

SC-04-13

4<sup>th</sup> Meeting of the Southern Indian Ocean Fisheries Agreement (SIOFA) Scientific  
Committee

25–29 March 2019, Yokohama, Japan

## Proposal for a Research and Management Plan for the ‘Walters Shoal’ protected area

*Relates to agenda item: 6*

Working paper  Info paper

### Delegation of Australia

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#### **Abstract**

The purpose of this paper is to propose a Research and Management Plan for the Walters Shoal protected area, as designated by the SIOFA Meeting of the Parties in June 2018. The proposed research and management plan has been developed in response to the request from MoP5 (paragraph 91 MoP5 report) and the Guidance for SC recommendations to the Meeting of the Parties (which is part of the [SIOFA standard protocol for protected areas designation, Annex H SC3 report](#)).

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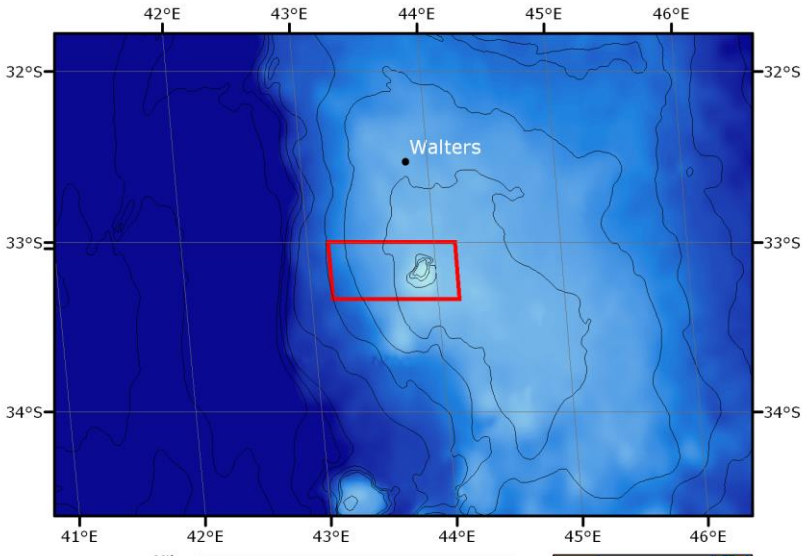
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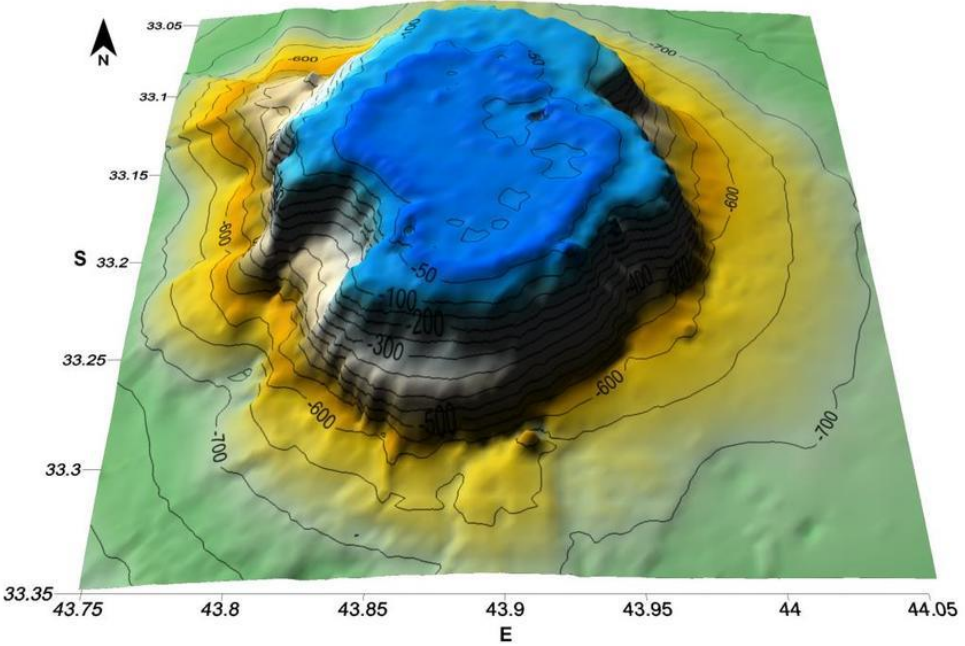
## Recommendations *(working papers only)*

It is recommended that the SC:

- **Note** that the Walters Shoal feature has been designated as a protected area because it meets the following criteria in the SIOFA protected areas designation protocol: 3b. Bioregional representation – The area has a comparatively higher degree of naturalness due to zero or a low level of human-induced disturbance or degradation from, for example, historical fishing activity; 5b. Biodiversity representation – The area is known to contain high diversity of ecosystems, habitats, communities or species, or has higher genetic diversity; and 6. Scientific interest – The area has scientific research interest associated with understanding ecosystem, biological, geological and biodiversity processes in the SIOFA region.
  - **Note** that MoP5 agreed that the SC would provide advice on research and management plans for each area listed in Annex 2 of MoP5 report by 2019.
  - **Recall** the Guidance for SC Recommendations to the Meeting of the Parties outlined in the standard protocol for protected areas designation (Annex H SC3 report), which states that:
    - *If the proposal documents the necessary data and scientific information to support a protected area using protocol, different measures could be applied, such as management measures, technical measures, closures.*
    - *In case of an area becoming protected, a management and research plan shall be associated to it on the year to come. It will include:*
      - *The measures in place in the protected area;*
      - *The time of review of the protected area;*
      - *If needed, the research that should be undertaken in the area.*
  - **Consider** whether the proposed Research and Management Plan for the Walters Shoal Protected Area meets the requirements outlined in the Guidance for SC Recommendations to the Meeting of the Parties (Annex H SC3 report), and if these requirements have been met, **recommend** to the Meeting of the Parties that the proposed research and management plan be adopted for the Walters Shoal protected area.
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## Research and management plan for the Walters Shoal protected area

<b>Name</b>	Walters Shoal
<b>Geographic description</b>	<p>Total area: 3,443 km<sup>2</sup></p> <p>Coordinates: 33° 00'N-43° 10'W : 33° 20'S -44°10'E</p> <p>Bathymetry: 01-100 m 88 km<sup>2</sup>; 100-300 m 104 km<sup>2</sup>; 300-700 m 557 km<sup>2</sup>; 700-1000 m 1,980 km<sup>2</sup>; 1000-1500 m 670 km<sup>2</sup>; &gt;1500 m 42 km<sup>2</sup></p> <p><b>Figure 1 Map showing location and bathymetry of the Walters Shoal</b></p>  <p>The map displays bathymetric contours for Walters Shoal, with a red rectangle indicating the proposed BPA boundary. The map includes a coordinate grid from 41°E to 46°E and 32°S to 34°S. A scale bar shows distances up to 120 miles. An inset map shows the location of Walters Shoal in the South Pacific. The legend defines symbols for Land, Seamounts, Oceanographic features, GEBCO Depth Contours, Continental shelf (200m depth), Proposed BPAs, and Approx. 200 nm limits. The map is projected using Eckert IV Equal-Area projection, dated 2006.</p>

	<p style="text-align: center;"><b>Figure 2 Bathymetric map</b></p>  <p style="text-align: center;">Source: Payne 2015</p>
<p><b>Objectives for this protected area</b></p>	<p>In line with the protocol for protected areas designation, the objectives for the Walters Shoal protected area are to maintain the value and integrity of the area's bioregional representation, biodiversity representation and scientific interest.</p>
<p><b>Objectives for this plan</b></p>	<p>In accordance with the Guidance for SC Recommendations to the Meeting of the Parties outlined in the standard protocol for protected areas designation (Annex H SC3 report), the objectives for this research and management plan are to describe:</p> <ul style="list-style-type: none"> <li>- Management measures in place in the protected area</li> <li>- The time of review of the protected area</li> <li>- If needed, the research that should be undertaken in the area.</li> </ul>
<p><b>Criteria that the protected area meets</b></p>	<p>This area meets the following criteria:</p> <ul style="list-style-type: none"> <li>• <u>3b. Bioregional representation</u> – The area has a comparatively higher degree of naturalness due to zero or a low level of human-induced disturbance or degradation from, for example, historical fishing activity.</li> <li>• <u>5b. Biodiversity representation</u> – The area is known to contain high diversity of ecosystems, habitats, communities or species, or has higher genetic diversity.</li> <li>• <u>6. Scientific interest</u> – The area has scientific research interest associated with understanding ecosystem, biological, geological and biodiversity processes in the SIOFA region.</li> </ul> <p><u>Feature description</u></p> <p>This feature is located near the southern end of the Madagascar Ridge and consists of a spreading plateau with canyons, seamounts and ridges with depths rising from 4500 m to within 15 m of the surface (Rogers 2012).</p>

### Biodiversity and bioregional representation

Walters Shoal was sampled in 1964 during the International Ocean Expedition by the R/V *Anton Bruun*, which led to the discovery of several invertebrates (Payne 2015). Clark (1972) described a new endemic sub-species of crinoid, *Comanthus wahlbergi tenuibrachia* (currently *Comanthus wahlbergi*). Kensley (1975) described a new endemic isopod, *Jaeropsis waltervadi*. Kensley (1969, 1981) described an endemic species of shrimp, *Alpheus waltervadi*, and the presence of four other decapods. Various corals were collected in 1976 using the French vessel *Marion Dufresne* (Zibrowius 1982). Many fishery resources (and some crustaceans) were also found by French and Soviet vessels (Collette and Parin 1991; Romanov 2003; Rogers et al. 2009). Collette and Parin (1991) describe the discovery of fishery resources in more detail. Nesis (1994) describes cephalopod species found in on, over or around the seamount. A number of endemic fish species were discovered and described by Poss and Collette (1990), Collette et al. (1991) and Iwamoto et al. (2004). Early work on the distribution patterns of Walters Shoal benthic and water-column fauna were undertaken (e.g. Parin et al. 1993 and Detonova and Sagaidachny (1994) but these are reportedly inaccessible (Payne 2015).

More recently, a commercial fishing trip on board the Spanish vessel *Iannis* led to the discovery of a new species of lobster, *Palinurus barbarae*, as described by Groeneveld et al (2006). The research vessel *Dr Fridtjof Nansen* undertook a research cruise in 2009 aimed at understanding pelagic biology and physical oceanography of the region, and included a sampling point near the Walters Shoal seamount (Rogers et al. 2009). Mah (2018) describes two new starfish species discovered during the 2017 *Marion Dufresne* expedition on Walters Shoal – *Iphaster noemieae* (new genus and new species) and *Sphaeriodiscus ganae* (new species), with these new species most probably endemic to the Walters Shoal.

Le Corre et al. (2012) note that Walters Shoal is an important foraging ground for the red-tailed tropicbird and Barau's petrel.

It provides a habitat for a variety of whale species, including sperm whales, humpback whales and short-finned whales (Collette and Parin 1991; Rogers et al. 2009; Shotton 2006).

### Scientific interest

There is a long history of scientific research associated with the Walters Shoal feature (see Payne et al. 2015 for a comprehensive review). More recently, the IUCN undertook a research voyage in 2016 on the shallows of the Madagascar Ridge MAD-Ridge 2016 Expedition, South-West Indian Ocean to analyse the hydrodynamics, hydrology and trophic levels (first and intermediate), and in April–May 2017 undertook a 26 day research trip to Walters Shoal to obtain information on the benthic component and "water column", and the pelagic and avian fauna. The voyage included video recordings (see <https://www.iucn.org/theme/marine-and-polar/our-work/international-ocean-governance/conservation-seamounts-ecosystems/ffem-swio-project/walters-shoal-expedition> for links to this project).

	<p>Exploration of scientific results from the IUCN Walters Shoal expedition are still ongoing. A first estimate is that there have been about 100 new species collected among the benthic samples and that about half of them are endemic to Walters Shoal (Guduff et al. 2018).</p> <p><u>Fishing history</u></p> <p>The broader Walters Shoal area is considered to be a productive fishing ground (see Zucchi et al. 2018 for additional detail).</p> <p>The protected feature is known to have been trawled on the western side in the past and bottom fished in the shallow areas (SIODFA 2016). Lobster fishing has also been reported in shallow areas of sandy bottom (SIODFA 2016).</p> <p>Romanov (2003) provides a summary and review of Russian and Ukrainian scientific and commercial fishing operations on the deepwater ridges of the southern Indian Ocean.</p>
<b>Social, cultural and economic interests</b>	<p>Some historical fishing data are available (e.g. Romanov 2003), which may assist with understanding any social, cultural and/or economic costs associated with designation of this protected area. The area is the location of a productive fishery. Designation could have adverse social, cultural or economic impacts in terms of forgone opportunity for fishing.</p>
<b>Management measures</b>	<p>In accordance with CMM 2018/01, the following management measures apply:</p> <p><i>35. The areas included in Annex 2 are provisionally designated as protected areas.</i></p> <p><i>36. CCPs shall provisionally apply the following measures in the areas listed on Annex 2 until the adoption of a dedicated research and management plan, referred to in paragraph 6(e), for each area at MoP6:</i></p> <p><i>(a) CCPs shall prohibit all vessels flying their flag from engaging in bottom fishing, excluding line and trap methods; and</i></p> <p><i>(b) For all other gears, CCPs shall ensure each vessel flying their flag has a scientific observer onboard at all times while fishing inside those areas.</i></p> <p><i>37. When the Meeting of the Parties adopts a revised SIOFA protocol for protected area designation after advice from the Scientific Committee arising from its review referred to in paragraph 6(d), the Meeting of the Parties shall also review Annex 2 of this CMM, taking into account advice of the Scientific Committee.</i></p> <p>All other relevant SIOFA CMMs apply within this protected area.</p>
<b>Management needs</b>	<p>Guduff et al. (2018) note a number of management and governance options for the Walters Shoal (see <a href="https://www.iddri.org/en/publications-and-events/report/laying-foundations-management-seamount-beyond-national-jurisdiction">https://www.iddri.org/en/publications-and-events/report/laying-foundations-management-seamount-beyond-national-jurisdiction</a>).</p>
<b>Review periods</b>	<p>Given the compelling justification for closure to fishing using trawl gears, designation should be reviewed at least every 10 years, or more frequently if new information becomes available that enhances or degrades the justification for its designation as a protected area.</p>
<b>Outline of monitoring</b>	<p>The following monitoring and/or research needs have been identified:</p>

<p><b>and/or research needs</b></p>	<p>Goldsworthy (2017) recommended that it would be useful to review the findings of the 2015 and 2016 IUCN research voyages to review any additional information on the biodiversity, habitat and ecosystems of the feature. (<a href="https://www.iucn.org/theme/marine-and-polar/our-work/international-ocean-governance/conservation-seamounts-ecosystems/ffem-swio-project/walters-shoal-expedition">https://www.iucn.org/theme/marine-and-polar/our-work/international-ocean-governance/conservation-seamounts-ecosystems/ffem-swio-project/walters-shoal-expedition</a>).</p> <ul style="list-style-type: none"> <li>- A desk-top compilation of publications from research undertaken within this area would assist with future reviews of the designation.</li> </ul> <p>Guduff et al. (2018) recommend a series of steps in relation to strengthening scientific knowledge of the Walters Shoal, including:</p> <ul style="list-style-type: none"> <li>- Collection of referential data (seabed mapping, conservation, fishing and mining exploration/exploitation zones, zones with a potential for covering vulnerable marine ecosystems etc.)</li> <li>- Sampling and inventory of benthic and pelagic fauna, marine avian and megafauna etc.</li> <li>- Measure of environmental conditions (temperature, current, vertical profiles in the water column etc.)</li> <li>- Listing and details on commercial and non-commercial species, stock assessment and monitoring of low productivity species</li> </ul> <p>IUCN (2013) lists a series of knowledge gaps to fill on physical, ecological and connectivity aspects.</p>
<p><b>Compliance</b></p>	<p>Compliance-related issues are outside of the remit of the SIOFA SC.</p>

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