

**Savu Sea National Marine Conservation Area
information requirements for inclusion in CTMPAs Categories 3 or 4**

Part 1. Data Attributes in the CT Atlas and Core (Minimum) Data Requirements		
	Attributes	Response
1.	CT Atlas ID #	1006100
1.1	Country*	Indonesia
1.2	Longitude*	
1.3	Latitude*	
1.4	Name*	Savu Sea National Marine Conservation Area (Kawasan Konservasi Perairan Nasional Laut Sawu)
1.5	Designation*	National Marine Conservation Park
1.6	Legal/Formal Instrument	Minister of Marine Affairs and Fisheries Decree Designated: Kep. 38/Men/2009 http://kkji.kp3k.kkp.go.id/index.php/basisdata-kawasan-konservasi/details/1/75 Gazetted: No.5/KEPMEN-KP/2014 http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/518-kepmen-kp-no-5-tahun-2014-tentang-kawasan-konservasi-perairan-nasional-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur
1.7	Designation Type*	National
1.8	Domain*	Marine
1.9	Status*⁴	Designated
1.10	Date Established*	Designated: 8 May 2009 Gazeted: 27 January 2014
1.11	Reported area (ha⁵)*	Designated: 3,521,130.01 Ha

		Gazeted: 3,355,352.82 Ha
1.12	Total marine area (ha⁵)*	3,355,352.82 Ha
1.13	Management Plan	Yes
1.14	IUCN Management Category	II
1.15	International Convention ⁶	No
1.16	Administrative unit level-1	Administration: National/Central Government – Ministry of Marine Affairs and Fisheries Location: East Nusa Tenggara
1.17	Zonation	Yes
1.18	No Take	Part
1.19	Reported No Take Area (ha ⁵)	138,529.76 Ha consists of: <ul style="list-style-type: none"> • Core Zone: 79,668.62 Ha • Utilization Zone: 58,861.14 Ha (uses allowed are tourism, research, education and shipping)
1.20	Management Effectiveness Model	E-KKP3K (E-MPA) (The Evaluation Tool of Aquatic, Coasts and Small Islands Conservation Areas Management Effectiveness) http://kkji.kp3k.kkp.go.id/index.php/dokumen/publikasi/pedum/finish/4-pedum/393-buku-e-kkp3k-english
1.21	Management Effectiveness Rating	Based on Management Effectiveness evaluation that conducted in 2013, Savu Sea was categorized as Level Yellow (Stage 2) with specification of Red 100%; Yellow 100%; Green 86%; Blue 0%; Gold 0%. This level indicates that Savu Sea has achieved certain conditions such as: designated and gazetted as National Marine Conservation Area through ministerial decree, management authority has been formed, and management plan has been approved. Source (attached): E-KKP3K Savu Directorate of Marine and Aquatic Resources Conservation. Unpublished data.

1.22	Source	MMAF
1.23	Validated	Dr. Yesaya Mau, M.Si Head of National Marine Protected Area Management Authority, Kupang Office and Ir. Agus Dermawan, M.Si Director for Marine and Aquatic Resources Conservation Ministry of Marine Affairs and Fisheries
1.24	Consent to display and share ⁷	Yes
1.25	Notes	The Savu Sea National Marine Conservation Area is significant habitat and migration route for cetaceans and marine mammals. So far more than 14 species of whales and 12 species of dolphins, 5 species of turtles and dugongs have been identified in this MPA. Source: Savu Management Plan (in Bahasa) http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur

Information Requirements Showing Regional Significance of Nominated Sites¹

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4 ⁱ		
	Attributes	Response
2.1	Site forms a network (or an equivalent)	Sawu Sea National Marine Conservation Area is part of Lesser Sunda Seascape and would later be part of the Lesser Sunda MPA network that has been identified (Wilson et al. 2011), comprised of more than 100 MPAs. Due to biodiversity richness and high level of endemism, Lesser Sunda seascape has been considered as a high priority region for marine biodiversity conservation (ranked 3 rd out of 12 ecoregions) in Indonesia (Huffard et al., 2012). Huffard et al. (2012) especially noted

¹ This form is intended to guide the countries in submitting their information. Not every site or country will be able to fill in all the categories of information but if information is lacking, a simple assessment, summary or explanation will help guide the CTMPAS Advisory Committee.

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
		<p>the need for effective protection of Savu Sea MPA which accounts for the largest MPA area in the Lesser Sunda eco-region. However, only small numbers of MPAs within the Lesser Sunda seascape are established so far (Savu Sea Management Plan, 2013 -in Bahasa).</p> <p>Sources:</p> <ul style="list-style-type: none"> • (Huffard et al., 2012) http://kkji.kp3k.kkp.go.id/index.php/dokumen/publikasi/kajian-ilmiah/finish/30-kajian-ilmiah/412-prioritas-geografi-english • Wilson et al. 2011, p.8. http://www.reefresilience.org/pdf/LSE_MPA_Design.pdf • (Savu Sea Management Plan, 2013 -in Bahasa) http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur
2.2	<p>Site targets an identified regional priority area, habitat or species</p>	<p>Savu Sea NMCA is located within the Lesser Sunda seascape which is regarded as a high priority seascape for marine biodiversity conservation (Huffard et al, 2012). The Lesser Sundas is the main corridor between the Indian and Pacific Oceans including for migrating whales and commercially-important pelagic fishes (Huffard et al. 2012). Savu Sea NMCA targets to protect the significant and migration route for 14 species of whales, 12 species of dolphins, as well as 5 species of turtles and dugongs (Savu Sea Management Plan, 2014 -in Bahasa).</p> <p>http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p>
2.3	<p>Site adheres to at least two of the following ecological design criteria:</p>	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Representation <input checked="" type="checkbox"/> Replication <input checked="" type="checkbox"/> Resilience <input checked="" type="checkbox"/> Connectivity <input checked="" type="checkbox"/> Critical areas

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
2.3.1	Representation	<p>Savu Sea NMCA covers ranges of species diversities and habitats within its region which includes:</p> <ul style="list-style-type: none"> • 532 corals species which include 11 endemic and sub endemic species (Savu Sea Management Plan, 2013, p.27) • 350 reef fishes species (Savu Sea Management Plan, 2013, p.27) • 15 mangrove species are recorded that represented 9 families of mangrove (Savu Sea Management Plan, 2013, p.39) • 10 sea grass species in 2 families (Savu Sea Management Plan, 2013, p.40) • Deep-water habitats such as seamounts, deep-water canyons, straits (migratory corridors) and large persistent pelagic habitats were covered within Savu Sea NMP boundaries (Savu Sea Management Plan, 2013, p.40). • Main migratory corridors and habitats for 14 whales species, 7 dolphins species, and 1 dugongs species (Savu Sea Management Plan, 2013, p.42). • Habitats for 5 sea turtles species (green, leatherback, olive ridley, loggerhead, and flat back) as well as for large marine fauna such as sharks, napoleon, parrotfish and groupers (Savu Sea Management Plan, 2014, p.45 – 48). <p>Source: http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p> <p>Figures 18 and 19 of Wilson et al. 2012 depicts the importance of Savu’s contribution (i.e. representation) of target Lesser Sundas conservation features. http://www.reefresilience.org/pdf/LSE_MPA_Design.pdf</p>
2.3.2	Replication	<p>The important habitats/ecosystems (coral reefs, mangroves, sea grasses and marine mammals migratory corridors) as well as key species such as reef fishes and Sea Turtles are protected within the park’s zoning system which comprises of three zones (core zones, sustainable fishing zones, utilization zones, and other zones) that covers an area of 3,355,352.82 Ha, thus providing</p>

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
		<p>replication (Savu Sea Management Plan, 2014, p.4)</p> <p>At least 3 replicates of each habitat/ecosystem were included in a no-take zone (page 77 of Management Plan). No-take (core=red and utilization=light green) zones are spread out across the different sections of the MPA thus providing replication (see the zoning plan on page 82 of the Management Plan)</p> <p>Source: Savu Sea Management Plan, 2014 – in Bahasa)</p> <p>http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p>
2.3.3	Resilience	<p>“Coldwater upwellings along the southern coastlines of the Lesser Sundas may also help buffer this region from climate change.” (Huffard et al. 2012)</p> <p>The Park was designed using Marxan software that employed scientific criteria, which in this case is protection to habitats/ecosystems that resilient to climatic changes and disturbances (e.g. upwelling areas, or areas with high temperature variability), thus providing resilience criteria. (Savu Sea Management Plan, 2014, p.78)</p> <p>Source: Savu Sea Management Plan, 2014 – in Bahasa)</p> <p>http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p>
2.3.4	Connectivity	<p>Connectivity was one of many ecological criteria that incorporated in Marxan in designing the Savu Sea MPA as documented in Wilson et al., 2011, p.8. Specifically, MPAs in the Lesser Sundas network were to be no more than “100-200 km apart to maintain genetic connectivity. Within MPAs, space no take zones 15-20 km apart to maintain ecological connectivity.” (Wilson et al. 2011, page 10) Even if the latter could not be fully achieved due to the overall size of Savu, distance</p>

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
		<p>between no-take zones was relatively limited (see page 82 of Management Plan).</p> <p>Source: Wilson et al, 2011 http://www.reefresilience.org/pdf/LSE_MPA_Design.pdf</p>
2.3.5	Critical areas protected	<p>One of the consideration aspects that employed in designing the Savu Sea MPA was protection to critical habitats including fish spawning aggregations, turtle and seabird nesting and nursery areas as well as coral reefs, seagrasses, mangroves, crocodile and dugong habitats, and pelagic upwelling areas as stated in Savu Sea Management Plan, 2014, pp.75-78.</p> <p>Source: Savu Sea Management Plan, 2014 – in Bahasa) http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p>
2.4	Site achieves a threshold level of management effectiveness	<p>Savu Sea Marine Park was categorized as Level Yellow (Stage 2) with specification of Red 100%; Yellow 100%; Green 86%; Blue 0%; Gold 0%. This level indicates that Savu Sea Marine Park has achieved certain threshold conditions such as: designated and gazetted as Marine National Park through ministerial decree, management authority has been formed, and management plan has been approved.</p> <p>Source (attached): E-KKP3K Savu Directorate of Marine and Aquatic Resources Conservation. Unpublished data. !</p>
2.4.1	Formal or legal basis for establishment	<p>Minister of Marine Affairs and Fisheries Decree No.5/KEPMEN-KP/2014 concerning enactment of Savu Sea and surrounding waters as Marine National Park</p> <p>http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/518-kepmen-kp-no-5-tahun-2014-tentang-kawasan-konservasi-perairan-</p>

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
		nasionaI-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur
2.4.2	Management body established and functioning	<p>Management body and office have been set up and staffed.</p> <p>Office of National MPAs Management Authority based in Kupang, a sub-ordinate institution under the DG of Marine, Coast and Small Island, MMAF is the body that responsible in management of Sawu Sea NMP. Co-management scheme and support from local stakeholders has been initiated with the establishment of East Nusa Tenggara Timur Provincial Marine Conservation Board (Dewan Konservasi Perairan Provinsi NTT)</p>
2.4.3	Management and/or zoning plan approved and implemented	<p>MPA Zonation and Management Plan (20 years, 5 years and annual basis) have been in place and enacted through Ministerial Decree.</p> <p>Source: Savu Sea Management Plan, 2014 – in Bahasa) http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasionaI-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p>
2.4.4	Resource and socio-economic baseline assessment completed	<p>Baseline study/assessment has been conducted including biophysics and socioeconomic. These are summarized in Chapter 2 of the Management Plan.</p> <p>Manta tow survey of coral reefs has been conducted in most part of the area, while detailed assessment is still in planning. Cetaceans Resource and Ecological Assessment (REA) study is in progress.</p>
2.4.5	Site conducts regular biophysical and socioeconomic monitoring and	<p>Regular monitoring of socioeconomic and biophysical has been planned (Management Plan page 306) and conducted.</p> <p>Source:</p>

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
	analysis of results	<p>Savu Sea Management Plan, 2014 – in Bahasa) http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p> <p>Coral reefs monitoring study in 2011 showed that 55.8% of the coral reefs conditions in Savu Sea were badly degraded, and only 0.4% in good condition (Munasik et al, 2011-attached). Source: Coral Reefs Monitoring Savu_2011</p>
2.4.6	Site conducts Information, Education, Communication (IEC), awareness programs	<p>MPA Management body with collaboration with partners conducted regular socialization activities, campaign, exhibition and producing IEC materials such as leaflet, brochure and information board. The IEC activities has been planned in Savu Sea Management Plan, 2014,p.261</p> <p>Source: Savu Sea Management Plan, 2014 – in Bahasa) http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur</p> <p>Baseline knowledge-attitudes-practices survey was conducted for Savu in 2009-2010. Widodo H, T Soekirman, A Halim (2010) Monitoring stakeholder perceptions to improve MPA management effectiveness in Indonesia – Round 3: Final Progress Report (1 October 2008-30 September 2010). The Nature Conservancy. ftp://docs.lib.noaa.gov/pub/data.nodc/coris/library/NOAA/other/NA08NOS4630335_TNC-FinalProduct.pdf</p> <p>Source (attached file): IEC materials</p>

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4ⁱ

	Attributes	Response
2.4.7	Site conducts effective enforcement	Coordinated Monitoring-Control-Surveillance (MCS) has been conducted on period May – June 2013 (with active participation from the navy, marine police, and conservation board members), which apprehended three compressor fishing boats. Source (attached): Laporan Pengawasan BKKPN 2013, page 11- 15.
2.4.8	Multi-stakeholder involvement and participation in management	The management body is supported by Provincial Conservation Board (PCB), a multi-stakeholders body which established by the Governor of East Nusa Tenggara through Governor Decree No. 74/KEP/HK/2013 (decree attached). PCB member comprises of: local/provincial government institutions, Navy, NGOs, universities, researchers, fishermen representatives, and private sectors, (see Governor Decree). The PCB has main roles in supporting Savu Sea management programs or activities. For example, in 2013 a joint MCS patrol has been conducted that involved and fully supported by PCB members such as Navy, and Coast guard. Source (attached-Governor Decree): Province Conservation Board Decree
2.4.9	Increased livelihood opportunities	Alternatives livelihood activities have been planned and ready to initiate as stated in Savu Sea Management Plan, 2014, p.261 Source: Savu Sea Management Plan, 2014 – in Bahasa http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur
2.4.10	Research and development	Science is a core element in long term and short term of the Savu Sea MPA management (Savu Sea Management Plan, 2014, p.306). Source: Savu Sea Management Plan, 2014 – in Bahasa http://kkji.kp3k.kkp.go.id/index.php/dokumen/regulasi-hukum/keputusan-menteri/finish/14-

Part 2. Information Requirements Showing Regional Significance of Sites Nominated for Category 3 or 4 ⁱ		
	Attributes	Response
		keputusan-menteri/519-kepmen-kp-no-6-tahun-2014-tentang-rencana-pengelolaan-dan-zonasi-taman-nasional-perairan-laut-sawu-dan-sekitarnya-di-provinsi-nusa-tenggara-timur

ⁱ This form is developed to assist countries in nominating their CTMPAS sites in response to the criteria set out in the CTMPAS Framework and Action Plan as explained in Annex 3, page 63 in the CTMPAS Framework document.

ⁱ Core (minimum) attributes required for an MPA to be included as a recognized CTMPAS site (Category 1 or higher).

ⁱ This form is intended to guide the countries in submitting their information. Not every site or country will be able to fill in all the categories of information but if information is lacking, a simple assessment, summary or explanation will help guide the CTMPAS Advisory Committee.