following criteria:</p> <p>2b. Bioregional representation – Area is known to contain unique, rare or distinct, habitats or ecosystems that bottom fishing operations will disturb.</p> <p>3a. Geographic and/or unique representation – The area proposed is known to contain unique or unusual geomorphological features that fishing operations may damage.</p> <p>4b. Biodiversity representation – The area is known to contain unique, rare (occurs only in few locations) species, populations or communities.</p> <p><u>Feature description and geographical representation</u></p> <p>This region is located on the southern side of Broken Ridge Plateau to the south of the Rusky Knoll feature. This site reportedly has a wide range of benthic habitat types (SIODFA 2016). The seamount shoals to around 990 m; its southern side (the edge of Broken Ridge) drops steeply down to over 4000 metres. Figure 1 shows the bathymetry of this seafloor feature. CBD (2015) notes that the seamount appears to have suitable environmental conditions for the deepwater species of fish that occur in the area. CBD (2015) notes that is believed to be biologically pristine, and its benthos and topography are highly fractured. There are some indications that this feature may have been above sea level at some time in the past (CBD 2015).</p> <p><u>Bioregional and biodiversity representation</u></p> <p>The Fools Flat (central) region is the only part of the entire Broken Ridge that shows substantial coral reefs (FAO 2006). CBD (2015) notes that the extent of this coral habitat is much greater than identified on Coral Seamount in the southwest Indian Ocean, with individual reefs of over 2.5 km<sup>2</sup> in area,</p>

	<p>and possibly the largest area of cold-water coral habitat yet identified in any ocean. The unique nature of this region comes from the presence of framework-building scleractinian coral reefs on the shallow southern side of the largest single feature in the Indian Ocean, a 1300km-long ridge (CBD 2015).</p> <p>There are reportedly stands of brain and black coral on the southern rim of the ridge, which have elevations of 20 – 30 m and can be seen with sidescan sonar (Figure 2) (SIODFA 2016). When these have been observed on vessel echo sounders they look like aggregations of fish (but they do not move) – hence the term “Fool’s Flat”. There appears to be strong upwelling over the south-west boundary and this no doubt has resulted in favourable conditions for the growth of deepwater corals (SIODFA 2016).</p> <p>CBD (2015) notes that the main framework-building species appears to be <i>Solenosmilia variabilis</i>. The framework largely comprises dead coral, and these three-dimensional habitats are sensitive to impacts, with slow recovery (Koslow et al. 2000, Rogers et al. 2008, Althaus et al. 2009, FAO 2009, Williams et al. 2010)</p> <p>Fools Flat is listed as an Ecologically or Biologically Significant Area (EBSA) by the Convention on Biological Diversity and met the following criteria:</p> <ul style="list-style-type: none"> <li>• Uniqueness or rarity (High ranking)</li> <li>• Special importance for the life-history stages of species (No information)</li> <li>• Importance for threatened, endangered or declining species and/or habitats (No information)</li> <li>• Vulnerability, fragility, sensitivity, or slow recovery (High ranking)</li> <li>• Biological productivity (No information)</li> <li>• Biological diversity (No information)</li> <li>• Naturalness (High ranking).</li> </ul> <p><u>Fishing history</u></p> <p>The only trawl shots undertaken here have been on the flat sedimented bottom at around 1000m (SIODFA 2016). At least two fishing vessels are believed to have collected data in the past (SIODFA 2016).</p> <p>It is reported that there has been past fishing by Soviet/Ukrainian vessels across the flats about the Broken Ridge area.</p> <p>CBD (2015) reports that a single bottom trawl shot was carried out on July 8 1997, which landed at 31° 43.54' S, 95° 13.7'E at 795 m and immediately came fast. A catch of 3.5 tonnes of dead brain coral was taken, which destroyed the net. This identified the type of habitat as coral reef rather than rocky knoll, and no further fishing activity was undertaken on this type of feature.</p> <p><u>Other information to support designation</u></p> <p>Industry members from Australia, the Cook Islands and Japan support the designation of Fools’ Flat feature. No trawling by SIODFA vessels is permitted.</p>
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<b>Social, cultural and economic interests</b>	Historical fishing data may assist with understanding any social, cultural and/or economic costs associated with designating this as a protected area. It is possible that designation could have adverse social, cultural or economic impacts in terms of forgone opportunity for fishing.
<b>Proposed activities to be restricted or prohibited</b>	Fishing within this proposed area with all gears could detrimentally impact the biodiversity and scientific interest of this area. The MoP should consider closure to all fishing.
<b>Review periods</b>	The proposal documents and provides information to support a closure. It is recommended that this designation be reviewed at least every 10 years, or more frequently if new information becomes available that enhances or degrades the justification for its protection.
<b>Outline of monitoring and/or research needed</b>	A desk-top compilation of publications from research undertaken within this area would assist with future reviews of the designation.
<b>Compliance</b>	Compliance-related issues are outside of the remit of the SIOFA SC.

## References

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