

SC-03-06.3.2 (08)

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

Proposal for designation of the 'GULDEN DRAAK' fishery closure for the
purposes of the protection of its bioregional representativeness and its
biodiversity

Relates to agenda item: 6.3.2

Working paper Info paper

Delegation of Australia

Abstract

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

2c. Bioregional representation – Area with a comparatively higher degree of naturalness because of the lack of or low level of human-induced disturbance or degradation, as an example considering historical fishing activities.

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

Recommendations *(working papers only)*

It is recommended that the SC:

- **Note** that the proposed Gulden Draak feature meets the following criteria in the protocol: 2c. Bioregional representation – Area with a comparatively higher degree of naturalness because of the lack of or low level of human-induced disturbance or degradation, as an example considering historical fishing activities; and 3a. Geographic and/or unique representation – The area proposed is known to contain unique or unusual geomorphological features that fishing operations may damage.
 - **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 the precautionary approach, the Gulden Draak feature be designated as an interim fishery closure for the purpose of the protection of its bioregional representativeness, with a prohibition on all fishing to be reviewed after 2 to 5 years.
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Proposal for designation of the 'GULDEN DRAAK' fishery closure for the purposes of the protection of its bioregional representativeness 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.

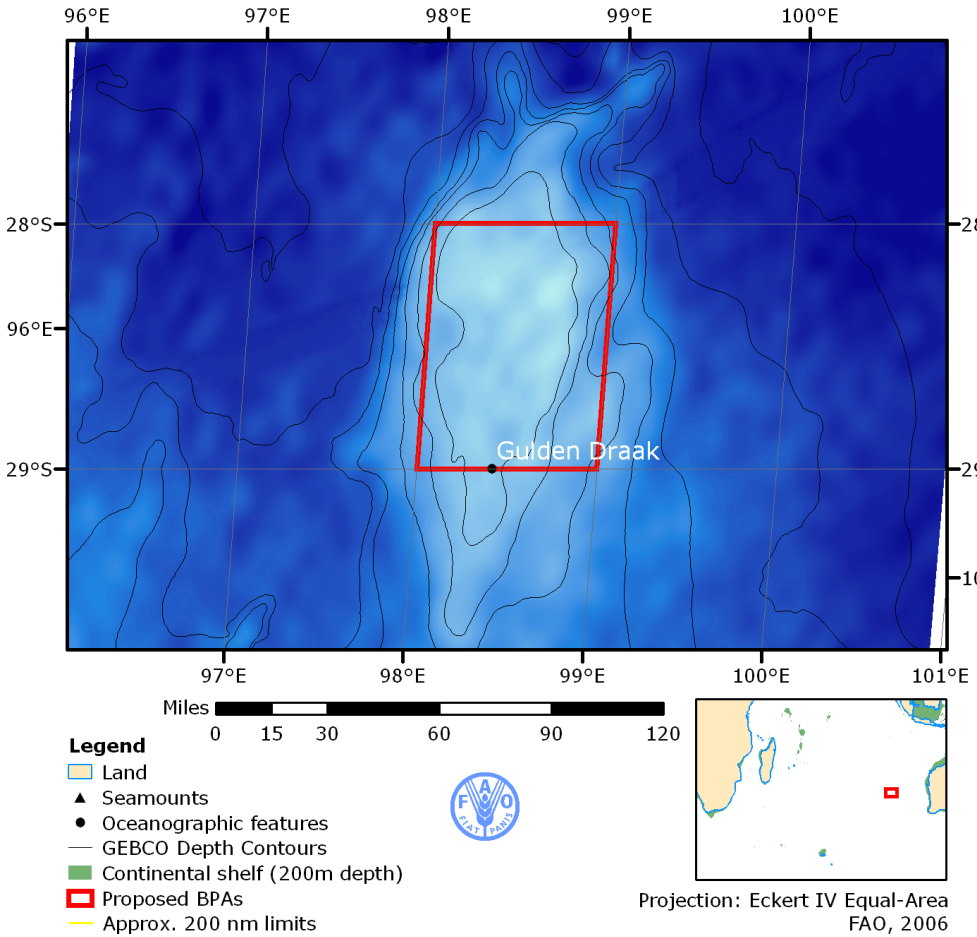
Purpose and rationale

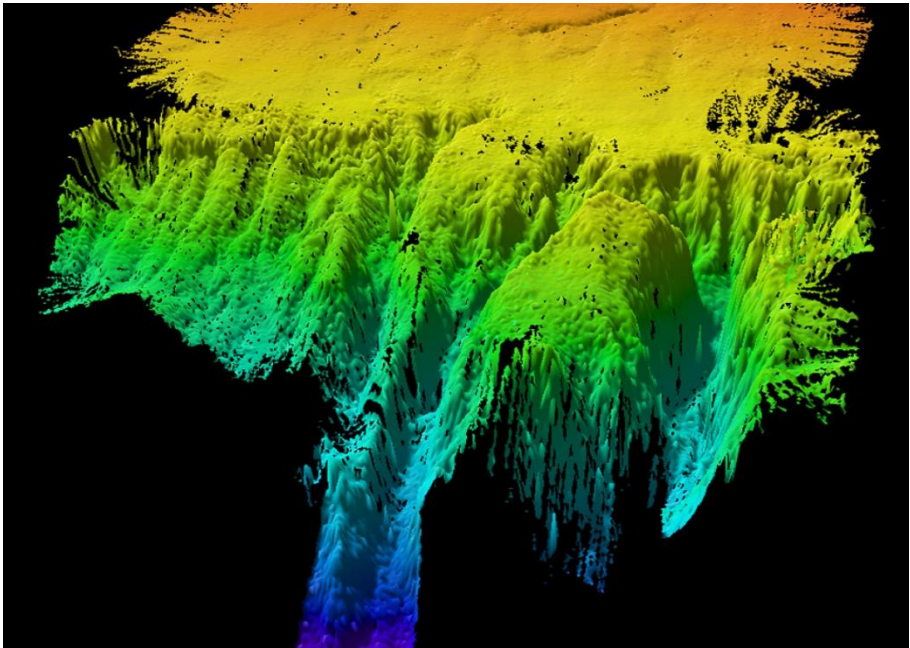
The purpose of this paper is to propose that the Gulden Draak feature meets the following criteria under the SIOFA protocol for protected areas designation (see Annex H of SC2 report):

- 2c. Bioregional representation – Area with a comparatively higher degree of naturalness because of the lack of or low level of human-induced disturbance or degradation, as an example considering historical fishing activities.
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Background

At the 4th 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.

Name	Gulden Draak														
Proponent/s	Australia, Cook Islands (SIOFA Contracting Parties) <i>Prepared in collaboration with the Southern Indian Ocean Deepsea Fishers Association (SIOFA Observer)</i>														
Geographic description	<p>Coordinates: Latitude 28° 00' S, 98° 00' E and 29° 00' S and 99° 00' E. Area: 10,867 km² Area by depth range:</p> <table border="1" data-bbox="395 555 1386 743"> <thead> <tr> <th colspan="4">Depth range (m)</th> <th rowspan="2">Total area (Km²)</th> </tr> <tr> <th>300-700</th> <th>700-1000</th> <th>1000-1500</th> <th>> 1500</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>4</td> <td>9,290</td> <td>1,573</td> <td>10,867</td> </tr> </tbody> </table> <p style="text-align: center;">Figure 1 General bathymetry of the Gulden Draak Sea floor feature</p> 	Depth range (m)				Total area (Km ²)	300-700	700-1000	1000-1500	> 1500	0	4	9,290	1,573	10,867
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	<p style="text-align: center;">Figure 2 Swathe Mapping of the seafloor plateau around the Gulden Draak Seafloor Feature</p> 
<p>Objectives</p>	<p>The objectives for this area are:</p> <ul style="list-style-type: none"> • the protection of its bioregional representativeness; and • the protection of its unique geological/geomorphological representativeness.
<p>Criteria that the protected area meets</p>	<p>The proposed area meets the following criteria:</p> <p>2c. Bioregional representation – Area with a comparatively higher degree of naturalness because of the lack of or low level of human-induced disturbance or degradation, as an example considering historical fishing activities.</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><u>Feature description</u></p> <p>Gulden Draak is a large broken ridge and plateau north of Broken Ridge (Figures 1 and 2). It covers an area in excess of 10 000 km². The location of the Gulden Draak seafloor feature is to the extreme northeast of the area that has been the subject of exploratory fishing. This north-easterly location could result in its benthos being atypical of that found to the south and west.</p> <p>High resolution gravity modelling of the seamount was undertaken by Scripps Institution and published in 2014 (Sandwell et al. 2014). Detailed sea-floor maps were made during the search for the missing Malaysia Airlines Flight MH370 and included the Golden Draak Knoll.</p> <p><u>Bioregional and geographic/geological representation</u></p> <p>Gulden Draak Knoll comprises complex geological and geomorphological characteristics and is regarded as a microcontinent (Gardner et al. 2015; Whittaker et al. 2016). Gardner et al. (2015) analysed dredged samples from the Gulden Draak Knoll which demonstrated that it is a submarine rifted continental fragment that lies at the boundary between the western Perth Abyssal Plain and Wharton Basin, Indian Ocean. Whittaker et al. (2016) report</p>

	<p>on the geological processes required to calve the Batavia and Gulden Draak microcontinents in the Cretaceous Indian Ocean.</p> <p>Ocean Drilling Program Leg 183 explored the origin and evolution of the Kergeulen Plateau and Broken Ridge province in the southern Indian Ocean (Frey et al. 2000). This research showed that this seafloor feature has particularly interesting characteristics pointing to a terrestrial origin (Frey et al. 2000). The rocks collected from this seafloor feature are the same as those found on continents, with some containing fossils.</p> <p><u>Biodiversity representation</u> Little appears to be documented about the faunal characteristics of this area.</p> <p><u>Fishing history</u> Although the area is considered suitable for trawl fishing, because the region's distance from other fishing zones in the Indian Ocean it would have only rarely been visited over the past decade (SIODFA 2016). Despite this some information may be available from a range of fishing vessels that trialled fishing here in the past. These vessels included the <i>F.Vs. Will Watch, Nikko Maru, Southern Champion</i> and <i>Austral Leader</i>.</p> <p>Commercial fishes found in this area reportedly include several oreo species (SIODFA 2016). Bottom water temperatures are low. Some commercial log book information and acoustic records are available for this region and future work should be directed at documenting relevant fisheries information for this area. Despite this, it is believed that the benthic area of this area should be relatively pristine (SIODFA 2016).</p> <p><u>Other information to support designation</u> Industry members from Australia, the Cook Islands and Japan support the designation of the Gulden Draak feature. No trawling by SIODFA vessels is permitted.</p>
Social, cultural and economic interests	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.
Proposed activities to be restricted or prohibited	Fishing within this proposed area with all gears could detrimentally impact the representativeness of this area. The MoP should consider closure to all fishing.
Review periods	The scientific evidence to support a closure is uncertain and it is proposed that this fishery closure be regarded as an interim measure in accordance with the requirements of the precautionary approach. It is recommended that this designation be reviewed after 2 and not more than 5 years, or sooner if new information becomes available that enhances or degrades the justification for its protection.

Outline of monitoring and/or research needed	A desk-top compilation of publications from research undertaken within this area would assist with future reviews of the designation.
Compliance	Compliance-related issues are outside of the remit of the SIOFA SC.

References

Frey et al. 2000, Origin and evolution of a submarine large igneous province: the Kerguelen Plateau and Broken Ridge, southern Indian Ocean, *Earth and Planetary Science Letters*, Volume 176, Issue 1, 28 February 2000, Pages 73-89

Gardner, R, Daczko, N, Halpin, J & Whittaker J 2015. Discovery of a microcontinent (Gulden Draak Knoll) offshore Western Australia: Implications for East Gondwana reconstructions, *Gondwana Research* 28(3)

Sandwell, D, R. Dietmar Müller, Walter H. F. Smith, Emmanuel Garcia, Richard Francis 2014, New global marine gravity model from CryoSat-2 and Jason-1 reveals buried tectonic structure, *Marine Geophysics*, VOL 346 ISSUE 6205

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Whittaker J.M., S.E. Williams, J.A. Halpin, T.J. Wild, J.D. Stilwell, F. Jourdan, N.R. Daczko 2016. Eastern Indian Ocean microcontinent formation driven by plate motion changes, *Earth and Planetary Science Letters*, Volume 454, 2016, Pages 203-212,