

Ecosystem Profile Marine Update

Wallacea Biodiversity Hotspot

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1. Introduction

CEPF works for the conservation of biodiversity in globally important hotspots, through empowerment of local civil society to take action. An ecosystem profile published in 2014 presented a detailed analysis of the priorities and context for a CEPF program in Wallacea, and a grants program was implemented in the region from 2014 to 2019. Over that period, 108 grants were made totaling US\$ 5.2 million. Grant-making was accompanied by a capacity building program which support local civil society organizations to develop organizations their technical knowledge and organizational strengths.

CEPF is in the process of securing an additional US\$ 2.5 million to fund the conservation of coastal and marine ecosystems and species in Indonesian Wallacea. To support the strategic and effective use of these funds, CEPF engaged a team to update the original ecosystem profile of 2014 in the document that follows. This document reflects new data and the experience of the last five years in Wallacea. The revision involved consultation with marine experts, government officials, and a range of CSOs and others in Wallacea.

As this document is an update to the 2014 ecosystem profile, it follows the outline used at that time.

2. Background: Lessons from Phase 1 and the Updating Process

2.1. The investment strategy for Phase 1 (2014 – 2020)

The ecosystem profile (EP) that guided the first phase of CEPF investment in the Wallacea Hotspot was formulated in 2013-2014, through a process that engaged people from across the region representing more than 301 organizations from civil society, national and local Government, academia and research institutes, business, media and donors including UN agencies. The ecosystem profile defined:

- **species outcomes** for 560 species in Wallacea, based on the IUCN Red List as updated on 1 November 2013. Of these, 254 species are marine, including three which are classified as 'critically endangered' (CR) and 25 as 'endangered' (EN). This list of marine species outcomes is revised and updated in chapter 4.

From this list of species outcomes, 207 marine species were identified as high priorities for CEPF funding because they are especially vulnerable to targeted hunting or by-catch. This list includes 5 sea turtle species; 10 marine fish species threatened by over-fishing (e.g. shark-finning, hunting rays for their gill-rakers) as well as accidental by-catch; and 176 coral and 10 sea cucumber species potentially threatened by collection. The priority list is reviewed and updated in Chapter 12 of this report.

- **site outcomes**, comprised of 251 terrestrial KBAs and 74 marine KBAs, plus an additional 66 'candidate marine KBAs' where locality data was insufficient to prove that the site met the criteria. Of the 140 confirmed and candidate marine KBAs, 12 (7 confirmed, 5 candidate) are in Timor-Leste and 128 (67 confirmed, 61 candidate) in Indonesia.

The 74 marine KBAs are confirmed sites for 186 of the 254 globally threatened marine species. No sites were identified for the remaining 68 species.

Species data was inadequate to prioritize individual marine KBAs, and so the KBAs within the priority marine corridors (see below) were prioritized for CEPF support. Both the corridors and the prioritization of KBAs is reviewed in Chapter 12 of this update.

- **corridor outcomes**, defining 10 terrestrial and 16 marine corridors, with one marine corridor in Timor-Leste and 15 in Indonesia. The marine corridors represent all 5 of the marine ecoregions defined for the hotspot. The corridor analysis was reviewed and expanded as part of this update (see Chapter 4).

Data limitations meant that it was not possible to prioritize marine corridors on an objective measure of biological importance. For the purposes of CEPF investment in Phase 1 they were ranked based on (a) expert ranking of biological importance; (b) proximity to a terrestrial KBA cluster which has been selected for funding; and (c) high funding need. The ranking is revised and re-applied in Chapter 12 of this report.

The CEPF investment strategy for the first phase comprised 25 investment priorities grouped under seven strategic directions, one of which (SD7) was dedicated to the Regional Implementation Team (Table 2.1).

Table 2.1: Strategic Directions and Investment Priorities for Phase 1 of CEPF investment in the Wallacea Hotspot (2014-2020)

Strategic Directions	CEPF Investment Priorities
1. Address threats to high priority species	1.1 Provide information to promote species outcomes and allow for monitoring and improved policies and programs of local and national government and other stakeholders 1.2 Change behavior of trappers, traders or buyers through appropriate enforcement, education, incentives and alternatives
2. Improve management of sites (KBAs) with and without official protection status	2.1 Facilitate effective collaboration between CSO, local and indigenous communities and park management units to improve planning and management of official protected areas 2.2 Develop and implement management approaches that integrate sustainable use by business or local stakeholders with conservation of ecosystem values in KBAs outside official protected areas 2.3 Support surveys, research, and awareness campaigns to create new protected areas or better manage KBAs without protection status 2.4 Work with central and local governments on specific legal and policy instruments, including land use plans and development plans, for better site management, and build a constituency of support for their promulgation and implementation

Strategic Directions	CEPF Investment Priorities
3. Support sustainable natural resource management by communities in priority sites and corridors	3.1 Support community institutions to secure adequate rights over resources, and to develop and implement rules on resource use 3.2 Develop alternatives for livelihoods otherwise dependent on unsustainable resource management practices and enhance markets for sustainably produced products and services 3.3 Propose specific legal and policy instruments to address obstacles to effective community based natural resource management at local or national level
4. Strengthen community-based action to protect marine species and sites	4.1 Support the identification and establishment of new local marine protected areas 4.2 Strengthen local institutions and mechanisms for management and monitoring of marine protected areas 4.3 Support the engagement of local government to increase the financial sustainability and legal effectiveness of local marine protected areas 4.4 Facilitate the sharing of lessons and experiences between stakeholders involved in marine conservation initiatives
5. Engage the private sector in conservation of priority sites and corridors, in production landscapes, and throughout the hotspot	5.1 Engage with the private sector, business associations, and chambers of commerce so that corporate social responsibility (CSR) funding supports the goals of the Ecosystem Profile 5.2 Encourage mining and plantation companies and their funders and buyers, to consider conservation values in management of concessions and rehabilitation of production areas 5.3 Establish links between CSOs and organizations undertaking campaigns with consumers, financiers, and consumer-facing companies to create market-related incentives and disincentives for private sector to support conservation actions 5.4 Support efforts for mediation or formal engagement with mining and other industry to reduce threats from unlicensed operators or those operating with an illegitimate license
6. Enhance civil society capacity for effective conservation action in Wallacea	6.1 Enhance the capacity of civil society to identify, plan and undertake surveys, planning, implementation, and monitoring of conservation actions 6.2 Catalyze networking and collaboration among community groups, NGOs, private sector, and other elements of civil society 6.3 Increase the volume of sustainable funding available to civil society for conservation actions via capacity building and appropriate mechanisms

Strategic Directions	CEPF Investment Priorities
7. Provide strategic leadership and effective coordination of conservation investment through a Regional Implementation Team	7.1 Operationalize and coordinate CEPF's grant-making processes and procedures to ensure effective implementation of the investment strategy throughout the hotspot 7.2 Build a broad constituency of civil society groups working across institutional and political boundaries towards achieving the shared conservation goals described in the ecosystem profile 7.3 Engage governments and the private sector to mainstream biodiversity into policies and business practices 7.4 Monitor the status of biogeographic and sectoral priorities in relation to the long-term sustainability of conservation in the hotspot 7.5 Implement a system for communication and disseminating information on conservation of biodiversity in the hotspot

2.2. Overview of CEPF Investment in Phase 1

Burung Indonesia was engaged by CEPF to form the Regional Implementation Team (RIT) to manage Phase 1 grant-making. Grants were solicited through open requests for proposals (RFP). Before RFPs were issued, however, the RIT carried out seven pre-RFP outreach workshops to encourage the participation of local CSOs, involving 270 participants from 194 organizations.

In line with standard CEPF procedures, the RIT handled the award of small grants (up to US\$ 40,000), while for large grants (>US\$ 40,000) the RIT reviewed the proposals and made a recommendation, for final decision and award by the CEPF secretariat. In the 4 years from January 2015 to August 2018, the RIT team released 12 RFPs, receiving 393 letters of inquiry and made 108 grants. Table 2.2 summarizes the calls for proposals and response received.

Table 2.2: Calls for proposals issued during Phase 1 of the CEPF Wallacea Program, 2014 - 2019

No.	Deadline for submission	Geographic Focus	Grant size	LOIs Received	
				Large	Small
1	February 9, 2015	Entire hotspot	Large only	18	
2	June 26, 2015	Northern Sulawesi, Southern Maluku	Small + Large	1	30
3	August 31, 2015	Northern Sulawesi, Southern Maluku	Large only	13	
4	December 1, 2015	Central Sulawesi, Flores-Solor-Alor	Small + Large	24	47
5	March 3, 2016	Southern Sulawesi, Northern Maluku	Large only	16	
6	April 8, 2016	Southern Sulawesi, Northern Maluku	Small + Large	21	51
7	Sept 30, 2016	Togean Banggai	Small + Large	6	10
8	Dec 13, 2016	Timor-Leste	Large only	4	
9	January 31, 2017	Priority sites KBAs/Corridors only	Large only	33	

No.	Deadline for submission	Geographic Focus	Grant size	LOIs Received	
				Large	Small
10	February 20, 2018	Priority sites KBAs/Corridors only	small only		67
11	February 28, 2018	Priority sites KBAs/Corridors only	Large only	17	
12	August 20, 2018	All Wallacea	small only		35
Total				153	240

Of the 108 grants made during the first phase, the RIT awarded 75 small grants directly, and provided input for the award of 33 large grants by CEPF. The total grant investment was US\$ 5,249,543. US\$ 3,816,145 (73%) was awarded as large grants to 6 international, 2 national and 20 local CSOs. US\$ 1,433,398 (27%) was awarded as small grants to 1 national and 49 local CSOs. Overall, CSOs based in Wallacea received 95 grants totaling US\$ 3,729,035, or 71% of funding.

2.3. Marine Portfolio Overview

Thirty-one grants totaling US\$ 1.64 million were made for marine-focused projects, comprising 19 small grants (total value US\$ 335,041) and 12 large grants (US\$ 1.3 million). This means that marine projects accounted for 31% of all grants by value, or 29% by number. Marine conservation grants made up 25% of the small grants, and 36% of the large grants.

Marine grant-making covered both countries, with 2 marine grants in Timor-Leste and 29 in Indonesia. Grants were made for work in 6 of the 16 Marine corridors, including the 4 highest priority ones (Table 2.3).

Table 2.3: Summary of Phase 1 marine grants (in order of sum granted per corridor)

Corridor	# grants (value)	# grantees (status)	Theme and SD addressed
Timor-Leste marine	2 (US\$ 470,398)	2 (1 local, 1 international)	SD2 – management capacity building and SD4 - strengthening of MPA management
Sulawesi Utara*	7 (US\$ 341,801)	4 (3 local, 1 international)	SD4 – awareness raising, community-based conservation including capacity building for local management groups, action for Dugong and Turtle conservation SD6 – capacity building
Bentang Laut Buru	6 (US\$ 304,563)	4 (local)	SD2, SD4 – community-based conservation, with a focus on strengthening customary management
Togean-Banggai*	8 (US\$ 240,845)	5 (4 local, 1 international)	SD2 – awareness raising, SD4 - community-based management, management group capacity building
Solor-Alor*	4 (US\$ 204,109)	2 (local)	SD4 – awareness raising, community-based conservation, economic empowerment and marine biodiversity rescue

Corridor	# grants (value)	# grantees (status)	Theme and SD addressed
Halmahera *	3 (US\$ 45,337)	2 (local)	SD4 – community-based conservation of sites and species in 2 communities
no corridor	1 (US\$ 36,501)	1 (local)	SD4 - dissemination of lessons on community-based management at conference
TOTAL MARINE	31 (US\$ 1,643,355)	19 (16 local, 3 international)	Represents 29% by number and 33% by value of all grants made during Phase 1 in Wallacea

*: Highest priority marine corridors according to the 2014 Ecosystem profile

Geographic focus of marine grant-making

The geographic distribution of grants for marine conservation action broadly reflected the priorities outlined in the Ecosystem Profile. The Sulawesi Utara and Togean-Banggai marine corridors both received significant levels of investment, in line with their status as high priority corridors. The number and value of grants in the Halmahera marine corridor was lower than might have been expected, because of lack of CSO capacity and suitable applications in the region, despite the RIT running a workshop on proposal development. Conversely, the Bentang Laut Buru marine corridor received a significant investment despite not being included in the 4 highest priority corridors, a result of the relatively high level of CSO capacity in the region, with two successful grantees each receiving 2 grants. Grantee capacity has been sustained in the corridor because of other funding opportunities (e.g. from USAID APIK and SEA programs). Investment in Solor-Alor was limited, despite the very high biological importance of the corridor, because significant funding was already available in the region, and because the region is expensive and difficult to access for small CSOs from Flores and Lembata.

There was no grant support to three marine corridors identified in the ecosystem profile (based on expert opinion) as of 'high' value for biodiversity: Bentang Laut Banda, Bentang Laut Lucipara, and Laut Sawu. These corridors did not meet the criteria for prioritization, of being adjacent to a priority terrestrial corridor. The decision to exclude them also reflected an absence of CSOs with capacity to work on marine issues, and the expense and difficulty of accessing these areas. The remaining seven corridors which did not receive support were assessed to be of 'medium' biodiversity value.

Thematic focus of grant-making

For the purposes of monitoring and analysis, grants were allocated to the SD where they made the largest contribution. Twenty-seven of the 31 marine grants (87% of the number of marine grants and 80% of the funding) address **SD4** (Strengthen community-based action to protect marine species and sites). This emphasis is in line with the ecosystem profile, which noted that community-based approaches, and especially those based on customary resource management mechanisms, were known to be highly relevant (Sulawesi Utara, Togean-Banggai, Bentang Laut Buru, Solor-Alor, Timor-Leste marine) or likely to be relevant, pending further investigation (Halmahera). It also reflected an administrative need to be able to distinguish funds contributed by MACP foundation, which were ear-marked for community-based marine conservation.

A smaller fraction (3 grants, 10% of the number and 20% of the value of marine grants) contributed mainly to **SD2** (Improve management of sites (KBAs) with and without official protection status). This does not mean that only 10% of grants contributed to strengthening site management, however, since the majority of grants classified under SD4 also

addressed site management. Rather, the grants classified as SD2 focused on general awareness and capacity-building of PA managers, rather than community-based approaches. In addition to the marine-focused grants, one grant under this SD addressed conservation of coastal habitats and Komodo Dragons, and another the protection of coastal-nesting Moluccan scrubfowl.

The need for capacity strengthening was a major theme of the ecosystem profile, reflected in the chapter on civil society and the section on sustainability (13.1). Although only one marine grant (3% by number and 0.3% by value of all marine grants) addressed **SD6** (Enhance civil society capacity for effective conservation action in Wallacea), another grant for US\$ 319,009 (6% of all grants) addressed capacity building for grantees across the program. Despite this investment, as noted above, the limited number and capacity of CSOs constrained grant-making in a number of high-priority corridors, especially Halmahera, Solor-Alor and the Savu Sea.

No marine grants were classified as mainly contributing to the following SDs:

SD1 (Address threats to high priority species): a large number of marine species were identified in the ecosystem profile as being vulnerable to targeted over-exploitation (e.g. turtle egg-collecting, collecting coral and reef fish for the marine aquarium trade, hunting for shark fins or ray gill rakers), and the ecosystem profile notes that the solution for some species may be sustainable harvest, but that for others (customary or formal) regulation and official protection are required. Two grants classified as 'terrestrial' but in fact addressing coastal species and habitats (one for Komodo dragon, one for Moluccan scrubfowl) were classified under SD1. One marine grant, combining *in situ* protection of Banggai cardinalfish with *ex situ* breeding to reduce pressure on wild populations and to provide income for local people, could have been classified under SD1 but was classified under SD4. Many other grants classified under SD4 included a component of community-based MPA creation and management, and it can be assumed they indirectly contributed to reducing the pressure on vulnerable species.

SD3 (Support sustainable natural resource management by communities in priority sites and corridors): in Phase 1 this SD was treated as the terrestrial equivalent of SD4, and so marine grants would not be expected to address this SD. However, two grants classified as terrestrial addressed coastal habitats and species: one on the conservation of Moluccan scrubfowl, another on ridge-to-reef management.

SD5 (Engage the private sector in conservation of priority sites and corridors, in production landscapes, and throughout the hotspot): Grant-making under this SD was less than planned overall, with only 4 grants (less than 4% of the total portfolio by number and value) mainly addressing this SD. Three of these grants – on sustainable practices for industry, sustainable mining and business-community partnership, are potentially relevant to marine as well as terrestrial sites and species. The ecosystem profile identified some potential opportunities in this area (for example, with mining companies, tourism operators or cacao growers), but recognized that opportunities were limited, and that the CEPF grants program might not be the appropriate format for developing relationships with private sector stakeholders.

Accessibility of marine grants to local stakeholders

The ecosystem profile emphasizes that local community and civil society engagement is central to sustainable conservation outcomes in the region, but that national and international NGOs or universities may play a role as an intermediary. Nineteen CSOs were the recipients of the 31 marine grants, with 14 of them local (i.e. based in Wallacea), 2 national and 3 international.

2.4. Summary of impacts of grants

Strengthening the role of CSOs

The end-of-phase assessment by the organization contracting to deliver capacity building for grantees concluded that, overall, the combined CEPF program of funding and capacity development had:

- increased capacity for human resources, financial resources, management system, strategic planning, and achievements, as measured by a self-assessment tool in comparison with a baseline established at that start of the project
- created a shift in orientation towards a greater understanding of the role of conservation and sustainable natural resources management
- created opportunities for cooperation between CSOs and Local Governments (Districts) for the establishment of new conservation areas. In 6 of the 7 priority funding regions this included examples of securing financial support from Government for conservation
- strengthened the contribution of CSOs as promoters and mediators to reduce conflict between communities, government and the private sector and thereby support conservation and economic activities.
- strengthened the role of local community organizations in managing fisheries and sustainable agriculture in support of KBA conservation.
- strengthened cooperation between CSOs on protected areas advocacy and policy
- supported the emergence of social entrepreneurship including agriculture, agro-forestry and ecotourism which contributes to reduced ecosystem damage and increased community economic activity.

Further information on the capacity-building program and its impacts is in Chapter 7 (civil society).

Increased community capacity and action

Grantees work with communities

The nineteen grantees worked with communities in 44 villages through 31 grants on marine issues. The villages generally had a small population (less than 1000 people), and at least 25 of them identify as indigenous. Twenty-three were classified as having a subsistence economy, suggesting a high-level of reliance on natural resources, with only two classed as urban.

The grantee projects overwhelmingly addressed the conservation of marine resources through the establishment or strengthening of community-based marine protected areas (9 projects) or conservation of the wider coastal and near-shore marine environment, including mangroves (9 projects). Some incorporated a focus on a charismatic species, such as dugong (1 project) or turtles (2 projects) while others put particular emphasis on the revitalization of traditional knowledge as a basis for management (1 project). These approaches were backed up through awareness creation and dissemination of lessons and results (each the focus of one project). A regional project focused on legal protection for species in trade, covering terrestrial and marine species.

As part of their projects the grantees ran 86 training and capacity building events which involved over 5000 people (at least 3195 men, 1865 women). **Capacity building for natural resource conservation** covered issues such as coastal zone management and marine protected areas (16 events); coastal patrol and survey methods (7); identification

and monitoring of key species such as turtles, dugong (4); and mangrove management (8). In many cases the improved management introduced through the project was **consolidated and reinforced through regulations and awareness-raising**, including through capacity building on the development of village regulations (11 events), exploration and reinforcement of customary knowledge (5) and broader environmental awareness (8). A third set of activities addressed **livelihoods**, including enterprise development (4 events) and practical skills and techniques for livelihoods such as fish and crab cultivation, salt production, composting and permaculture (6). Finally, some projects provided capacity building to enable communities to tap into the tourism economy, with training on language skills, dive guiding and tour guiding (4).

Community responses

Communities responded to the grantee projects by forming resource management groups, passing local regulations for marine conservation and allocating funding from their own resources. Twenty-five community marine protected area management groups were formed, with a further 12 groups responsible for more general monitoring and patrol for coastal areas. Three groups were formed specifically to support conservation of key species (e.g. turtles, Banggai cardinalfish) or to promote sustainable fishery, and at least one group was formed to promote local enterprise development.

Twenty of the villages also adopted regulations creating or strengthening local marine protected areas, and 16 established a legal basis for their MPA management groups. There were five village regulations issued on wider coastal environmental management issues, and 3 regulations establishing coastal protection groups. On the island of Buano, the community collaborated at the level of a customary territory, covering several villages, and adopted a ruling confirming the traditional *sasi* approach as the basis for management.

Many villages also made funding commitments by incorporating their coastal and MPA planning and programming into their village development plan and village budgets (*anggaran dana desa*, ADD). There were 13 examples of MPA management being integrated into village planning and budgeting, with support for patrolling, monitoring and protection (e.g. for nesting turtles) in five communities, and investment in capacity for marine-based livelihoods (ecotourism, salt production) in another five.

Finally, a sub-set of villages took specific action to boost their local economy on the basis of sustainable resource management. A village-owned company became involved in ecotourism in the MPA, there were efforts to improve the value-chain and secure increased income for fishers in another community. On Lembata, several villages improved their salt production and marketing, with a particular focus on women's groups, while in Banggai, an enterprise was established to cultivate and export the endemic cardinal fish, which is in demand in the aquarium trade.

Wider impacts on communities

The impacts reported by the communities reflect the emphasis on developing mechanisms and institutions for community-based resource management. Of the approximately 44 communities which participated in projects, 20 reported an improvement in local decision making and representation, 15 improved access to public services, and a further 15 improved access to ecosystem services. Increased food security (14 communities), increased resilience to climate change (12 communities) and greater recognition of traditional knowledge (10) were also widely reported. Three types of benefits that were reportedly widely by communities involved in terrestrial projects - improvements in access to clean water, energy and improved land tenure - were reported by only one community

involved in a marine project. This reflects the focus of the projects and also the legal difficulty of establishing formal tenure rights over marine ecosystems under Indonesian law.

Mobilizing support from government

The success of local-level initiatives to promote and institutionalize community-based marine conservation action enabled grantees and communities to approach district and provincial level authorities for recognition and support. At least one village group secured recognition (and thus potentially funding and the support of other agencies) from District agencies, becoming a 'community surveillance group' (*Pokmaswas*). In addition, the coastal and marine zoning plans which governments are required to develop by law, RZWP3K, were issued for North Minahasa District (Sulawesi), Maluku province and Sulawesi Tengah province with input from grantees. East Nusa Tenggara completed a marine zoning plan, and the Lembata community MPA was recognized and given legal status at Provincial level. Several projects assisted communities to register their local marine protected areas as 'protected waters zones' (KKP), as mandated under the RZWP3K, thereby integrated their local initiative with formal planning processes.

In a few cases grantees and communities were successful in securing financial support from District agencies for their activities, including for coastal/MPA monitoring and awareness (four communities) and livelihood development such as ecotourism and salt production (five communities).

Support from Government also took less concrete forms, for example grantees reported that participation in project workshops created opportunities for them to engage with Government representatives. In some cases, this led to action, such as a decision by the Wildlife Authority in Maluku to patrol the seaport in Maluku, leading to arrests and confiscation of illegally traded wildlife products.

A few projects worked to influence policies and programs at national level, with one notable achievement being the addition of 16 species, including 4 marine species, to the list of protected species under the national Biodiversity Protection law. In addition, the Ministry of Fisheries and Marine Affairs regulated the exploitation of Banggai cardinalfish (a focal species for a grantee project), and added several species (a coral, *Isis* spp; Oceanic Whitetip and Hammerhead sharks) to the list of legally protected species as a result of a grantee project.

Impacts on species

The majority of marine projects focused on the conservation of ecosystems, and thus indirectly the conservation of species. 207 priority species are expected to have benefitted from the establishment of local MPAs (see below).

In terms of projects directly focused on specific species, monitoring of the Banggai cardinal fish at 16 sites over 3 time periods showed a consistent pattern of stable or increasing population at the project site, while other sites showed fluctuations and in some cases decline. Eleven other projects included a focus on species - either dugong and corals. Action for dugong conservation included awareness, integration of dugong conservation into local MPAs, and registration of MPAs as protected waters (KKP) under the regional coastal and marine zoning plan. Actions on coral included awareness raising, prohibitions on collection of corals and patrols to enforce protection. Overall, the program contributed to maintaining stable levels of coral cover across 27,424 hectares of reef.

Impacts on KBAs

Working with communities and Government agencies, the program leveraged the designation and establishment of more than 1 million hectares of official national- and district-level MPAs. The largest was the 860,000 ha Banggai Dalaka MPA.

Nineteen grantees addressed the conservation of locations within 19 of the 74 marine KBAs. By the end of the program, Atauro Island (Timor-Leste) was protected by an official MPA covering 13,251 ha, and there were 54 local MPAs that effectively stopped destructive fishing in a combined area of 36,405 ha. The newly created local MPAs are expected to have wider positive effects on biodiversity and livelihoods in the surrounding waters.

Data for strengthened management of KBAs shows improvements at 28 locations in 15 of the 19 KBAs targeted by grantee projects. The areas with improved management cover 10,550 ha, demonstrating the impact of the strengthening of institutions and mechanisms for coastal ecosystem management beyond the boundaries of KBAs.

2.5. Lessons from Phase 1 to Apply to Phase 2

Portfolio level

Setting geographic priorities is important for efficient implementation of the program

Any small-grants program faces the challenge of funding local civil society organizations to implement effective projects without incurring unacceptably high transaction costs. Phase 1 of the CEPF program for Wallacea focused on priority areas, funding action in 6 of the 16 marine corridors, with the rationale that promotion, capacity building and post-award support to grantees could be delivered more efficiently to multiple grantees within a restricted geographic area. This approach was largely borne out, as shown by the success in disbursing the funds, the number of proposals received and the high levels of success in delivering the planned projects.

Efficiency cannot be the sole determinant of geographic and thematic focus, however, but has to be balanced with the need to work in areas which are a very high priority from a conservation perspective, even if the CSO community is limited. The 2014 ecosystem profile proposed a mixed portfolio of priorities, including work in some areas known to have a diverse and generally well-capacitated community of CSOs (e.g. North Sulawesi), and some areas where the CSO community was weak, or unknown (e.g. Halmahera).

During Phase 2, CEPF will continue this approach, establishing clear geographic priorities and defining a portfolio which balances areas where CSO capacity is strong with those where greater capacity building effort will be needed. However, there are now CSOs with experience of working with CEPF which have shown themselves to be effective, and the portfolio should be flexible enough to allow opportunities for these CSOs with a good track-record, even if they are outside the priority areas.

Working with an independent, specialist capacity-building provider delivers effective capacity building

While capacity-building is integral to the relationship between CEPF, the RIT and grantees, there is an inherent tension between providing funding, and establishing the trusting relationship with grantees which is required to facilitate effective reflection and learning. Phase 1 addressed this by providing a grant to an independent, specialist capacity-building organization, Penabulu, to work with grantees. This approach was effective, but is

dependent on regular communication between the RIT and the capacity building provider to ensure that the impact of capacity building translates into more effective and sustainable project outcomes. Penabulu has extensive experience in building CSO capacity for project and organizational management, but for more technical issues other organizations were brought in lead training events – for example WCS (wildlife trade), Rainforest Alliance (commodity supply chains), YAPEKA (MPA design) and IDEP (permaculture). This model worked well.

In Phase 2, it is expected that some grantees will already be ‘graduates’ of Penabulu’s capacity building, and so will require less support. New corridors and new grantees, however, will require levels of support similar to Phase 1. In addition, a shift in focus – for example towards small-scale fisheries in addition to MPAs – will introduce new areas of technical competence which will be required for successful projects.

During Phase 2, CEPF will consider a similar model for capacity-building, using an independent provider and experienced CSOs as resource organizations. Trainings should be designed with a specific focus on regions where capacity is weak and on the themes that are needed to implement the revised investment priorities. Networking and learning-through-collaboration should be integrated as a core part of the capacity building program.

Community-based management of marine and coastal resources has proved to be an effective approach and should be continued

As noted above, the majority of marine-sector grantees in Phase 1 focused on community-based management of resources, often through the establishment of MPAs or similar local no-take arrangements. In a limited time and with small budgets, these grantees achieved measurable impacts on community livelihoods and resources. Similar results have been reported, e.g. by RARE, which found that the creation of community-managed marine areas resulted in increased fish biomass inside and outside reserves, and in improvement community livelihoods (RARE, 2018). In Phase 2 this approach might be broadened to include more work on small-scale fisheries in addition to the site-based protection. Other aspects of marine conservation, such as aquaculture or the management of pelagic fisheries play a vital role in the conservation of marine ecosystems and species, but are not generally feasible within the constraints of a small-grants program and the capacity of the CSOs in Wallacea. Larger donor projects investing in these areas (such as those funded by World Bank or USAID) often struggle to effectively deliver support to local communities and groups in a timely and appropriate way, but may represent an opportunity to secure additional funding.

The CEPF model is well positioned to support the type of community-level work that has been shown to be effective, and this should continue to be the central focus of Phase 2. The focus on protection of KBAs through MPAs and wider coastal resource management can now be broadened to include small-scale fisheries. This will allow projects to address over-fishing in more ways and create opportunities for work on community livelihoods.

Project/site level lessons

Considerable experience has accumulated from the projects funded under Phase 1. The lessons below draw largely on the information on projects described in the booklet *Program Kemitraan Wallacea*.

For both terrestrial and marine species and sites, a consistent theme is **action to support a transition from unregulated, open-access exploitation of resources towards regulated and sustainable use**. The lessons from Phase 1 reinforce general principles on

institutions and mechanisms for the management of natural resources which are recognized in the literature (e.g., for marine work, Halim et al, 2020).

Participatory planning is key to producing credible local resource management plans with broad community acceptance and support

Involvement of representatives of stakeholder groups or even the entire community was a key element of many of the grantee projects. Participatory planning plays a key role in developing a shared community vision for the management of natural resources, and is the basis for the creation of a legitimate management group which can then make and implement rules for harvesting or protection. In many cases, this included reference to customary resource management rules, reviving their use or adapting them to new resources or circumstances.

A shared understanding of a problem and its causes underpins a successful participatory planning process. Several projects succeeded in blending discussion of customary approaches embedded within the community with new information, for example on the presence of unique species or the principles of sustainable management. This helped to create an agreement on problems and solution, and to motivate engagement and support from the community for action.

Addressing immediate practical needs felt by the community, and linking them to longer-term environmental issues, was an important element in some projects. In some cases, addressing 'quick win' community priorities enabled a grantee to establish a positive relationship with the community which allowed them to go on to deal with more intractable problems which are the higher priority for conservation.

Strong, sustainable local management institutions are key

In many cases the key to addressing open-access over exploitation is the establishment of a credible, representative and respected user group, which can set and enforce limits on harvest. In much of Wallacea, customary resource management institutions are recognized and still exist, although they may have become less effective. Several projects re-vitalized these institutions, or adapted the principles on which they were based to address new problems.

Establishing and maintaining authority is critical for the success of a management group. While an effective participatory process is key to securing wider community support, external support may be needed to allow the group to deal with external pressures – such as fish bombers or turtle egg collectors from outside their own community. Recognition of the group by the local Government can help, for example through acceptance as a community surveillance group (*pokmaswas*). Once recognized, groups can request assistance from the authorities to enforce rules, and may be able to receive financial and practical assistance from Government agencies, though experience shows that to be effective this often requires that a CSO play a bridging role between community and local Government. Creating dependence on government funds alone is not sustainable, as availability of funding varies from year to year. There are examples of *pokmaswas* running small enterprises (e.g. snorkeling gear rent, small restaurant, banana boat attraction) and allocating a portion of the profits to the costs of patrols.

Management groups (and wider communities) require the capacity to plan and implement sustainable resource management. In many projects, the most effective starting place for building this capacity was the traditional knowledge already present within the community - it is striking how many projects involved the re-discovery of traditional resource

management norms, and how these re-vitalized and sometimes adapted norms became the basis for widely accepted rules on resource management. In other cases, ideas from external sources – other communities, researchers, Government extensionists – are valuable, and need to be introduced and communicated in ways that are appropriate and applicative.

Leadership – both within the wider community and the management group itself – is essential for effective decision making and resolution of problems. There is a risk where projects depend on the influence and authority of traditional leaders without considering how a new generation will be developed. At least one project explicitly addressed this by involving youths in shadowing the work of leader involved in resource management.

Action may be needed to address short-term economic needs which drive unsustainable exploitation and are a barrier to change

While sustainable use may be an economically rational option in the longer term, the short-term costs of abandoning open-access exploitation and participating in time-consuming management activities can be a significant barrier to participation. Where the long-term objective was a sustainable income from a resource (such as scrubfowl eggs or fisheries), several projects provided short-term assistance to ensure that immediate needs did not undermine the establishment of a sustainable system. Other projects emphasized the development of alternative economic activities to reduce the need to exploit threatened species – including permaculture and fish breeding. In some cases, alternative economic opportunities were created by training the exploiters – for example by training trappers to become tourist guides.

Validation of community-level plans by government helps address external problems and creates opportunities to secure support

In many cases, participatory processes result in plans and resource management agreements which have the support of the community, but may be undermined by the actions of government or private sector actors. In several projects, these issues were anticipated by securing recognition of the village plan – first within the villages' own official development plan and budget, and in some cases within the district spatial plan. Communities were also able to use legal recognition of their existence and rights to resolve a conflict with a national park over land rights and access, and to address conflicts with private sector interests. Finally, communicating the results of community-level planning can encourage local government to address gaps in local regulations or perverse regulations which undermine sustainable use.

Communities can be the best 'messengers' to encourage replication of successes

Learning and communication were critical in scaling the impact of projects. Direct observation and informal communication between community members were key to the many cases where a successful initiative in one village was adopted, with or without project support, in neighboring ones. Instances of government support for projects – through regulation, incorporation into official plans and mechanisms, or funding – also depend on effective communication of results to decision makers, often directly by involved community members.

Ridge-to-reef approaches are difficult but important in high potential areas

The 2014 ecosystem profile identified 64 terrestrial KBAs contiguous with 58 marine KBAs. The Phase 1 targets included at least one ridge-to-reef approach in each of the 4 marine corridors which are contiguous with terrestrial corridors: Halmahera, Seram-Buru, North Sulawesi (islands) and Wetar-Timor.

In practice, the administrative, institutional and legal differences between marine and terrestrial ecosystems proved too complex to address in the context of most of the small-scale projects funded by CEPF. Integrated approaches were only successful in areas with exceptional circumstances – such as strong and holistic customary management practices (as on Buano island), or marine and terrestrial conservation authorities which were already looking for opportunities to collaborate (such as on Wakatobi). On larger islands the larger area of the watersheds and intensive, sometimes urbanized, land use creates large-scale, complex problems beyond the scope of a short-term CSO intervention. Nevertheless, land-based degradation is a key threat to coastal marine ecosystem in many areas, and ridge-to-reef remains an important concept. Based on the lessons from Phase 1, it is recommended that areas identified for ridge-to-reef approaches (a) are small islands with small water catchments, (b) do not have dense or urbanized population, and (c) have strong support from local and national agencies.

2.6. The Updating Process

In 2020, CEPF was invited to submit a concept note to three private philanthropies for a combined US\$ 2.5 million with a focus on coastal-marine management issues in the Indonesian portion of Wallacea. To program the use of the funds, CEPF commissioned a small team to update the marine components of the ecosystem profile over July-August 2020. Almost all internal and external meetings took place over the internet, as the ongoing COVID-19 pandemic made travel and physical meeting difficult. The team compiled new data on conservation and marine species in Wallacea and reviewed and updated the key chapters on policy, civil society, threats, and investment. They consulted with officials from the key ministries, and with a group of marine experts which included input from the MMAF research institute, RARE, Conservation International, Coral triangle Centre and Wildlife Conservation Society. Lessons from Phase 1, the revised corridors and the plans for a second phase were presented and discussed through an online public meeting which had 79 participants.

Key points in the consultation are summarized in Table 2.4, below.

Table 2.4: Summary of the ecosystem profile revision process

Date	Type of consultation	Participants
12 August 2020	Marine experts – to review corridor identification	International CSO (6) National CSO (2) University (1) Government (1) TOTAL: 10
19 August 2020	Government – to seek information on policy and ensure coordination	Government (MMAF) (13) TOTAL: 13
25 August 2020	Stakeholder consultation – to inform participants from the region about the new program and respond to questions about the plans	Provincial Government (3) District Government (1) Regional University (5) Local CSO (23) National CSO (9) International CSO (1) No organization given (34) TOTAL: 76

3. Biological Importance of the Hotspot

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

4. Conservation Outcomes Defined for the Hotspot

4.1. Methodology

CEPF defines conservation outcomes as “the entire set of conservation targets in a hotspot that needs to be achieved in order to prevent species extinctions and biodiversity loss.” Conservation outcomes are defined in terms of species, and more specifically, species that are threatened with extinction globally. Action to address the threats may be focused on the species themselves (i.e., the fate of individual members of a population), on sites where a species lives in significant populations, or for some species, on larger landscapes or corridors used by the populations. Conservation outcomes are thus described for specific species at three levels — species, site and corridor.

The first step in identifying conservation outcomes is the compilation of a list of globally threatened species in the hotspot. The global status of species is assessed by IUCN taxonomic specialist groups applying standard criteria on a species population, population trends, life cycle and threats. CEPF defines conservation outcomes for species that are considered critically endangered, endangered or vulnerable by IUCN.¹

The list of threatened species presented in the 2014 Ecosystem profile was updated for this analysis. Data was downloaded from the IUCN Red List website (www.iucnredlist.org) for Indonesia, and the sub-set of marine species identified. For species already on the trigger species list for Wallacea, the Red List status was confirmed, and where necessary updated. The remaining list of threatened marine species in Indonesia was then reviewed to identify species which occur in Wallacea and have been added to the list of threatened species since 2014. The final list used for this profile is data available on the IUCN Red List website on August 19, 2020, and is contained in Annex 1.

Species outcomes are the complete list of globally threatened species found in the hotspot.

Site outcomes are based on the identification of key biodiversity areas (KBAs), as defined in IUCN (2016) and KBA Standards and Appeals Committee (2019). In summary, a KBA is an area that contains a significant population of a globally threatened species or ecosystem, a globally significant proportion of the population of an endemic species or an assemblage of species that are unique to a particular biome. The criteria for the identification of KBAs have been extensively revised since the first ecosystem profile – they now cover all species and ecosystems and are driven by the application of clear quantitative thresholds for the presence of threatened species. Table 4.1 summarizes the new criteria for KBA identification, and section 4.2.2 discusses application of these in Wallacea.

¹ Detailed definitions of these categories are available at www.iucnredlist.org/technical-documents/categories-and-criteria/2001-categories-criteria#definitions.

Table 4.1. Criteria for the Definition of KBAs

Criteria	Relevant species/groups	A site may be a KBA if it regularly holds:
A1	threatened species CR and EN	$\geq 0.5\%$ global population + ≥ 5 reproductive units
A1	threatened species VU	$\geq 1\%$ global population + ≥ 10 reproductive units
A2	Threatened ecosystems – CR/EN	$\geq 5\%$ of the global extent of the ecosystem
A2	Threatened ecosystems – VU	$\geq 10\%$ of the global extent of the ecosystem
B1	All non-threatened species	$\geq 10\%$ of the global population + ≥ 10 reproductive units
B2	Non-threatened restricted range species	$\geq 1\%$ global population of 2 or more restricted-range species in the same taxonomic group*
B3	Geographically restricted assemblages*	$\geq 0.5\%$ of global population or ≥ 5 reproductive units of a number/proportion of the assemblage of species*
B4	Geographically restricted ecosystem	$\geq 20\%$ of global extent
C	Intact ecosystems	Site is one of ≤ 2 per ecoregion with wholly intact ecological community
D1	Aggregatory species	an aggregation representing $\geq 1\%$ of global population over a season of key life-cycle stage OR is among the 10 largest aggregations known
D2	Any species	support $\geq 10\%$ global population at times of ecological stress
D3	Any species	propagules, larvae or juveniles which maintain $\geq 10\%$ of the global population produced at the site
E		irreplaceability criteria: based on quantitative analysis*

*see IUCN (2016) for further details

Marine corridors are defined as large areas that contain critical populations or processes (such as spawning sites or feeding concentrations) and were defined on the basis of consultations with experts. Identification of marine corridors helps to overcome some of the uncertainty associated with marine KBAs (lack of species data and the problem that many marine species are highly mobile), because it allows the definition of large areas of marine habitat where specific sites are not adequately known and individual animals are mobile. The boundaries of marine corridors are approximate, typically following the limits of near-shore reefs, shallow seas divided by deep ocean trenches (e.g., the outer and inner Banda Arcs) or other marine ecosystems. The 2014 corridor analysis was reviewed in 2020 and a number of revisions made.

4.1.1 Methodological Limitations and Improving the Analysis

The following actions are priorities for improving the effectiveness of the definition of conservation outcomes. They were identified in the 2014 Ecosystem profile and remain valid in 2020:

- As is noted in section 4.2.2, the existing data is inadequate to apply the revised KBA criteria. Given the lack of species-level data, it is important to test the application of ecosystem-based criteria for the identification of KBAs, as data for some ecosystems (e.g. coral reefs) is more complete and reliable than that for species

- Implement studies, and publish existing studies, to describe new species and clarify the taxonomic status of many known species.
- Complete Red List assessments for more species in the Wallacea region, with special emphasis on (a) those species groups that have not yet been widely assessed, and (b) data-deficient species, especially those which apparently have limited ranges and small populations.
- Carry out field work to improve knowledge of the status and distribution of threatened species, particularly those known only from a single to a few KBAs.
- Review the distribution of nonglobally threatened endemic species within Wallacea. Identify further restricted range species, and review how well these are covered in the existing network of KBAs.
- Develop a mechanism to locate, store and facilitate access to relevant data, and use this to periodically re-evaluate the conservation outcomes.

4.2. Conservation Outcomes

4.2.1 Species Outcomes

The 2014 list of threatened marine species in Wallacea included 254 marine species. In 2020 this increases to 282. Table 4.2 summaries the changes from 2014, and the current breakdown of CR, EN and VU species.

Table 4.2: Total number of threatened species by taxonomic group and threat category, 2014 and 2020

Group	2014 Ecosystem Profile: total number of threatened species	2020 update: number of threatened species by category			2020 update: total number of threatened species
		CR	EN	VU	
Marine mammals	5	0	2	3	5
Marine mollusks	2	0	0	2	2
Marine fish	54	10	18	51	79
Marine reptiles	5	1	1	3	5
Sea cucumbers	10	0	4	5	9
Marine decapods	0	0	1	1	2
Corals	176	1	10	167	178
Plants (marine)	2		1	1	2
Total all groups	254*	12	37	233	282

*The 2014 gives a figure of 252 marine species, as the 2 mangrove trees were not included in the total

The following section summarizes the species outcomes by taxonomic group.

Coral: 178 hard coral species in Wallacea are classified as globally threatened, most on the basis of their sensitivity to temperature change and susceptibility to bleaching (Carpenter *et al.* 2008). One, *Millepora boschmai*, is critically endangered, because it is only known from a few locations in Indonesia and Panama. Ten corals are classified as endangered, including one species endemic to Wallacea, *Acropora suharsonoi*, which occurs in the waters around Lombok, Sumbawa and Sumba. 168 corals are classified as vulnerable. Information on the

distribution is patchy, and many species are difficult to identify without microscopic examination.

The total number of threatened corals listed for Wallacea list has increased from 176 in 2014 to 178 in 2020. The changes are:

- the corals *Lobophyllia flabelliformis* (vulnerable); *Acropora suharsonoi* (endangered, Wallacea endemic) and *Alveopora minuta* (endangered, coral triangle endemic) are added to the list. All three were originally red-listed in 2008 and appear to have been omitted from the 2014 ecosystem profile in error.
- The coral *Favia rosaria* is deleted from the Wallacea list as a review of its range confirmed that it is not found in the region.

Marine fish: Indonesia has about 2,112 marine fish species (Huffard *et al.* 2012), and a high proportion of them are expected to occur within Wallacea. There are around 110 endemic marine fish species within Wallacea (Allen and Adrim 2003; Allen and Erdmann, pers. comm. 2013). Seventy-nine marine fish are classified as globally threatened. Ten are classified as critically endangered, including seven shark species, two sawfish and Southern bluefin tuna. A further 18 are endangered, including five rays and nine sharks. The remaining 51 species, including 13 rays, 12 sharks and eight seahorse species, are classified as vulnerable. Two blenny species, 2 goby species and the Sulawesi coelacanth (all vulnerable) are endemic to Wallacea.

The list of threatened marine fish in Wallacea has increased from 54 in 2014 to 79 in 2020. This is a result of the following changes:

- three species have been removed from the list after a review of their range, as there are no confirmed records in Wallacea: common thresher shark *Alopias vulpinus*, golden threadfin bream *Nemipterus virgatus*, and dwarf sawfish *Pristis clavate*.
- three species have been removed from the list after IUCN downlisted them from threatened to non-threatened categories: Black-saddled coral grouper *Plectropomus laevis*, downlisted to least concern, barramundi cod *Cromileptes altivelis*, downlisted to data deficient, and giant grouper *Epinephelus lanceolatus*, also downlisted to data deficient
- thirty-one species have been added to the list because they have been listed as globally threatened by IUCN since 2014. These include: 10 ray and seven shark species, added because of intense exploitation and slow recovery of populations (and in one case because of a taxonomic change); five fish which are dependent on *Acropora* corals, and so are impacted by the decline of these corals across the region; three species endemic to Wallacea and known from only a few localities; two species which form spawning aggregations that are targeted by fishers, and others that are vulnerable to over-fishing and by-catch (including ocean sunfish).

Marine mammals: Five marine mammals are threatened – four whales and dugong. Important populations of sperm whale (*Physeter macrocephalus*) and blue whale (*Balaenoptera musculus*) breed in the region, and there are important populations of dugong (*Dugong dugon*), especially in the Lesser Sundas.

The list of threatened marine mammals remained the same from 2014 and 2020, but fin whale *Balaenoptera physalus* was downlisted from endangered to vulnerable as a result of increasing population and threats being brought under control.

Marine reptiles: There are seven sea turtle species in the world, with five recorded in the Wallacea region. All of them are classified as globally threatened species. One of them, the hawksbill sea turtle (*Eretmochelys imbricata*), is classified as critically endangered. The

green sea turtle (*Chelonia mydas*) is endangered, while the loggerhead sea turtle (*Caretta caretta*), leatherback sea turtle (*Dermochelys coriacea*) and the Olive Ridley sea turtle (*Lepidochelys olivacea*) are vulnerable².

The list of threatened marine reptiles remained the same from 2014 and 2020, but the loggerhead sea turtle *Caretta caretta* has been downlisted from endangered to vulnerable based on a re-assessment of its global status.

Vascular plant species: Two threatened plant species are associated with coastal and marine habitats – the mangrove trees *Camptostemon philippinense* (Endangered) and *Avicennia rumphiana* (vulnerable). Both were included in the 2014 ecosystem profile.

Mollusks: Two marine bivalves, both *Tridacna* spp. are classified as globally threatened: the giant clam (*Tridacna gigas*), and the southern giant clam (*Tridacna derasa*). Both of them are classified as vulnerable. Further data and information of these species is needed for updating their status. There has been no change since the 2014 ecosystem profile.

Decapods: Two crabs, the tri-spine horseshoe crab *Tachypleus tridentatus* and the coconut crab *Birgus latro* are classified as vulnerable. These species were not on the 2014 trigger list for Wallacea as they were previously listed as data deficient by IUCN, but were uplisted to vulnerable in 2020.

Sea Cucumber (echinoderms): Sea cucumbers are threatened by overharvesting to supply the large Asian food market for beche-de-mer. Nine species in Wallacea are globally threatened – four of them endangered, and five vulnerable.

The endangered sea cucumber *Holothuria nobilis* was included in the previous ecosystem profile but after review has been deleted as its range does not include Wallacea.

Critically endangered marine species in Wallacea

Twelve critically endangered marine species are recorded in Wallacea (Table 4.3). Ten of them are fish – seven sharks, two sawfish and a tuna species. None of these are endemic to the hotspot, and all are expected to be distributed widely if scarcely across the region, except for the Southern bluefin tuna (*Thunnus maccoyii*) which is found in the southern waters of East Nusa Tenggara (Indian Ocean). Specific locality records for those species are scarce or not available, although records from government's fisheries landing data might exist (e.g. for tuna and sharks) but without fishing ground information that could indicate the extent of their habitats. The Hawksbill turtle is also widely distributed. The coral *Millepora boschmai* which is distributed only in West and East Nusa Tenggara (and outside Wallacea in the greater Sundas, and in Panama).

² The IUCN Red List recommends assessing Loggerhead Turtle at sub-population level. The turtles in Wallacea are part of the south-east Indian Ocean population, and are classified as near-threatened.

Table 4.3: Critically endangered species in Wallacea, August 2020

No	Scientific Name	Common Name	Red List Category	Wallacea Endemic	Single Site Endemic	Range
1	<i>Carcharhinus hemiodon</i>	Pondicherry shark	CR	No	No	Possibly throughout Wallacea
2	<i>Carcharhinus longimanus</i>	Ocean whitetip shark	CR	No	No	Possibly throughout Wallacea
3	<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	CR	No	No	Possibly throughout Wallacea
4	<i>Glaucostegus typus</i>	Giant guitarfish	CR	No	No	Possibly throughout Wallacea
5	<i>Pristis pristis</i>	Largetooth sawfish	CR	No	No	Possibly throughout Wallacea
6	<i>Pristis zijsron</i>	Green sawfish	CR	No	No	Possibly throughout Wallacea
7	<i>Rhina ancylostoma</i>	Bowmouth Guitarfish	CR	No	No	Possibly throughout Wallacea
8	<i>Rhynchobatus australiae</i>	Whitespotted guitarfish	CR	No	No	Possibly throughout Wallacea
9	<i>Sphyrna lewini</i>	Scalloped hammerhead shark	CR	No	No	Possibly throughout Wallacea
10	<i>Sphyrna mokarran</i>	Great hammerhead shark	CR	No	No	Possibly throughout Wallacea
11	<i>Thunnus maccoyii</i>	Southern Bluefin Tuna	CR	No	No	Southern of Sumba and Timor
12	<i>Millepora boschmai</i>	Coral	CR	No	No	West and East Nusa Tenggara

Two critically endangered bird species are not included in this list of marine species, but are associated with marine habitats for part of their life-cycle: Chinese crested tern (*Sterna bernsteini*), a very rare, nonbreeding visitor to the region, and Christmas Island frigatebird (*Fregata andrewsi*) which is a scarce non-breeding visitor to Wallacea waters when roaming from its breeding grounds on Christmas island.

Endangered marine species in Wallacea

There are 37 marine species classified as endangered in Wallacea (Table 4.4), including two whales, one turtle, ten corals and 18 fish. Only the coral *Acropora suharsonoi* is endemic to Wallacea, where it is known from Lombok, Sumbawa and Sumba.

Table 4.4. Endangered Marine Species in Wallacea

No	Scientific Name	Common Name	Red List Category	Range
1	<i>Anoxypristis cuspidata</i>	Narrow sawfish	EN	Possibly throughout Wallacea
2	<i>Argyrosomus japonicus</i>	Dusky meagre	EN	West Nusa Tenggara

No	Scientific Name	Common Name	Red List Category	Range
3	<i>Cheilinus undulatus</i>	Napoleon fish	EN	Possibly throughout Wallacea
4	<i>Pterapogon kauderni</i>	Banggai cardinalfish	EN	Banggai Islands
5	<i>Balaenoptera borealis</i>	Sei whale	EN	Possibly throughout Wallacea
6	<i>Balaenoptera musculus</i>	Blue whale	EN	Possibly throughout Wallacea
7	<i>Mobula eregoodoo</i>	Longhorned pigmy devilray	EN	East Seram to Bird's head
8	<i>Mobula kuhlii</i>	Shortfin devilray	EN	Possibly throughout Wallacea
9	<i>Mobula mobular</i>	Spinetail devilray	EN	Possibly throughout Wallacea
10	<i>Mobula tarapacana</i>	Sicklefin devilray	EN	Possibly throughout Wallacea
11	<i>Mobula thurstoni</i>	Bentfin devilray	EN	Possibly throughout Wallacea
12	<i>Alopias pelagicus</i>	Pelagic thresher shark	EN	Possibly throughout Wallacea
13	<i>Carcharhinus obscurus</i>	Dusky shark	EN	Savu sea, southern Indian Ocean
14	<i>Cetorhinus maximus</i>	Basking shark	EN	Restricted in Lombok Strait
15	<i>Eusphyra blochii</i>	Winghead shark	EN	Restricted in Makassar strait (eastern of Sulawesi)
16	<i>Isurus oxyrinchus</i>	Shortfin mako	EN	Possibly throughout Wallacea
17	<i>Isurus paucus</i>	Longfin mako	EN	Possibly throughout Wallacea
18	<i>Lamiopsis temminckii</i>	Broadfin shark	EN	Possibly throughout Wallacea
19	<i>Rhincodon typus</i>	Whaleshark	EN	Possibly throughout Wallacea
20	<i>Stegostoma tigrinum</i>	Zebra shark	EN	Possibly throughout Wallacea
21	<i>Holothuria lessoni</i>	Sea cucumber	EN	Possibly throughout Wallacea
22	<i>Holothuria scabra</i>	Sea cucumber	EN	Possibly throughout Wallacea
23	<i>Holothuria whitmaei</i>	Sea cucumber	EN	Halmahera, North Sulawesi
24	<i>Thelenota ananas</i>	Sea cucumber	EN	Possibly throughout Wallacea
25	<i>Tachypleus tridentatus</i>	Tri-spine horseshoe crab	EN	Restricted in Northern coast of North Sulawesi, Gorontalo, and Central Sulawesi
26	<i>Chelonia mydas</i>	Green turtle	EN	Possibly throughout Wallacea
27	<i>Camptostemon philippinense</i>	Plant	EB\N	Possibly throughout Wallacea
28	<i>Coral spp (10 spp)</i>	Coral	EN	<i>Acropora suharsonoi</i> is endemic to Wallacea

Wallacea endemics

Five fish species (*Ecsenius randalli*, *Eviota pamae*, *Gobiodon aoyagii*, *Meiacanthus abruptus*, and *Latimeria mandoensis*) are listed as vulnerable and are possibly endemic to Wallacea.

In addition, two species of 'walking shark', *Hemiscyllium trispeculare* and the newly identified species *Hemiscyllium halmahera* are so far known only from Wallacea³, although they are not evaluated under IUCN Redlist. The *Acropora suharsonoi* coral is listed as endangered and also endemic to Wallacea. Endemic species are listed in Table 4.5.

Table 4.5. Possibly endemic marine species in Wallacea

No	Species	Species Group	IUCN Status	Remarks
1	<i>Ecsenius randalli</i>	Fish	VU	Restricted in Halmahera; endemic Wallacea
2	<i>Eviota pamae</i>	Fish	VU	Restricted in Tual; endemic Wallacea
3	<i>Gobiodon aoyagii</i>	Fish	VU	Restricted Savu Sea and Timor; endemic Wallacea
4	<i>Meiacanthus abruptus</i>	Fish	VU	Restricted Lombok Strait; endemic Wallacea
5	<i>Latimeria manadoensis</i>	Fish	VU	Record only found in North Sulawesi
6	<i>Hemiscyllium trispeculare</i>	Sharks	NE	Restricted in Halmahera; endemic Wallacea
7	<i>Hemiscyllium halmaherae</i>	Sharks	NE	Possibly endemic to Wallacea region; distribution data not available in IUCN
8	<i>Acropora suharsonoi</i>	Corals	CR	Restricted in West Nusa Tenggara

4.2.2 Site Outcomes

4.2.2.2. Marine KBAs

Since the preparation of the 2014 ecosystem profile, new global KBA guidelines have been adopted with requirements to demonstrate that a site has a significant proportion of the global population of a threatened species or ecosystem (see section 4.1 for a summary of the criteria). Lack of data on marine biodiversity was a constraint for the 2014 ecosystem profile process and remains a challenge. As a result, no overall revision of KBAs could be undertaken, and only one KBA was confirmed under the new criteria. However, some steps were made towards the application of the new criteria, and these are documented in this section with the intention that this important work will be progressed in the near future.

The 2014 Ecosystem profile identified 74 marine KBAs on the basis of locality records for 186 of the 254 globally threatened marine species listed at that time. No localities were identified for 66 species. Experts confirmed that the KBAs identified on this basis were clearly not representative of the distribution and richness of marine sites in the region. To overcome this problem, a list of potential additional KBAs was generated from existing marine prioritization exercises. Because these are not confirmed locality records, they are referred to as "hypothetical records" and the sites are known as "candidate KBAs." An additional 66 candidate marine KBAs were identified using this method.

Application of criteria A1 (globally threatened species)

The existing KBA where the species data is adequate to assess it against the revised KBA criteria is Perairan Peleng-Banggai, where population data on the endemic and endangered Banggai cardinal fish *Pterapogon kauderni* justified listing of the site under criteria A1a.

IUCN guidance states that in the absence of data on either the global population or a population at the candidate KBA, extent of suitable habitat (ESH) may be used as a proxy for population. The steps for the identification of a KBA using this approach are:

³ <http://www.sci-news.com/biology/science-hemiscyllium-halmahera-new-species-walking-shark-indonesia-01335.html>

To determine the ESH:

- map the global occurrence of suitable habitat for a threatened species.
- overlay the map of suitable habitat with the range map available from IUCN
- determine the ESH – the areas of suitable habitat available within the range of the species.
- based on the ESH, establish thresholds for KBA identification: a site may qualify as a KBA if it contains ≥ 0.5 of the ESH for a CR or EN species, or $\geq 1\%$ of the ESH for a VU species.
- determine the area of suitable habitat available in the candidate KBA.
- in addition, to qualify as a KBA, there must be data to demonstrate that the site holds ≥ 5 reproductive units (= mature individuals in the case of species considered here) for CR and EN species, or ≥ 10 reproductive units for VU species.

In practice, application of this approach requires that:

- the species in question is clearly associated with a specific habitat (e.g. coral reef, sea grass) for the mature phase of its life cycle.
- the habitat can be mapped.

In addition, for species with a large global range, the extent of ESH will be so large that there is little chance of a single KBA containing 0.5 or 1% of the ESH.

The team therefore identified threatened species which have a limited range (Coral Triangle or smaller), and which are associated with a habitat for which spatial data exists in Wallacea (coral reefs, sea grass or mangrove). This allowed the generation of thresholds that individual sites would need to meet to qualify as a KBA. The table below shows an estimate of ESH and KBA threshold for four candidate KBA trigger species.

Table 4.6: Species for which extent of suitable habitat and ecosystem thresholds were calculated

Species name	Habitat	IUCN Category	Range (ha)	ESH (ha)	KBA threshold (ha)
<i>Acropora suharsonoi</i>	coral reef	EN	4,925,598	19,468	97
<i>Argyrosomus japonicus</i>	estuarine	EN	256,433,557	21,724	109
<i>Eviota pamae</i>	coral reef	VU	1,014,488	904,698	9,047
<i>Gobiodon aoyagii</i>	coral reef	VU	803,240	3,652	37

However, a preliminary review of existing KBAs did not reveal any that met the threshold for the area of habitat within the range of the species above. This analysis requires further work to verify and expand the results.

Application of A2 (globally threatened ecosystems)

The revised KBA criteria include identification of KBA based on the presence of threatened ecosystems. The threshold for a site to qualify as a KBA under this criterion is that it contains $\geq 5\%$ of a CR or EN ecosystem, or $\geq 10\%$ of a VU ecosystem.

To apply this criterion requires:

- a clear definition of an ecosystem that can be mapped.
- that the ecosystem in question has been assessed and qualifies as threatened under the relevant IUCN criteria.

To clarify the issue of an ecosystem definition, the team consulted with the KBA team at BirdLife International, with the IUCN Ecosystem Red List team, and with scientists currently working on red listing in the Western Indian Ocean marine regions. The conclusion is that an acceptable definition of an ecosystem for the purposes of threat assessment and KBA identification would be to use the ecosystem functional groups defined by Keith et al. (2020). Relevant ones for Wallacea include:

- FM1.2 Permanently open riverine estuaries and bays
- FM1.3 Intermittently closed and open lakes and lagoons
- M1.1 Seagrass meadows
- M1.3 Photic coral reefs
- M1.6 Subtidal rocky reefs
- M1.7 Subtidal sand beds
- M1.8 Subtidal mud plains

Maps of the ecosystems are under development and available at <https://global-ecosystems.org/explore/groups/M1.3>

For Wallacea, these broad ecosystem types could be sub-divided according to the marine ecoregions identified by Spalding (2007)⁴. Of 232 marine ecoregions defined globally, five cover Wallacea (Sulawesi Sea/Makassar Strait, Northeast Sulawesi/Tomini Bay, Halmahera, Banda Sea, Lesser Sunda; Fig. 4.1)

Figure 4.1. The twelve marine ecoregions in Indonesia (Map source: Huffard et al. (2012), recreated from Spalding et al. (2007))



As an example, using this approach, the area of photic coral reef (*ecosystem functional groups* M3.1) in the Banda Sea (Ecoregion 131) would be calculated using existing mapping, and a site would meet the threshold for a KBA of it contained at least 5% or 10% of this ecosystem.

⁴ This approach was discussed with Dr Charlotte Boyd, chair of the KBA Standard and Appeals Committee, and Dr Emily Nicholson and Dr David Keith of the IUCN Red List of Ecosystems team

To identify KBAs with the approach also requires a second step, the assessment and classification of an ecosystem as threatened. No ecosystems in Wallacea have yet been assessed by the IUCN ecosystem Red List process, and indeed relatively few marine ecosystems have been assessed globally⁵. Completing a Red List assessment was beyond the scope of this updating process, but given the importance and threat to the region's reefs and other marine ecosystems, should be a priority. Examples of coral reef assessments are available from the Caribbean (Keith, D. A., 2013) and Meso-America (Bland, L. M., 2017), and in mid-2020 a team was working on an analysis for the western Indian Ocean (David Obura, Mishal Gudka at CORDIO⁶). There is also reported to be relevant work underway in South Africa⁷.

4.2.2.4. Ridge to Reef KBAs

The 2014 ecosystem profile identified 64 terrestrial KBAs contiguous with 58 marine KBAs. In 37 cases, the terrestrial and marine KBAs share a border, while in 27 cases the terrestrial KBA is an island entirely within the marine KBA. In both situations, land management in the terrestrial KBA can be expected to influence the conservation status of the marine KBA.

A target was set for a small number of ridge-to-reef initiatives during Phase 1 of the CEPF program in Wallacea, but it proved difficult to meet. The challenges and lessons are discussed in Chapter 2.

4.2.3 Corridor Outcomes

Marine corridors encompass an area that is important for groups of wide-ranging or migratory species, or for critical ecosystems and ecological processes, such as coral reefs and fish spawning grounds. In the 2014 ecosystem profile, marine experts helped identify 16 marine corridors where boundaries are approximations of the limits of the conservation value contained by the corridor.

4.2.3.1 The Beyer et al 2018 analysis of priority reefs

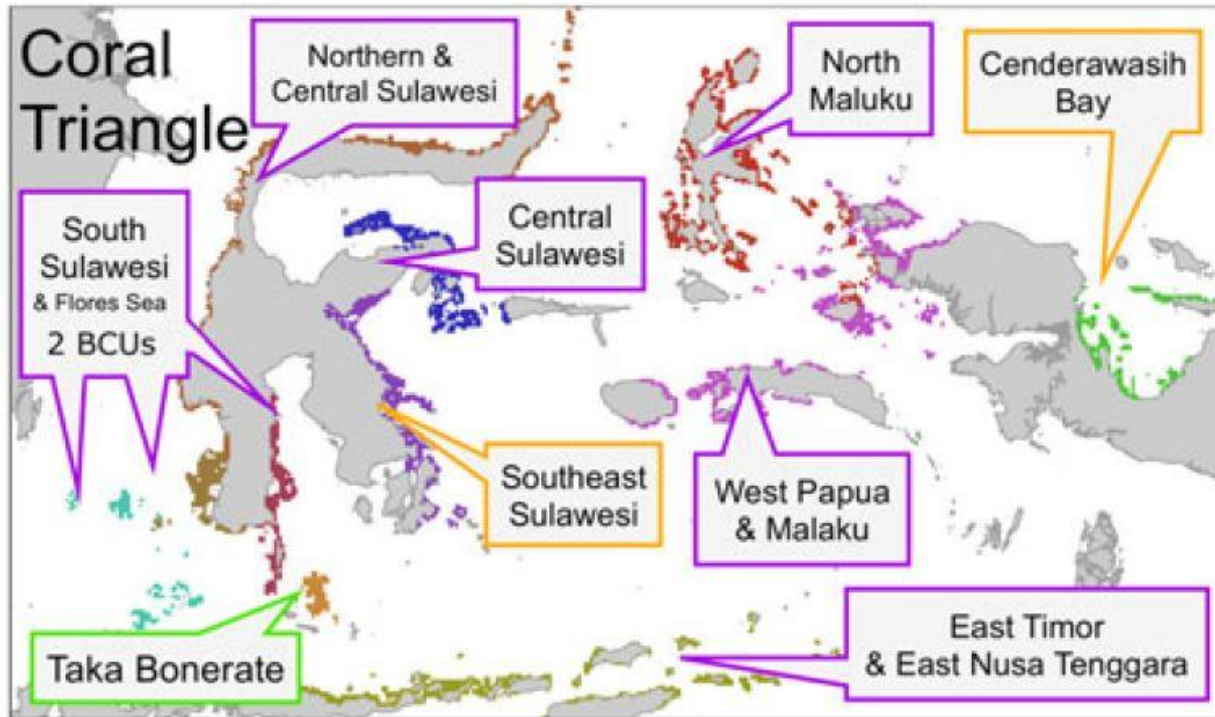
Since the 2014 ecosystem profile, a global analysis by Beyer *et al* (2018) has identified a set of reefs using indicators of past, recent and predicted future thermal stress, larval connectivity and vulnerability to cyclone damage. That analysis divides reefs into regions (bioclimatic units, BCUs) containing approximately 500km² of coral, then identifies the top fifty percent of those that perform best in relation to the indicators of stress. The analysis identifies 162 BCUs world-wide, 50 of which optimize or maximize conservation outcomes. The 50 BCUs overlapping Wallacea are shown in Figure 4.2.

⁵ See a list of available assessments at <https://iucnrle.org/assessments/>

⁶ Contact David Obura <dobura@cordioea.net and Mishal Gudka <mgudka@cordioea.net

⁷ contact Kerry Sink (k.sink@sanbi.org.za)

Figure 4.2: Map of bioclimatic units (BCUs) in Wallacea, from Beyer et al (2018)



Note 1: West Nusa Tenggara is also included in Beyer (2018), but does not appear on this map.

Note 2: The Gulf of Tomini is the large C-shaped gulf formed by Northern and Central Sulawesi.

4.2.3.2 Updating the corridor analysis

The 2014 ecosystem profile named 16 corridors. Experts reviewed these in relation to the Beyer et al (2018) BCUs and updated information from the past six years. Based on this, the experts advised to extend the boundaries of three corridors [from the 2014 ecosystem profile] and add five new corridors (Figure 4.3, Table 4.7).

Fig. 4.3: Marine corridors in Wallacea in 2014 and updated in 2020

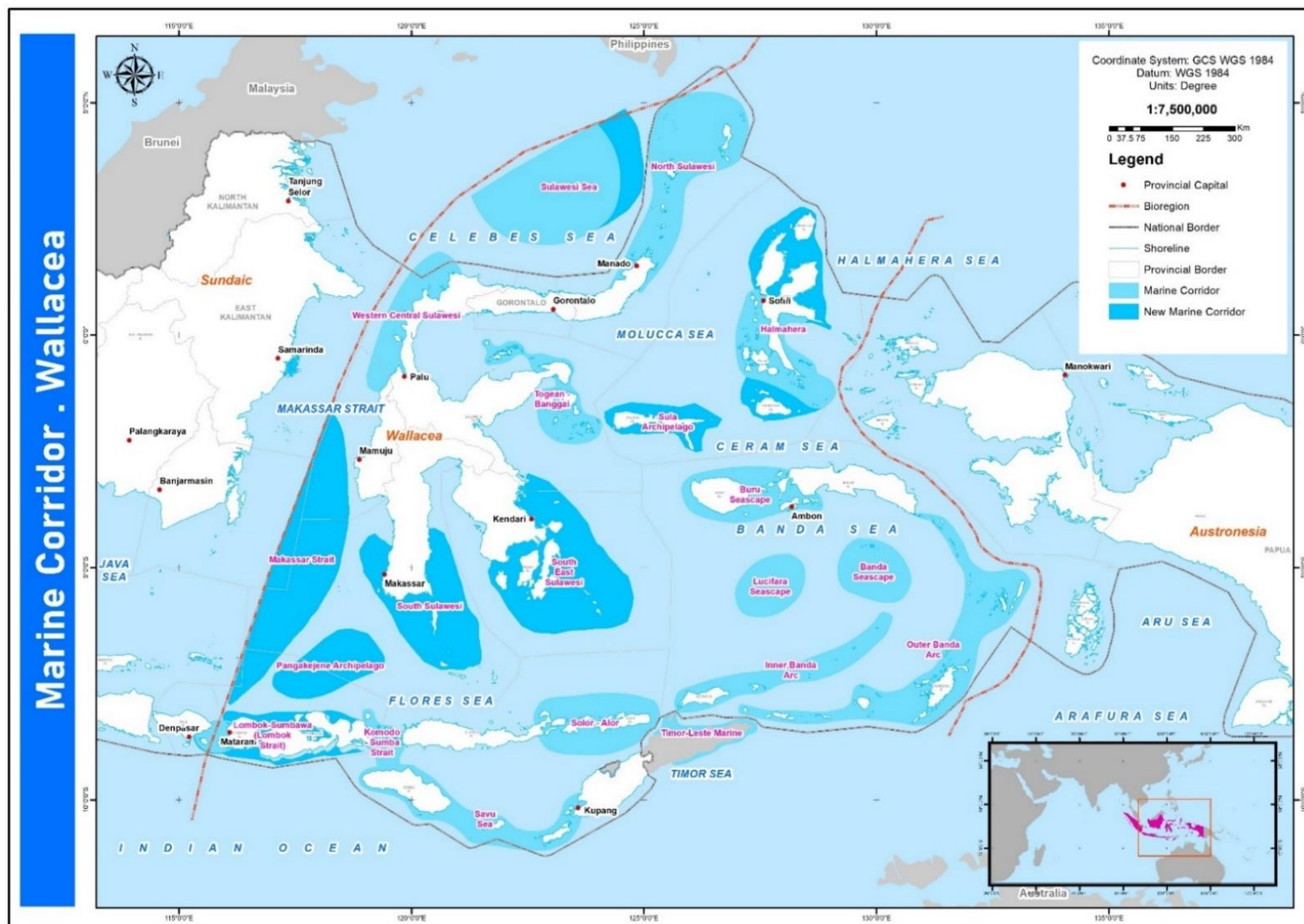


Table 4.7. Rationale for new and amended marine corridors in Wallacea

No	Corridor name	Justification	Input
1	Makassar Strait (new corridor)	This marine corridor is proposed based on recent studies from Hadi et al. (2020) and Simeon et al. (2018) on shark distribution. Those studies found that this corridor is a key migration area for two protected sharks: silky sharks (<i>Carcharhinus falciformis</i>), Scalloped hammerhead (<i>Sphyrna lewini</i>)	Irfan Yulianto / WCS
2	Pangkajene Kepulauan (new corridor)	A widely-scattered archipelago, this area is included in the list of 50 priority reefs by Beyer et al. (2018). This area is already defined as important area in national marine spatial plan (Rencana Tata Ruang Laut Nasional; RTRLN) for conservation. In addition, this area also defined as important fisheries area (main fishing ground) for the fisheries management area (FMA) 714.	Toni Ruchimat / MMAF
3	Kepulauan Sula (new corridor)	Recent findings showed that this corridor is important habitat for green turtle, hawksbill turtle, and leatherback sea turtle. Studies showed high abundance of the three species, including high rate of encounter during underwater survey. The reefs at the western end of Sula Island are included in the list of 50 priority reefs by Beyer et al. (2018) (as part of the central Sulawesi BCU).	Marthen Welly /CTC-USAID SEA
4	Pulau Obi (Extension of the Halmahera corridor)	The Halmahera corridor is extended to encompass the reefs and seas around Obi Island, which are important habitat for golden sea fan (<i>Isis hippuris</i>) and important corridor for cetacean migration.	Marthen Welly /CTC-USAID SEA
5	North Halmahera (Extension of the Halmahera corridor)	The Halmahera corridor is extended to encompass the reefs and seas of all of Halmahera and Morotai island, including reefs which are important habitat for Wallacea-endemic walking sharks. This is aligned with the list of 50 priority reefs by Beyer et al. (2018) (North Maluku BCU).	USAID SEA, MMAF
6	Sulawesi Sea	An extension of this corridor is proposed, with the aim of including deep sea habitat (sea mounts) which support populations of tuna and other large pelagic species.	Budy Wiryawan / IPB
7	South Sulawesi (including Taka Bonerate) (new corridor)	Proposed as corridors based on recent studies from Beyer et al. (2018) and Hoegh-Guldberg et al. (2018) and because of national and international priority.	Irfan Yulianto / WCS.
8	Lombok-Sumbawa (new corridor)	Proposed as corridors based on recent studies from Beyer et al. (2018) and Hoegh-Guldberg et al. (2018) and because of national and international priority.	Irfan Yulianto / WCS.

4.2.3.3 Relationship between CEPF corridors, Beyer et al. (2018) BCUs and VOI priorities

The CEPF corridors often cover the same regions as the BCUs identified by Beyer et al. (2018). The relationship between the two is shown in fig 4.4. Many of these reefs have also been identified as priorities by the Vibrant Oceans Initiative. Table 4.8 clarifies the relationship between the three sets of information.

Table 4.8: Summary of the relationship between CEPF Wallacea marine corridors and Vibrant Oceans Initiative priority reefs, with reference to Beyer et al. 2018

CEPF Marine Corridor	VOI priority reef	Notes
North Sulawesi, West central Sulawesi, South Sulawesi (part)	North Sulawesi Makassar	The Beyer "Northern and Central Sulawesi" BCU extends along the entire west coast of Sulawesi, while the CEPF corridors are focused on sub-sets. The southern end of the BCU, around Makassar, is in the South Sulawesi corridor
Togean-Banggai, Sula Island	Banggai to Gulf of Tomini	The Beyer "Central Sulawesi" BCU includes reefs at the western end of Sula island. For CEPF, the whole of Sula is a separate corridor.
[no corridor]	Gulf of Tomini	The gulf of Tomini coastline outside of the Togean-Banggai area
Southeast Sulawesi	Southeast Sulawesi	The Beyer "Southeast Sulawesi" BCU extends along the entire eastern flank of SE Sulawesi, but does not include all the reef areas around Buton and Wakatobi. The CEPF corridor includes these areas, but does not extend as far north.
South Sulawesi	Gulf of Bone Taka Bonerate Makassar	The Beyer "South Sulawesi" BCU encompasses the western shore of the Gulf of Bone, while the corridor includes the reefs to Makassar (which are in the Northern and Central Sulawesi BCU), and does not extend as far up the Gulf of Bone. Taka Bonerate is a separate BCU, but is included in the corridor
Pangkajene Kepulauan	Sabalana Islands	The Beyer "Flores Sea" BCU is near contiguous with the CEPF corridor. The Sabalana Islands reef falls within this corridor and the Makassar Strait corridor
Solor-Alor, Timor-Leste Marine, Inner Banda Arc (part), Outer Banda Arc (part)	Flores/Timor	The Beyer "Nusa Tenggara -East Timor" BCU is largely contiguous with the four corridors, but the BCU extends further west along the north coast of Flores
Komodo-Sumba Strait	[none]	The corridor is located at the western end of the Nusa Tenggara BCU and may partially overlap
Lombok- Sumbawa	[none]	Overlaps with the Beyer "West Nusa Tenggara" BCU

CEPF Marine Corridor	VOI priority reef	Notes
Buru Seascape	Birds Head (Maluku part included in the corridor)	The corridor covers Ambon, West Seram and Buru, a subset of the Beyer "Maluku-West Papua" BCU
Halmahera marine	Halmahera / Obi Island	The corridor, which includes Obi Island, is otherwise contiguous with the Beyer "North Maluku" BCU
Makassar Strait	Sabalana Islands	A section of the Sabalana reef is within the Makassar Strait corridor
Lucipara Seas	[no reef]	Corridors identified for non-reef priorities; do not feature in the BCU analysis
Banda Seas	[no reef]	Corridors identified for non-reef priorities; do not feature in the BCU analysis
Sulawesi Sea	[no reef]	Corridors identified for non-reef priorities; do not feature in the BCU analysis
Timor Trench	[no reef]	Corridors identified for non-reef priorities; do not feature in the BCU analysis
Savu Sea	[no reef]	Corridors identified for non-reef priorities; do not feature in the BCU analysis

The main argument from the above table is that there is overlap between the sets of priorities. Where there is inconsistency, it is often due to naming conventions or lack of clarity on geographic detail for the BCUs.

4.2.3.4 Biological ranking of corridors

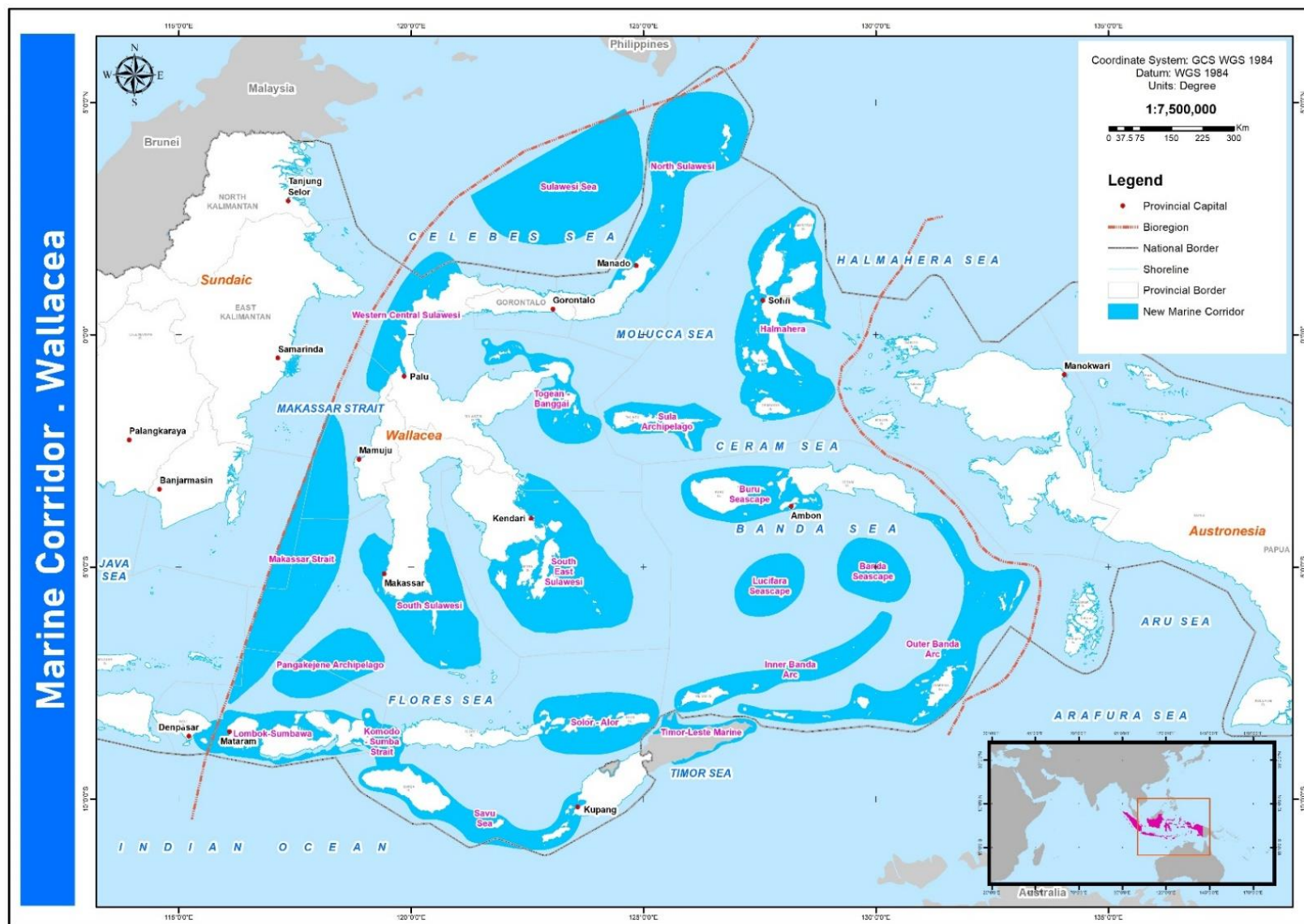
Ranking corridors objectively for their biological importance is difficult because relatively detailed surveys are only available in four corridors: North Sulawesi, parts of Southeast-South Sulawesi, Timor-Leste, and the Banda Sea-Halmahera. These corridors have between 60 and 140 of the globally threatened marine species. The absence of species-level survey work in other corridors means that very few globally threatened species have been recorded there. However, expert informants ranked the corridors for biological importance using a simple scale (medium, high, very high).

The results (Table 4.9) suggest that the Togean-Banggai, Solor-Alor and Halmahera marine corridors are of highest biological priority, while the others are almost equal in species richness. Two corridors, Timor Trench and Sulawesi Sea, do not have coral reef or other near-shore habitats and so are assumed to have a far smaller complement of globally threatened species. These corridors were identified because of their importance for pelagic fish and whales.

Table 4.9. Summary of revised marine corridors

Corridor Name	Change with the 2020 update	Biological ranking
Sulawesi Utara	no change	High
Perairan Halmahera	expanded to include Obi island and northern Halmahera	Very High
Timor-Leste Marine	no change	Medium
Barat Sulawesi Tengah	no change	Medium
Togean-Banggai	no change	Very High
Laut Sawu	no change	Medium
Solor-Alor	no change	Very High
Busur Banda Luar	no change	Medium
Lombok-Sumbawa (was Selat Lombok)	expanded to include the coastal waters of Lombok and Sumbawa	Medium
Komodo-Selat Sumba	no change	Medium
Bentang Laut Banda	no change	High
Bentang Laut Buru	no change	Medium
Busur Banda Dalam	no change	Medium
Bentang Laut Lucipara	no change	High
Laut Sulawesi	Expanded to the east	Medium
Palung Timor	no change	Medium
Selat Makassar	new corridor added	Medium
Pangkajene Kepulauan	new corridor added	High
Sulawesi Selatan	new corridor added	Medium
Sulawesi Tenggara	new corridor added	High
Kepulauan Sula	new corridor added	Medium

Figure 4.5: Marine Corridors in Wallacea



5. Socioeconomic Context of the Hotspot

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

6. Policy Context of the Hotspot

This 2020 update covers changes in policies, laws and institutions which are significant for marine conservation in Indonesian Wallacea. Sub-heading numbering used in the original ecosystem profile is retained to allow reference to the original text.

6.1. Indonesia

6.1.1 Overview of the National Political Situation

The 2014 Presidential election was won by Joko Widodo, a candidate notable for his lack of connection with previous regimes and the military, his anti-corruption stance and his support for 'the little people'. His electoral platform included commitments to address land tenure issues and the rights of indigenous groups. His campaign and his first term in office was based around nine visions for Indonesia (the 'nawacita'), which included "building Indonesia from the periphery through strengthening regional and village areas within the unitary state framework". The nawacita was translated into the National Medium-Term Development Plan for the 2014-2019 period, which underpinned a shift towards greater attention to the needs of farmers and fishers in rural areas. The Plan also emphasized national self-reliance and sovereignty, including economic competitiveness based on the natural resources, human resources and enhanced scientific and technological capabilities (Satria et al. 2017).

Joko Widodo won a second term in 2019, and took the unusual step of bringing his main rival for president into the Government as Minister of Defense. In this second term the focus of his policies has shifted somewhat, with a much greater emphasis on removing the barriers to investment and driving economic development. In some cases, environmental and social safeguards and procedures are perceived as being among the 'barriers to investment' and have been the target of efforts to remove or simplify them. The impact of the changes on the environment for CSOs is noted in Chapter 7.

6.1.2 Natural Resource Policies and Laws

Marine Protected Areas and National Parks

Indonesia had established a total of 196 marine protected areas (MPAs) by the end of 2019, covering 23.14 million hectares. This is equivalent to 7.12% of the countries marine area. The country exceeding its target of 20 million hectares of MPAs by 2020 in 2018 (Green et al. 2020), and is now working towards a target of 10% of the exclusive economic zone, or 32.5 million hectares of MPAs, by 2030 (Campbell et al. 2019).

Although this is a significant achievement in policy terms, many of these MPAs are not yet managed effectively. To start to address this problem, back in 2012 the MMAF issued a decree No.44/KP3K/2012 from Directorate General of Kelautan, Pesisir dan Pulau-pulau Kecil, the technical guidelines for evaluating and improving management effectiveness of

MPAs (i.e. E-KKP3K). Furthermore, at the 2018 Our Ocean Conference in Bali, MMAF launched a strategic document to accelerate the improvement of the 20 million hectares MPA management effectiveness (MMAF, 2018), as well as the ongoing development of 'MPA Vision' document which provide more detailed strategy and roadmap (based on MMAF 2018) to improve management effectiveness of the 20 million hectares MPA and achieving 32.5 million ha of MPA by 2030 (Coral Triangle Center, 2020a).

MPAs may be established by central or local Governments. About 57% of the total – 13.2 million ha - of MPAs have been established by district/municipal government (Green et al. 2020). However, the implementation of the "recentralization" Law No 23/2014, starting in 2016 (see section 6.1.8), has moved the authority for managing marine resources between 0 and 12 nautical miles from the coastline, including these MPAs, from the district to provincial government. This institutional shift provides provinces with authority for conservation, marine spatial planning, and other management tasks of marine resources.

The remaining 9.9 million ha of MPA were established and are managed by the Ministry of Marine Affairs and Fisheries (MMAF) (5.3 m ha) and the Ministry of Environment and Forestry (MoEF) (4.6 m ha). MMAF is responsible for 10 'National Marine Protected Areas', with four in Wallacea: Kapoposang (South Sulawesi); Gili Matra (West Nusa Tenggara); Banda (Maluku) and Sawu (East Nusa Tenggara). MoEF is responsible for seven national parks which were entirely or largely created to preserve marine biodiversity, four of them in Wallacea: Bunaken, Wakatobi, Taka Bonerate and Togean.

After years of poor coordination and confusion over the division of marine conservation areas between the MMAF and MOEF, the Government issued a Presidential Instruction (56/2019) on 'National Action Plan for the Integrated Management of National Parks and National Marine Protected Areas, 2018-2025'⁸, specifically aimed at improving the management of the seventeen marine protected areas under the direct management of the two Ministries. Through the development of an action plan, the Instruction provides a framework for integrating the role of National and local Government, community groups and private sector within the management of the areas. It specifically emphasizes the involvement of communities, and need for a sustainable funding mechanism and the possibility of creation of new Marine protected areas. Importantly, it also mandates that the Action Plan be incorporated into the National Medium-Term Development Plan.

In addition to the government-created protected areas, communities have established Locally Managed Marine Areas. Of 51 LMMAs in Indonesia, 7 are in Maluku (in the Kei and Banda islands).

At the time of the first ecosystem profile, marine and coastal management regulated through a 2007 regulation (Law 27/2007) on management of coastal areas and small islands. This act has now been amended through Act 1/2014, and has importance for marine tenure (see 6.1.5).

Another important legislative change affecting marine resources is the enactment of the maritime law 32/2014, which replaces Law 6/1996 concerning Indonesian Waters. The Law covers the management of Indonesian Maritime resources in an integrated and sustainable manner, including (i) defining the area of Indonesian seas, (ii) marine sector development, (iii) maritime management, (iv) marine spatial management and protection, (v) defense, security, law enforcement and safety at sea, and (vi) governance and institutions. Over the subsequent years, regulations have been issued under this law including:

⁸ See <https://kkp.go.id/an-component/media/upload-gambar-pendukung/djprl/PERATURAN/Perpres%20Nomor%2056%20Tahun%202019%20TNL.pdf>

- Presidential Regulation 178/2014 concerning Maritime Security Agency,
- Presidential Regulation 16/2017 concerning Indonesian Maritime Policy,
- Presidential Regulation 83/2018 concerning Marine Waste Management
- Presidential Regulation 56/2019 concerning the National Action Plan for Integrated Management of Marine National Parks and Marine Protected Areas 2018-2025 (described above).
- Government Regulation 32/2019 concerning Marine Spatial Plan (see section 6.16)

The Village Law 6/2014 has re-shaped the states relationships with local communities, providing greater opportunities for independent planning, decision making and funding at the village level. This has potentially important implication for the sustainability of resource-management projects, creating the opportunity for successful interventions to be continued and expanded within the framework of the official village development plan and budget, as happened in several cases during Phase 1 of the CEPF program in Wallacea. Realization of these opportunities is often constrained by lack of capacity at village level, however.

Finally, the Law 7/2016 on the Protection and Empowerment of Fishermen, Fish Raisers and Salt Farmers establishes the requirements to be satisfied in order to benefit from financial assistance to perform fisheries, aquaculture and salt exploitation activities.

6.1.3 Institutions for Implementation of Resource Management Policy

The Ministry of Marine Affairs and Fisheries (MMAF) has two main technical implementing units that have responsibility for marine resources management: the National Marine Protected Areas Authority (Balai Kawasan Konservasi Perairan Nasional, BKKPN) and the Coastal and Marine resources Management Authority (Balai Pengelolaan Sumberdaya Pesisir dan Laut, BPSPL). The BKKPN manage the 10 national marine protected areas, while the BPSPL has wider role in marine resources management, covering (i) protection, preservation, and sustainable utilization of coastal, marine and small island resources, and their ecosystems; (ii) disaster mitigation, rehabilitation and handling of pollution in coastal, marine and small islands; (iii) conservation of marine habitat, species, and genetic; (iv) control of the traffic of protected fish species; (v) coastal and small island community empowerment; and (vi) marine spatial planning.

The MMAF has also established a sub-directorate for Indigenous Peoples. To date, this sub-directorate has been active in capacity building for coastal indigenous communities in Talaud (North Sulawesi), Haruku (Maluku) and Banggai. A site where Phase 1 of the CEPF program supported participatory planning by indigenous groups, on Buano island (Maluku), was assessed by the Ministry in 2019 and scheduled for support in 2020. Work by a community on Lembata (East Nusa Tenggara) supported by the CEPF program was also endorsed by the Ministry.

Marine National Parks under the authority of the Ministry of Environment and Forestry are managed by a National Park Authority (Balai Taman Nasional) for each park. While the structure remains unchanged since the first ecosystem profile, the Ministry has initiated a policy of community partnerships across all its National Parks in response to conflicts over land and access to resources. This has created opportunities for National Park Directors to negotiate use zones within National Parks.

Table 6.1. Central, Provincial and District Government Agencies Active in Biodiversity Conservation in Indonesian Wallacea

Central Government Agency	Provincial/District Agency	Role and Responsibility
National Development Planning Agency (Bappenas)	Provincial and District Planning Agency (Bappeda)	Biodiversity policy, spatial planning, coordination and implementation of development planning
Ministry of the Environment	Provincial and District Environment Agency (BLH)	Coordination of environmental policy and impact assessments, monitoring and compliance with regulations, including marine environment
Ministry of Forestry Directorate General of Natural Resources and Ecosystem Conservation Directorate for Production; Directorate for Forest Rehabilitation and Social Forestry (planning and licensing of exploitation of the national forest estate)	National Park Management Units (based in the regions, report directly to Jakarta) Natural Resource Conservation Units (based in the regions, report directly to Jakarta) Water catchment management units (BP-DAS) (based in the regions, report directly to Jakarta) Provincial and District Department of Forestry (report to District/Province head)	National Park management Enforcement of wildlife laws, protection and management of non-national park protected areas (nature reserves, wildlife reserves) Promote sustainable watershed management through cross-sectoral coordination, land and forest rehabilitation Administrative and control of state forest reserves and timber exploitation
Ministry of Marine Affairs and Fisheries	Provincial and District Department of Marine and Fisheries (may be combined with agriculture, plantations and forestry); District Fisheries Office National Marine Protected Areas Authority Coastal and Marine resources Management Authority	Management of marine and fisheries resources, conservation of marine and coastal areas including marine protected areas
Ministry of Home Affairs		Regional development policy, planning, and coordination from national perspective responsible for the environment agencies (BLH).

Table 6.2. Agencies and offices involved in marine conservation and management in Wallacea

Role	Technical Implementing Unit	Jurisdiction
Management of national marine protected areas (Kawasan Konservasi Perairan Nasional) under the MMAF	National Marine Protected Areas Authority (Balai Kawasan Konservasi Perairan Nasional, BKKPN) Kupang	Wallacea: TNP Laut Sawu TWP Gili Matra TWP Kapoposang* TWP Laut Banda* TWP Padaido Outside Wallacea: SAP Raja Ampat SAP Waigeo Sebelah Barat SAP Aru Bagian Tenggara
Protection, management and sustainable utilization of coastal, marine and small island resources, and their ecosystems	Coastal and Marine resources Management Authority (Balai Pengelolaan Sumberdaya Pesisir dan Laut, BPSPL) Makassar	All provinces in Sulawesi
	BPSPL Denpasar	Wallacea: West Nusa Tenggara, East Nusa Tenggara Outside Wallacea: East Java, Bali,
	Loka Pengelolaan Sumberdaya Pesisir dan Laut (LPSPL), Sorong	Wallacea: Maluku, North Maluku, Outside Wallacea: Papua, West Papua

TNP: Marine National Park, Taman Nasional Perairan
TWP: Marine Tourism reserves, Taman Wisata Perairan
SAP: Marine Nature Reserve, Suaka Alam Perairan

6.1.4 Land Tenure

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

6.1.5 Marine Tenure

Law 27/2007 on Coastal and Small Islands Management established a Coastal Waters Use Right, which was open to individuals and indigenous communities as well as commercial enterprises. The relevant articles of the Law were subsequently annulled by the Constitutional Court as they were held to be in conflict with the Constitution, which states that 'The land and water and the natural resources contained therein shall be controlled by the state and shall be used for the greatest prosperity of the people'. The revised Law introduced a new form of management permits for a number of activities (salt production; marine bio-pharmacology; marine biotechnology; sea water utilization other than energy harvest; marine tourism; installation of underwater pipes and cables; removal of cargo from sunken ship) but also states that the management of coastal and marine natural resources will be regulated through further presidential regulations (Halim et al. 2020).

Customary tenure

Many traditional local management systems dealing with marine resources are known to persist in Wallacea. Among them are *Sasi* in the Maluku islands (Nikijuluw 1994), *Para* of North Sulawesi (Mantjoro 1996), *Awig-awig* in Bali and Lombok and to some extent the *Ponggawa-Sawi* relationship in South Sulawesi (Yusran 1998). The system is particularly strong in parts Maluku, where exclusive communal rights combined with limits on resource extraction (use of gear or seasonal closure) remain important in the management of marine resources.

The post-1998 'reformation' era of Indonesian government saw a shift towards more decentralized forms of resource management, including greater recognition of the role of local and indigenous communities and their customary wisdom and systems of tenure and management. Practical progress in making changes has been slow, however, but since 2014 there have been attempts to set targets and drive forwards the recognition of local land and resource rights and to integrate them into the existing governance framework of marine resource management.

Several of the new and amended Laws mentioned in section 6.1.2, notably Law 1/2014 on management of coastal areas and small islands, Maritime Law 32/2014, Law 23/2014 on Regional Governments, and the Village Law 6/2014, have created opportunities to strengthen the role of traditional local management systems in marine resources management (Satria et al. 2017). This includes A Ministerial Regulation (8/2018) from MMAF on the 'Procedure for Declaration of Management Area of Adat Community in Spatial Utilization of Coastal and Small Island'. The regulations describe procedures to link mapping of the rights of coastal indigenous communities into official spatial plans including the coastal and small-islands zoning plan and national strategic areas zoning plan (Halim et al. 2020).

In response to the overall direction of regulation and policy which was more sympathetic to local and traditional management systems, various attempts have been made by government agencies to strengthen these systems and integrate them into formal planning and management processes. In 2016 the Ministry of Marine Affairs and Fisheries started a program to strengthen indigenous communities to promote sustainable marine resources, with actions including identification of existing indigenous groups in Indonesia, capacity building, and assisting customary institutions in carrying out their roles in marine resources management⁹. To date, 12 coastal communities have secured recognition of their presence and rights from their District Government, in line with the procedures for recognition of indigenous rights laid down in Law: eight in Wallacea and four in Papua. In Wallacea, two are in Buton and one in Wakatobi (both South-east Sulawesi), one in Talaud (North Sulawesi), and four in Maluku – in Haruku, Seram, Tanimbar and Tual.

6.1.6 Spatial and Land-Use Planning

At the time of writing the first ecosystem profile, marine spatial planning was particularly weak, with most local governments prioritizing terrestrial planning and lacking any mapping and zoning for marine areas. Since then Law 23/2014 concerning Regional Governments has moved the mandate for the planning and management of marine natural resources up to 12 miles from the coast from district to provincial governments. In 2017, in response to a Presidential Regulation (16/2017) the Ministry of Marine Affairs and Fisheries and the Ministry of Home Affairs gave mandate to 34 provincial governments to complete their Coastal and Small Island Spatial Plans (Rencana Zonasi Wilayah Pesisir dan Pulau-pulau Kecil or RZWP3K). The development of these plans is mandated in Law 27/2007 (as

⁹ http://kkp.go.id/an-component/media/upload-gambar-pendukung/djprl/HUMAS/Kegiatan%20PRL%20KKP%20dalam%20Masyarakat%20Hukum%20Adat_Satgas.pdf

amended by Law 1/2014) on the Management of Coastal Areas and Small Islands, and in National Medium-Term Development Plan, which requires each province to have an RZWP3K as the basis for development planning in coastal and marine areas. The plans are to be legalized through provincial regulations, and are valid for 20 years with a five-year review cycle.

The RZWP3K is a reference in the preparation of the provincial Medium-term and Long-term Development Plans, which lay down guidelines for the use, management, investment and administration of coastal areas and small islands.

As of June 2020, the Coordinating Ministry of Maritime and Investment (CMoMI) notes that 27 provinces have completed their RZWP3K¹⁰, but only 21 of these plans are accessible to the public¹¹. Of these 21 provinces, the ten in the Wallacea region all have legally adopted plans (Table 6.3). In preparing (and reviewing and revising) these plans the provinces face constraints including lack of supporting data, limited human resource capacity, as well as time and cost limitations¹². A number of projects funded during Phase 1 of the CEPF program in Wallacea were able to work with the relevant agencies to improve the quality of data, analysis and public participation in plan preparation.

Table 6.3. Dates of legalization of RZWP3K in the Wallacea Region

No	Province	Provincial Regulation
1	North Sulawesi	Perda No. 1/2017
2	Gorontalo	Perda No. 4/2018
3	West Sulawesi	Perda No. 6/2017
4	Central Sulawesi	Perda No. 10/2017
5	South Sulawesi	Perda No. 2/2019
6	Southeast Sulawesi	Perda No. 9/2018
7	North Maluku	Perda No. 2/2018
8	Maluku	Perda No. 1/2018
9	West Nusa Tenggara	Perda No. 12/2017
10	East Nusa Tenggara	Perda No. 4/2017

6.1.7 Development Policies and Programs

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

6.1.8 Decentralization and Natural Resource Management

The 2014 Ecosystem Profile notes that the decentralization of Government in Indonesia has far-reaching effects on natural resource management, with tensions between the various levels of Government. Since the ecosystem profile was written, central Government has enacted Law 23/2014 on Local Government, which had changed the relationship between central and sub-national governments. The most important issue for natural resource management is the re-centralization of authority for natural resources management from district/municipal governments to provincial governments. This has caused some legal uncertainty in the management of natural resources, including in marine and fisheries

¹⁰ <https://www.antaranews.com/berita/1545164/kemenko-maritim-27-provinsi-telah-tetapkan-perda-rzwp3k>

¹¹ <https://seanode.id/>

¹² <https://darilaut.id/berita/anggaran-penyusunan-rencana-zonasi-wilayah-pesisir-kurang-memadai>

sectors, and has impacted on the configuration and structure of institutions, public services, finance, and guidance and supervision related with marine and fisheries. It has also created some legal uncertainty due to conflicts with other laws and regulations in the marine and fisheries sectors (Dapu 2016).

The 'recentralization' also has made a significant postponement in MPA management actions on the ground since district/municipal governments were no longer allowed to allocate funding and resources for marine and coastal management, while in the other hand provincial government were not ready and have no capacity to take over the responsibilities. In addition, administrative processes to handover assets (infrastructures, equipment, and human resources) and authorities from district/municipal to provincial government were also took a significant amount of time. This is also due to lack of coordination between MMAF and MoIA in proactively providing guidelines to local governments for handing over the authority in marine and coastal management.

6.1.9 Good Governance in the Hotspot

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

6.1.10 Indonesia's Commitments Under Global Agreements

At the Our Oceans Conference in Norway in 2019, Indonesia made commitments to:

- designate 700,000 hectare of marine conservation areas in 2020
- allocate US\$ 6.68 million in its national budget to support the creation of new MPAs and enhance management effectiveness of existing MPAs through activities such as capacity building, biophysics and socio-economic monitoring, control and surveillance, as well as facilities and infrastructure improvement.
- US\$ 73.3 million for marine and fisheries surveillance activities include patrol vessel and airborne surveillance, command center operation, marine and fisheries crime investigation, MPA surveillance, enhancement community-based surveillance participation, combating destructive fishing, and any other related activities

Indonesia is a signatory of various multilateral environmental agreements (Table 6.5), although implementation has been very uneven.

International policy commitments which play a role in shaping aquatic and fisheries law in Indonesia, include:

- The United Nations Convention on the Law of the Sea (UNCLOS)
- The United Nations Convention on the International Trade of Endangered Species of Wild Fauna and Flora (CITES), and related permitting regulations
- The United Nations Convention on Biological Diversity (CBD)
- Regional Fisheries Management Organizations (RFMOs)
- The United Nations Sustainable Development Goals (SDGs), particularly Goal 14: Life Below Water.

6.1.10.1 Convention on Biological Diversity (CBD)

The 2014 ecosystem profile reported on the NBSAP. No update has been submitted since.

6.1.10.2 Ramsar Convention

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

6.1.10.3 Biosphere Reserves

Biosphere Reserves are areas designated under UNESCO's Man and the Biosphere (MAB) Program to serve as places to test different approaches to integrated management of terrestrial, freshwater, coastal and marine resources and biodiversity. In 2014 there were eight biosphere reserves in Indonesia, among them three national parks in Wallacea: Komodo (East Nusa Tenggara), Wakatobi (Southeast Sulawesi) and Lore Lindu (Central Sulawesi). Komodo and Wakatobi are primarily marine national parks.

Since 2014 Indonesia has declared an additional eight biosphere reserves, including two marine areas in Wallacea: Taka Bonerate – Kepulauan Selayar (South-east Sulawesi) and Togean Tojo Una-Una (Central Sulawesi). The Saleh-Moyo-Tambora Biosphere reserve, in West Nusa Tenggara, also contains small islands, mangrove and other coastal ecosystems.

6.1.10.4 World Heritage Convention

This convention has 187 member countries and its aim is to identify and conserve cultural and natural monuments and sites of outstanding universal value. There is only one World Heritage site in the hotspot, Komodo Island, with five other sites on the "tentative" list. There has been no change since the 2014 ecosystem profile.

6.1.10.5 Convention on the Conservation of Migratory Species of Wild Animals

The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the Bonn Convention) aims to conserve terrestrial, marine and avian migratory species throughout their range. Indonesia is not a party to the convention, but it has signed the Indian Ocean–Southeast Asian Marine Turtle Memorandum of Understanding (IOSEA MOU). Indonesia is a range state for CMS programs on Dugong, and submitted a national report on the species in 2017.

6.1.10.6 Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Convention on International Trade in Endangered Species of Wild Fauna and Flora is a multilateral treaty to regulate international trade in plants and animals. Indonesia became a party to CITES in 1979. The Directorate General of Forest Protection and Nature Conservation (PHKA) of MOEF and the Directorate of Conservation and marine Biodiversity of MMAF are the management authorities and enforcement focal points, responsible for the monitoring and enforcement of CITES regulations in Indonesia. The Indonesian Institute of Science, LIPI, is the scientific authority.

6.1.11 Indonesia's Commitments Under Regional Agreements

In addition to the global environmental agreements outlined above, Indonesia is a member of or partner in two significant regional organizations that have an influence on the parts of the hotspot: ASEAN and the Coral Triangle Initiative.

6.1.11.1 The Coral Triangle Initiative

The Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF) is a multilateral partnership of six countries formed in 2007 to address the urgent threats facing the coastal and marine resources of one of the most biologically diverse and ecologically rich regions on Earth. This region encompasses portions of two biogeographic regions: the Indonesian-Philippines Region and the Far Southwestern Pacific Region. The former overlaps with Wallacea. The Coral Triangle covers six countries: Indonesia, Timor-Leste, the Philippines, Malaysia, Papua New Guinea and the Solomon Islands.

In 2009 Indonesia and 5 other coral triangle countries endorsed a 10-year (2010-2020) Regional Plan of Action (RPOA). The plan includes the expansion of MPAs as a primary goal, establishing a target that 'A region-wide Coral Triangle MPA System (CTMPAS) in place and fully functional'.

Indonesia is a member of the 14-country Partnerships in Environmental Management for the Seas of East Asia (PEMSEA). PEMSEA adopted a Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) in 2003, and the latest implementation plan under the strategy, for 2018-2022¹³, is underway. The Priority Management Programs include: a) Biodiversity Conservation and Management; including MPA management and networking, migratory marine species conservation, and blue carbon; b) Climate Change and Disaster Risk Reduction and Management; and c) Pollution Reduction and Waste Management. The cross-cutting Governance Programs include: a) Ocean Governance and Strategic Partnerships; b) Knowledge Management and Capacity Development; and c) Blue Economy Investment and Sustainable Financing.

6.1.11.2 Association of Southeast Asian Nations

Indonesia is a member of the Association of Southeast Asian Nations (ASEAN), which aims to promote peace and stability and accelerate economic growth and social progress in Southeast Asia. Environmental issues have traditionally not been at the top of its agenda, but this appears to be changing given the growing importance of trans-boundary issues, such as haze from forest fires, illegal logging and wildlife trafficking. In 2010 ASEAN acknowledged the high biodiversity value of Southeast Asia and the potential impacts of rapid economic growth (ASEAN 2010). It has identified 10 priority issues of regional importance as mentioned in the ASEAN Socio-Cultural Community (ASCC Blueprint) 2009-2015 (ASEAN 2009). These include environmental education; harmonizing environmental policies; and promoting the sustainable use of coastal and marine environment, natural resources and biodiversity, and freshwater resources. These are to be enhanced through greater regional cooperation and the setting of regional standards, e.g., for water quality.

In addition to these broad policy statements, ASEAN has established three focused programs related to biodiversity conservation. The ASEAN Wildlife Enforcement Network (ASEAN WEN) is the world's largest wildlife law enforcement network that involves police, customs and environment agencies of all 10 ASEAN countries (ASEAN WEN 2009). It is

¹³ http://pemsea.org/sites/default/files/PEMSEA_SDS-SEA_IP_2018-2022_20190606.pdf

designed to provide training and capacity building to agencies across the region and improve collaboration and coordination between member states.

The ASEAN Centre for Biodiversity (ACB), Philippines, is a clearing house for biodiversity data and a center for capacity building on biodiversity conservation throughout the ASEAN community.

ASEAN maintains a list of 'heritage parks', nominated by member states and which have unique regional importance. The only ASEAN heritage site in Indonesian Wallacea with a marine focus is Wakatobi.

ASEAN has a program of co-operation on coastal and marine environments, guided by a working group. Recent initiatives under this work program include tackling marine debris and marine biodiversity conservation. The marine debris work include collaboration with Norway and the EU.

7. Civil Society Context of the Hotspot

This 2020 update covers changes in civil society context which are significant for marine conservation in Indonesian Wallacea. Sub-heading numbering used in the original ecosystem profile is retained as far as possible to allow reference to the original text.

7.1. Indoneisa

7.1.1 Civil Society Organizations in Indonesian Wallacea

CEPF defines civil society as the entire group of nongovernment actors who have an interest in conservation and sustainable management of resources in the hotspot. This includes international, national and local actors; conservation NGOs; economic and community development NGOs; scientific research and academic institutions; professional organizations; producer and sales associations; religious organizations; media; advocacy groups; and groups working on outreach, awareness, education, social welfare, indigenous rights and land reform. It also includes the parts of the private sector concerned with the sustainable use of natural resources.

7.1.2 Operating Environment for CSOs in Indonesia

7.1.2.1 Legal Framework

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

7.1.2.2 Political Space

Indonesia has a diverse and increasingly effective civil society which plays an important role in channeling issues and information into Government policy and law-making processes. However, as noted in Chapter 6, the second term of President Joko Widodo's government has taken a strongly pro-investment and pro-business approach. This has provided an opportunity for some parties to argue that social and environmental agendas, safeguards, and the organizations that promote them, are an obstacle to economic growth and therefore to the country's development. This line of argument has already secured a number of regulatory changes, for example to reduce the requirements for environmental impact assessments, limiting the opportunity for public involvement and removing criminal

sanctions for non-compliance. The changes are in parallel with moves to limit the powers of the national Anti-Corruption Agency (KPK) and to regulate expression of critical views on social media, including through the Electronic Information and Transaction law.

This shift has been accompanied by statements and actions from the Government which have been interpreted as showing reduced tolerance for criticism and opposition¹⁴ and a narrowing of the 'space' for civil society to develop and operate. Some prominent campaigning CSOs are being scrutinized more intensively by the authorities, as some of their work is seen as being damaging to Indonesia's reputation or negatively affecting investment. Non-Indonesian organizations and funding sources are particularly - but not uniquely - vulnerable to being labelled as advancing a foreign agenda, and there are moves to tighten up control of funding to civil society from outside the country, as well as actions against foreigners in the country perceived as critical of Government and powerful actors.

The work supported by the CEPF program in Wallacea on community-based marine conservation is less likely to be perceived negatively by Government than the work of, for example, CSOs working to influence powerful sectors such as oil palm and timber. Nevertheless, access to fisheries and coastal resources can be highly controversial and sensitive political issues locally, and there may be a need to support grantees to be prepared for opposition to their activities. Actions which can be taken in support of grantees include:

- Raising grantees' awareness of legal risks (for example, the threat of legal action for defamation under the Electronic information law) and how to avoid them.
- Providing information on sources of shared experience from other CSOs and legal advice where required
- Raising grantees' awareness of basic security issues, including mitigating the risks to data, property and personal safety
- Providing support on communications, both to build alliances and to manage and respond to negative media coverage

7.1.2.3 Funding Availability

No update from the 2014 ecosystem profile. Availability of funding for conservation in the region is covered in the update of Chapter 10 (investment).

7.1.3 Civil Society Programs and Activities in Indonesian Wallacea

7.1.3.1 Major Conservation and Development Organizations at the National Level

International and national organizations working in marine conservation in Wallacea include WWF, TNC, WCS, Burung Indonesia (as the RIT for the CEPF grant program), Rare, and the Wetlands International-Indonesia Program, Kehati and the Samdhana Institute. Major development organizations whose work is often integrated with conservation issues include Oxfam GB, Oxfam Australia, Swisscontact, World Vision, CARE, World Neighbors, Save the Children and Threads of Life. Table 7.1 summarizes the main organizations, their areas of interest and main activities in Wallacea.

¹⁴ See for example, the cases of harassment against environmental activists documented in Madani Berkelanjutan (2020)

Table 7.1. Summary of Main CSOs and Activity Areas in Indonesian Wallacea

Organization	Areas of Interest in Wallacea (marine sector)	Focus of activity in Wallacea (marine sector)
Burung Indonesia	As RIT of the CEPF small grants program, throughout Wallacea	CSO small-grants for community-based conservation
Coral Triangle Centre	Banda Islands, Maluku Buano Island, Maluku Lease Island, Maluku Sula Islands, Maluku Atauro Island, Timor-Leste Liquica, Timor-Leste	Marine protected area creation and support Capacity building and learning network facilitation for MPA managers, local government, women leaders,
GEF Small grants program	Semau island, Savu Sea Wakatobi, SE Sulawesi	Small grants to local CSOs for community-based coastal and forest resource management CSO capacity building
Oxfam	Pangkep, Maros, Barru, Pinrang, Luwu, Makassar (S Sulawesi) Bau-bau, Wakatobi, Kendari, Konawe Selatan (SE Sulawesi) Sigi (Central Sulawesi) Lombok (NTB) Dompu (Sumbawa, NTB) Flores, Kupang, Timor Tengah Selatan (NTT)	Food security and sustainable value-chains for coastal and small island communities, sustainable agriculture, youth enterprise, CSO and local Government capacity building for SDG monitoring, emergency disaster response
RARE	N Sulawesi Wakatobi, Take Bonarate (SE Sulawesi)	community-based marine resources management and MPAs
Samdhana Institute	Throughout Wallacea	Small grants to local CSOs for resource rights, livelihoods and sustainability. Community capacity building and leadership. Implementation of the World Bank-Direct Grants Mechanism for indigenous and local communities
Save the Children	Nusa Tenggara Timur	Child health and nutrition
TNC	Wakatobi (SE Sulawesi) Halmahera (N Maluku) Buru, Lucipara islands, Banda seascape and islands (Maluku) Lombok (NTB) Savu sea (NTT)	Marine protected area creation and support, regulation of live fish trade
WCS	North Sulawesi Makassar – Taka Bonarate (SE Sulawesi) Halmahera (N Maluku) Lombok strait (NTB)	community-based marine resources management and MPAs
World Neighbors	East and West Nusa Tenggara	Community development (not specifically coastal)
World Vision/ Wahana Visi Indonesia	Central Sulawesi, East Nusa Tenggara, North Maluku	Community development
WWF (Marine)	Buru, Lucipara, Banda seascapes and islands (Maluku) Lombok and NTB	Marine protected area creation and support

Organization	Areas of Interest in Wallacea (marine sector)	Focus of activity in Wallacea (marine sector)
	Komodo-Sumba Strait Solor-Alor (NTT) Sulawesi Sea - Makassar Strait	Species-focused campaigns on sharks and rays

Donor programs (e.g., Ausaid and USAID) are described under the “conservation investment” chapter, although many of the local partners they work with are described in this chapter.

7.1.3.2 Networks and Partnerships

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

7.1.3.3 CSOs in Sulawesi

CEPF made fifteen grants to ten CSOs for marine projects in Sulawesi during Phase 1 (Table 7.2)

Table 7.2: Grants for marine conservation in Sulawesi during Phase 1

CSO name	Grant amount (USD)	Project name/description
Alliance of Independent Journalists of Gorontalo Town	10,583	Campaign to raise public awareness on conservation of biodiversity in the Togeian islands and Togeian marine KBAs
JAPESDA Gorontalo	89,783	Community preparation for sustainable management of mangroves and coastal resources
Yayasan Alam Indonesia Lestari (LINI)	61,772	Community-based conservation and coastal resource management in the Banggai Islands
Manengkel	17,071	Community-based conservation of marine ecosystems and coastal habitat in Bahoi Village, North Sulawesi
Manengkel	49,257	Strengthening community-based coastal and marine resources management in Minahasa, North Minahasa, and Talaud Districts of North Sulawesi Province, Indonesia
Perkumpulan Relawan untuk Orang dan Alam	11,468	Management Workshop for Banggai Dalaka Marine Protected Area
Perkumpulan Relawan untuk Orang dan Alam	17,292	Strengthening action for coastal and marine ecosystem conservation and protection of species in Balantak Waters KBA
Perkumpulan Relawan untuk Orang dan Alam	23,103	Strengthening initiatives for marine and coastal biodiversity conservation in the Balantak Waters KBA through strengthening management capacity and regulation of MPA protection in Talang Batu village and expanding Initiation of MPAs to Luok Villa
SIKAP Institute	16,102	Supporting initiatives for the conservation of coral reef ecosystem in Peleng-Banggai through planning of sustainable community-based MPAs in Bone Look village, Banggai Laut district
SIKAP Institute	10,741	Synergizing and integrating sustainable management of coastal resources and protection of species in Peleng Banggai KBA
Wildlife Conservation Society	124,249	Strengthening community-based coastal and marine resource management in the North Sulawesi corridor

CSO name	Grant amount (USD)	Project name/description
YAPEKA	99,100	Improving protection of dugong habitat through development of community-based marine protected areas and ecotourism in Indonesia's Sangihe Islands
YAPEKA	5,043	Workshop on coastal and marine conservation in North Sulawesi
YAPEKA	31,559	Implementing the RZWP3K (marine spatial plan) through community-based management of coastal zones in the coastal villages of Sangihe district
Yayasan Rumah Ganeca, Sulawesi Utara	15,522	Strengthening the role of communities in the conservation of turtles on the coast of Karor village

As a result of grant-making and capacity building during Phase 1, CSOs in Sulawesi which normally focus on community development, agrarian reform and advocacy have effectively engaged and integrated conservation into their programs. Strengthened grantees include Balang, Payo-payo, Wallacea and SCF. There are several NGOs working on marine related issues in South Sulawesi including Yayasan Konservasi Laut, PPHL Puntundo, and Blue Forest. YKL attended our public consultation and provided useful inputs related to Makassar – Pangkep – Takabonerate corridors.

7.1.3.4 CSOs in Maluku

CEPF made nine grants to six CSOs for marine projects in Maluku during Phase 1 (Table 7.3).

Table 7.3: Grants for marine conservation in Maluku during Phase 1

CSO name	Grant amount (USD)	Project name/description
Baileo Maluku	18,283	Conservation of coastal ecosystems based on <i>Sasi</i> Local Wisdom, Haruku Village, Haruku Island, Central Maluku District
Baileo Maluku	102,952	Traditional marine protected area management in Maluku, Indonesia
Lembaga Partisipasi Pembangunan Masyarakat	18,580	Conservation of coastal areas based on local wisdom in Buano island
Lembaga Partisipasi Pembangunan Masyarakat	95,640	Revitalization of local wisdom for sustainable management of natural resources in Buano island, Indonesia
Lembaga Pesisir dan Lautan Kie Raha	12,630	Community-based mangrove and coastal resource management in Guruapin Village
Universitas Pattimura Lembaga Penelitian	15,955	Collaborative and Sustainable Natural Resources Management in Kassa Island
Yayasan Studi Etnologi Masyarakat Nelayan Kecil	16,320	Action to improve sustainability through supporting the management of mangrove forest in Gotowasi village
Yayasan Studi Etnologi Masyarakat Nelayan Kecil	16,387	Strengthening the management of the Gotowasi village MPA for the protection of priority species
Yayasan Wallacea	53,153	Community Capacity Building to Protect Turtle Population through Ecotourism in Buru, Indonesia

Despite the relatively small size of the CSO community in the Maluku region, there were different experiences with CSOs in Maluku and Maluku Utara during Phase 1. In Maluku Province, CSOs are typically small but with experienced personnel. Some have strong grassroots networks, while others have good experience in policy advocacy and networking or expertise in community organizing and advocacy. During the first phase, the grantees spontaneously established links and collaborated with each other – this was helped by their proximity, in the city of Ambon, and their experience of networking, but also reflected their professional outlook, recognizing that there were benefits from collaboration even while they were potential competitors for funding.

In Maluku Utara Province, the CSOs are typically small, and are dispersed geographically. They have limited experience compared to CSOs in Maluku, and there were challenges to ensure that they adhered to basic administrative and management requirements in the implementation of projects. These CSOs have a more spontaneous and unstructured way of planning and executing their activities, and weaker management skills. CSOs of this type could be excellent for mass mobilization for social change, but were not able to handle the structured approach to project and grant management.

7.1.3.5 CSOs in Nusa Tenggara

CEPF made four grants to two CSOs for marine projects in Nusa Tenggara during Phase 1 (Table 7.4).

Table 7.4: Grants for marine conservation in Maluku during Phase 1

CSO name	Grant amount (USD)	Project name/description
BARAKAT	17,930	Marine biota conservation by fishermen at Hadakewa Bay, Lembata
BARAKAT	72,644	Strengthening the protection of a site: KBA economic empowerment through regulations and coastal communities, Indonesia
Yayasan Pengkajian dan Pengembangan Sosial	89,566	Rescue marine biodiversity in South Beach, Lebau
Yayasan Pengkajian dan Pengembangan Sosial	23,969	Deepen and broaden learning on the monitoring and management of marine ecosystems in southern Solor island

Finding CSOs who could work on marine issues in the priority corridor of Solor-Alor was challenging, but CSOs with relevant community experience from neighboring Flores were able to take on the work.

7.1.4 Civil Society Capacity in Indonesian Wallacea

7.1.4.1 Capacity Required

The 2014 ecosystem profile identified major threats to KBAs on the basis of information from stakeholder workshops and questionnaire results (see Chapter 8 for details). The key threats to marine KBAs (reported from over 25% of marine KBAs where data was available) were:

- Unsustainable small-scale fishing (reported at 74% of marine KBAs)
- Hunting and collecting (reported from 36% of KBAs)
- Mining, oil and gas production (reported from 31% of KBAs)
- Pollution and sedimentation (reported from 29% of KBAs)

The impacts of the Phase 1 projects (Chapter 2, lessons from Phase 1) suggests that the small grants to local CSOs can have an impact on unsustainable fishing, which is by far the most widespread threat, and also on hunting and collecting, as this is also predominantly an issue of local management.

As noted in the 2014 ecosystem profile, the threats from extractive industry and from pollution and sedimentation require a different set of skills and experience from the facilitation of community-based processes, including:

Investigation or research capacity to form a clear understanding of the issues before designing any interventions.

Advocacy capacity, which includes:

- The capacity to understand the legal framework that facilitates or limits activities such as mining and unsustainable land use in vulnerable coastal catchments

- The capacity to build networks and alliances, divide roles, define and implement a campaign using advocacy and public communications

Technical capacity to provide alternatives to destructive land and resource use

Experience from Phase 1 suggests that the CEPF model is most successful in addressing issues at community- and field-level, while there are relatively few CSOs with the capacity and experience to take on complex and difficult campaigns to influence decisions on mining or land use across terrestrial catchments.

7.1.4.2 Capacity building during Phase 1

Baseline assessment

A baseline capacity assessment carried out in 2017 (using the PERANTI+ approach) formed the basis for the design of the training program and for post-training evaluation. One of the important findings was that 95% of grantees did not have a clear enough perspective on the environment and conservation, confirming the statement in the ecosystem profile that there are few CSOs in the region which see their mission as conservation. This confirmed the conclusion of the 2014 ecosystem profile, on the basis of CSO questionnaires and interviews, that

'Lack of technical capacity in conservation issues hinders the CSOs in making the links between CSO experience and activities with conservation activities. This includes a limited awareness about conservation, which leads to an understanding of it as a mere restriction rather than an opportunity to sustain people's livelihoods. Such problems constrain the CSOs to creatively analyze problems and formulate conservation measures.'

As a result, the links between conservation and livelihoods, through culture, economy and livelihoods, became a key focus of the capacity building program.

In addition to the PERANTI+ assessment carried out by Penabulu, CEPF's civil society tracking tool (CSTT) was used by grantees to assess their own at the beginning and end of their projects. The tool assesses performance in five broad areas of organizational capacity, each with 5 criteria: human resources, financial resources, management system, strategic planning, and achievements¹⁵. At the start of their projects, grantees assessed their scores for human resources and financial resources to be just over 50% on average, but with a range from 25% to 90%. Management system, strategic planning, and achievements were all assessed as averaging 65%. This confirmed the conclusion of the ecosystem profile that:

The capacity to develop project plans and proposals are very unequal between urban-based NGOs and small NGOs working in remote areas. This includes a low capacity in fund-raising and sustainable financing of programs.

And also that:

There is a lack of knowledge of laws, regulations and their implementation, which is very important to support their capacity in defining problems and determining interventions.

¹⁵ The 2 International CSOs (WCS and Conservation International) are excluded from this summary of the analysis. Two organisations, Coral Triangle Centre and Centro de Desenvolvimento Comunitario (CDC) from Timor-Leste, were excluded because no baseline assessment was available. This analysis is based on the responses of 16 marine sector local grantees, therefore.

Both of these points were addressed in the capacity building program, which included modules on project cycle management for conservation projects, and on legal issues and enforcement for species conservation.

The capacity building program

Capacity building for CSOs was delivered by a specialist capacity building provider, Yayasan Penabulu, over three years (2017-2019) and with a focus on seven priority clusters. Capacity building was centered on the delivery of training modules which were designed to reflect the needs of the CSO community and the strategic directions of the CEPF ecosystem profile. Penabulu foundation describes the key elements of their approach as: building equality, creating a comfortable learning atmosphere, a human rights approach and appreciation for experience. The training delivered is summarized briefly here, based on Penabulu's reports:

PCM: Project Management Cycle Training for ecosystem-based conservation program. The training module provided a 10 Step Guide to Management of Conservation Programs Based on Ecosystem Approaches. Training included topics such as institutionalization of biodiversity, protection and observation of marine biodiversity and business planning in conservation areas. One of the principal outcomes of the training was the ability to submit a suitable proposal to CEPF, and this was supported through a follow-up proposal coaching clinic via email.

Thematic training modules on conservation.

Penabulu delivered modules which were aligned with the strategic directions of the CEPF strategy. The training emphasized on sharing experiences and expertise between grantees, with a focus on practical issues. It was hosted by a resource organization, at their field site, and was 40% theory and 60% practice, centered around field visits. Themes covered were:

- SD1: Wildlife and Illegal Trade Law Advocacy (resource organization: WCS)
- SD2: Area Conservation (resource organization: Burung Indonesia)
- SD3#1: Advancing Sustainable Commodity Marketing (resource organization: Rainforest Alliance)
- SD3 #2: Permaculture Towards Sustainable Life (resource organization: IDEP)
- SD4: Ecosystem-Based Coastal Management Initiation (resource organization: Manengkel Solidaritas and Yapeka)
- SD5: Business Planning: Community Based Local Natural Resource Utilization (resource organization: CCPHI)

Program management training

The training was based on reflection on:

- CSO characteristics
- changes in the external environment and its effects on each organization
- identification of milestones (organizational successes and assets)
- shift in position and role of the organization
- new growth opportunities for the organization

Each CSO participant formulated a change strategy for Institutional Governance, Human Resource Management, Data Management and Utilization of Information and Communication Technology, and Public Campaign and Communication / Public Policy Advocacy. They also produced a draft plan and strategy for the sustainability of conservation programs and activities at the level of each partner and at the level of the priority region.

Financial management training

Financial management training aimed to increase capacity and thus organizational transparency and sustainability in the long term. It covered basic financial operations and the development of financial standard operational procedures and consolidated financial statements.

Resource mobilization training

The training defined 'resources' broadly, including financial resources but also public participation. Partnerships, networks and alliances were discussed as means to mobilize resources. The training included a mapping of funding opportunities in Wallacea, interviews with various sources and analysis related to existing funding in Indonesia and funding opportunities for Wallacea. A document, Funding opportunities for sustainable conservation in Wallacea, was produced to support participants.

Impact of the capacity building program

Penabulu repeated their capacity assessment using PERANTI+ in October 2019. The impact assessment addressed four areas: organizational foundation, governance, management, and sustainability. Of 43 grantees surveyed for the baseline, 27 also completed the baseline evaluation. Their main findings were:

- CSOs showed a measurable increase in their interest in and understanding of conservation and environmental issues, including an appreciation that the area they live and work is globally recognized and that the livelihoods of present and future generations partly depend on the quality of this environment. They also increasingly recognized that biodiversity and the environment offer opportunities for alternative, sustainable enterprise and value chain approaches. The assessment concludes that conservation was successfully mainstreamed by many of the grantees, with improvements in

- awareness and skills in building relationships between culture and conservation;
 - awareness and skills on strengthening the link between economics and conservation;
 - awareness and skills in advocating and strengthening relations between the village government and conservation as a multi-stakeholder partnership

- CSOs increasingly recognized that they face strategic choices about what they do, and that they need to take responsibility for their roles in the context of the environment and society.

- There was an improvement in the ability of CSOs to translate their plans and strategic aims into workplans with verifiable targets that they can use to monitor their own progress.

- There was an improvement in the performance of routine activities for managing the organization's programs / projects, administration, finance, human resources, data-information, and partnerships

- Funding and resources remain a challenge for CSOs, but there was an improvement in their ability to mobilize resources, including through proposal writing and product development. Communication skills to lobby and negotiate were also developed as part of this capacity building

- these changes are borne out by the end-of-project assessment using the PERANTI+ tool. Table 7.5 shows the aggregated scores and improvements in all four areas assessed.

Table 7.5: Aggregated scores from PERANTI+ self-assessment pre- and post-project

Areas assessed	2017 score	2019 score	% increase
organizational foundation	2.79	3.66	31
governance	2.05	2.99	46
management	2.17	2.97	37
sustainability	1.81	2.97	64

- when the CSOs are categorized by the seven priority funding areas targeted for grant-making, the pattern of improvement in all areas of organizational capacity remained consistent, though with local variation in the extent of improvement
- further evaluation of 5 key areas of organizational management found increases in all these areas (Table 7.6)

Table 7.6: Detailed evaluation of 5 areas of organizational management based on PERANTI+ scores from pre- and post-project assessment

Areas assessed	2017 score	2019 score	% increase
program and service provision	2.52	3.30	31
administration and financial management	2.24	2.88	29
human resources	2.27	3.09	36
data, information and knowledge,	1.74	2.67	53
public communication and partnerships	2.08	2.95	42

- the assessment of sustainability found an overall increase in the diversity of funding sources being accessed by the grantees in 2019
- as a result of these capacity improvements, grantees were able to produce tangible results, especially in participatory planning, resource mobilization management, and leadership in lobbying and advocating for the government to save endangered biodiversity on Wallacea

The CEPF civil society tracking tool (CSTT) was also used at the end of the grantee projects, again as a self-assessment, and confirms the results of the PERANTI+ assessment. Overall, average scores had increased by between 11 and 21% for each area of capacity. The greatest improvement was for human resources and financial resources (both around 21% increase in average score), followed by strategy (17%), with smaller improvements for management (13%) and delivery (11%).

The overall positive trend in the CSTT results hides a large variation in performance, however. Two grantees reported increases in total capacity scores of over 50%, and seven more increases of less than 50%. Over a third of grantees – 6 of the 16 – reported no change in any of the criteria. One grantee, Yayasan Wallacea, reported a decline in performance across all criteria, with the organization's overall total capacity score declining from 59% to 52%. This was associated with specific internal management problems experienced by the organization. Penabulu does not report the level of variation in the aggregated PERANTI+ scores.

Learning and Networking

Penabulu facilitated a conservation discussion forum between grantees, organizing meetings in all of the priority funding regions, with the aim of encouraging cooperation between grantees. Penabulu reports that the forums contributed to grantee collaboration on:

- revitalization of the role of culture and customary institutions for sustainable conservation (Seram/Buru);
- optimization of the Village Fund for sustainable development and the conservation of biodiversity.
- development of a marine protected zone (DPL) zone integrated with village planning (Banggai, East Nusa Tenggara);
- development of CSO collaboration with the National Park;
- catalyzing multi-stakeholder collaboration for the Malili lakes (central Sulawesi);
- increased income in conservation areas through the development of alternative livelihoods, including ecosystem services and NTFPs, in cooperation with village-owned business units (BUMDes) (Seram/Buru and South Sulawesi);
- increased community participation in conservation management (all regions).
- Ridge to Reef as a "whole ecosystem" approach that conserves biodiversity throughout the island. This approach is especially relevant in Wallacea's small islands.
- Involving district and provincial governments as partners for development of policies that protect biodiversity.
- Development and designation of Essential Ecosystem Zones (KEE) in several CEPF partner CSO working areas

Partnership meetings

Partnership meetings were held once or twice in each priority funding area. They allowed for sharing of progress and learning between grantees, initiation of a learning platform, and provided an opportunity for grantees to develop collaborative approaches, for example to advocacy (including how to finance through government budget), community-based conservation models (and its outcome harvesting). Each event was different as it was adjusted to the needs of the partners and the funding region.

7.1.5.1 Capacity-Building for Phase 2

In corridors where grant-making occurred during Phase 1, capacity building is likely to be required once grantees have been selected. The 'learning by doing' approach using more experienced grantees as hosts work effectively. It is likely that there will have been changes in staff of some grantees, and so even with organizations that received grants in Phase 1, basic training on project management and key technical areas will be valuable.

In corridors which were not included in Phase 1, a pre-proposal process is required to inform potential grantees and other stakeholders about the objectives of CEPF and the process for developing an appropriate proposal.

Strategically targeted support for sharing learning, thematic discussions, and networking was valuable in the first phase and should be continued.

On the basis of the end-of-program evaluation, Penabulu recommended:

- ongoing efforts are required to increase the capacity of CSOs in all aspects of organizational management. Particular areas for attention include conservation knowledge, office and project management, management of public communications and partnerships, and knowledge management.
- Alternative strategies need to be developed to mobilize resources for CSOs
- PERANTI+ can be used (for example, annually) by organizations to self-assess their progress

7.1.5.2 Management of the Phase 2 Grant-Making Program

There was no update to this or subsequent elements of Section 7. Please refer to the 2014 document.

8. Threats to Biodiversity in Wallacea

8.1. Overexploitation of Natural Resources

8.1.1. Unsustainable fishing and overexploitation of marine natural resources

Unsustainable harvest of marine biota – fish for consumption, sea cucumber, clams, shark and rays and many others – can be broadly divided into unsustainable small-scale fishing, and illegal, unreported and unregulated (IUU) fishing. The former is undertaken largely by local people and is often the mainstay of livelihoods and the local economy. It can be highly damaging, especially where bombs and poison are used. Solutions focus on a communal interest in moving towards more sustainable harvesting which guarantees long-term livelihood security and the survival of the species and ecosystems. IUU fishing, on the other hand, often takes place on a large scale, with the operators having little interest in the sustainable management of fish stocks in any particular location. Regulation and enforcement are often the most important solutions. There are overlaps and interactions between small-scale and IUU fishing – fishers in local communities may be involved in both, and IUU fishing may degrade stocks which could otherwise be managed sustainably by local small-scale methods.

Unsustainable Small-scale Fishing

Small-scale fishing may be for local consumption, regional food markets or specialist global trade. The capture and trade of Napoleon wrasse (*Cheilinus undulatus*), the bump head parrotfish (*Bolbometopon muricatum*), sea cucumber, sharks and rays, and live ornamental reef fish has intensified as a result of improved transport and access to specialist markets globally. It becomes unsustainable when the catch is greater than the ability of the population to recover, when immature individuals are taken out of the population, or when the methods used cause widespread damage to other biota and the marine environment, as is the case with fish bombing and poisoning.

Over-fishing changes the relative abundance of different groups of fish (e.g. those which eat plants and algae, coral, invertebrates, or other fish) and so impacts on the dynamics of the ecosystem. In coral reef areas, pressure from destructive fishing interacts with climate change impacts and other pressures, such as sedimentation, to stress the coral to the point where disease and bleaching result, and this may be followed by the physical erosion of the reef.

Unsustainable fishing was identified in the 2014 ecosystem profile as the most prevalent threat to marine KBAs, reported at 36 of 49 sites (74%). New research based on surveys of 622 reefs across 17 regions of Indonesia provides further evidence of the impoverished state of coral reefs across the region, using fish biomass (Campbell et al. 2020), but also measures the effectiveness of conservation efforts. Open access reefs close to markets and populations centers averaged reef fish densities of only 309.8 kg/ha, while the reefs in remote sites were 4.6 times higher, on average, 1432 kg/ha. Biomass in no-take reserves and gear restricted sites was ~1.4 times higher than open access sites. Gear-restriction and no-fishing zones were found to have a similar impact on biomass, but the study notes that

most of the no-fishing zones are relatively new (<10 years) and that their performance is likely to improve with time. The study concludes that (a) to be more effective, gear restrictions and no-fishing zones need to be better targeted and more effectively enforced, and (b) that the high biomass of remote reefs means they should be protected as a precaution against future exploitation. Remote reefs are probably also important sources of larvae for re-stocking over-exploited reefs elsewhere.

Root causes of destructive small-scale fishing include lack of economic alternatives and dependence on marine resources for food security, lack of information on stocks and the erosion of traditional management systems. Fish stocks may also be reduced by over-fishing from commercial boats, impacting on local fisheries.

Illegal, unreported and unregulated (IUU) fishing and fisheries by-catch

Unregulated commercial fishing is a threat to the region's pelagic fish populations, including sharks and rays. It includes by-catch from trawling for shrimp, prawn and red snapper. Bottom trawling causes significant damage to marine ecosystems and species.

The Arafura Sea Fisheries Management Area (FMA 718), which forms the south-eastern boundary of the seas in Wallacea, is judged to be one of the most heavily exploited regions in Indonesian waters, with industrial scale fishing fleets from Indonesia and other countries such as Taiwan and China who operate using fish trawls, shrimp trawls, gillnets and bottom long lines. Studies in the region (Wagey et al. 2009; Purwanto, 2011), have identified (1) a decline in the abundance index for economically important shrimp, as well as decline in average size of individuals; (2) an increase in sailing days of the commercial fishing fleet; and (3) a shift in species composition towards non-economic bycatch and small crabs per catch unit.

Abandoned fishing gear results in marine debris including 'ghost nets', which are a cause of mortality for many species, including turtles, marine mammals and marine birds as well as fish and coral.

8.1.2. Pollution and Sedimentation

Land based pollution and sedimentation are significant threats for marine ecosystems, causing water turbidity and algal blooms which reduce the light and nutrients available to coral reefs and sea grass beds. These threats are especially prevalent around larger islands, where bigger water catchments and more intensive agriculture and urbanization results in greater intensity of rainwater run-off and pollution.

Marine mining is generally locally based, for aggregates and sand for infrastructure. It causes physical damage to shallow-water ecosystems, and creates sediment plumes which can affect reefs and sea grass beds in the same ways as land-based sedimentation. Shallow-water mining in Wallacea has not reached the levels of Bangka, in Western Indonesia, where hundreds of locally produce pontoons work alongside commercial dredgers to extract tin-rich sand. Up to 70% of coastal reefs, mangroves and sea grass beds have been degraded¹⁶ in the area.

Disposal of mining waste at sea may be an important threat around mining locations. Nickel mining takes place at a number of locations in Indonesia. In Wallacea, the Batu Hijau mine on Sumbawa disposes waste into the sea, and in 2020 applications were made by nickel smelting companies to do the same on Obi Island (Halmahera marine corridor) and at

¹⁶ <https://www.wired.co.uk/article/death-metal>

Morowali, in central Sulawesi (close to both the Banggai-Togean and South-east Sulawesi corridors) (Morse, 2020). Data on the impact of deep-sea tailing is scant, but concerns have been raised that upwellings could bring toxic waste back up into shallow water and affect marine life and fisheries.

Noise pollution is believed to impact marine life, with evidence that marine mammals and fish avoid areas of noise disturbance. Marine mining, oil extraction and especially under-sea seismic surveys are the main sources of noise pollution.

8.1.3. Climate Change

Some models predict that coral reefs will disappear by the end of the 21st century, possibly more quickly, under even relatively optimistic models of climate change (e.g. Heron et al. 2017). The loss of coral is a consequence of bleaching, ocean acidification and storm damage, combined with other pressures such as sedimentation and nutrient pollution. The impacts are not uniform, however, and coral reef areas that are less affected by bleaching will form vital sources of replenishment for re-colonization of degraded reefs in future.

Bleaching occurs when a temporary rise in water temperature of one to two degrees causes the coral polyps to expel the symbiotic algae living in their tissues. Bleaching has been reported locally for over a century, but a global bleaching events have been reported since 1979 (Hoegh-Guldberg, 2017). A three-year global coral bleaching event, the third ever recorded and most severe to date, occurred from 2014-2017. It was exacerbated by an El Niño event in 2015-16 and a La Niña into 2017. The event affected more reefs than any previous global bleaching event and was worse in some localities, including the Great Barrier Reef, which experienced its worst ever bleaching (NOAA, 2018). In 2020 the great barrier reef again experienced widespread bleaching, and bleaching was detected in the Lease Islands (Maluku) (Coral Triangle Center, 2020b) Corals can recover from some bleaching, but prolonged or repeated bleaching results in coral death.

Climate change also causes acidification of ocean surface waters, as increasing concentration of CO₂ from the atmosphere is dissolved into the ocean. The greater acidity reduces the available of carbonates which coral polyps extract from sea-water to form their 'skeletons', and so reduces the speed at which they can recover from storm damage and erosion. At the same time, the more acid sea water accelerates bioerosion and dissolution of reefs. The patterns of impact are complex, as there are local variations in coastal sea water chemistry influenced by rainfall and drought over coastal catchments – factors which are themselves changing as the climate changes.

The third effect of climate change on reefs is increased frequency and intensity of storms, which is leading to greater physical damage to reefs which may already be fragile because of other climatic or local factors. Wallacea's reefs are somewhat protected from this impact, as cyclones are concentrated north and south of 8° of latitude. Regions to the north (e.g. Philippines) and south (e.g. the great barrier reef) suffer more impacts from cyclones.

While much of the focus of climate change impacts has been on coral reefs, impacts are also expected on sea grass and mangroves (Short and Heckles, 1999). The distribution and productivity of these ecosystem will be affected by storm events, changed sedimentation and eutrophication patterns as a result of changes in rainfall patterns over terrestrial catchments and sea level rise.

8.2. Indirect Causes of Threats

8.2.1. Poorly enforced marine spatial planning

Chapter 6 noted that provincial government are now required to produce spatial plans (RZWP3K) for the waters up to 12 nautical miles from the coastal. While all provincial governments in Wallacea have now completed their plans, implementation has been patchy.

8.2.2. Uncertainty around rights and licensing for the exploitation of marine resources

The system of licensing marine areas for exploitation is in flux, as noted in chapter 6, and one of the key problems faced by communities wishing to manage their resources sustainably is that it is difficult for them to legally assert their ownership and exclude other actors from harvesting the same resources. A previous law (Law 27.2007) which allowed for communities and other stakeholder to seek recognition of their rights over marine resources was struck down by the constitutional court, and subsequent regulations have only created licensing mechanisms for a narrow range of uses. There is still no clear pathway for communities to assert control over fishing rights or other rights over natural resources, although a number of more recent Laws have created opportunities (See section 6.1.5 in Chapter 6).

8.2.3 Weak Institutions for the Management of Protected Areas and Enforcement of Conservation Regulations

Chapter 6 noted the rapid expansion of marine protected areas in Wallacea in the last five years, but also that many of them lack any effective monitoring or patrolling. Agencies under both the Ministry of Fisheries and Marine Affairs, and the Ministry of Environment and Forestry lack adequate resources, with operational funding to cover the high recurrent costs of patrols and field work often particularly limited. Similar problems apply to the provincial agencies charged with managing MPAs, a situation made more complex by the recent legal change (Law No 23/2014, only enforced since 2016) that moved responsibility for protected area management from districts to provinces.

Some agencies have responded creatively to these constraints, collaborating with local communities and private sector interests. These approaches are increasingly recognized and valued by the Ministries responsible.

8.3. Threats to Marine Corridors in Wallacea

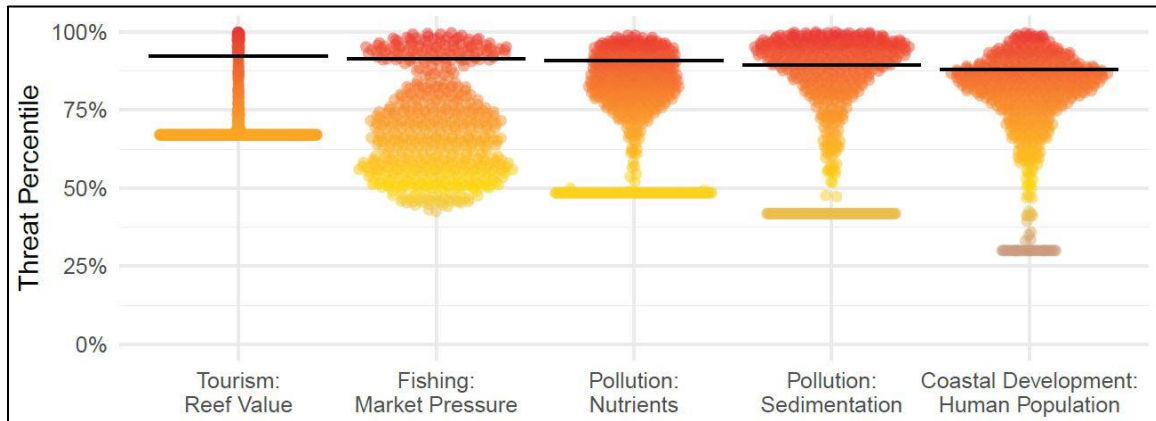
Analysis by WCS used global datasets and modelling to predict the relative intensity of threats to reefs, including fishing/market pressure, tourism pressure, sedimentation, nutrient pollution, and coastal development. Figure 8.1 show the predicted pressure for each of six threats in eight of the reef bioclimatic units (BCU) identified by Beyer et al. (2018). These broadly coincide with some of the marine corridors identified for CEPF support, thus are useful indicators of the pressure these reefs are under.

In the figures below, each orange dot represents a 5 square kilometer pixel from the reef. The position of the dot shows the modelled level of threat relative to the global level of threat for that type of pressure. The black line shows the average for the reef.

Figure 8.1: Threat modelling for selected reefs in Wallacea (Source: Darling et al. (2020))

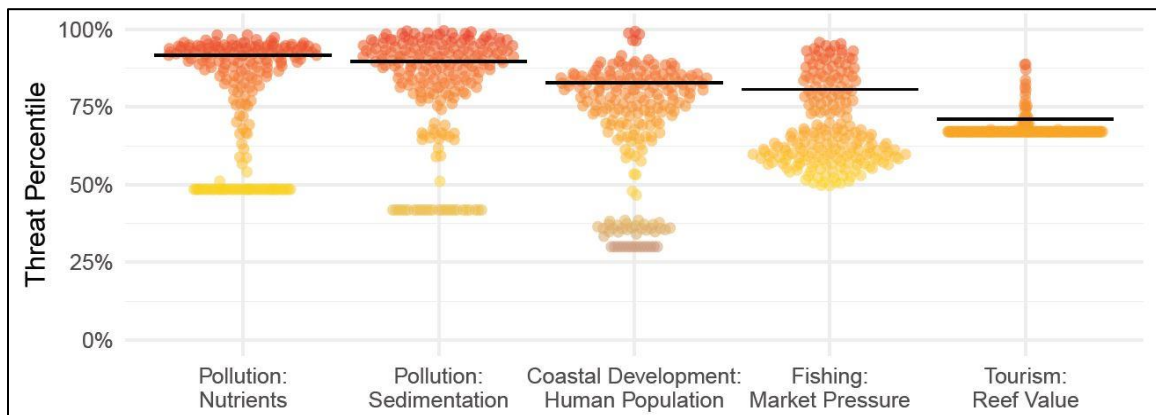
BCU: North Sulawesi

CEPF marine corridors: North Sulawesi, West Sulawesi



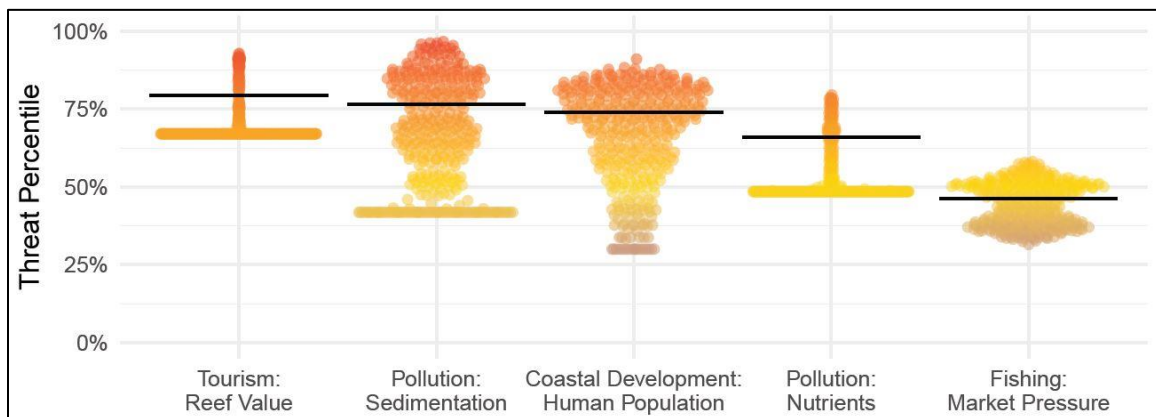
BCU: Gulf of Tomini

CEPF Marine corridor: none

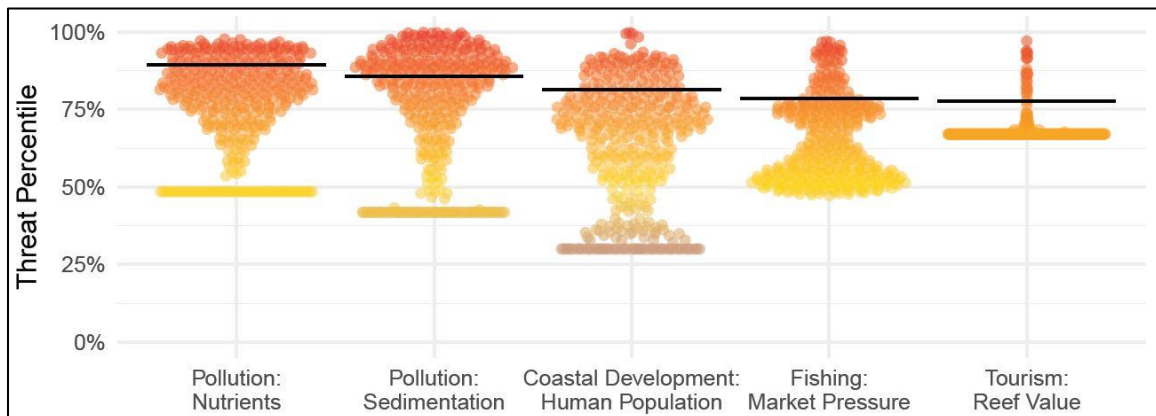


BCU: Banggai to Gulf of Tomini

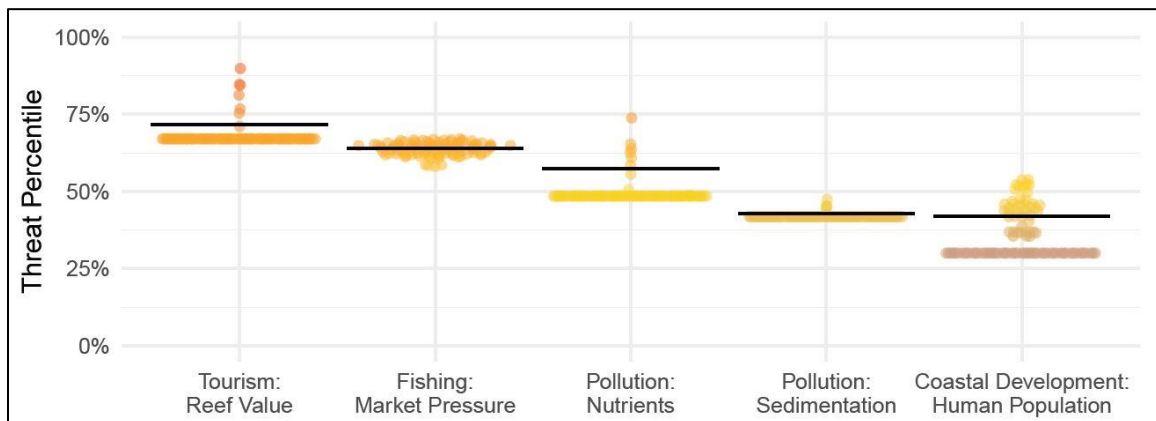
CEPF corridor: Togean-Banggai



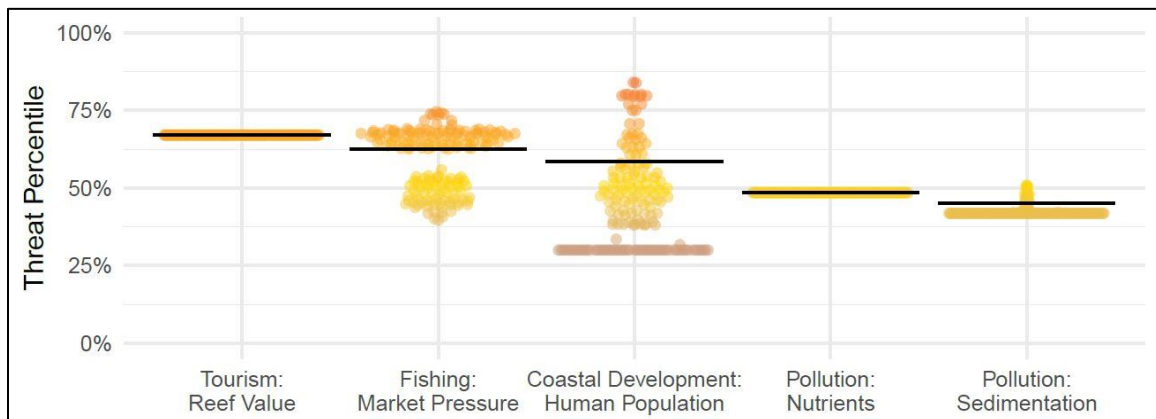
BCU: Central Sulawesi
CEPF Marine corridor: South-east Sulawesi



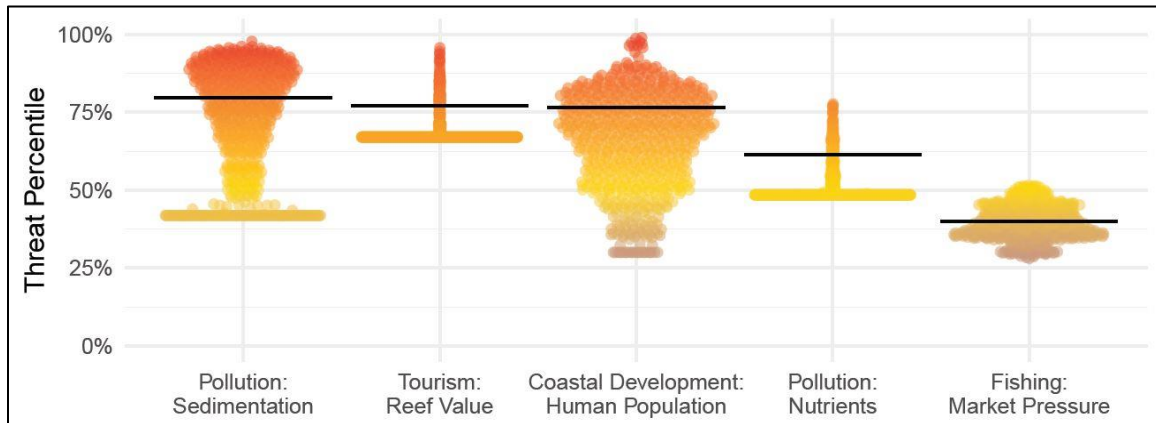
BCU: Taka Bonarate
CEPF Marine corridor: South Sulawesi



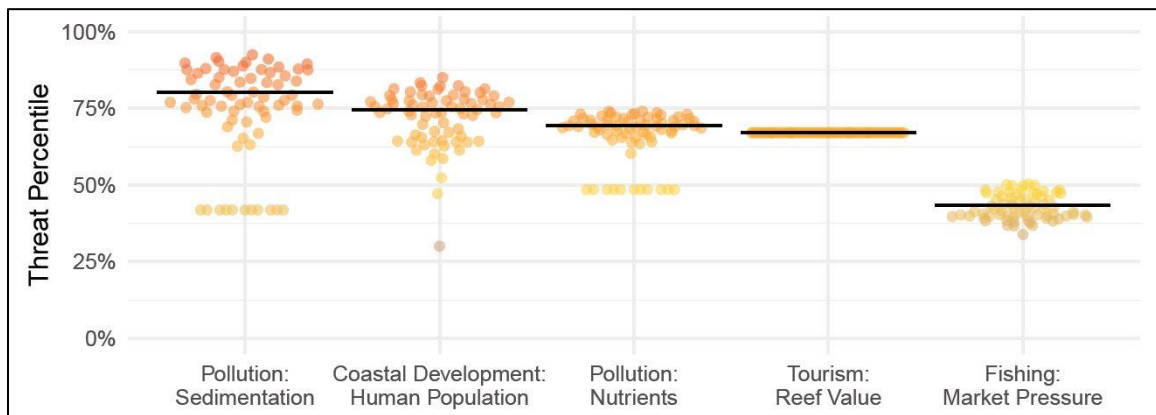
BCU: Sabalana
CEPF Marine corridor: Pangkajene Kepulauan



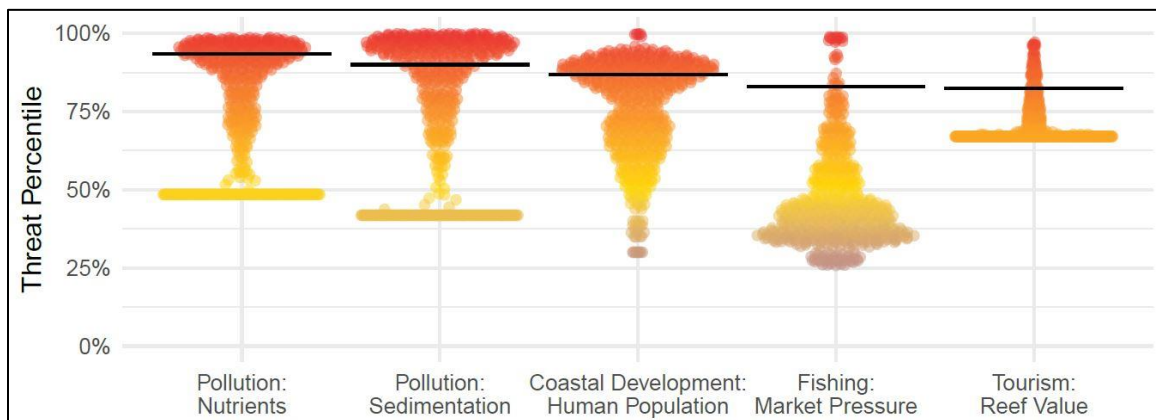
BCU: Halmahera
CEPF Marine corridor: Halmahera



BCU: Obi
CEPF marine corridor: Halmahera



BCU: Flore/Timor
CEPF Marine Corridor: Solor-Alor, Timor Leste marine



The above figures show the overall greater level of pressure on reefs around large islands: all the pressures in North Sulawesi, Central Sulawesi and Gulf of Tomini are on average higher than the value for 75% of the world reefs (with one exception: the slightly lower value for tourism in the Gulf of

Tomini). Halmahera also has a value greater than 75 percent for three threats. By contrast, none of the threats at Sabalana and Taka Bonarate exceed 75 percent.

The large water catchments, dense population and intensive agriculture of much of Sulawesi results in high predicted levels of sedimentation, nutrient pollution and coastal development for the reefs fringing the main island. Pollution and sedimentation are also the highest -rated threats for Flore/Timor, perhaps a function of topography and a drier, more seasonal climate rather than intense agricultural development. Halmahera experiences less pressure because the island is smaller with lower population densities and less agriculture, and the small islands of Taka Bonarate and Sabalana least of all.

Fishing pressure is predicted by the size of surrounding population centers and hours of travel from the site. North Sulawesi is expected to experience intense pressure, with Central Sulawesi and Gulf of Tomini only slightly less. Fishing and tourism are the two highest pressure for Taka Bonarate and Sabalana, with lowest fishing pressure in the more remote islands of Obi and Halmahera.

Tourism pressure is concentrated in a small number of pixels in most sites, with highest pressure in North Sulawesi, which has several international marine tourism destinations, and least in the inaccessible islands of Obi and Sabalana. The relatively high score for Halmahera includes the impact of Raja Ampat in Papua, which is included in the BCU.

Note that these modelled threats to reefs are ranking reefs in comparison to the modelled global intensity of the same threat, and do not allow comparison of the impact of different threats at a site. Further evidence of the threats to Wallacea marine ecosystems comes from the threats reported by stakeholders for individual KBAs, noted in the 2014 ecosystem profile, where it was found that:

- the most prevalent problem by far was unsustainable local fishing, reported for 73 percent of marine KBAs.
- hunting and collection of coral and other biota were threats at one-third of the marine KBAs.
- land-based threats were also significant, with mining a problem at one-third of the marine KBAs, pollution and sedimentation at over a quarter of the sites, and settlement and tourism development reported to be a threat to just under a quarter.

The contrast between the large-scale analysis and specific detail from a set of KBAs underscores the importance of understanding specific local threats and their drivers. Local but extreme impacts, such as sea-floor mining or mining tailing disposal, are not captured by the BCU level analysis, but may have extreme impacts on individual KBAs.

9. Climate Change Assessment

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

10. Assessment of Current Conservation Investment

10.1. Investment by Source

10.1.1. Central Government Funding

The **Ministry of Environment and Forestry** funds the management of four marine national parks and seven regional-level Natural Resource Conservation Units (Balai KSDA) in Wallacea. The BKSDA's duties include monitoring wildlife trade, and so impacts on marine as well as terrestrial species, and they employ ecosystem management staff, extension staff and forest police.

The **Ministry of Marine Affairs and Fisheries** funds the operations of two agencies: National Marine Protected Areas Authority (Balai Kawasan Konservasi Perairan National, BKKPN) and the Coastal and Marine resources Management Authority (Balai Pengelolaan Sumberdaya Pesisir dan Laut, BPSPL). The BKKPN manage 10 national marine protected areas, while the BPSPL has wider role in marine resources management. Table 10.1 shows the 2019 budgets for these agencies.

Table 10.1: 2019 budgets for agencies under the Ministry of Marine Affairs and Fisheries

National Park/Regional Unit	Budget 2019 (US\$)
Balai PSPL Makassar	1,067,685
Balai KKPN Kupang	1,177,821
Loka PSPL, Sorong	669,169

The Ministry also provides support to Provincial and some District Marine and Fisheries Agencies, and funds research and educational institutions in the region.

Special Allocation Funds (Dana Alokasi Khusus) channel funding from central Government to Provincial and District Governments for specific tasks and sectors. Physical Special Allocation funds (DAK fisik) are for buildings, facilities, services and other investment, while non-physical funds (DAK- nonfisik) are for operational costs in the priority sectors. Education, health and infrastructure are normally the highest spending areas. Of relevance to CEPF's priorities, DAK-fisik includes allocation for marine, environment and forestry sectors.

In 2019 the total allocation of DAK-fisik nationally was US\$9.5 billion (IDR 138 trillion¹⁷). The provinces and districts in Wallacea received US\$34 million for marine and environment/forestry activities (Table 10.2). 60% of the funding went to Sulawesi, with the balance divided more or less equally between Nusa Tenggara and Maluku. 63% of the funding was for marine activities, 37% for environment and forestry.

¹⁷ Figures for DAK allocation from Finance Ministry <http://www.djpk.kemenkeu.go.id/wp-content/uploads/2018/10/Rincian-Alokasi-DAK-Fisik-TA-2019-Upload-Final-Fix-31-Okt.pdf>

Table 10.2: Special allocation funds for Wallacea for marine and environment/forestry sectors, 2019

Region	Marine (US\$)	Environment/ Forestry (US\$)	Total (US\$)
Sulawesi	11,875,347	8,627,800	20,503,147
Nusa Tenggara	3,823,399	2,224,896	6,048,295
Maluku	5,943,059	1,593,986	7,537,045
total	21,641,805	12,446,681	34,088,486

Another important form of central government support to the regions is Village Funds (*dana desa*), which are allocated via districts for spending by village governments on the basis of agreed plans and budgets. Village funds totaled US\$ 4.8 billion 2019 (IDR 70 trillion), with US\$ 970 million allocated to the regions of Wallacea (Table 10.3)¹⁸. Just over half went to Sulawesi, 30 percent to Nusa Tenggara and less than a fifth to Maluku.

Table 10.3 Allocation of village funds (dana desa) in Wallacea, 2019

Region	Village fund allocation (US\$)
Sulawesi	544,603,514
Nusa Tenggara	288,191,636
Maluku	138,142,200
Total	970,937,350

The Indonesian Government created the **Indonesian Climate Change Trust Fund (ICCTF)** in 2013. The fund manages US\$ 14 M, consisting of grant contributions from USAID, UKCCU, DANIDA. The funds are managed by the national planning agency (Bappenas) under the guidance of a board of trustees.

Grants are awarded to NGOs for projects which are aligned with the fund's geographic and technical priorities. Grantees are typically to larger NGOs, which can demonstrate a track record of successful project implementation and the ability to handle grants over US\$1 million.

Of nine current marine sector projects, two are in Wallacea (in Sulawesi), with others in Bali and Papua. Other projects of relevance to the marine and coastal sector in Wallacea include work on Pangkajene Kepulauan on sustainable dryland farming and prawn farms, and food security on Rote island. It is expected that the grants will allow implementation at the local/community level including support to improve the management of coral reef and coastal ecosystems.

¹⁸ <http://www.djpk.kemenkeu.go.id/wp-content/uploads/2018/10/DANA-DESA.pdf>

10.1.2. Bilateral Funding

Indonesia has been classified as a middle-income country since the late 1980s, and continued growth in per capita income had resulted in an overall downwards trend in aid receipts. Despite this, figures for both gross and net ODA receipts increased from 2014 to 2018 (Table 10.4), partly connected with aid related to natural disasters (the 2018 Lombok earthquake and Palu tsunami). Aid has also declined as proportion of gross national income, and has been less than 0.1% of GNI since 2011.

Table 10.4: ODA receipt for Indonesia, 2016-2018 (US\$ million)¹⁹

Figure	2016	2017	2018
Net ODA*	-108	280	949
Gross ODA	2,127	2,483	3,229

*Net ODA is gross ODA minus debt repayments

The main contributors of bilateral aid in 2018 were Germany (US\$ 768.4 million); Japan (US\$ 579.2 million) and France (US\$ 401.5). Other bilateral donors include the USA, Australia, Norway and the UK.

German bilateral aid is focused on energy, sustainable economic development and environment (including climate change). The bilateral program has supported multiple forest and resource management projects, including in Wallacea, but none involve marine resources. The German development bank KfW has also provided a US\$ 8.2 million (EUR 7 million) grant for long-term protection of marine habitats, primarily off the coast of the Indonesian island of Sulawesi, but also in North Maluku, West Nusa Tenggara and Aceh provinces. The project is implemented by Wildlife Conservation Society.

Japan is involved in technical cooperation projects in the fields of education, health, governance, and provide ODA loans for infrastructure development, water resources and disaster management. The loans program includes infrastructure development for local fisheries, including at Morotai (Halmahera corridor) in Moa and Saumlaki (Outer Banda Arc corridor) in Wallacea.

France is a major bilateral donor to Indonesia, and recognizes environment as one of its core areas, but the projects of the development agency AFD are mostly in Jakarta. The only current project in Wallacea is concerned with the resilience of coastal communities in the Palu Bay area, Sulawesi, part of long-term tsunami recovery work.

Relevant **Australian** support to Indonesia includes an allocation of US\$ 4.6 million over five years to support implementation of the strategic action plan for the Arafura and Timor Seas, in partnership with MMAF. The country has a long history of support to communities in Nusa Tenggara, but has done little work specifically on marine issues.

Economic and political ties between the two countries have strengthened with the signing of the Indonesia-Australia Comprehensive Economic Partnership Agreement in March 2019, and a Maritime Cooperation Plan of Action for 2018-2022, which includes a Maritime Capacity Building Initiative.

¹⁹ Data from OECD,

https://public.tableau.com/views/OECDACAidataglacebyrecipient_new/Recipients?:embed=y&:display_count=yes&:showTabs=y&:toolbar=no?&:showVizHome=no

USAID is a long-standing supporter of climate and marine projects in Indonesia, with previous large projects including Indonesia Marine and Climate Support program (IMACS), which focused on the Lesser Sunda–Banda seas and the Marine Protected Areas Governance (MPAG) project. Currently, USAID is implementing the Sustainable Ecosystem Advanced (SEA) program. The program is for 5 years (2016 – 2021) and works with local Governments and communities around Fishing Management Areas 715, which covers much of northern Wallacea, from Tomini Bay to Halmahera and east to Papua. It focuses on MPA management and illegal, unreported and unregulated (IUU) fishing. The program has funded some large NGOs, but does not provide funds for small-scale community work by CSOs with the exception of the formation of community surveillance groups under the government's *PokWasMas* scheme. The project has created opportunities which could be filled by local CSOs, however - for example the legal establishment of three MPAs in Buru island which lack management capacity or stakeholder engagement.

USAID also supports the Supporting Nature and People – Partnership for Enduring Resources (SNAPPER) project, implemented by TNC and in partnership with MMAF. The project works with communities and fishing companies to agree limits on the intensity of fishing effort in 6 of Indonesia's fisheries management areas, collecting data and providing input to sustainable management policies.

The **UK's** bilateral engagement with Indonesia includes the Newton fund, launched in 2014, which aims to strengthen science and innovation capacity in partner countries. In total the fund has GBP 735 million for the period 2019-2021. In 2018 the Newton Fund, the UK Natural Environment Research Council and the Indonesian Ministry of Research, Technology and Higher Education launched a program 'Wallacea region – understanding biodiversity and evolutionary responses to environmental change'²⁰ which has made research grants worth GBP 3.65 million for seven collaborative research projects.

The *Blue Forests initiative* is a US\$ 13.5 million (GBP 10.2 million), 10-year mangrove conservation project implemented in Madagascar and Indonesia, with a focus on sustainable livelihoods and disease resilience. The project has carried out scoping assessments and work in Wallacea in Gorontalo, Central, South-east and South Sulawesi and in Sumbawa. It is implemented through Yayasan Hutan Biru, with funding from DFID channeled through Blue Venture. The initiative is also supported by USAID.

The UK runs an Illegal Wildlife Trade Challenge Fund which funds projects working on the issue globally. Several projects focus on terrestrial wildlife in Indonesia, with only one of relevance to marine conservation in Wallacea: a Building capacity to reduce illegal trade of shark products in Indonesia, implemented by the Centre for Environment, Fisheries and Aquaculture Science (Cefas), a US\$ 468,000 (GBP 353,832) project implemented from 2018 to 2021 which focuses on DNA testing to support control of trade.

10.1.3. Multilateral Funding

The **World Bank**, **GEF** and **Asian Development Bank** both support elements of the CoreMap program. Initiated by the Indonesian Government in 1998, this long-term coral reef management program has now entered its third phase, institutionalization, and has allied with Coral Triangle Initiative to create the COREMAP-CTI program, which is expected to continue until 2022. The WB part of the program is financed through a US\$ 47 million loan, a US\$10 million grant from Global Environment Facility, and a US\$ 5.7 million

²⁰ <https://nerc.ukri.org/research/funded/programmes/wallacea-region/networking/>

contribution from the Government of Indonesia²¹. The program was re-structured (in 2017 and 2019) to involve the Indonesian Institute of Sciences (LIPI), the National Development Planning Agency (Bappenas) and the Indonesian Climate Change Trust Fund (ICCTF).

Coremap-CTI is implemented at 39 sites across Indonesia, including three in Wallacea: the Savu Sea MPA and two MPAs in Lombok. Objectives include:

- strengthening institutions for monitoring coastal and marine ecosystems, including establishment of standards (including the Indonesian Reef Health Check system), certification and training for monitoring personnel
- demand-driven applied research
- management of marine and coastal ecosystem in priority marine protected areas

The **World Bank's** Oceans for Prosperity Program - LAUTRA Phase 1 program is currently under preparation, with appraisal expected in 2021. The overall aim of the program is 'to improve management of fisheries and coastal ecosystems in target fisheries management areas and to improve the livelihoods of target coastal communities'. It is funded by a US\$ 166 million loan. Phase one will focus on fisheries management areas 714, 715, and 718 and the Savu Sea and within these areas the target provinces would be Maluku, Northern Maluku, Nusa Tenggara Timur (NTT). The project thus covers the majority of Wallacea seas, from Sulawesi east to Maluku and Papua, and south to Nusa Tenggara and Timor. Planned areas of activity include sustainable fisheries management, coastal community livelihoods and enterprise, marine spatial planning, and community-based resources management and MPAs.

The **Global Environment Facility** is currently in its seventh replenishment cycle (2018-2022). Indonesia has an allocation of US\$78.8 million for the period under the STAR system²², third largest globally after China and India. The allocation consists of US\$64 million for biodiversity, by far the largest of any country in the world, \$12 million for climate change, and \$2 million for land degradation, reflecting a significant shift towards biodiversity and away from the other two sectors compared to previous funding cycles.

Planned and ongoing GEF projects of relevance to marine conservation in Wallacea are shown in table 10.5.

Table 10.5: Planned and ongoing GEF projects of relevance to marine conservation in Wallacea

Title	Amount	Relevance to Wallacea
Public-Private Partnerships (PPPs) for Coral Reef Insurance in Asia and the Pacific	US\$1.2 million, ADB	Regional: Indonesia, Philippines, Solomons. Focus on climate change adaptation for coastal fishers' communities.
(NGI) The Meloy Fund: A Fund for Sustainable Small-scale Fisheries in Southeast Asia	US\$ 6 million, Conservation International	Indonesia and Philippines, providing financial incentives for sustainable coral-reef fisheries, linked to the RARE Fish Forever program
Eco-system Approach to Fisheries Management (EAFM) in Eastern Indonesia	US\$ 10.1 million, WWF-US with Kehati and MMAF	Covers FMAs which include the coastline of North Sulawesi (FMA 717), the Outer Banda Arc (FMA 715). FMA is largely Papua.

²¹ <https://projects.worldbank.org/en/projects-operations/project-detail/P127813>

²² <https://www.thegef.org/sites/default/files/publications/GEF-C.55-Inf.03-GEF-7-STAR.pdf>

Title	Amount	Relevance to Wallacea
(Fisheries Management Area (FMA)- 715, 717 & 718)		
Implementation of the Arafura and Timor Seas Regional and National Strategic Action Programs (ATSEA)	US\$ 9.7 million, UNDP	Relevant to Wallacea. Regional – Indonesia, Timor-Leste, PNG.
Enabling Transboundary Cooperation for Sustainable Management of the Indonesian Seas	US\$ 4 million, FAO	relevant to Wallacea: Joint Indonesia – Timor Leste project for ecosystem-based management of the Indonesian Seas Large Marine Areas, capacity building, fisheries planning a pilot site
LME-EA Coral Triangle Initiative Project (COREMAPIII-CTI)	US\$ 10 million, GEF + World bank loan of US\$ 46 million	Sustainable management of coral reef ecosystems, 4 priority MPAs: Savu sea (Wallacea) and 3 in Papua
CTI: Coral Reef Rehabilitation and Management Program-Coral Triangle Initiative, Phase III (COREMAP-CTI III)	US\$ 8 million GEF + ADB loan of US\$ 45 million.	Sustainable management of coral reef ecosystems: 10 target Marine Protected Areas (MPAs), including 2 in Wallacea (NTB)
EAS: Scaling up the Implementation of the Sustainable Development Strategy for the Seas of East Asia	GEF US\$ 10.6	Regional East and SE Asia, in support of the SDS-SEA
Sustainable Management of Highly Migratory Fish Stocks in the West Pacific and East Asian Seas	GEF US\$ 2.2 million	Regional SE Asia, focus on management of migratory fish spp.
Global Sustainable Supply Chains for Marine Commodities	GEF US\$ 5.5 million	includes sustainable fisheries platforms in 4 countries inc. Indonesia, direct relevance to Wallacea not clear
LME-EA: Applying Knowledge Management to Scale up Partnership Investments for Sustainable Development of Large Marine Ecosystems of East Asia and their Coasts	US\$ 1 million to PEMSEA	East and SE Asian multi-country, focused on capacity and experience sharing for large marine ecosystems
Enhancing the Conservation Effectiveness of Seagrass Ecosystems Supporting Globally Significant Populations of Dugong Across the Indian and Pacific Ocean Basins (Short Title: The Dugong and Seagrass Conservation Project)	US\$5.8 m to Mohamed bin Zayed Species Conservation Fund	Multi-country across the Indian and Pacific oceans, including Indonesia and Timor-Leste. MMAF in Indonesia is a partner. Relevance to Wallacea not clear.
World Bank/GEF Partnership Investment Fund for Pollution Reduction in the Large Marine Ecosystems of East Asia (Tranche 1, 2nd Installment)	US\$ 70-80 million	multi-country, focused on land-based pollution hotspots, probably with only indirect relevance to Wallacea

Title	Amount	Relevance to Wallacea
Komodo National Park Collaborative Management Initiative	US\$5m, World Bank	Sustainable terrestrial and coastal reef management

10.1.4. Foundations and Funds

The **Bloomberg foundation** launched phase II of its Vibrant Oceans Initiative (VOI) in 2018, with a focus on ten countries, including Indonesia. The initiative aims to:

- Promote adoption of high-impact, science-based fisheries and marine protection policies in at least 10 countries.
- Protect at least 50 reef geographies that are projected to be less vulnerable to long-term climate impacts and can repopulate other reefs over time.
- Support at least 20 countries to achieve fishing activity transparency in their national waters.

The priorities are guided by the analysis of priority reefs found in Beyer et al. (2018), discussed previously.

Under the umbrella of the VOI, **Bloomberg, Margaret A. Cargill Foundation** and the **Walton Family Foundation** support:

- WCS: community-based work in W. Nusa Tenggara, and N. Sulawesi, Timor - MPA development and improvement, near-shore fisheries improvement, alternative livelihoods, capacity-building.
- RARE: Southeast Sulawesi work at provincial level and in 22 districts on managed access areas, MPA development and improvement, near-shore fisheries improvement, alternative livelihoods, capacity-building.

In addition, the **Margaret A. Cargill Foundation** is supporting the following work in Wallacea through the close of 2021:

- WWF: community-based work throughout the Sunda Banda Seascape – MPA development and improvement, near-shore fisheries improvement, alternative livelihoods, sustainable tourism, capacity-building. US\$6 million, 3 years.
- TNC: community-based work in SE Sulawesi and Timor - MPA development and improvement, near-shore fisheries improvement, alternative livelihoods, seaweed aquaculture, capacity-building. US\$2 million, 3 years.
- Coral Triangle Center: capacity building for effective management of MPAs and small-scale fisheries – Sunda Banda Seascape, W. Nusa Tenggara, US\$650,000, 3 years.
- RARE: community-based work in SE Sulawesi -.US\$600,000, 3 years.

In addition to its support for the Vibrant Oceans initiative, the **Walton Family Foundation** supports:

- The USAID SNAPPER program.
- TNC and Yayasan Masyarakat dan Perikanan Indonesia (known as MDPI) to support tuna management across the western central pacific, including these in Maluku and North Maluku provinces. This involves collecting data on tuna landings, working with district and provincial fisheries agencies to utilize this data to manage tuna, and

working with communities to establish Fair Trade communities so that tuna can be labeled and sold as Fair Trade.

- Blue Ventures, which regrants to smaller organizations to implement local management of octopus through seasonal closures in North Sulawesi, Banggai, Wakatobi, Lombok, Flores, Ambon and Seram.

The **David and Lucille Packard Foundation** supports sustainable fisheries and aquaculture, with their activities in the sector in Indonesia focused on developing examples of good fisheries management, informing policy reform and building capacity. The Packard foundation co-funds the USAID SNAPPER program.

The John D. and Catherine T. MacArthur Foundation has made several grants over the last five years to support community-based marine protected areas, fisheries management and livelihoods of coastal communities, including:

- Conservation Strategy Fund: to promote the application of economic tools and analysis in support of sustainable fisheries management, providing support and training to policy makers, academics, and government officials at national and sub-national levels. US\$ 325,000, 3 years.
- Indonesia Locally Managed Marine Areas Foundation (LMMMA): to promote effective management of community MPAs in eastern Indonesia, securing district government approval of established LMMAs, implementing learning exchanges, establishing sustainable livelihood options, and documenting the role of LMMAs in improving fisheries management. US\$ 175,000, 2 years.

The Waitt Foundation is funding the initial five years (2014–2019) of a long-term global “Fish Forever” initiative, implemented by RARE and University of California Santa Barbara. Indonesia is one of RARE’s focal countries, with pride awareness-training programs running in Indonesian. RARE has campaign managers in four locations in South-east Sulawesi and two in Lombok. Past campaigns have been in North Sulawesi and East Nusa Tenggara.

In addition, many of these funders collaborate via the twelve-member Indonesian Marine Funders Collaboration group and via Oceans 5 to improve compliance of fishing boats in support of the Government’s campaign against illegal-unreported-unregulated fishing.

10.1.5. Private Sector

There was no update to this section of the ecosystem profile. Please refer to the 2014 document.

10.2. Funding gap analysis

To identify funding gaps and thus delineate a niche for CEPF, experts considered the eighteen ongoing, large, multi-year funding programs with relevance to marine conservation in Wallacea. All have total values of more than \$1 million. CEPF did not consider small grants programs (e.g., GEF small grants, Samdhana Institute, Kehati) in the gap analysis, as the work that these do is not wide-spread enough to suggest there is no need for CEPF.

The eighteen large programs are funded by nine donor organizations, of which three are bilateral donors (four programs), three are multilateral (five programs), and four are foundations (ten programs) (Table 10.6).

Geographically, the terrestrial programs are concentrated in the Sulawesi mainland and Nusa Tenggara. In Sulawesi, they are in the north, south and southeast but absent from central areas (e.g., around the biologically important freshwater KBAs in Central Sulawesi) and the eastern arm of the island. A number of programs are in West and East Nusa Tenggara, while Maluku has only one program, in Seram, and the province of North Maluku has none. Marine programs are concentrated in the Banda and Lesser Sunda seascapes, specifically southern Sulawesi, the Lesser Sundas and the Banda Seascape.

Thematically, the programs are focused on the management of commercial fisheries and sustainable small-scale fisheries.

Geographically, the programs vary between those with a very broad geographic scope, usually addressing a specific theme over a wide area, and those with which are much more focused geographically. Simple summing of the number of projects in each corridor gives a misleading impression of the level of support available.

The analysis suggests that, while marine funding is now much more widely available throughout Wallacea than it was at the time of the 2014 ecosystem profile, there are marked differences:

Relatively high levels of funding, including from projects specifically focused on community-based MPAs and small-scale fisheries, are found in:

- Lombok-Sumbawa
- Savu Sea
- Outer Banda Arc
- Buru Seascape
- Halmahera
- North Sulawesi
- South-east Sulawesi

Low to medium levels of funding are available in:

- West central Sulawesi
- South Sulawesi
- Pangkajene Kepulauan
- Togean-Banggai
- Lucipara seascape
- Banda seascape
- Inner Banda Arc
- Komodo-Sumba strait
- Solor-Alor
- Sula

Table 10.6: Donor-Funded Programs in Wallacea Analyzed for the Gap Analysis

Funding organization	Type	Project name or implementer	North Sulawesi	Sulawesi Sea	West Central Sulawesi	South-east Sulawesi	South Sulawesi	Pangkajene	Togean-Banggai	Halmahera	Buru Seascap	Lucipara Seascap	Banda Seascap	Outer Banda Arc	Makassar strait	Inner Banda Arc	Lombok - Sumbawa	Komodo-Sumba strait	Savu sea	Solor-Alor
JICA	Bilateral	Fisheries infrastructure																		
KFW	Bilateral	WCS																		
USAID	Bilateral	SEA																		
USAID, WFF, Packard	Bilateral + Foundation	TNC - SNAPPER project																		
MACP	Foundation	WWF - Sunda-Banda seascape MPA																		
MACP	Foundation	TNC - community MPA																		
MACP	Foundation	CTC - capacity building for MPAs																		
WFF	Foundation	TNC + MDPI																		
WFF + MACP	Foundation	Blue Venture - SG																		
WFF, MACP, Bloomberg	Foundation	WCS - North Sulawesi, NTB																		
WFF, MACP, Bloomberg	Foundation	WCS - Taka Bonarate, Halmahera																		
WFF, MACP, Bloomberg	Foundation	RARE - North Sulawesi																		
WFF, MACP, Bloomberg	Foundation	RARE - SE Sulawesi																		
GEF	Multilateral	ATSEA 2																		
GEF	Multilateral	GEF small grants program																		
GEF, ADB	Multilateral	COREMAP-CTI																		
GEF, World Bank	Multilateral	COREMAP-CTI																		
World Bank	Multilateral	LAUTRA Phase 1																		

11. CEPF Investment Niche

CEPF's investment niche is defined by existing threats and opportunities, placed within the context of ongoing work by government and donors, informed by the capacity of Indonesian civil society, and built on experience from the first phase of implementation.

The threats faced by the marine environment are multi-dimensional. Phase 1 demonstrated that local grantees can successfully work with local communities and local governments to address unsustainable exploitation of marine resources, including destructive small-scale fishing. In doing so they support the aims of local Governments, which are required to implement marine spatial planning and respond to national targets for the creation of more marine reserves. **This community-based work, grounded in participatory approaches and an understanding of local culture, should be the central focus of CEPF's program in Wallacea.** Other threats to marine environments, including IUU fishing, land-based pollution and sedimentation, require long-term change over a larger geographical scale and a diverse group of stakeholders. Problems on this scale are unlikely to be tackled through small grants to local CSOs, and will remain outside the scope of CEPF intervention, except (as on some small islands) where the problems are local and manageable. Several other large donor projects are addressing these issues with Indonesian authorities, and CEPF grantees should always be encouraged to look for opportunities for synergy with these projects. Monitoring and investigation of illegal trade in marine species and products will sometimes be suitable for CEPF funding. In many cases the issue is too complex and distant to be effectively tackled by a local CSOs, but in some, local action can make a critical difference, especially in coordination with others working on the problem.

CEPF is committed to empowering local CSOs to take action, and to leaving behind a legacy of increased capacity within the CSO community. While there is a temptation to continue funding grantees which were successful in Phase 1, **achieving CEPF's mission requires that new groups also can participate.** Re-focusing of the priority corridors for grant-making will achieve this, but even in the corridors where work is continued from Phase 1, the opportunity to participate should be promoted to organizations that were not involved previously.

Achieving wide-ranging local CSO participation is not just a question of offering grants. The first ecosystem profile identified that most CSOs were focused on human welfare and rights issues, and that understanding and capacity for connecting these issues with environmental ones was limited. Before any grants were made, the RIT embarked on a program of promotion which helped local CSOs to articulate the links between their priorities and those of CEPF, and the result was many creative and successful projects. Once grants were made, CSO capacity was reinforced by capacity building delivered by CSOs with extensive practical experience and by a CSO specializing in organizational development. The design of the capacity building program was responsive to the needs of local CSOs and was different in each funding area. Capacity building was closely linked to networking and encouraging collaboration between grantees. **Pairing grant support with dedicated capacity building in this way was crucial to helping deliver successful projects and to increasing the long-term sustainability of local CSOs.** A key focus for capacity building in Phase 2 will be to promote lessons from Phase 1 on the role of a grantee as a catalyst for collaboration, within a community or between communities and local authorities. Facilitating inclusive approaches within communities allowed agreement on local rules and practices, often leading to on-going support through village regulations and budgets. Building trust

and opening communication channels between communities and authorities – for example, to report illegal fishing or mining – can lead to the community being consulted, involved and supported by local authorities.

The geographic focus of CEPF's work in this phase is determined by consideration of biodiversity priority, existing funding and opportunity – which includes consideration of political support, CSO capacity and the strength of customary practices and institutions. The analysis of corridors has been expanded with the input of marine experts and consideration of new data. While there are currently more projects funded for marine work in Wallacea than there were in Phase 1, most address large scale issues such as regulation of commercial fisheries and IUU fishing, and have little or no opportunity for local CSOs and communities. Assessment of political support from local government, CSO capacity and strength of customary practice can now draw on five years of experience in the region, and played a decisive role in the determination of priority corridors.

12. CEPF Investment Strategy and Program Focus

12.1. Marine Species Priorities

Section 4.2.1 identified 282 threatened marine species in Wallacea. Some of these species will be effectively conserved through site-based approaches, such as marine protected areas. Others, however, are directly targeted for exploitation, or are vulnerable for other reasons. In these cases, species-specific action may be needed. This might include passing regulations, enforcement, gear-restrictions to control by-catch, or campaigns to reduce trafficking.

To identify priority species for conservation action, this update used (i) IUCN Red List status, (ii) listing on a CITES appendix, (iii) legal protected status in Indonesia and government priority, and (iv) mobility. Mobility refers to the ecological characteristics of the species in terms of its mobility or limitation to one or a few habitats. It is assumed that less mobile species will be more effectively protected through site-based conservation action, and so are a lower priority for species-focused action.

A simple scoring system was applied, and the scores summed for each species (Table 12.1, 12.2):

Table 12.1: Scoring for prioritization of species for CEPF

Criteria	Score 1	Score 2	Score 3
IUCN Red List	VU	EN	CR
CITES appendix	App II		App I
Government priority	No		Yes
Mobility	low		high

Using this approach, 57 species were identified as high-priority (priority score >7), from the 282 on the trigger species list. An additional 2 species (walking shark *Hemiscyllium Halmahera*), and gorgonian bamboo coral (*Isis Hippuris*) do not have Red List status but are included on the basis of their protection status under Indonesian regulations.

Table 12.2. High priority species selected for Wallacea

Species	IUCN Status	CITES appendix	Mobility	Government priority	Species priority score	Proposed conservation actions
Marine mammals						
<i>Balaenoptera borealis</i>	EN	I	Y	Y	11	Investigation of extent and severity of threat from local hunting, and threat from disturbance by submarine mineral exploration and exploitation, and shipping
<i>Balaenoptera musculus</i>	EN	I	Y	Y	11	
<i>Balaenoptera physalus</i>	VU	I	Y	Y	10	

Species	IUCN Status	CITES appendix	Mobility	Government priority	Species priority score	Proposed conservation actions
<i>Physeter macrocephalus</i>	VU	I	Y	Y	10	
<i>Dugong dugon</i>	VU	I	N	Y	8	Protection of its main habitat (seagrass) through MPA management. Protection and awareness to reduce hunting, by-catch and boat collisions
Marine fish						
<i>Anoxypristis cuspidata</i>	EN	I	N	Y	9	Strengthen protection of habitat; protection and awareness to reduce hunting and by-catch.
<i>Cheilinus undulatus</i>	EN	II	N	Y	8	Strengthen local and export traffic control.
<i>Latimeria menadoensis</i>	VU	I	Y	Y	10	Protection and awareness to reduce fishing and by-catch.
<i>Pristis pristis</i>	CR	I	N	Y	10	Strengthen protection of habitat; protection and awareness to reduce hunting and by-catch.
<i>Pristis zijsron</i>	CR	I	N	Y	10	
<i>Thunnus maccoyii</i>	CR	-	Y	N	8	Strengthen and monitor the implementation of fishing regulation
<i>Mobula eregoodoo</i>	EN	II	N	Y	10	Protection and awareness to reduce fishing and by-catch.
<i>Mobula kuhlii</i>	EN	II	N	Y	10	
<i>Mobula mobular</i>	EN	II	N	Y	8	
<i>Mobula tarapacana</i>	EN	II	N	Y	8	
<i>Mobula thurstoni</i>	EN	II	N	Y	8	
<i>Alopias pelagicus</i>	EN	II	Y	Y	10	Monitor and regulate fisheries, including species-specific catch details, landings and bycatch and fisheries independent surveys of population (biomass and abundance)
<i>Alopias superciliosus</i>	VU	II	Y	Y	9	
<i>Carcharhinus falciformis</i>	VU	II	Y	Y	9	
<i>Carcharhinus hemiodon</i>	CR	-	Y	N	8	
<i>Carcharhinus longimanus</i>	CR	II	Y	Y	11	
<i>Cetorhinus maximus</i>	EN	II	Y	Y	10	
<i>Glaucostegus typus</i>	CR	II	N	Y	9	

Species	IUCN Status	CITES appendix	Mobility	Government priority	Species priority score	Proposed conservation actions
<i>Isurus oxyrinchus</i>	EN	II	Y	Y	10	
<i>Isurus paucus</i>	EN	II	Y	Y	10	
<i>Rhina ancylostoma</i>	CR	II	N	Y	9	Strengthen national regulations. Monitor and regulate fisheries, including species-specific catch details, landings and bycatch and fisheries independent surveys of population (biomass and abundance)
<i>Rhynchobatus australiae</i>	CR	II	N	Y	9	
<i>Rhincodon typus</i>	EN	II	Y	Y	10	Strengthening regulations and increase awareness to reduce local hunting, disturbance from boat collisions and tourism
<i>Sphyrna lewini</i>	CR	II	N	Y	9	Strengthen implementation of national plan of action for this species, including CITES regulation
<i>Sphyrna mokarran</i>	CR	II	N	Y	9	
Sea cucumber						
<i>Actinopyga echinites</i>	VU	-	N	Y	8	Monitoring of collection and export trade, awareness and enforcement
<i>Actinopyga mauritiana</i>	VU	-	N	Y	8	
<i>Actinopyga miliaris</i>	VU	-	N	Y	8	
<i>Holothuria fuscogilva</i>	VU	II	N	Y	9	
<i>Holothuria lessoni</i>	EN	-	N	Y	9	
<i>Holothuria scabra</i>	EN	-	N	Y	9	
<i>Holothuria whitmaei</i>	EN	II	N	Y	10	
<i>Stichopus herrmanni</i>	VU	-	N	Y	8	
<i>Thelenota ananas</i>	EN	-	N	Y	9	
Decapod						
<i>Tachypleus tridentatus</i>	EN	-	Y	Y	9	Protection and awareness to reduce poaching
Marine reptiles						
<i>Caretta caretta</i>	VU	I	Y	Y	10	Action against hunting of adults, egg collection and trade
<i>Chelonia mydas</i>	EN	I	Y	Y	11	
<i>Dermochelys coriacea</i>	VU	I	Y	Y	10	

Species	IUCN Status	CITES appendix	Mobility	Government priority	Species priority score	Proposed conservation actions
<i>Eretmochelys imbricata</i>	CR	I	Y	Y	12	
<i>Lepidochelys olivacea</i>	VU	I	Y	Y	10	
<i>Bigus latro</i>	VU	-	Y	Y	8	
Corals						
<i>Coral spp</i> (1 CR, 10 EN, 169 VU spp)	EN	II	N	Y		Improved monitoring of harvesting based on CITES export quotas, especially for EN species. Input to quota setting and monitoring of domestic trade. Protection through marine protected area and law enforcement against destructive fishing and other anthropogenic disturbances.
	CR					

12.2. Marine Site Priorities

As noted in Chapter 4, data on marine species did not allow for prioritization using the presence of globally threatened species. Instead, marine corridors form the basis for prioritization of marine conservation outcomes (see Section 12.4). Priority marine KBAs are those that fall within the priority marine corridors (Table 12.3).

Table 12.3. Priority Marine KBAs for CEPF Funding in Indonesia

KBA Code	KBA Name	Area (ha)	Bioregion	Protection	Marine Corridor	KBA Status
IDN077	Perairan Kepulauan Togean	341,275	Sulawesi	Y	Togean-Banggai	Confirmed
IDN079	Perairan Pagimana	1,071	Sulawesi	No	Togean-Banggai	Confirmed
IDN081	Perairan Peleng-Banggai	509,722	Sulawesi	PP	Togean-Banggai	Confirmed
IDN087	Perairan Balantak	6,218	Sulawesi	No	Togean-Banggai	Candidate
IDN105	Teluk Lasolo-Labengki	89,022	Sulawesi	PP	South-east Sulawesi	Confirmed
IDN107	Pulau Hari	43,834	Sulawesi	PP	South-east Sulawesi	Confirmed
IDN112	Pesisir Tinanggea	18,809	Sulawesi	No	South-east Sulawesi	Candidate

KBA Code	KBA Name	Area (ha)	Bioregion	Protection	Marine Corridor	KBA Status
IDN113	Selat Tiworo	26,064	Sulawesi	Y	South-east Sulawesi	Confirmed
IDN117	Wabula	47,140	Sulawesi	PP	South-east Sulawesi	Confirmed
IDN119	Perairan Wakatobi	1,325,168	Sulawesi	Y	South-east Sulawesi	Confirmed
IDN121	Pulau Batu Atas	32,042	Sulawesi	Y	South-east Sulawesi	Confirmed
IDN122	Basilika	204,895	Sulawesi	PP	South-east Sulawesi	Confirmed
IDN125	Kepulauan Sagori	20,832	Sulawesi	PP	South-east Sulawesi	Confirmed
IDN132	Perairan Pallime	35,694	Sulawesi	Y	South Sulawesi	Candidate
IDN136	Kapoposang–Pangkep–Bulurokeng	376,797	Sulawesi	PP	South Sulawesi	Confirmed
IDN139	Kepulauan Selayar	313,197	Sulawesi	PP	South Sulawesi	Confirmed
IDN141	Taka Bonerate	569,397	Sulawesi	PP	South Sulawesi	Candidate
IDN142	Perairan Tana Jampea	565,327	Sulawesi	No	South Sulawesi	Candidate
IDN307	Pantai Selatan Lebau	1,770	Lesser Sunda	No	Solor–Alor	Confirmed
IDN310	Flores Timur	2,974	Lesser Sunda	No	Solor–Alor	Candidate
IDN311	Perairan Lembata	37,527	Lesser Sunda	No	Solor–Alor	Confirmed
IDN314	Selat Pantar	55,071	Lesser Sunda	PP	Solor–Alor	Confirmed
IDN316	Pantar Utara	3,282	Lesser Sunda	PP	Solor–Alor	Candidate
IDN318	Perairan Gunung Muna	3,525	Lesser Sunda	PP	Solor–Alor	Confirmed
IDN320	Perairan Alor Utara	5,417	Lesser Sunda	PP	Solor–Alor	Candidate
IDN191	Liliali	47,617	Maluku	No	Buru marine	Candidate
IDN197	Perairan Teluk Kayeli	16,007	Maluku	No	Buru marine	Candidate
IDN198	Kelang–Kassa–Buano–Marsegu	215,045	Maluku	PP	Buru marine	Confirmed
IDN206	Perairan Gunung Salahutu	816	Maluku	No	Buru marine	Candidate
IDN208	Leihitu	13,766	Maluku	No	Buru marine	Candidate
IDN209	Perairan Haruku - Saparua	47,985	Maluku	No	Buru marine	Confirmed

Protection: Y – yes, PP – Partially protected, N – No

KBA status: Confirmed: confirmed as a KBA in the 2014 ecosystem profile on the basis of species locality records, candidate; recognized as a candidate KBA in the 2014 ecosystem profile on the basis of the hypothetical occurrence of globally-threatened species

12.3. Marine Corridor Priorities

Chapter 4 identified 21 marine corridors. It would not be feasible or effective to implement a grants program with limited funding across all these corridors; thus, they are prioritized on the basis of biological importance and practical considerations linked to the feasibility of achieving successful conservation outcomes.

First, corridors were considered in terms of whether the issues they face are relevant for Phase 2 of the CEPF program in Wallacea. On this basis, five corridors were excluded from further consideration:

- **Selat Makassar, Laut Sulawesi and Laut Savu** – excluded because the issues here are primarily commercial over-fishing by larger ships operating far from land, and the solutions (patrol, enforcement, legislation) are outside the scope of a CEPF grant program.
- **Timor-Leste Marine and Palung Timor** – excluded because this update is limited to Indonesian Wallacea.

The remaining corridors were scored, and then weighted to give greater priority to biological importance and CSO capacity (Table 12.4)

Table 12.4: Scores and criteria for ranking corridors

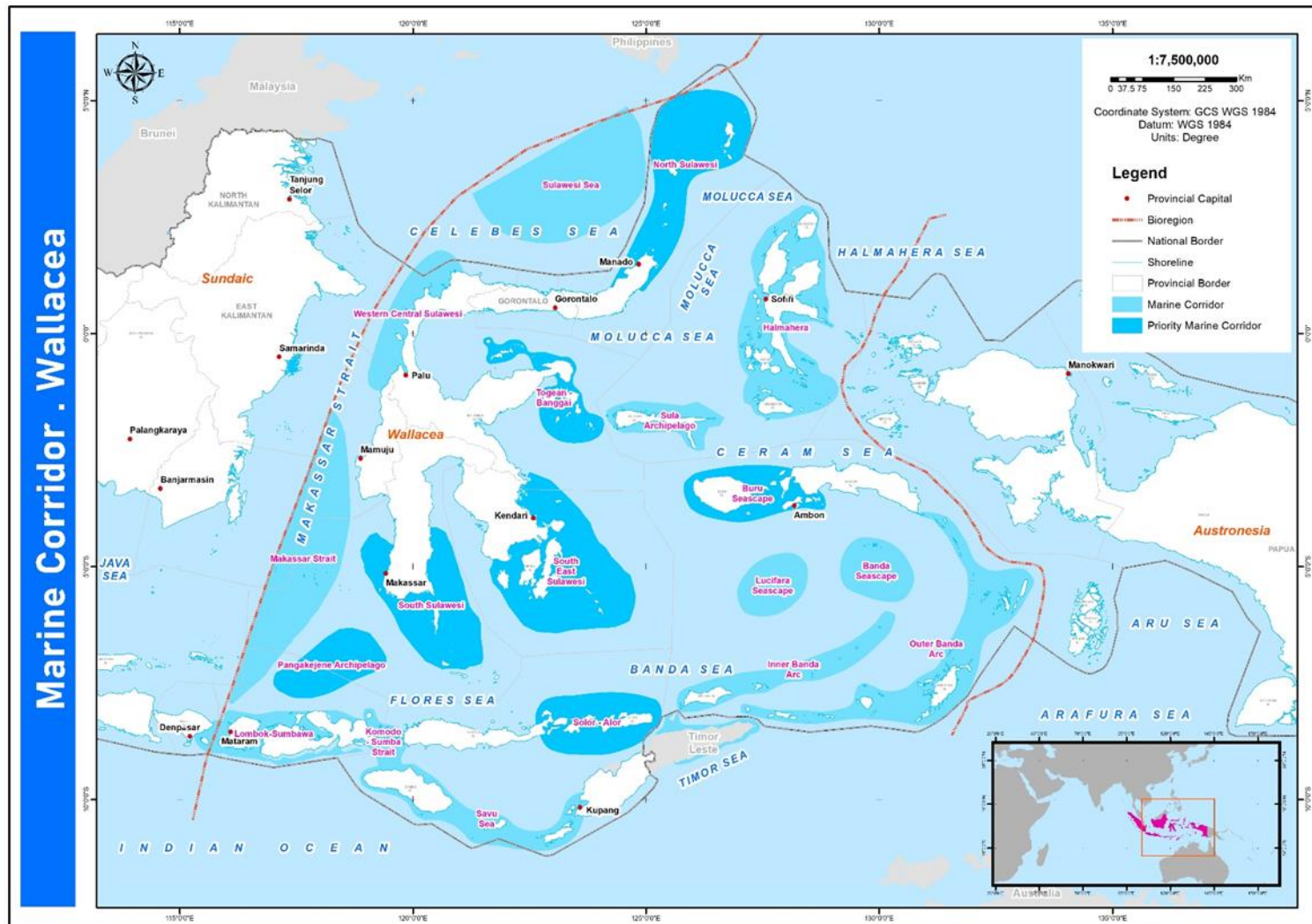
Criteria (highlighted word used in Table 12.5)	Low	Medium	High	Weighting
Biological importance, as judged by expert opinion	2	3	4	x4
Funding need, based an assessment of funding available for community-based marine resource management	1	2	3	x2
Political support from local Government and other authorities	1	2	3	x2
CSO capacity to absorb funding and implement successful projects	1	2	3	x3
The presence of customary rules and practices for marine and coastal resources ' adat '	1	2	3	x2

Table 12.5 and Fig. 12.1 show shows the marine corridors scored and ranked against these criteria, with the selected priority corridors highlighted. The ecosystem profile updating team reviewed this ranking and made a final decision on the selection of priority corridors taking in account the information available and relevant factors, as explained in the section below.

Table 12.5. Prioritization of Marine Corridors for CEPF Funding in Indonesia
(Priority corridors for funding are shaded)

Name	Biological	Funding	Political	CSO	Adat	Total (weighted)
Togean–Banggai	4	3	3	2	2	38
Solor–Alor	4	2	2	2	2	34
Sulawesi Utara	3	1	3	3	2	33
Sulawesi Tenggara	3	1	3	2	3	32
Pangkajene Kepulauan	3	3	3	2	1	32
Bentang Laut Buru	2	2	2	3	3	31
Sulawesi Selatan	2	3	3	3	1	31
Perairan Halmahera	4	1	3	1	1	29
Lombok - Sumbawa	2	2	3	2	2	28
Bentang Laut Banda	3	2	2	1	1	25
Busur Banda Dalam	2	2	2	1	3	25
Busur Banda Luar	2	2	2	1	3	25
Kepulauan Sula	2	3	3	1	1	25
Komodo–Selat Sumba	2	2	3	1	1	23
Barat Sulawesi Tengah	2	3	2	1	1	23
Bentang Laut Lucipara	3	2	1	1	1	23

Figure 12.1: Marine Corridors Prioritized for CEPF Funding



The following section summarizes the rationale for the selections:

Togean-Banggai emerges as highest priority, with outstanding biological importance, a high need for funding and strong political support combined with moderate levels of CSO capacity and adat customary resource management institutions and norms. The corridor was the site of several successful projects in Phase 1, and there are opportunities for continued progress.

Solor-Alor emerges as high priority because of its exceptional biological importance, even though other factors are rated medium. It is also the only representative of Nusa Tenggara region in the priority list. There is limited CSO capacity in the region, meaning that it is expected that CSOs from neighboring Flores will work in the area, as happened during Phase 1. As a result, it is anticipated that the number and volume of grants will be limited, unless a larger CSO, for example from Makassar or from outside Wallacea, chooses to work in the region.

Sulawesi Utara: a high biological priority, with strong political support and CSO capacity. This corridor was the location of many of the most successful projects in Phase 1. However, there is a relatively high availability of funding for CSOs working on marine issues in this area, which means that CEPF support should be limited to projects that can demonstrate that they are leveraging funding and impact, for example through engaging with government, donors or private sector.

Sulawesi Tenggara is a newly identified corridor and so was not a target for investment in Phase 1. There is already significant marine conservation activity in Wakatobi national park, but less on Buton and the mainland of Sulawesi, and so grant-making is likely to be focused on these less well-resourced regions. Work by VOI grantee RARE at provincial level has contributed to strong political support for marine conservation, and it is expected that there will be opportunities for the results of successful field projects to influence government decision making.

Pangkajene kepulauan: this newly identified corridor includes the important Sabalana archipelago, and is a high biological priority, with strong political support and high funding need. Threat levels may be lower here because of the remoteness of the island (15 hours by boat from Makassar), and this also poses challenges for access by CSOs wishing to work there and for supervision and delivering capacity building. While CEPF should explore the opportunities for grant-making in this challenging locality, it is not expected that it will absorb large amounts of funding.

Bentang Laut Buru is an important corridor in its own right, but was also selected because it is the highest scoring representative of the Maluku region. The region was a target for investment in Phase 1, leading to innovative projects working with traditional leaders and customary resource management rules to establish sustainable coastal resource management. There are opportunities to expand this work in the corridor.

Sulawesi Selatan is a newly identified corridor and so was not a target for investment in Phase 1. It encompasses the city of Makassar, and the Kapoposang, Selayar and Taka Bonarate island groups. Political support, CSO capacity and funding need are all high. It is likely that funding will be focused away from Taka Bonarate, which is already the focus of some donor support.

Non-corridor funding

In addition to funding CSO action in priority corridors, the RIT will accept strong proposals from other corridors, possibly through calls for proposals which target specific themes, or which have a wider geographic focus. It is unlikely that it will be possible to support grantees in these corridors with the same level of capacity building and accompaniment that will be offered to those in priority corridors. **Peraian Halmahera** is particularly important in this category. This corridor has been expanded to include the island of Obi and the whole of the Halmahera archipelago. Despite being a very high biological priority, it was not selected as a priority because it has a low need for funding, low CSO capacity and low levels of customary management of resources. The corridor was a priority during Phase 1, but grant-making there proved difficult, with a limited number of good proposals and few successful projects. Nevertheless, strong proposals from the region should be considered.

12.4. CEPF Strategic Directions and Investment Priorities

Sections 12.1–12.3 have identified a series of priority conservation outcomes for species, sites and corridors to be addressed with the support of CEPF. This section defines how CEPF will address the challenges of conservation to achieve these outcomes.

The seven strategic directions provide an all-encompassing framework for organizing CEPF grant-making which remains unchanged from Phase 1 (Table 12.6). However, the investment priorities addressing each strategic direction have been revised to reflect the updated analysis in this ecosystem profile, and the specific priorities of marine conservation. One strategic direction, #5 on engagement with the private sector, does not have any investment priorities identified. Instead, private sector engagement has been included among the relevant IPs under other strategic directions. Further information on the investment priorities and the changes from Phase 1 can be found in the section below.

Table 12.6. Strategic Directions and Investment Priorities for CEPF in Wallacea, 2014–2019

CEPF Strategic Directions	CEPF Investment Priorities
1. Address threats to high priority <u>species</u>	1.1 Targeted monitoring of exploitation and trade of high-priority species 1.2 Change behavior of trappers, traders or buyers through appropriate enforcement, education, incentives, and alternatives
2. Improve management of <u>sites</u> (KBAs) with and without official protection status	2.1 Facilitate effective collaboration between CSO, local and indigenous communities, private sector and MPA management units to improve planning and management of official protected areas 2.2 Work with central and local governments on legal and policy instruments to improve management effectiveness, including land use plans and development plans, for better site management

CEPF Strategic Directions	CEPF Investment Priorities
3. Support <u>sustainable natural resource management</u> by communities in priority sites and corridors	3.1 Support community institutions to secure adequate rights over resources, and to develop and implement rules on resource use 3.2 Support sustainable management of small-scale fisheries through increased capacity, improved local regulation and strengthened local institutions 3.3 Develop alternatives for livelihoods otherwise dependent on unsustainable resource management practices and enhance markets for sustainably produced products and services 3.4 Engage with private sector to support sustainable practices 3.5 Consolidate and sustain the impact of community-based initiatives through integration into Government plans, policy and regulations, including identification of customary rights over marine resources
4. Strengthen <u>community-based</u> action to protect <u>marine</u> species and sites	4.1 Support strengthening and extension of existing locally managed MPAs, and the identification and establishment of new ones 4.2 Strengthen local institutions and mechanisms for management and monitoring of local marine protected areas 4.3 Support the engagement of local government to increase the financial sustainability and legal effectiveness of local marine protected areas 4.4 Facilitate the sharing of lessons and experiences between stakeholders involved in marine conservation initiatives
5. Engage the <u>private sector</u> in conservation of priority sites and corridors, in <u>production landscapes</u>, and throughout the hotspot	[Private sector work for marine under Phase 2 is integrated into other SDs – see section **]
6. Enhance civil society capacity for effective conservation action in Wallacea	6.1 Enhance the institutional and technical capacity of civil society to identify, plan and undertake surveys, planning, implementation, and monitoring of conservation actions 6.2 Catalyze networking and collaboration among community groups, NGOs, private sector, and other elements of civil society 6.3 Strengthen local CSOs capacity for creative approaches to entrepreneurship, securing financial resources and influencing allocation of funds by other agencies
7. Provide strategic leadership and effective coordination of conservation investment through a Regional Implementation Team	7.1 Operationalize and coordinate CEPF's grant-making processes and procedures to ensure effective implementation of the investment strategy throughout the hotspot 7.2 Sustain and expand a broad constituency of civil society groups working across institutional and political boundaries towards achieving the shared conservation goals described in the ecosystem profile 7.3 Monitor the impact of grants towards conservation outcomes, disseminate lessons to encourage mainstreaming of biodiversity conservation by government and private sector

Strategic Direction 1: Address threats to high-priority species

This SD focuses on actions to address the conservation status of threatened species, particularly those identified as priorities for action in section 12.1. The list includes 180 species of corals, 19 shark and ray species, and nine sea cucumbers, as well as heavily traded fish species such as Banggai cardinalfish.

While the 2014 SD1 had an investment priority which encompassed a broad agenda of data collection to support conservation action, IP 1.1 is now re-worded to focus on the opportunity that targeting monitoring of threatened fisheries produces data which can be communicated to fishers themselves and to government regulators, and which is therefore of immediate value as a basis for conservation action. IP1.2 remains relevant and is unchanged.

In line with CEPF priorities, monitoring and research will only be funded where it is the direct foundation for conservation action. Examples of applied research funded under Phase 1 included population studies of the Moluccan Scrubfowl, to establish baselines for sustainable harvesting of eggs, and on the ecology of threatened tree species, yielding information essential for cultivation in a nursery.

Investment Priority 1.1: Targeted monitoring of exploitation and trade of high-priority species

For species which are primarily threatened by over-fishing, a critical first step may be to establish a monitoring program, working with the fishers who target the species. Simple data on fishing location and effort, fish size and catch volume gathered from one of two locations within a fishing ground can provide vital information to advocate for change and monitor the impacts of conservation action.

Investment Priority 1.2 Change behavior of trappers, traders or buyers through appropriate enforcement, education, incentives and alternatives

Information gathered from fisheries surveys or other sources forms the basis for advocating changes in fishers' behavior, including for example seasonal or spatial limits to fishing, catch quotas or limits on fishing gear. Approaches such as these are especially needed on critical sites – for example, catch data shows that there is an important hammerhead shark pupping area off Lombok. Protecting this site may have important positive impact on the species.

Behavior change is a product of availability of information, alternative technologies or skills, and removal of other constraints to change, often backed up by Government regulations, and in some areas customary rules and sanctions. CEPF will fund projects where there is evidence that changing the behavior of fishers/collectors will improve the conservation status of a threatened species, and where there is a clear opportunity. An opportunity might be where a positive community practice can be strengthened through a local regulation, or conversely where implementation of a local regulation requires development of knowledge and skills of fishers.

Behavior of fishers and the effectiveness of local protection efforts may be strongly influenced by market signals. For species which are legally protected, and especially those under pressure from international trade and listed under CITES, scrutiny of legal trade and

investigation of illegal trade can reduce demand and thus the incentive for unsustainable exploitation. CEPF will fund monitoring and investigation of the trade in threatened species where there is a clear opportunity for follow-up – for example a commitment from the relevant authorities to take action once they have the data.

Communicating the results of any monitoring program is an important part of achieving impact. Communication of the results of monitoring of Banggai Cardinalfish, for example, contributed to the decision by Government to list the species under CITES. Any monitoring work funded by CEPF will be expected to have a clear, targeted plan for communication of the results of the work.

Strategic Direction 2: Improve management of sites (KBAs) with and without official protection status

In the 2014 ecosystem profile, this SD covered a broad range of actions for conservation of terrestrial KBAs. In this update, the scope is marine ecosystems, and specifically official protected areas. In IP 2.1, 'private sector' has been added as a stakeholder in recognition of the important role that businesses have to play in some protected areas. The original IP's 2.2 and 2.3 concerned wider research and action outside protected areas, which are now covered under SD3 and SD4, and so are deleted here. The new IP 2.2 maintains the emphasis on the importance of government support, with specific mention of management effectiveness, in recognition that it is a critical issue and a priority for government.

Annex 5 shows that 57 new marine protected areas covering 8.2 million hectares have been created in Wallacea since the beginning of 2014. This represents a very significant effort by government, especially local governments, almost doubling the number and tripling the area of MPAs. However, at least initially, the emphasis on expansion of number and area of MPAs was without adequate regard for resources and management effectiveness. As a result, many of these MPAs do not currently protect the ecosystems within them.

The need to improve management effectiveness is increasingly recognized, however, including by the provinces which are now responsible for MPAs (see Chapter 6, Policy). MMAF has prioritized funding of MPA management in its MPA vision document, and BAPPENAS has confirmed that Indonesia's post-2020 biodiversity conservation agenda under the CBD will emphasize management effectiveness, and not only hectares protected. These developments present an important need and opportunity for CEPF support, with the potential for sustained long-term funding if local government and other stakeholders can be assisted to put in place plans and institutions. The creation of new MPAs is also a priority, however, where there is proactive support from local stakeholders and government.

Investment Priority 2.1: Facilitate effective collaboration between CSOs, local and indigenous communities, private sector and MPA management units to improve planning and management of official protected areas

An important need and opportunity exist to support protected area management agencies to work with communities, private sector and civil society to put in place a basic level of protection and management in the MPAs created in the last five years (and some older ones). Some existing grantees have highly relevant experience in the management of MPAs, and CEPF will support them to provide capacity building support to MPA managers and their partners.

In several localities, MPAs managers are making their limited resources stretch further by involving the private sector in supporting MPA management. Companies offering marine tourism or marketing marine products are an obvious beneficiary from improved protection and thus potential partners. MPA managers are also collaborating with community groups, sharing the responsibility for patrolling and monitoring. These models could be replicated more widely.

CEPF will fund projects where the MPAs is clearly of biological importance (e.g. includes a KBA or candidate KBA) and where there is a clear exit strategy through building capacity and putting in place funding to sustain improvements in management. Projects are likely to involve building the capacity of MPA managers, training on management effectiveness, and facilitating networking and collaboration between MPA and local stakeholders.

Investment Priority 2.2: Work with central and local governments on legal and policy instruments to improve management effectiveness, including land use plans and development plans, for better site management

Integration of MPAs into regional and national spatial and development plans, including the marine spatial plan (RZWP3K) which local governments must produce, is a key strategy to reduce threats (for example, from infrastructure development) and to secure funding and personnel for the management of the site. CEPF will fund projects where grantees work with local governments to ensure that MPAs are integrated into relevant plans and policies.

Strategic Direction 3: Support sustainable natural resource management by communities in priority sites and corridors

In Phase 1, projects under this SD were terrestrial, with virtually all marine projects classified under SD4. For Phase 2, the scope of the two SDs is re-defined: SD3 addresses the conservation of coastal and marine resources and ecosystems, working through mechanisms such as local zoning plans and limits on the types of gear used for fisheries. SD4 focuses on the creation and management of community-based MPAs. MPAs will often be part of a wider program of sustainable resource management at community level, and SD3 and SD4 are highly complementary.

The updated IPs retain the emphasis of the original document on the importance of clear rights (IP 3.1) and on the crucial role of alternative and enhanced livelihoods (now IP 3.3) as a basis for sustainable management. There are new IPs on small-scale fisheries, in recognition of the important role they play in local economy and that they are a key component of coastal resource management. A new IP 3.4 specifically addresses the role of markets play in driving both positive and negative actions by the fishers who sell to them. There are a number of models where criteria established by buyers has encouraged a switch towards more sustainable practices in local fisheries. Finally, IP 3.5 recognizes the role that government plans and budgets can play in strengthening and expanding these approaches.

Investment Priority 3.1: Support community institutions to secure adequate rights over resources, and to develop and implement rules on resource use

Securing recognition of the rights of indigenous communities is a critical issue for sustainable resources management which is making some (slow) progress in terrestrial habitats. At the time of the 2014 ecosystem profile, securing recognition for indigenous marine tenure was considered legally difficult, but this has now changed and there are opportunities for indigenous groups to claim management rights over their coastal

resources. As described in Chapter 6, the MMAF has established a Directorate specifically to identify and support indigenous marine and coastal resource management, with a focus on Sulawesi, Maluku and Nusa Tenggara. While the Directorate has only worked in a limited number of pilot sites to date, this represents a pathway to recognition for indigenous coastal communities which could be used with the support of CEPF grantees.

Investment Priority 3.2: Support sustainable management of small-scale fisheries through increased capacity, improved local regulation and strengthened local institutions

Phase 1 did not have a strong focus on sustainable fisheries, but given that over-fishing and destructive fishing is by far the most widely reported threat to marine KBAs (see Chapter 8), it is a priority for greater investment. Work on small-scale fisheries also offers the opportunity to work directly on local livelihoods, which may have more tangible short-term benefits to communities than, for example, the creation of a no-take zone. In practice, no-take zones and local MPAs are likely to be part of a wider community-based strategy for fisheries management.

While marine species targeted by fisheries are generally not globally threatened, they may play a key role in coral and near-shore marine ecosystems which include threatened species and habitats. Some threatened species may also suffer from being caught as by-catch. Work on small-scale fisheries therefore contributes directly to maintaining the health of marine ecosystem in KBAs, and indirectly to the conservation of threatened species.

Investment Priority 3.3: Develop alternatives for livelihoods otherwise dependent on unsustainable resource management practices

While IPs 3.1 and 3.2 emphasize the sustainable use of marine resources, there may be target species where sustainable exploitation is too costly or technically difficult. In Phase 1, several projects were successful in developing alternative livelihoods sources, to enable community members to move away from dependence on unsustainable exploitation. CEPF will continue to support these kinds of interventions where the target group is clearly identified, the conservation benefits are clear, and the viability and sustainability of the alternative livelihoods can be demonstrated.

Investment Priority 3.4: Engage with private sector to support sustainable practices, including through markets for sustainably produced products and services

Where fisheries production is commercialized, the private sector has an important role to play in setting standards for the marine produce which it buys. Work by other organizations in Wallacea (e.g. MDPI, Sustainable Fisheries Partnership) have demonstrated that fishers can receive premium prices for sustainably produced marine products when these are linked with the right markets. CEPF will support projects which aim to make linkages between markets and the standards for marine products, including building the skills and institutional capacity of fishers to enable them to participate in certification and sustainable fisheries schemes.

Private sector standards can also be important in influencing the development of enterprises outside of small-scale fisheries, including marine tourism for example.

Investment Priority 3.5: Consolidate and sustain the impact of community-based initiatives through integration into Government plans, policy and regulations, including identification of customary rights over marine resources

Planning and implementation of the sustainable management of coastal resources depends in part on the ability and right of a community to exclude 'free riders' who exploit resources without sharing the burden of management. Experience from Phase 1 showed that, while many communities successfully reached internal agreement on resource management rules, exclusion of outsiders required the support of local government regulation and agencies. This might be secured through a specific local regulation, or integration of community managed areas into official zonation plans (primarily the RZWP3K).

Strategic Direction 4: Strengthen community-based action to protect marine species and sites

As noted under SD3, this SD is interpreted to focus specifically on the establishment and management of community-based marine protected areas. This proved one of the most widespread and effective strategies implemented by grantees in Phase 1, and this justifies expansion of the approach to new corridors and to KBAs which are not yet protected. The IPs retain the structure from 2014, addressing establishment of community-based MPAs, strengthening management institutions, securing government support and disseminating results. Minor changes reflect the fact that a large number of community-based MPAs were initiated in Phase 1, and so some of the projects under Phase 2 will focus on strengthening their management, in parallel with other projects encouraging the establishment of new MPAs.

Investment Priority 4.1: Support the strengthening and extension of existing locally managed MPAs, and the identification and establishment of new ones

Data in Annex 2 shows that 79 KBAs are at least partially protected in official MPAs, while 49 KBAs are entirely unprotected. This is a substantial change from the situation in 2014, when the great majority of KBAs were unprotected. Anecdotally, there are several examples of community approaches being adopted by neighboring communities, or of the expansion of MPAs to cover more than one community. There is now a significant body of experience on the facilitation of participatory processes leading to the creation of no-take zones, community MPAs and coastal management among CEPF grantees. CEPF will support the strengthening of existing MPAs, their extension, and the creation of new ones at priority sites, with an emphasis on sharing experience and building capacity so that communities take the lead in the process.

Investment Priority 4.2: Strengthen local institutions and mechanisms for management and monitoring of marine protected areas

As noted in Chapter 2, the effectiveness of management institutions is key to the success of MPA approaches. Best practice in Phase 1 projects included building local institutions based on existing customary roles and practices and facilitating 'shadowing' of key roles by younger members of the organization to encourage regeneration in the longer term. The legitimacy of management groups may be enhanced by recognition from local government, for example as a 'community surveillance group' (*PokWasMas*). There are also useful examples of groups ensuring their financial sustainability by running a small business (such

as snorkel hire in tourist areas) which also contribute to the costs of patrol and management.

Investment Priority 4.3: Support the engagement of local government to increase the financial sustainability and legal effectiveness of local marine protected areas

As noted for small-scale fisheries (SD3), the management of local MPAs may be enhanced if they are recognized and integrated within government plans. These include the village's own development plan and budget, funded through the *dana desa* system, and the marine zoning plans and sectoral plans developed at district and provincial levels. Encouraging local government to take these steps is an important role of a grantee, as community group members may lack the experience or network to make the required connections.

Investment Priority 4.4: Facilitate the sharing of lessons and experiences between stakeholders involved in marine conservation initiatives

Networking between grantees was highly successful under Phase 1, and sharing of lessons and information on specific themes, including community-based MPA management, will remain a priority for Phase 2.

Strategic Direction 5: Engage the private sector in conservation of priority sites and corridors, in production landscapes, and throughout the hotspot

SD5 was the area which under-performed during Phase 1. Reflection on this result recognized that this was a result of limited capacity of the part of grantees to engage with the private sector, lack of an available network to tap into, inability of industry representatives in Wallacea to take decisions which are the preserve of a head office in Jakarta, and also lack of interest or a 'need' on the part of industry in the Wallacea to engage with conservation. There is no doubt that the private sector plays a key role in resource management and conservation in specific areas – including small-scale fisheries, marine tourism, and as a source of threats including from mining and intensive agriculture. Rather than establishing a standalone SD for work with the private sector, therefore, engagement during Phase 2 has been integrated into each SD where it is relevant (see IPs 2.1 and 3.4). No IPs are identified under SD5.

Strategic Direction 6: Enhance civil society capacity for effective conservation action in Wallacea

The Phase 1 approach to civil society capacity building (see chapter 7) involved experienced NGOs to share their experience on technical subjects, from biodiversity to permaculture, while a specialist capacity-building organization, Penabulu, implemented a program of institutional capacity building which helped grantees with strategy, resources and internal management. Clustering grantees geographically and on the basis of themes was found to be an effective way to deliver training which encouraged cross-learning. The role of the RIT's three regional coordinators was also critical in maintaining close contact with grantees during the implementation of their projects.

Although there is now a much wider understanding of CEPF and community based conservation in the region than there was in 2014, a similar capacity building effort will be needed in Phase 2 as (a) some re-grantees will require refresher or repeat training, (b) new

grantees will be involved, and (c) in new corridors, whole new communities of CSOs may become involved. IPs 6.1 and 6.2, focused on capacity building for individual CSOs and on networking, are unchanged. IP 6.3 is re-worded to shift the focus away from the establishment of a funding mechanism for conservation in Wallacea, which proved difficult to advance within the context of the CEPF program, and towards encouraging creativity in resource mobilization and entrepreneurship amongst CSOs.

Investment Priority 6.1: Enhance the institutional and technical capacity of civil society to identify, plan and undertake surveys, planning, implementation and monitoring of conservation actions

As in Phase 1, a needs assessment should form the basis of detailed planning for delivery of capacity building. However, needs which can be anticipated are (a) general environmental literacy, especially for potential grantees which have not worked extensively in the sector; (b) enhancement of technical skills to address key themes in these IPs, such as collaborative management of protected areas, community-based MPAs, participatory management of coastal resources, and small-scale fisheries, and (c) core institutional capacity, as mentioned above.

Investment Priority 6.2: Catalyze networking and collaboration among community groups, NGOs, the private sector and other elements of civil society

Phase 1 was successful in creating 'communities of practice' around key themes, and linking grantees based in the same geographic area. With the support of social media and online communication, the RIT was able to create a high level of communication between grantees which led to opportunities for sharing experience and collaboration. This approach will be continued under Phase 2, adapted to the revised focus of the strategy.

Investment Priority 6.3: Strengthen local CSO capacity for creative approaches to entrepreneurship, securing financial resources and influencing allocation of funds by other agencies

Sustainable funding remains a challenge for civil society in Wallacea. Preliminary work was done on the idea of a 'wallacea fund' during Phase 1, but the level of support and financial commitment required will not be achieved in the near future, and the initiative is currently on hold. More promising solutions for local CSOs include building capacity for developing their own enterprises, including possibly collaboration with the communities which they serve. There are also opportunities to build capacity to use existing resources more efficiently, including through network and partnership. Finally, there are significant opportunities to achieve progress by influencing the spending the large sums of money which flows from central Government (and to a lesser extent, in donor projects) to local government and villages.

Strategic Direction 7: Provide strategic leadership and effective coordination of conservation investment through a regional implementation team

CEPF will implement its grant program through a regional implementation team (RIT). The RIT will promote and administer the grant-making process, undertake key capacity-building, maintain and update data on conservation outcomes, and promote the overall conservation outcomes agenda to government and other stakeholders. The 2014 included five IPs for the RIT's role, including government and private sector engagement, monitoring and

communication. All these functions remains important, but will be scaled-back in Phase 2, as appropriate for the marine focus and the smaller scale of resources. Thus the IPs are revised from five to three, covering implementation of the grants program, catalyzing CSO networking and collaboration and monitoring and dissemination of grant impacts.

Investment Priority 7.1: Operationalize and coordinate CEPF's grant-making processes and procedures to ensure effective implementation of the investment strategy throughout the hotspot

As in Phase 1, guided by the 2014 ecosystem profile and this update, the RIT will promote the grant opportunity to civil society through announcement tailored to specific issues and geographies. At the beginning of Phase 1, a pre-proposal 'tour' to explain CEPF, provide training in project development and information on the proposal process was vital in encouraging the participation of a high proportion of local CSOs. While understanding of CEPF is now far greater in the region, there remains a need to ensure that CSOs are not prevented from participating by barriers such as language or lack of information on the process. This will especially important in corridors where CEPF has not previously made grants.

Investment Priority 7.2: Sustain and expand a broad constituency of civil society groups working across institutional and political boundaries towards achieving the shared conservation goals described in the ecosystem profile

The RIT will continue the networking and facilitation of lesson-sharing which was successful in Phase 1.

Investment Priority 7.3: Monitor the impact of grants towards conservation outcomes, disseminate lessons to encourage mainstreaming of biodiversity conservation by government and private sector

Monitoring will be carried out by individual grantees, with the RIT consolidating data and conducted targeted evaluation of specific indicators. The RIT will use this data to inform the relevant provincial and national agencies about the progress and lessons from the program.

12.5. Linking Strategic Direction and Priority Geographies for CEPF Support

This section provides further guidance on the relevance of the different strategic directions in the priority marine corridors.

Togean-Banggai Marine Corridor (Central Sulawesi)

- SD1 (species): The endemic Banggai cardinal fish was the subject of successful projects in Phase 1 and there are opportunities to continue this work
- SD2 (sites): large areas of this corridor are included in the Togean Islands national park and the Banggai islands marine protected area. These protected areas are occupied and exploited by fisher communities throughout the islands, and there is a need for effective collaboration on planning and conservation action.
- SD3 (NRM + small-scale fisheries): coastal and marine resources are highly important for the local economy and livelihoods, with a small marine tourism sector.

Sustainable resource management is expected to provide an effective entry-point for community-based work.

- SD4 Community based MPAs: multiple opportunities, especially within the context of the zoning and management of the protected areas.
- SD6 (capacity-building): CSOs working in the corridor in Phase 1 mainly came from mainland Sulawesi. There may be opportunities to encourage the growth of local CSOs within the region.

Sulawesi Tenggara marine corridor (south-east Sulawesi)

- SD1 (species): no specific actions identified
- SD2 (sites): multi-stakeholder collaboration to reduce the impact of the growth and development of tourism and fisheries within and outside the protected areas
- SD3 (NRM + small-scale fisheries) in addition to small-scale fishers, expand the promotion of seaweed aquaculture and involve producers in management and protection of the coastal ecosystems that their livelihoods depend on
- SD4 Community based MPAs; integrate zonation and management of coastal resources and community-based MPAs with tourism, cultural sites and fisheries.
- SD6 (capacity-building): there was no grant-making in the corridor in Phase 1. There are a number of CSOs in the region, and a hub of conservation activity around the Wakatobi national park. Capacity building may focus on informing potential grantees about CEPF and facilitating sharing of the experience from Wakatobi more widely within the region.

Sulawesi Selatan marine corridor (South Sulawesi)

- SD1 (species): monitoring of marine wildlife trafficking given Makassar port's importance in the transport of goods across the region. Many cases involving terrestrial species were proven to use Makassar as hub.
- SD2 (sites): Improved planning and monitoring of land use to reduce destructive use and conflict over of coastal natural resources which is an obstacle for conservation.
- SD3 (NRM + small-scale fisheries) recognition of rights of traditional fishers, tighter enforcement of large-scale fishing and community-based monitoring of marine and coastal resources.
- SD4 Community based MPAs: mapping of management areas and community conserved areas, management and protection plans and capacity building for community institutions
- SD6 (capacity-building): there was no grant-making in the corridor in Phase 1. CSO capacity in the city of Makassar and the region is strong, so capacity building may focus on informing potential grantees about CEPF and the approaches it can support, and on facilitating networking and experience sharing within the corridor, including with on-going projects in Taka Bonerate.

Sulawesi Utara marine corridor (North Sulawesi)

- SD1: Monitoring of fisheries and wildlife trade through the region is important.
- SD2 (sites): the corridor has important MPAs and marine national parks, with opportunities to use them as examples of best practice.
- SD3 (NRM+ small-scale fisheries): especially important in the small islands in the north of the corridor, where ridge-to-reef approach could link short rivers and small catchment areas with reef health and fisheries

- SD4: (MPAs): customary resource management rules are still used in many parts of the region and have already formed a strong basis for community-based protection at some sites during Phase 1
- SD6: (capacity building) CSO capacity is relatively strong, and the corridor benefitted from support in Phase 1. Capacity building will be focused on new grantees and new technical areas (such as small-scale fisheries management)

Pangkajene kepulauan (South Sulawesi province)

- SD1 (species): local fisheries and pelagic threatened species such as sharks and rays
- SD2 (sites): Potential for increased community involvement in proposed and existing official MPAs
- SD3 (NRM and small-scale fisheries): fisheries are central to livelihoods on the islands, and this is likely to be a key entry point to any work
- SD4 (MPAs): Likely to be relevant given the opportunity
- SD6 (capacity): CSO capacity is unknown, presumed to be low. Capacity building will be challenging to deliver because of the remoteness of the islands.

Solor-Alor Marine corridor (Nusa Tenggara Timur)

- SD1 (species): except for Lamalera, little is known about apparently excessive exploitation of marine wildlife for illegal trade.
- SD2 (sites): continue working with provincial marine and fisheries office on identification of priority sites
- SD3 (NRM + small-scale fisheries): very potential using higher capacity grantee (from phase1) provided not many local CSOs engaged in the issue
- SD4 Community based MPAs: remains potential for with integration of livelihood aspect (fisheries-SD3) as a strong alternative to destructive practices
- SD6 (capacity-building): CSO capacity in the region is limited. Phase 1 projects were implemented by CSOs from Flores. Capacity building in Phase 2 may focus on encouraging the growth of local CSOs through partnerships and involvement in projects.

Bentang Laut Buru Marine corridor (Maluku)

- SD1 (species): turtle eggs and clam hunting are reported from various sites in Buru and small islands. Several grantees in Phase 1 worked to tackle this issue
- SD2 (sites): continue working with provincial marine and fisheries office on identification of priority sites
- SD3 (NRM + small-scale fisheries): small scale & sustainable fisheries could be exercised in this particular corridor with strong traditional system
- SD4 Community based MPAs: evidence from Phase 1 suggested high relevance and success
- SD6 (capacity-building): Phase 1 saw successful projects in the corridor building on the strong customary institutions and norms. Capacity building may focus on sharing the lessons of these approaches to encourage replication and wider recognition.

13. Sustainability

As noted in the 2014 ecosystem profile, sustainability of the impact of CEPF program in Wallacea will depend, on the extent to which:

- The capacity of institutions and networks improves.
- Resources are mobilized and directed toward sustainable, rather than destructive, activities.
- Models of better ways of doing things are developed and adopted as formal policies and regulations or informal norms.

13.1 Capacity Building for Sustainability

Increased capacity among both community groups managing resources and the CSOs which support them is a pre-requisite for sustained impacts post-CEPF intervention.

Chapter 2 (Lessons learned) summarized the impacts of projects on communities. There is considerable evidence of strengthening of individual and institutional capacity as a direct result of the projects funded, including the formation of new groups, successful engagement with local authorities, and increasingly effective protection and management of target sites. The revised Investment Priorities emphasize the need to continue and expand this model of conservation action through building local capacity.

Chapter 7 summarized the process and impacts of the capacity building program for grantees, which was rolled out in parallel with grant-making in priority regions during Phase 1 of the program. The capacity building responded to the needs identified during the first ecosystem profile preparation. Self-assessment of capacity at the end of the process found evidence of increases in both technical capacity and organizational management, though impacts varied widely across grantees, as would be expected with such a diverse range of organizations. Phase 2 will continue this approach, adapted to take account of the fact that some corridors have already been targets for CEPF funding, while others are new. Phase 2 will also have stronger focus on entrepreneurship and innovative ways of raising funds, recognizing that donor funding for CSO work is not guaranteed to continue to be available long-term.

Capacity building under the program will contribute to long-term sustainability of CSOs when it translates into effective organizations successfully raising funds and implementing projects independently of CEPF support. While some grantees reported an increased diversity of funding sources, it is too soon to measure the long-term impact.

13.2 Sustainable Financing

CSOs themselves may never be in a position to guarantee long-term financing for specific conservation measures. Achieving sustainable financial support for sites and species therefore involves influencing budgeting and spending decisions made by others. Villages throughout Indonesia have increasing autonomy and budgetary authority and, as noted in Chapter 2 (Lessons), in several communities' activities initiated by CSOs with CEPF support were adopted and financed through the village budget. In a smaller number of cases, villages succeeded in securing funds from district Governments to support their activities. These models of achieving local financial sustainability need to be reinforced and replicated in Phase 2.

Changes in policy now allow greater community participation in the management of National Parks under both relevant Ministries, and this provides another opportunity to indirectly influence how Government resources are used for conservation.

13.3 Sustaining Change Through Norms and Regulations

The 2014 ecosystem profile noted that decision-making for sustainable management of resources should be institutionalized at the lowest possible level to give the greatest chance of local ownership and sustainability. The projects funded in Phase 1 had considerable success in using existing social norms, including *sasi* and similar customary practices, as a basis for community action on resource management. The local ownership this provides strengthens the prospect of sustained impact, but it cannot be taken for granted – local custom is by its nature flexible and adaptable to changing circumstances. In most cases a combination of local norms, local (village or district) regulation and support within the framework of higher-level legislation gives the best chance of long-term impact.

14. Conclusion

The Wallacea hotspot is unusual in that both terrestrial and marine ecosystems are among the world's most diverse and unique. The 2014 Ecosystem profile reflected that by covering both terrestrial and marine ecosystems. Nevertheless, the relatively better data and greater CSO capacity available to focus on terrestrial species meant that marine ecosystems only benefitted from a relatively small proportion of funding and effort. Phase 2 intends to correct that imbalance, focusing solely on marine ecosystems and increasing the emphasis on productive systems – small-scale fisheries – as well as marine protected areas.

Annex 1. Wallacea Logical Framework: 2020-2024

Objective	Indicators	Means of Verification	Assumptions
Status of globally threatened biodiversity in Wallacea is more secure as a result of action by civil society organizations	At least 20 KBAs are better managed or protected by the end of the program	Grantee assessment of threats, standardized indicators of management effectiveness	
	At least 10,000 ha of production landscape (marine and coastal ecosystems) under improved/ sustainable management practices	Grantee assessment of threats, standardized indicators of management effectiveness, maps of zoning, regulation	
Intermediate Outcomes			
1. Threats to high priority <u>species</u> are reduced 5%	The main threats to at least three priority marine species have been reduced at one key site for each species (GI1)	Priority species list, grantee reports including catch data, survey or monitoring results	Action to reduce threats at key sites contributes to improving the overall conservation status of the species
2. Globally important <u>sites</u> are managed to conserve global biodiversity values 10%	Management of at least ten legally established MPAs is enhanced through capacity building and collaboration with community or private sector stakeholders (GI5, GI2)	List of MPAs in Wallacea (Annex 5) Data on MPA budgets, management plans and personnel from regional government Grantee reports, capacity building training reports Collaborative management agreements	
	At least five unprotected marine KBAs are protected through the establishment of new official MPAs (GI3, GI2)	List of marine KBAs and protection status (Annex 2) Documentation of grantee submissions to government (e.g. survey reports, community consultation reports) Official documents establishing MPAs	Central Government maintains its commitment to 30 million ha of MPAs and does not stop regional government from creating more
3. Indigenous and local natural resource-dependent communities are engaged with integrated management of key sites and corridors 25%	Community management institutions strengthened, and plans for management of coastal and marine resources adopted, by communities in at least 15 sites (GI2, GI4)	Pre-project assessment of resource management threats, institutions and practices Grantee reports and documentation of community plans and agreements Data from monitoring of key indicators	

Objective	Indicators	Means of Verification	Assumptions
	At least five communities apply limits to promote the sustainability of supply of marine resources (e.g. gear limits, quotas, zoning) (GI2, GI4)	pre-project assessment of resource exploitation levels and options for sustainable harvest Grantee reports and documentation of community plans and agreements Data from monitoring of key indicators (e.g. catch volume, catch size)	
	At least three private sector companies agreed to support conservation actions for MPA management and species protection	Documentation of private sector actions for conservation Partnership agreement to support conservation actions between private sector with MPA management unit/authority, community groups or customary institution	
4. Indigenous and local communities dependent on marine resources are engaged with integrated management of key sites and corridors 20%	Management and protection of at least 10 existing community-based MPAs is strengthened (GI2, GI5 [if community MPA=PA])	Pre-grant identification of existing community MPAs and management effectiveness Documentation of community action to improve management Data showing the impact of the management changes on key threats and resources	
	At least 15 communities create new MPAs/no-take zones to protect key marine resources (GI2, GI3 [if community MPA=PA])	Pre-grant assessment of resource exploitation issues Documentation of community decisions, including maps Data showing the impact of the MPAs on key threats and resources	
5. Private sector actors take action to mitigate negative impacts and to support conservation of globally important sites and species in production landscapes 0 %	[none defined]	[none defined]	

Objective	Indicators	Means of Verification	Assumptions
6. Civil society in Wallacea has the capacity to identify, implement and sustain actions for maintenance of global conservation values 15%	75% of new grantees show an improvement in management capacity as a result of engagement with CEPF (GI6)	Grantee self-assessment before and after project reports on capacity building events	
	At least 75% of approved grants for community-based work specifically address the gender implications of the project (GI7)	Analysis of gender issues and proposed action in proposals Grantee reports, including data on participation and impacts disaggregated by gender	
	There is active networking between grantees on at least one key themes in at least three of the priority corridors (GI8)	Identification of current networking platforms and intensity from capacity assessment Documentation of plans for networking, e.g. from capacity building events Data on networking intensity (frequency, content) from monitoring communication platforms and contacts between grantees	
7. Incorporation of CEPF-identified priorities into key stakeholder policies and programs results in more, better targeted funding for conservation in the hotspot, as addressed by the RIT or appropriate entities 25%	CEPF grantees share ideas and collaborate on shared objectives outside the context of program-facilitated networking (GI8)	Grantee reports and post-project interviews on continuing networking and collaborative activities	
	Key government and donor stakeholders recognize and adopt good practice lessons from CEPF-funded projects	Good practice/lessons documents designed to target specific issues and agencies Documentation of dissemination of good practice/lessons to relevant government and donor stakeholders	
Funding Summary	Amount		
Total Budget	***		

Note: GI* refers to the relevant global indicators in the CEPF Global Monitoring Framework

Annex 2. Abbreviations Used in the Text

ADB	Asian Development Bank
AFD	Agence Française de Développement
AusAID	Australian Agency for International Development
ASEAN	Association of South-east Asian States
Bappenas	National Development Planning Board
Bappeda	Regional Development Planning Board
BCU	Bioclimatic unit (area of coral reef, Beyer et al. 2018)
BKKPN	Balai Kawasan Konservasi Perairan National (National Marine Protected Areas Authority)
(B)KSDA	Natural Resources Conservation Agency
BPSPL	Balai Pengelolaan Sumberdaya Pesisir dan Laut (Coastal and Marine
resources	Management Authority)
BUMDes	Badan Usaha Milik Desa (village-owned business unit)
CBD	Convention on Biological Diversity
CBO	Community-based Organization
CSO	Civil Society Organization
CEPF	Critical Ecosystem Partnership Fund
CI	Conservation International
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CR	Critically Endangered (red list status)
CSO	Civil Society Organization
CSTT	civil society tracking tool
CSR	Corporate Social Responsibility
CTC	Coral Triangle Center
CTI	Coral Triangle Initiative
DAK	Dana alokasi khusus (special allocation fund)
DKP	Office for Fisheries and Marine Affairs
DPL	Daerah Pelindungan Laut (Marine protected area)
EIA	Environmental Impact Assessment
EN	Endangered (red list status)
ENSO	El Niño/Southern Oscillation
EP	Ecosystem Profile
EU	European Union
ESH	Extent of suitable habitat
FAO	Food and Agriculture Organization of the United Nations
FMA	fisheries management area
GEF	Global Environment Facility
GHG	Greenhouse Gas
ICCTF	Indonesian Climate Change Trust Fund
IDR	Indonesian rupiah
IPB	Institut Pertanian Bogor (Bogor Agricultural Institute)
IUCN	International Union for the Conservation of Nature
IUU	Illegal, unregulated and unreported (of fishing)
KBA	Key Biodiversity Area
KEE	Kawasan ekosistem essential (Essential Ecosystem zone)
KfW	German state owned development bank
KKP	Kawasan Konservasi Perairan (Marine protected area)
KKP3K	Kawasan Konservasi Pesisir dan Pulau-Pulau Kecil (Coastal and small island marine protected area)

KPK	Komisi Pemberantasan Korupsi (Anti-Corruption Commission)
LMMA	locally managed marine area
LOI	Letter of Interest (pre-proposal)
LIPI	Lembaga Ilmu Pengetahuan Indonesia (Indonesian Scientific Institute)
MACP	Margaret A Cargill Philanthropies
MoU	Memorandum of Understanding
MOEF	Ministry of Environment and Forestry
MOIA	Ministry of Internal Affairs
MMAF	Ministry of Marine Affairs and Fisheries
MPA	Marine Protected Area
NBSAP	National Biodiversity Strategy and Action Plan
NE	Not evaluated (red list status)
NGO	Nongovernmental Organization
NOAA	National Oceanographic and Atmospheric Administration
NTFP	non-timber forest product
NTB	Nusa Tenggara Barat (West Nusa Tenggara)
NTT	Nusa Tenggara Timur (East Nusa Tenggara)
ODA	Official development assistance
PA	Protected Areas
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PHKA	Directorate General of Forest Protection and Nature Conservation
PNG	Papua New Guinea
RIT	Regional Implementation Team
RFP	Request for Proposal
RZWP3K island	Rencana Zonasi Wilayah Pesisir dan Pulau-Pulau Kecil (Coastal and small spatial plan)
SAP	Suaka Alam Perairan (Marine Nature Reserve)
SD	Strategic direction
SDG	Sustainable development goal
SEAs	Strategic Environment Assessments
STAR	System for Transparent Allocation of Resources (GEF)
TNC	The Nature Conservancy
TNP	Taman Nasional Perairan (Marine National Park)
TWP	Taman Wisata Perairan (Marine Tourism reserves)
UKCCU	United Kingdom climate change unit
UNEP	United Nations Environment Program
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
VOI	Vibrant Oceans Initiative
VU	Vulnerable (red list status)
WCMC	World Conservation Monitoring Center
WCS	Wildlife Conservation Society
WRI	World Resources International
WWF	World Wide Fund for Nature

Annex 3. References

- Beyer et al. (2018) Risk-sensitive planning for conserving coral reefs under rapid climate change. *Conserv Lett.* 2018;11:e12587. <https://doi.org/10.1111/conl.12587>
- Bland, L. M (2017) Using multiple lines of evidence to assess the risk of ecosystem collapse. *Proc. R. Soc. B* 284: 20170660. <http://dx.doi.org/10.1098/rspb.2017.0660>
- Campbell, S. et al (2019) Fishing restrictions and remoteness deliver conservation outcomes for Indonesia's coral reef fisheries. *Conservation Letters*, 2020;13:e12698. DOI: 10.1111/conl.12698
- Campbell, S. J. et al (2020) Fishing restrictions and remoteness deliver conservation outcomes for Indonesia's coral reef fisheries. *Conservation Letters*, 13. DOI: 10.1111/conl.12698
- Coral Triangle Center (2020)a <https://www.coraltrianglecenter.org/2020/01/28/supporting-indonesias-mpa-vision-2030/>
- Coral Triangle Center (2020)b Coral Watch: Bleaching Observed In Lease Islands <https://www.coraltrianglecenter.org/2020/04/17/coral-watch-bleaching-observed-in-lease-islands/>
- Darling, E. et al (2020) Interpreting Local Contexts and Identifying Top Threats for the 50 Reefs. *Wildlife Conservation Society*, New York. Further information at <https://programs.wcs.org/vibrantocceans/Map>
- Dapu YM. (2016). Implikasi UU No. 23 tahun 2014 terhadap kewenangan urusan pemerintahan daerah di bidang kelautan dan perikanan. *Lex et Societatis*, Vol. IV/No. 8/Ags/2016
- Green, A.L., et al (2020) A Guide, Framework and Example: Designing Marine Protected Areas and Marine Protected Area Networks to Benefit People and Nature in Indonesia. Report prepared by The Nature Conservancy (TNC) for the USAID Sustainable Ecosystems Advanced Project, 90 pp. Available at: <https://www.sea-indonesia.org/a-guide-framework-and-example-designing-marine-protected-areas-and-marine-protected-area-networks-to-benefit-people-and-nature-in-indonesia/>
- Hadi et al. (2020). Genetic connectivity and diversity of endangered species the scalloped hammerhead shark *Sphyrna lewini* (Griffith & Smith 1834) population in Indonesia and Western Indian Ocean. *bioRxiv* 2020.03.10.985465; doi: <https://doi.org/10.1101/2020.03.10.985465>
- Halim, A. et al (2020) Transforming traditional management into contemporary territorial-based fisheries management rights for small-scale fisheries in Indonesia. *Marine Policy* 116. <https://doi.org/10.1016/j.marpol.2020.103923>
- Heron et al. (2017) Impacts of Climate Change on World Heritage Coral Reefs : A First Global Scientific Assessment. Paris, UNESCO World Heritage Centre
- Hoegh-Guldberg, O. et al (2017) Coral reef Ecosystems under Climate Change and Ocean Acidification
- Hoegh-Guldberg et al (2018) Securing a Long-term Future for Coral Reefs. *Trends Ecol Evol* 33(12):936-944. <https://doi.org/10.1016/j.tree.2018.09.006>
- Huffard, C.L., M.V. Erdmann, T.R.P. Gunawan (Eds) (2012). Geographic Priorities for Marine Biodiversity Conservation in Indonesia. Ministry of Marine Affairs and Fisheries and Marine Protected Areas Governance Program. Jakarta-Indonesia. 105 pp.

- IUCN (2016) A Global Standard for the Identification of Key Biodiversity Areas, Version 1.0, Gland, Switzerland, IUCN. Available at: https://portals.iucn.org/union/sites/union/files/doc/a_global_standard_for_the_identification_of_key_biodiversity_areas_final_web.pdf;
- KBA Standards and Appeals Committee (2019). Guidelines for using a Global Standard for the Identification of Key Biodiversity Areas. Version 1.0. <https://doi.org/10.2305/IUCN.CH.2019.KBA.1.0.en>
- Keith et al. (2020). The IUCN Global Ecosystem Typology v1.01: Descriptive profiles for Biomes and Ecosystem Functional Groups. Available at https://iucnrle.org/static/media/uploads/references/research-development/keith_et_al_iucnglobalecosystemtypology_v1.01.pdf
- Keith, D. A (2013) Scientific foundations for an IUCN red List of Ecosystems. PLoS ONE Supplemtary Material. <https://doi.org/10.1371/journal.pone.0062111.s002>
- Madani Berkelanjutan (2020) Madani Monthly Updates on Indonesian Political Situation. <https://madaniberkelanjutan.id/download-file/713>
- MMAF. 2018. Our MPAs: 'Sharing plans, investments, and responsibilities'. Strategies for effective management of 20 million hectares MPAs in Indonesia. Ministry of Marine Affairs and Fisheries, Jakarta, 24 pp.
- Morse, I. (2020) Indonesian miners eyeing EV nickel boom seek to dump waste into the sea <https://news.mongabay.com/2020/05/indonesian-miners-eyeing-ev-nickel-boom-seek-to-dump-waste-into-the-sea/>
- NOAA (2018) Coral Bleaching During & Since the 2014-2017 Global Coral Bleaching Event https://coralreefwatch.noaa.gov/satellite/analyses_guidance/global_coral_bleaching_2014-17_status.php
- Purwanto. 2011. A compromise solution to the conflicting objectives in the management of the Arafura Shrimp Fishery. Indonesian Fisheries Research Journal. 17 (1): 37-45
- RARE (2018) Stemming the Tide of Coastal Overfishing: Fish Forever Programme Results 2012 – 2017. Available at: <https://rare.org/wp-content/uploads/2019/02/Fish-Forever-Full-Report-July-2018.pdf>
- Satria et al. (2017). Laut dan Masyarakat Adat. Penerbit Buku Kompas. Jakarta. 240 halaman
- Short, F. T. and Heckles, H. A. (1999) The effects of global climate change on seagrasses [https://doi.org/10.1016/S0304-3770\(98\)00117-X](https://doi.org/10.1016/S0304-3770(98)00117-X)
- Simeon et al. (2018). Increasing Abundance of Silky Sharks in the Eastern Indian Ocean: Good News or a Reason to be Cautious? Fishes 2018, 3(3), 29; <https://doi.org/10.3390/fishes3030029>
- Spalding et al. (2007). Marine Ecoregions of the World: a bioregionalization of coast and shelf areas. BioScience 57: 573-583
- Wagey, G.A., S. Nurhakim, V.P.H. Nikijuluw, Badrudin, and T.J. Pitcher. 2009. A study of Illegal, Unreported and Unregulated (IUU) fishing in the Arafura Sea, Indonesia. Research Centre for Capture Fisheries, MMAF. Jakarta, 54 pp
- UNEP-WCMC, WorldFish Centre, WRI, TNC (2018). Global distribution of warm-water coral reefs, compiled from multiple sources including the Millennium Coral Reef Mapping Project. Version 4.0. Includes contributions from IMaRS-USF and IRD (2005), IMaRS-

USF (2005) and Spalding et al. (2001). Cambridge (UK): UN Environment World Conservation Monitoring Centre. URL:<http://data.unep-wcmc.org/datasets/1>

Annex 4. List of Trigger Species

See notes below the table for description of changes from 2014

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
Marine mammals									
<i>Balaenoptera borealis</i>	Sei whale	No	0	N	EN	I	N	Y	
<i>Balaenoptera musculus</i>	Blue whale	No	2	N	EN	I	N	Y	
<i>Balaenoptera physalus</i>	Fin whale	No	0	N	VU	I	N	Y	
<i>Dugong dugon</i>	Dugong	No	31	Y	VU	I	Y	Y	
<i>Physeter macrocephalus</i>	Sperm whale	No	3	N	VU	I	N	Y	
Marine reptiles									
<i>Caretta caretta</i>	Loggerhead seaturtle	No	1	N	VU	I	N	Y	
<i>Chelonia mydas</i>	Green Ssea turtle	No	12	N	EN	I	N	Y	
<i>Dermochelys coriacea</i>	Leatherback sea turtle	No	1	N	VU	I	N	Y	
<i>Eretmochelys imbricata</i>	Hawksbill sea turtle	No	14	N	CR	I	N	Y	
<i>Lepidochelys olivacea</i>	Olive Ridley sea turtle	No	1	N	VU	I	N	Y	
Marine fish									
<i>Aetobatus ocellatus</i>		no		N	VU	-	N	N	1
<i>Aetomylaeus nichofii</i>	Banded eagle ray	No	1	N	VU	-	N	N	1
<i>Albula glossodonta</i>	Shortjaw bonefish	No	0	N	VU	-	Y	N	
<i>Alopias pelagicus</i>	Pelagic thresher shark	No	0	N	EN	II	N	Y	3
<i>Alopias superciliosus</i>	Bigeye thresher shark	No	0	N	VU	II	N	Y	
<i>Amblyglyphidodon batunai</i>		no		Y	VU	-	Y	N	1
<i>Amblyglyphidodon ternatensis</i>		no		Y	VU	-	Y	N	1
<i>Anguilla borneensis</i>		no		N	VU	-	Y	Y	1
<i>Anoxypristis cuspidata</i>	Knifetooth sawfish	No	0	Y	EN	I	Y	Y	
<i>Argyrosomus japonicus</i>		no		Y	EN	-	Y	N	1
<i>Bolbometopon muricatum</i>	Bumphead parrotfish	No	12	Y	VU	-	Y	N	
<i>Carcharhinus albimarginatus</i>		no		N	VU	-	N	N	1
<i>Carcharhinus falciformis</i>		no		N	VU	II	N	Y	1
<i>Carcharhinus hemiodon</i>	Pondicherry shark	No	0	N	CR	-	N	N	

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Carcharhinus longimanus</i>	Oceanic whitetip shark	No	0	N	CR	II	N	Y	3
<i>Carcharhinus obscurus</i>	Dusky shark	No	0	N	EN	-	N	N	3
<i>Carcharhinus plumbeus</i>	Sandbar shark	No	2	N	VU	-	N	N	
<i>Carcharhinus tjutjot</i>		no		N	VU	-	N	N	1
<i>Cetorhinus maximus</i>		no		N	EN	II	N	Y	1
<i>Chaenogaleus macrostoma</i>	Hooktooth shark	No	0	N	VU	-	Y	N	
<i>Cheilinus undulatus</i>	Humphead wrasse	No	28	Y	EN	II	Y	Y	
<i>Ecsenius randalli</i>		Yes		Y	VU	-	Y	N	1
<i>Epinephelus fuscoguttatus</i>		no		N	VU	-	Y	N	1
<i>Epinephelus polyphekadion</i>		no		N	VU	-	Y	N	1
<i>Eusphyra blochii</i>		no		N	EN	-	N	N	1
<i>Eviota pamae</i>		Yes		Y	VU	-	Y	N	1
<i>Glaucostegus typus</i>	Common shovelnose ray	No	0	N	CR	II	Y	Y	5
<i>Gobiodon aoyagii</i>		Yes		Y	VU	-	Y	N	1
<i>Gobiodon erythropsilus</i>		no		Y	VU	-	Y	N	1
<i>Hemigaleus microstoma</i>		no		N	VU	-	Y	N	1
<i>Himantura leoparda</i>	Leopard whipray	No	0	N	VU	-	Y	N	
<i>Himantura uarnak</i>	Honeycomb stingray	No	0	N	VU	-	Y	N	
<i>Himantura undulata</i>	Bleeker's variegated whipray	No	1	N	VU	-	Y	N	
<i>Hippocampus barbouri</i>	Barbour's seahorse	No	0	Y	VU	II	Y	Y	
<i>Hippocampus comes</i>	Tiger tail seahorse	No	1	Y	VU	II	Y	Y	
<i>Hippocampus histrix</i>	Spiny seahorse	No	0	Y	VU	II	Y	Y	
<i>Hippocampus kelloggi</i>	Great seahorse	No	0	Y	VU	II	Y	Y	
<i>Hippocampus kuda</i>	Common seahorse	No	0	Y	VU	II	Y	Y	
<i>Hippocampus mohnikei</i>		no		Y	VU	II	Y	Y	1
<i>Hippocampus spinosissimus</i>	Hedgehog seahorse	No	0	Y	VU	II	Y	Y	
<i>Hippocampus trimaculatus</i>	Flat-faced seahorse	No	0	Y	VU	II	Y	Y	5
<i>Isurus oxyrinchus</i>	Shortfin mako	No	0	N	EN	II	N	Y	3
<i>Isurus paucus</i>	Longfin mako	No	0	N	EN	II	N	Y	
<i>Lamiopsis temminckii</i>	Broadfin shark	No	0	N	EN	-	N	N	1

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Latimeria menadoensis</i>	Sulawesi coelacanth	yes	3	N	VU	I	N	Y	
<i>Maculabatis gerrardi</i>	Whitespotted whipray	No	0	N	VU	-		N	4
<i>Makaira nigricans</i>	Blue marlin	No	0	N	VU	-	N	N	
<i>Meiacanthus abruptus</i>		yes		N	VU	-	N	N	1
<i>Mobula alfredi</i>	Coastal manta ray	No	2	N	VU	II	Y	Y	4
<i>Mobula birostris</i>	Giant manta ray	No	2	N	VU	II	Y	Y	4
<i>Mobula eregoodoo</i>		no		N	EN	II	Y	Y	1
<i>Mobula kuhlii</i>		no		N	EN	II	Y	Y	1
<i>Mobula mobular</i>		no		N	EN	II	Y	Y	1
<i>Mobula tarapacana</i>		no		N	EN	II	Y	Y	1
<i>Mobula thurstoni</i>		no		N	EN	II	Y	Y	1
<i>Mola mola</i>	ocean sunfish	no		N	VU	-	Y	Y	1
<i>Nebrius ferrugineus</i>	Tawny nurse shark	No	2	N	VU	-	Y	N	
<i>Negaprion acutidens</i>	Sharptooth lemon shark	No	0	N	VU	-	Y	N	
<i>Odontaspis ferox</i>	Herbst's nurse shark	No	0	N	VU	-	N	N	
<i>Oxymonacanthus longirostris</i>		no		Y	VU	-	Y	N	1
<i>Pateobatis fai</i>		no		N	VU	-	Y	N	1
<i>Pateobatis jenkinsii</i>		no		N	VU	-	Y	N	1
<i>Plectropomus areolatus</i>	Squairetail leopardgrouper	No	10	N	VU	-	Y	N	
<i>Pristis pristis</i>	Large-tooth sawfish	No	0	N	CR	I	Y	Y	
<i>Pristis zijsron</i>	Narrowsnout sawfish	No	0	N	CR	I	Y	Y	5
<i>Pterapogon kauderni</i>	Banggai cardinalfish	Yes	5	Y	EN	-	Y	Y	5
<i>Rhina ancylostoma</i>	Bowmouth guitarfish	No	0	N	CR	II	Y	Y	3
<i>Rhincodon typus</i>	Whale shark	No	9	N	EN	II	N	Y	3
<i>Rhinoptera javanica</i>	Flapnose ray	No	0	N	VU	-	Y	N	
<i>Rhynchobatus australiae</i>	White-spotted Guitarfish	No	0	N	CR	II	Y	Y	3
<i>Sphyrna lewini</i>	Scalloped hammerhead	No	2	N	CR	II	Y	Y	2
<i>Sphyrna mokarran</i>	Great hammerhead	No	0	N	CR	II	Y	Y	2
<i>Squalus montalbani</i>		no		N	VU	-	Y	N	1
<i>Stegostoma tigrinum</i>	Leopard shark, zebra shark	No	0	N	EN	-	N	N	3,4

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Taeniurops meyeri</i>	Black-blotched Stingray	No	1	Y	VU	-	Y	N	
<i>Thunnus maccoyii</i>	Southern bluefin tuna	No	0	N	CR	-	N	N	5
<i>Thunnus obesus</i>	Bigeye tuna	No	0	N	VU	-	N	N	
<i>Urogymnus asperimus</i>		no		N	VU	-	Y	N	1
<i>Urogymnus granulatus</i>		no		N	VU	-	Y	N	1
Decapods									
<i>Tachypleus tridentatus</i>	tri-spine horseshoe crab	no		N	EN	-	N	Y	1
<i>Birgus latro</i>	coconut crab	no		N	VU	-	N	Y	1
Corals									
<i>Acanthastrea bowerbanki</i>	Coral	No	0	Y	VU	II	Y	Y	
<i>Acanthastrea brevis</i>	Coral	No	7		VU				
<i>Acanthastrea faviaformis</i>	Coral	No	6		VU				
<i>Acanthastrea hemprichii</i>	Coral	No	12		VU				
<i>Acanthastrea ishigakiensis</i>	Coral	No	3		VU				
<i>Acanthastrea regularis</i>	Coral	No	11		VU				
<i>Acropora abrolhosensis</i>	Coral	No	3		VU				
<i>Acropora aculeus</i>	Coral	No	10		VU				
<i>Acropora acuminata</i>	Coral	No	6		VU				
<i>Acropora anthocercis</i>	Coral	No	7		VU				
<i>Acropora aspera</i>	Coral	No	9		VU				
<i>Acropora awi</i>	Coral	No	3		VU				
<i>Acropora batunai</i>	Coral	No	3		VU				
<i>Acropora caroliniana</i>	Coral	No	4		VU				
<i>Acropora dendrum</i>	Coral	No	4		VU				
<i>Acropora derawanensis</i>	Coral	No	3		VU				
<i>Acropora desalwii</i>	Coral	No	5		VU				
<i>Acropora donei</i>	Coral	No	6		VU				
<i>Acropora echinata</i>	Coral	No	10		VU				
<i>Acropora elegans</i>	Coral	No	4		VU				
<i>Acropora globiceps</i>	Coral	No	7		VU				

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Acropora hoeksemai</i>	Coral	No	6		VU				
<i>Acropora horrida</i>	Coral	No	7		VU				
<i>Acropora indonesia</i>	Coral	No	7		VU				
<i>Acropora jacquelineae</i>	Coral	No	2		VU				
<i>Acropora kimbeensis</i>	Coral	No	4		VU				
<i>Acropora kirstyae</i>	Coral	No	0		VU				
<i>Acropora kosurini</i>	Coral	No	0		VU				
<i>Acropora listeri</i>	Coral	No	7		VU				
<i>Acropora loisetteae</i>	Coral	No	0		VU				
<i>Acropora lokani</i>	Coral	No	4		VU				
<i>Acropora lovelli</i>	Coral	No	1		VU				
<i>Acropora microclados</i>	Coral	No	11		VU				
<i>Acropora multiacuta</i>	Coral	No	1		VU				
<i>Acropora palmerae</i>	Coral	No	3		VU				
<i>Acropora paniculata</i>	Coral	No	9		VU				
<i>Acropora papillare</i>	Coral	No	8		VU				
<i>Acropora plumosa</i>	Coral	No	2		VU				
<i>Acropora polystoma</i>	Coral	No	9		VU				
<i>Acropora retusa</i>	Coral	No	1		VU				
<i>Acropora russelli</i>	Coral	No	2		VU				
<i>Acropora simplex</i>	Coral	No	1		VU				
<i>Acropora solitaryensis</i>	Coral	No	7		VU				
<i>Acropora speciosa</i>	Coral	No	6		VU				
<i>Acropora spicifera</i>	Coral	No	4		VU				
<i>Acropora striata</i>	Coral	No	3		VU				
<i>Acropora suharsonoi</i>	Coral	yes			EN				1
<i>Acropora tenella</i>	Coral	No	3		VU				
<i>Acropora turaki</i>	Coral	No	4		VU				
<i>Acropora vaughani</i>	Coral	No	7		VU				
<i>Acropora verweyi</i>	Coral	No	5		VU				

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Acropora walindii</i>	Coral	No	0		VU				
<i>Acropora willisae</i>	Coral	No	5		VU				
<i>Alveopora allingi</i>	Coral	No	2		VU				
<i>Alveopora daedalea</i>	Coral	No	1		VU				
<i>Alveopora excelsa</i>	Coral	No	0		EN				5
<i>Alveopora fenestrata</i>	Coral	No	3		VU				
<i>Alveopora gigas</i>	Coral	No	5		VU				
<i>Alveopora marionensis</i>	Coral	No	1		VU				
<i>Alveopora minuta</i>	Coral	no			EN				1
<i>Alveopora verrilliana</i>	Coral	No	2		VU				
<i>Anacropora matthai</i>	Coral	No	4		VU				
<i>Anacropora puertogalerae</i>	Coral	No	5		VU				
<i>Anacropora reticulata</i>	Coral	No	3		VU				
<i>Anacropora spinosa</i>	Coral	No	3		EN				5
<i>Astreopora cucullata</i>	Coral	No	10		VU				
<i>Astreopora incrustans</i>	Coral	No	3		VU				
<i>Australogyra zelli</i>	Coral	No	0		VU				
<i>Barabattoia laddi</i>	Coral	No	10		VU				
<i>Catalaphyllia jardinei</i>	Coral	No	1		VU				
<i>Caulastrea curvata</i>	Coral	No	4		VU				
<i>Caulastrea echinulata</i>	Coral	No	2		VU				
<i>Cyphastrea agassizi</i>	Coral	No	10		VU				
<i>Cyphastrea ocellina</i>	Coral	No	8		VU				
<i>Echinophyllia costata</i>	Coral	No	3		VU				
<i>Echinopora ashmorensis</i>	Coral	No	4		VU				
<i>Euphyllia ancora</i>	Coral	No	11		VU				
<i>Euphyllia cristata</i>	Coral	No	10		VU				
<i>Euphyllia paraancora</i>	Coral	No	2		VU				
<i>Euphyllia paradivisa</i>	Coral	No	4		VU				
<i>Euphyllia paraglabrescens</i>	Coral	No	1		VU				

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Favites spinosa</i>	Coral	No	1		VU				
<i>Fungia curvata</i>	Coral	No	0		VU				
<i>Fungia taiwanensis</i>	Coral	No	1		VU				
<i>Galaxea acrhelia</i>	Coral	No	5		VU				
<i>Galaxea astreata</i>	Coral	No	7		VU				
<i>Galaxea cryptoramosa</i>	Coral	No	3		VU				
<i>Goniastrea ramosa</i>	Coral	No	4		VU				
<i>Goniopora albiconus</i>	Coral	No	7		VU				
<i>Goniopora burgosi</i>	Coral	No	3		VU				
<i>Goniopora planulata</i>	Coral	No	2		VU				
<i>Goniopora polyformis</i>	Coral	No	1		VU				
<i>Halomitra clavator</i>	Coral	No	5		VU				
<i>Heliofungia actiniformis</i>	Coral	No	14		VU				
<i>Heliopora coerulea</i>	Coral	No	17		VU				
<i>Isopora brueggemanni</i>	Coral	No	10		VU				
<i>Isopora crateriformis</i>	Coral	No	4		VU				
<i>Isopora cuneata</i>	Coral	No	9		VU				
<i>Isopora togianensis</i>	Coral	No	0		EN				5
<i>Leptastrea aequalis</i>	Coral	No	0		VU				
<i>Leptoria irregularis</i>	Coral	No	2		VU				
<i>Leptoseris incrustans</i>	Coral	No	8		VU				
<i>Leptoseris yabei</i>	Coral	No	6		VU				
<i>Lobophyllia dentatus</i>	Coral	No	5		VU				
<i>Lobophyllia diminuta</i>	Coral	No	2		VU				5
<i>Lobophyllia flabelliformis</i>	coral	no			VU				1
<i>Lobophyllia serratus</i>	Coral	No	2		EN				5
<i>Millepora boschmai</i>	Coral	No	0		CR				5
<i>Montastrea multipunctata</i>	Coral	No	0		VU				
<i>Montastrea salebrosa</i>	Coral	No	9		VU				
<i>Montipora altasepta</i>	Coral	No	2		VU				

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Montipora angulata</i>	Coral	No	2		VU				
<i>Montipora australiensis</i>	Coral	No	1		VU				
<i>Montipora cactus</i>	Coral	No	4		VU				
<i>Montipora calcarea</i>	Coral	No	7		VU				
<i>Montipora caliculata</i>	Coral	No	14		VU				
<i>Montipora capricornis</i>	Coral	No	1		VU				
<i>Montipora cebuensis</i>	Coral	No	7		VU				
<i>Montipora cocosensis</i>	Coral	No	3		VU				
<i>Montipora corbettensis</i>	Coral	No	6		VU				
<i>Montipora crassituberculata</i>	Coral	No	7		VU				
<i>Montipora delicatula</i>	Coral	No	3		VU				
<i>Montipora florida</i>	Coral	No	3		VU				
<i>Montipora friabilis</i>	Coral	No	2		VU				
<i>Montipora gaimardi</i>	Coral	No	2		VU				
<i>Montipora hodgsoni</i>	Coral	No	5		VU				
<i>Montipora mactanensis</i>	Coral	No	4		VU				
<i>Montipora malampaya</i>	Coral	No	4		VU				
<i>Montipora meandrina</i>	Coral	No	2		VU				
<i>Montipora orientalis</i>	Coral	No	1		VU				
<i>Montipora samarensis</i>	Coral	No	2		VU				5
<i>Montipora setosa</i>	Coral	No	0		EN				
<i>Montipora turtlensis</i>	Coral	No	7		VU				
<i>Montipora verruculosus</i>	Coral	No	3		VU				
<i>Montipora vietnamensis</i>	Coral	No	9		VU				
<i>Moseleya latistellata</i>	Coral	No	0		VU				
<i>Mycedium steeni</i>	Coral	No	1		VU				
<i>Nemenezophyllia turbida</i>	Coral	No	1		VU				
<i>Pachyseris involuta</i>	Coral	No	0		VU				
<i>Pachyseris rugosa</i>	Coral	No	6		VU				
<i>Pavona bipartita</i>	Coral	No	7		VU				

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Pavona cactus</i>	Coral	No	11		VU				
<i>Pavona danai</i>	Coral	No	0		VU				
<i>Pavona decussata</i>	Coral	No	11		VU				
<i>Pavona venosa</i>	Coral	No	14		VU				
<i>Pectinia alcornis</i>	Coral	No	4		VU				
<i>Pectinia lactuca</i>	Coral	No	18		VU				5
<i>Pectinia maxima</i>	Coral	No	4		EN				5
<i>Physogyra lichtensteini</i>	Coral	No	14		VU				
<i>Platygyra yaeyamaensis</i>	Coral	No	13		VU				
<i>Plerogyra discus</i>	Coral	No	0		VU				
<i>Pocillopora ankeli</i>	Coral	No	5		VU				
<i>Pocillopora danae</i>	Coral	No	9		VU				
<i>Pocillopora elegans</i>	Coral	No	1		VU				
<i>Porites aranetai</i>	Coral	No	1		VU				
<i>Porites attenuata</i>	Coral	No	8		VU				
<i>Porites cocosensis</i>	Coral	No	1		VU				
<i>Porites cumulatus</i>	Coral	No	3		VU				5
<i>Porites eridani</i>	Coral	No	0		EN				5
<i>Porites horizontalata</i>	Coral	No	10		VU				
<i>Porites napopora</i>	Coral	No	1		VU				
<i>Porites nigrescens</i>	Coral	No	18		VU				5
<i>Porites ornata</i>	Coral	No	1		EN				5
<i>Porites rugosa</i>	Coral	No	4		VU				
<i>Porites sillimani</i>	Coral	No	3		VU				
<i>Porites tuberculosa</i>	Coral	No	8		VU				
<i>Psammocora stellata</i>	Coral	No	1		VU				5
<i>Seriatopora aculeata</i>	Coral	No	3		VU				
<i>Seriatopora dendritica</i>	Coral	No	6		VU				5
<i>Stylocoeniella cocosensis</i>	Coral	No	0		VU				5
<i>Symphyllia hassi</i>	Coral	No	7		VU				

Scientific name	Common Name	Wallacea Endemic	Number of KBA Confirmed Presence	Restricted to single Ecosystem	Red List category 2020	CITES appendix	Site based protection	Priority protected species in Indonesia	change from 2014 list*
<i>Turbinaria bifrons</i>	Coral	No	0		VU				
<i>Turbinaria heronensis</i>	Coral	No	0		VU				
<i>Turbinaria mesenterina</i>	Coral	No	15		VU				
<i>Turbinaria patula</i>	Coral	No	1		VU				
<i>Turbinaria peltata</i>	Coral	No	7		VU				
<i>Turbinaria reniformis</i>	Coral	No	12		VU				
<i>Turbinaria stellulata</i>	Coral	No	7		VU				
Molluscs									
<i>Tridacna derasa</i>	Giant clam sp	No	2	Y	VU	II	Y	Y	
<i>Tridacna gigas</i>	Giant clam sp	No	4	Y	VU	II	Y	Y	
Sea Cucumbers									
<i>Actinopyga echinites</i>	Brownfish, deep water redfish	No	0	N	VU	-	Y	Y	
<i>Actinopyga mauritiana</i>	Surf redfish	No	0	N	VU	-	Y	Y	
<i>Actinopyga miliaris</i>	Blackfish, hairy blackfish	No	0	N	VU	-	Y	Y	
<i>Holothuria fuscogilva</i>	White teatfish	No	4	N	VU	II	Y	Y	
<i>Holothuria lessoni</i>	Golden sandfish	No	2	N	EN	-	Y	Y	
<i>Holothuria scabra</i>	Golden sandfish, sandfish	No	0	N	EN	-	Y	Y	
<i>Holothuria whitmaei</i>	Black teatfish	No	0	N	EN	II	Y	Y	
<i>Stichopus herrmanni</i>	Curryfish	No	0	N	VU	-	Y	Y	
<i>Thelenota ananas</i>	Prickly redfish	No	1	N	EN	-	Y	Y	
Plants									
<i>Avicennia rumphiana</i>	mangrove sp	No	1	Y	VU	-	Y	N	
<i>Camptostemon philippinense</i>	mangrove sp	No	1	Y	EN	-	Y	N	

Notes for 'change from 2014':

1: species added to threatened species list in Wallacea since 2014

2: uplisted from EN in 2014

3: uplisted from VU in 2014

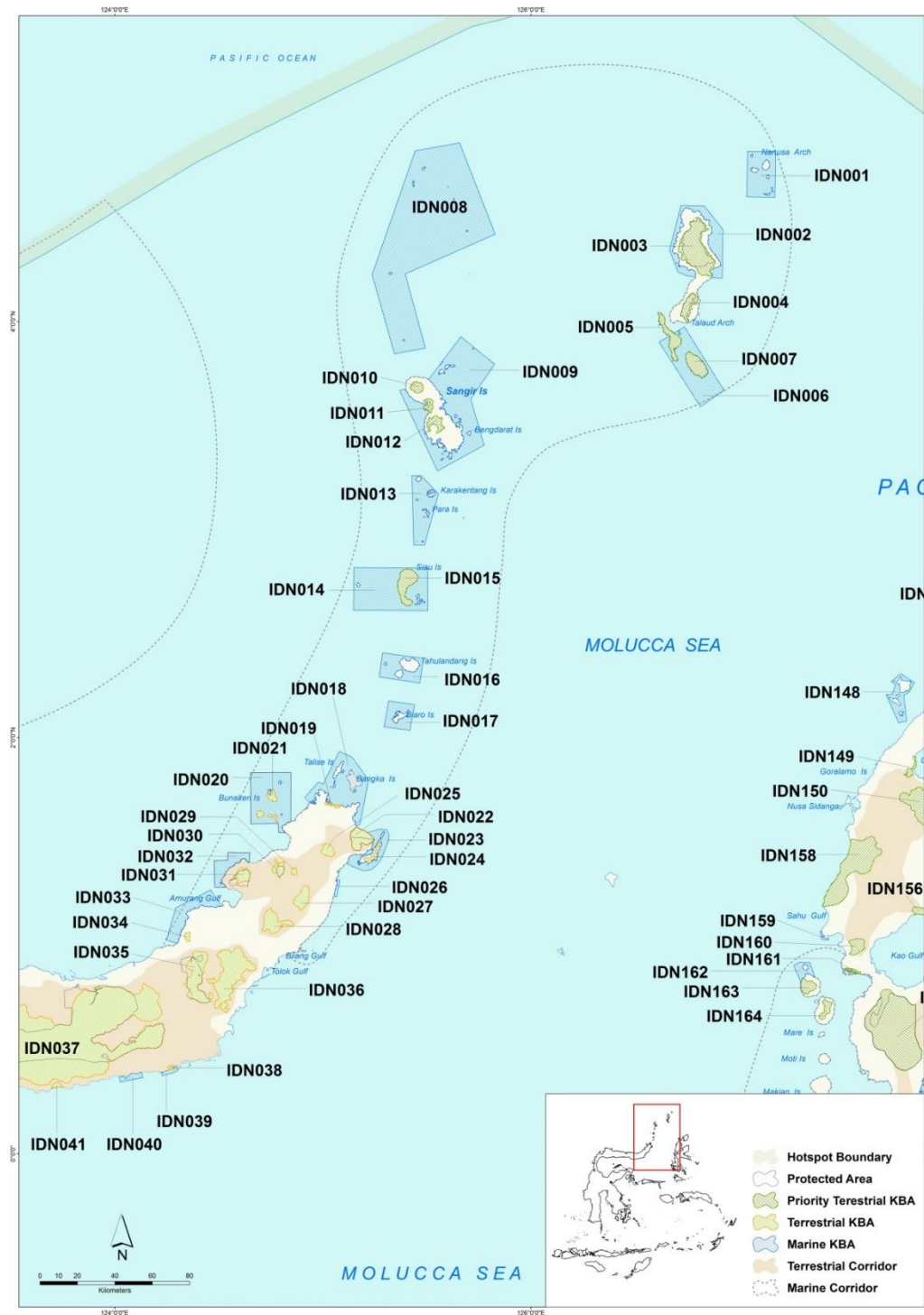
4: name change since 2014

5: Red List status in 2014 ecosystem profile is not consistent with history of assessment in Red List website

Appendix 1. Information from the 2014 Ecosystem Profile

The information included below is directly from the 2014 ecosystem profile. It is included here for reader convenience.

Map of KBAs in Northern Sulawesi



Map of KBAs in Central Sulawesi



Map of KBAs in South and Southeast Sulawesi

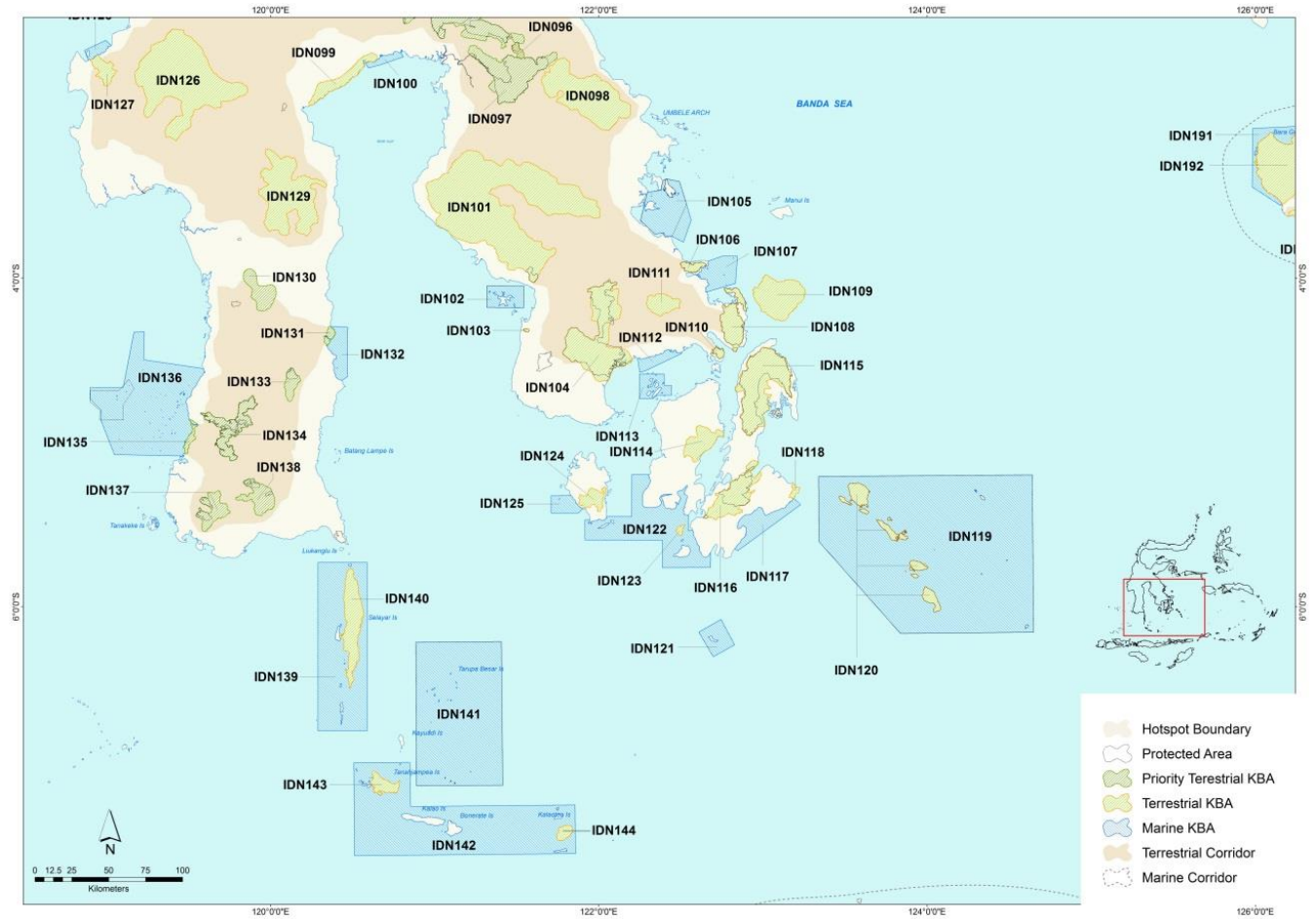


Table. Marine KBAs and Candidate KBAs and protected areas in Sulawesi

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA) name	PA manager	PA Area (ha)
IDN001	Kepulauan Nanusa	33,439	North Sulawesi	CON			
IDN002	Perairan Karakelang Utara	32,434	North Sulawesi	CON			
IDN006	Perairan Talaud Selatan	47,250	North Sulawesi	CON			
IDN008	Kawaluso	342,413	North Sulawesi	CON			
IDN009	Perairan Sangihe	132,752	North Sulawesi	CON	TPK Kepulauan Tatoareng dan Perairan sekitarnya	DKP	167,398
IDN013	Mahangetang	33,683	North Sulawesi	CON			
IDN014	Perairan Siau	77,152	North Sulawesi	CON			
IDN016	Perairan Tagulandang	21,793	North Sulawesi	CON	KKPD Kepulauan Sitaro	DKP	44,110
IDN017	Perairan Biaro	16,946	North Sulawesi	CON			
IDN018	Perairan Likupang	55,690	North Sulawesi	CON	TWP Kab Minahasa Utara	DKP	26,525
IDN020	Molaswori	55,559	North Sulawesi	CON	TN Bunaken	KLHK	89,065
IDN023	Selat Lembeh	17,589	North Sulawesi	CON	KKPD Kota Bitung	DKP	9,647
IDN026	Tulaun Lalumpe	1,392	North Sulawesi	CON	KKP Daerah Minahasa	DKP	10,976
IDN032	Perairan Arakan Wawontulap	15,134	North Sulawesi	CON	TN Bunaken	KLHK	89,065
IDN033	Amurang	24,347	North Sulawesi	CON	KKLD Kab. Minahasa Selatan	DKP	26,000
IDN039	Perairan Tanjung Binerean	1,618	No corridor	CAN			
IDN040	Pantai Modisi	3,353	No corridor	CON			
IDN044	Perairan Molonggota	2,304	No corridor	CON	KKPD Gorontalo Utara	DKP	469
					KKPD Popaya	DKP	1,267
IDN045	Perairan Mas Popaya Raja	59,068	No corridor	CON	KKPD Monduli	DKP	7,380
					KKPD Tanjung Panjang	DKP	2,953
IDN051	Perairan Panua	44,248	No corridor	CAN	KKPD Maruagi - Mabasar	DKP	6,866
IDN056	Perairan Tanjung Panjang	21,769	No corridor	CON			
IDN059	Teluk Dondo	211,621	West central Sulawesi	CAN	KKP3K Donggala, Buol, Tolitoli dan Perairan Sekitarnya	DKP	60,043
IDN063	Perairan Maputi	13,127	West central Sulawesi	CON			

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA) name	PA manager	PA Area (ha)
IDN065	Tanjung Manimbaya	27,657	West central Sulawesi	CAN			
IDN068	Perairan Kayumaloo	7,968	West central Sulawesi	CON	KKPD Mamuju	DKP	
IDN070	Perairan Tambu	16,320	No corridor	CAN	KKP3K Parigi Moutong, Poso, Tojo Una-Una	DKP	128,690
IDN077	Perairan Kepulauan Togean	341,275	Togean-Banggai	CON	TN Kepulauan Togean	KLHK	362,605
IDN079	Perairan Pagimana	1,071	Togean-Banggai	CON	KKP3K Banggai, Banggai Kepulauan, Banggai Laut	DKP	856,649
IDN081	Perairan Peleng-Banggai	509,722	Togean-Banggai	CON			
IDN087	Perairan Balantak	6,218	Togean-Banggai	CAN			
IDN100	Perairan Lamiko-Miko	10,620	No corridor	CAN	KKL Kabupaten Luwu Utara	DKP	606
IDN102	Kepulauan Padamaran	33,036	No corridor	CON	KKPD Kabupaten Kolaka	DKP	120,800
					TWA Kepulauan Padamarang	KLHK	72,000
IDN105	Teluk Lasolo-Labengki	89,022	South-east Sulawesi	CON	TWA Teluk Lasolo	KLHK	81,800
IDN107	Pulau Hari	43,834	South-east Sulawesi	CON	KKPD Sulawesi Tenggara	DKP	21,786
IDN112	Pesisir Tinanggea	18,809	South-east Sulawesi	CAN			
IDN113	Selat Tiworo	26,064	South-east Sulawesi	CON	KWL Selat Tiworo dan Pulau-pulau sekitarnya	DKP	27,936
IDN117	Wabula	47,140	South-east Sulawesi	CON	KKPD Kabupaten Buton	DKP	10,130
IDN119	Perairan Wakatobi	1,325,168	South-east Sulawesi	CON	TN Kepulauan Wakatobi	KLHK	1,390,000
IDN121	Pulau Batu Atas	32,042	South-east Sulawesi	CON	KKPD Buton Selatan	DKP	182,147
IDN122	Basilika	204,895	South-east Sulawesi	CON			
IDN125	Kepulauan Sagori	20,832	South-east Sulawesi	CON	KKPD Kabupaten Bombana	DKP	19,177
IDN128	Perairan Mamuju	11,032	No corridor	CAN	KKPD Mamuju	DKP	

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA) name	PA manager	PA Area (ha)
IDN132	Perairan Pallime	35,694	South Sulawesi	CAN	KKPD (SA Perikanan) Bone Sinjai	DKP	423,942
IDN136	Kapoposang–Pangkep–Bulurokeng	376,797	South Sulawesi	CON	KKPD Liukang Tupabiring (KKPD Pangkep)	DKP	66,870
					TWP Kepulauan Kapoposang	KKP	50,000
IDN139	Kepulauan Selayar	313,197	South Sulawesi	CON	KKLD Pulo Pasi Gusung	DKP	5,018
IDN141	Taka Bonerate	569,397	South Sulawesi	CAN	TN Taka Bonerate	KLHK	530,765
IDN142	Perairan Tana Jampea	565,327	South Sulawesi	CAN			

Map of KBAs in Northern Maluku



Map of KBAs in Southern Maluku

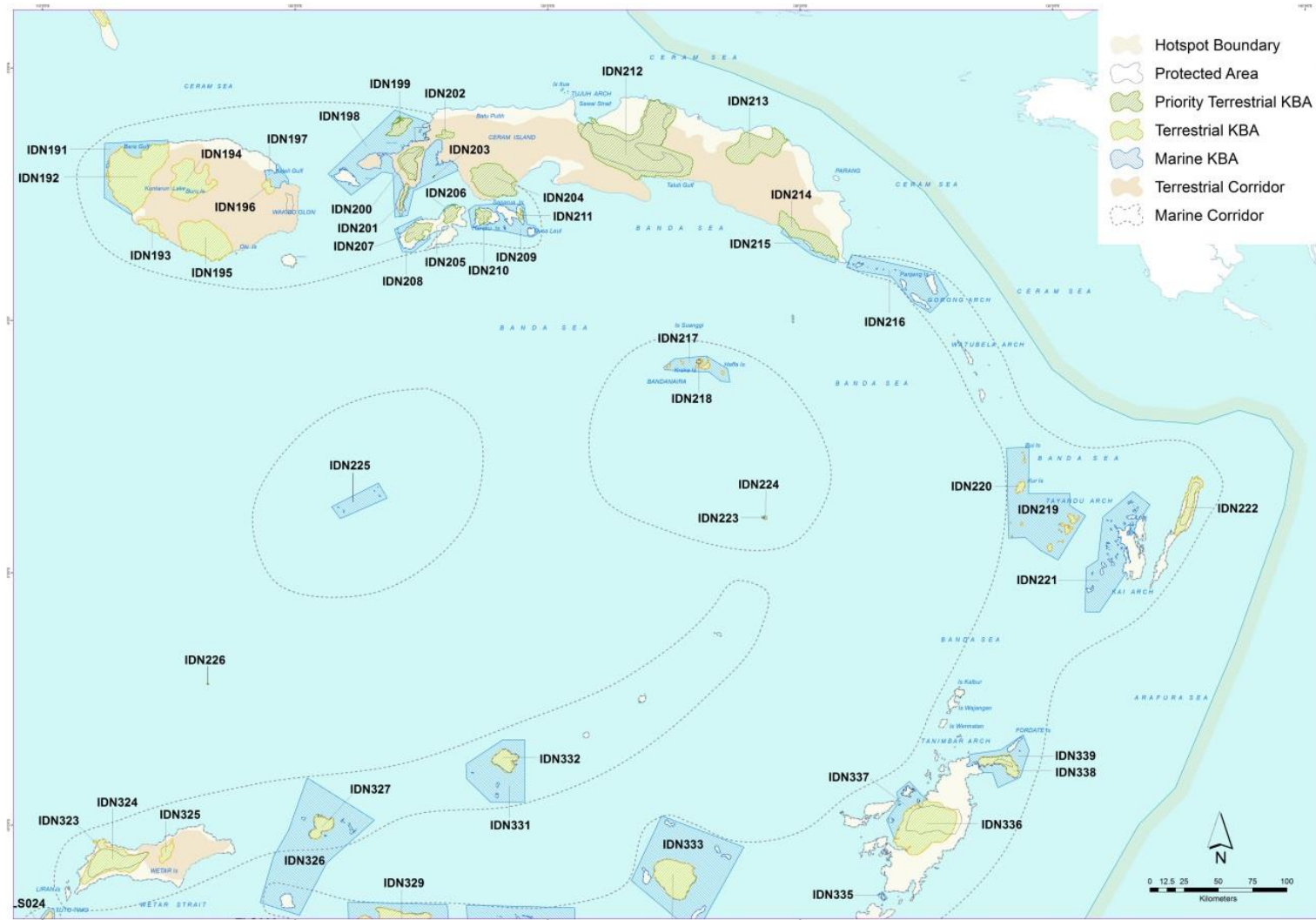


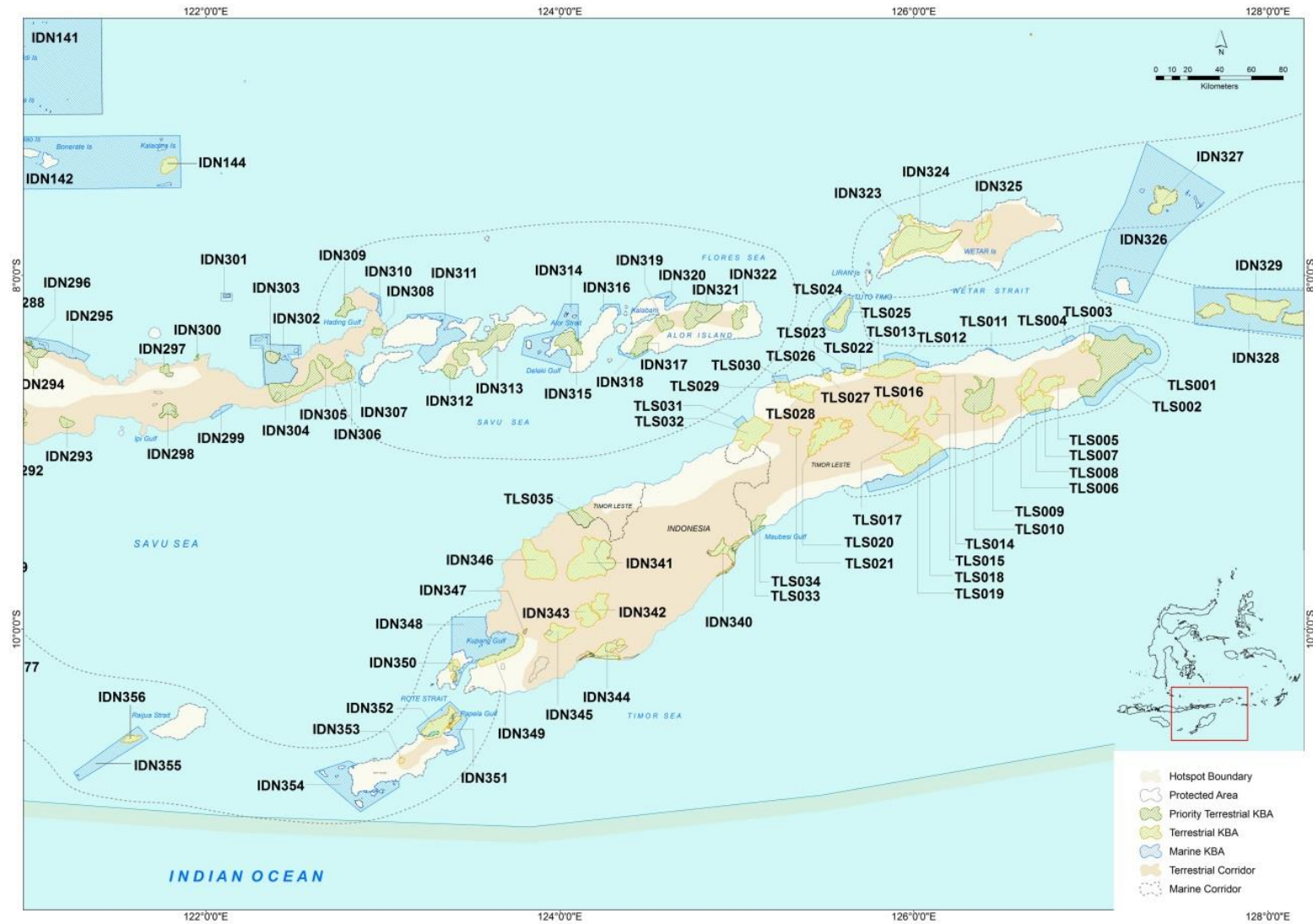
Table. Marine KBAs and Candidate KBAs in Maluku

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA)	PA manager	PA Area (ha)
IDN090	Perairan Taliabu Utara	21,10 ₃	Sula islands	CON	KKP3K Kepulauan Sula	DKP	117,960
IDN094	Pulau Lifamatola	18,69 ₅	Sula islands	CON			
IDN146	Pulau-pulau Pesisir Morotai	62,79 ₀	Halmahera marine	CON	KKP P. Rao - Tanjung Dehegila Kabupaten P. Morotai	DKP	65,521
IDN148	Loloda	14,63 ₅	Halmahera marine	CON			
IDN151	Pulau-Pulau Pesisir Tobelo	20,05 ₉	Halmahera marine	CON			
IDN152	Jara-Jara	6,910	Halmahera marine	CON			
IDN155	Teluk Wasile	20,99 ₇	Halmahera marine	CAN			
IDN157	Teluk Buli	152,2 ₂₈	Halmahera marine	CON			
IDN159	Tanjung Bobo	1,174	Halmahera marine	CON			
IDN162	Ternate-Hiri	6,216	Halmahera marine	CON			
IDN166	Weda Telope	8,880	Halmahera marine	CON			
IDN168	Perairan Dote-Kobe	14,93 ₈	Halmahera marine	CAN			
IDN169	Kayoa	126,2 ₉₄	Halmahera marine	CON	KKPD Kepulauan Guraici dan Laut Sekitarnya	DKP	6,386
IDN175	Kepulauan Widi	41,01 ₇	Halmahera marine	CON	KKPD Gugusan pulau Widi sebagai Suaka pulau kecil	DKP	7,690
IDN176	Libobo	686	Halmahera marine	CAN			
IDN180	Perairan Mandioli	17,63 ₆	Halmahera marine	CAN			
IDN181	Selat Obilatu-Malamala	18,76 ₃	Halmahera marine	CAN			

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA)	PA manager	PA Area (ha)
IDN187	Selat Obi	40,106	Halmahera marine	CAN			
IDN189	Perairan Pulau Obit	6,432	Halmahera marine	CAN			
IDN190	Jorongga	65,154	Halmahera marine	CAN			
IDN191	Liliali	47,617	Buru marine	CAN			
IDN197	Perairan Teluk Kayeli	16,007	Buru marine	CAN			
IDN198	Kelang-Kassa-Buano-Marseg	215,045	Buru marine	CON	TWA Pulau Kasa	KLHK	1,100
					TWA Pulau Marsegu	KLHK	11,000
IDN206	Perairan Gunung Salahutu	816	Buru marine	CAN			
IDN208	Leihitu	13,766	Buru marine	CAN			
IDN209	Perairan Haruku - Saparua	47,985	Buru marine	CON	KKPD Kep. Lease	DKP	81,573
IDN215	Perairan Tanah Besar	14,821	No corridor	CAN			
IDN217	Perairan Kepulauan Banda	39,623	Banda marine	CON	KKPD Pulau Ay dan Pulau Rhun	DKP	47,969
					TWP Laut Banda	KKP	2,500
IDN224	Perairan Pulau Manuk	120	Banda marine	CAN			
IDN216	Kepulauan Gorom	101,147	Outer Banda arc	CAN	KP3K Pulau Koon, Pulau-Pulau Kecil dan Sekitarnya	DKP	9,901
IDN219	Perairan Kepulauan Tayandu	228,603	Outer Banda arc	CAN			
IDN221	Perairan Tual	167,040	Outer Banda arc	CAN	TW P. Baer di dusun Duroa kecamatan P. Dullah Utara	DKP	82
					KKP3K P. Kei Kecil, Pulau-pulau dan perarian sekitarnya	DKP	150,000
IDN328	Perairan Kepulauan Lemola	133,061	Outer Banda arc	CON			
IDN330	Kepulauan Sermatang	197,741	Outer Banda arc	CAN			

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA)	PA manager	PA Area (ha)
IDN333	Kepulauan Babar	304,311	Outer Banda arc	CAN			
IDN335	Perairan Angwarmase	1,583	Outer Banda arc	CON			
IDN337	Selat Yamdena	38,263	Outer Banda arc	CON	KKPD Yamdena Kabupaten Maluku Tenggara Barat	DKP	783,806
IDN339	Kepulauan Larat-Fordata	58,661	Outer Banda arc	CON			
IDN326	Kepulauan Kisar	337,200	Outer+Inner Banda arc	CAN			
IDN331	Kepulauan Damar	131,858	Inner Banda arc	CAN			
IDN225	Kepulauan Lucipara	43,209	Lucipara marine	CON			

Map of KBAs in Eastern Lesser Sundas (Including Timor-Leste)



Table/ Marine KBAs and Candidate KBAs in Nusa Tenggara

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA)	PA manager	PA Area (ha)
IDN228	Perairan Batu Gendang	6,103	Lombok – W Nusa Tenggara	CAN	TWP Gili Tangkong, Gili Nanggu dan Gili Sundak	DKP	21,566
IDN229	Lombok Barat	592	Lombok – W Nusa Tenggara	CAN			
IDN230	Gili Ayer–Meno–Trawangan	2,514	Lombok – W Nusa Tenggara	CON	TWP Pulau Gili Ayer, Gili Meno dan Gili Trawangan	KKP	2,954
IDN232	Gili Sulat–Gili Lawang	603	Lombok – W Nusa Tenggara	CAN	TWP Gili Sulat dan Gili Lawang	DKP	10,000
IDN233	Perairan Bumbang	34,762	Lombok – W Nusa Tenggara	CAN	TWP Teluk Bumbang	DKP	6,310
IDN236	Lunyuk Besar	9,612	Lombok – W Nusa Tenggara	CAN	TP Penyu Lunyuk	DKP	70,000
					TPK Gili Balu dan TP Penyu Tatar Sepang	DKP	723
IDN239	Sumbawa Barat	5,785	Lombok – W Nusa Tenggara	CAN	Taman Pulau Kecil P. Keramat, P. Bedil, P. Temudong	DKP	2,000
IDN240	Pulau Panjang	11,085	Lombok – W Nusa Tenggara	CAN			
IDN243	Perairan Pulau Moyo	7,884	Lombok – W Nusa Tenggara	CAN	TWA Pulau Moyo	KLH K	6,000
IDN245	Perairan Pulau Satonda	749	Lombok – W Nusa Tenggara	CAN	TWA Pulau Satonda	KLH K	2,600
IDN247	Nisa–Teluk Saleh	1,249	Lombok – W Nusa Tenggara	CAN			
IDN249	Perairan Empang	15,231	Lombok – W Nusa Tenggara	CAN	SAPerikanan Teluk Cempi	DKP	39,000
IDN250	Perairan Parado	4,097	Lombok – W Nusa Tenggara	CAN			
IDN251	Teluk Waworada	35,648	Komodo–Sumba strait	CAN			
IDN252	Perairan Bajo	165	Komodo–Sumba strait	CAN			
IDN253	Pulau Ular	880	Komodo–Sumba strait	CAN			

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA)	PA manager	PA Area (ha)
IDN254	Sangiang	9,282	Komodo–Sumba strait	CAN			
IDN255	Gili Banta	4,038	Komodo–Sumba strait	CAN	TWP Gili Banta	DKP	43,750
IDN281	Perairan Komodo–Rinca	124,748	Komodo–Sumba strait	CON			
IDN256	Pero	3,043	Savu sea	CAN			
IDN269	Tangairi–Lukulisi–Konda Maloba	9,105	Savu sea	CAN			
IDN270	Perairan Tarimbang	3,579	Savu sea	CAN			
IDN263	Pantai Mananga Aba–Pantai Waeketo	7,393	Savu sea	CON	TNP Laut Sawu	KKP	3,355,353
IDN276	Pulau Salura–Mangkudu–Kotak	4,904	Savu sea	CON			
IDN278	Perairan Tanjung Ngunju	6,403	Savu sea	CAN			
IDN351	Perairan Rote Utara	25,788	Savu sea	CON			
IDN354	Rote Barat Daya	53,884	Savu sea	CON			
IDN355	Perairan Pulau Dana	35,119	Savu sea	CAN			
IDN348	Perairan Teluk Kupang	79,114	Savu sea	CON	TWA Teluk Kupang	KLHK	50,000
IDN295	Riung 17 Pulau	23,314	No corridor	CON	CA Riung	KLHK	2,000
					TWA Tujuh Belas Pulau	KLHK	9,900
IDN299	Paga	3,907	No corridor	CAN	KKPL Kabupaten Sikka	DKP	42,250
IDN301	Gunungsari	593	No corridor	CAN	TWA Gugus Pulau Teluk Maumere	KLHK	59,450
IDN302	Teluk Maumere	47,822	No corridor	CON			
IDN307	Pantai Selatan Lebau	1,770	Solor–Alor	CAN	SAP Kabupaten Flores Timur	DKP	150,000
IDN310	Flores Timur	2,974	Solor–Alor	CAN			
IDN311	Perairan Lembata	37,527	Solor–Alor	CON	KKPD Lembata	DKP	225,620
					SAP Kabupaten Flores Timur	DKP	150,000

KBA map Code	KBA Name	KBA Area (ha)	Marine Corridor	Status (2014)	Name of overlapping protected area (PA)	PA manager	PA Area (ha)
IDN314	Selat Pantar	55,071	Solor-Alor	CON	SAP Selat Pantar dan laut sekitarnya	DKP	276,693
IDN316	Pantar Utara	3,282	Solor-Alor	CAN			
IDN318	Perairan Gunung Muna	3,525	Solor-Alor	CON			
IDN320	Perairan Alor Utara	5,417	Solor-Alor	CAN			

Abbreviations used in the names of conservation areas

Abbreviations	Indonesian	English
KKPD	Kawasan Konservasi Perairan Daerah	Regional Marine Conservation Area
TN (P)	Taman Nasional (perairan)	(Marine) National Park
SAP	Suaka Alam Perairan	Marine Nature reserve
TW(P)	Taman Wisata (perairan)	(Marine) tourism park
SAPerikanan	Suaka Alam Perikanan	Fisheries Nature reserve
TPK	Taman Pulau Kecil	Small Island Park
TP	Taman Pesisir	Coastal Park
KKP3K	Kawasan Konservasi Perairan, Pesisir dan Pulau-pulau Kecil	Marine, coastal and small island conservation area
DKP	Dinas Kelautan dan Perikanan	Regional Agency for marine and fisheries
KKP	Kementerian Kelautan dan Perikanan	Ministry of Marine Affairs and fisheries (MMAF)
KLHK	Kementerian Lingkungan Hidup dan Kehutanan	Ministry of Environment and Forestry

Table. Marine Corridors (CEPF priorities in bold)

No.	Corridor Name	Province /country	Area (Ha)	KBAs	# of Globally Threatened Species with Confirmed Records
1	North Sulawesi	North Sulawesi	6,006,005	IDN001, IDN002, IDN006, IDN008, IDN009, IDN013, IDN014, IDN016, IDN017, IDN018, IDN020, IDN023, IDN026, IDN032, IDN033	140
2	Sulawesi Sea*	North Sulawesi, Gorontalo	7,888,060	None	0
3	West Central Sulawesi	West Sulawesi, North Sulawesi	2,319,590	IDN059, IDN063, IDN065, IDN068	2
4	Togean– Banggai	Central Sulawesi	1,909,669	IDN077, IDN079, IDN081, IDN087	4
5	Sulawesi Tenggara	South-East Sulawesi	6,626,670	IDN105, IDN107, IDN112, IDN113, IDN117, IDN119, IDN121, IDN122, IDN125	no data
6	Sulawesi Selatan	South Sulawesi	4,636,985	IDN132, IDN136, IDN139, IDN141, IDN142	no data
7	Pangkajene Kepulauan	South Sulawesi	2,640,576	no KBA	no data
8	Selat Makassar	West Sulawesi	14,144,548	no KBA	no data
9	Lombok - Sumbawa	West Nusa Tenggara	2,050,317	IDN228, IDN229, IDN230, IDN232, IDN233, IDN236, IDN239, IDN240, IDN243, IDN245, IDN247, IDN249, IDN250	4
10	Komodo–Sumba Strait	East Nusa Tenggara	754,100	IDN251, IDN252, IDN253, IDN254, IDN255, IDN281	5
11	Solor–Alor	East Nusa Tenggara	3,043,621	IDN307, IDN310, IDN311, IDN314, IDN316, IDN318, IDN320	2
12	Sawu Sea	East Nusa Tenggara	2,540,129	IDN256, IDN263, IDN269, IDN270, IDN276, IDN278, IDN348, IDN351, IDN354, IDN355	4
13	Halmahera Seascape	North Maluku	5,396,683	IDN146, DN148, IDN151, IDN152, IDN155, IDN157, IDN159, IDN162, IDN166, IDN168, IDN169, IDN175, IDN176, IDN180, IDN181, IDN187, IDN189, IDN190	152
14	Kepulauan Sula	Maluku	1,435,607	IDN090, IDN094	no data
15	Buru Seascape	Maluku	2,213,436	IDN191, IDN197, IDN198, IDN206, IDN208, IDN209	1
16	Lucipara Seascape	Maluku	1,930,038	IDN225	1

No.	Corridor Name	Province / country	Area (Ha)	KBAs	# of Globally Threatened Species with Confirmed Records
17	Banda Seascape	Maluku	2,113,838	IDN217, IDN224	76
18	Inner Banda Arc	Maluku	2,580,733	(IDN326), IDN331	no data
19	Outer Banda Arc	Maluku	5,973,386	IDN216, IDN219, IDN221, IDN328, IDN330, IDN333, IDN335, IDN337, IDN339, (IDN326)	5
20	Timor Trench	Timor-Leste	912,028	None	0
21	Timor-Leste Seascape	Timor-Leste	544,149	TLS002, TLS004, TLS008, TLS011, TLS012, TLS019, TLS023, TLS025, TLS026, TLS030, TLS031, TLS034	89

Table. Protected Areas in Indonesian Wallacea

Province	Protected area name	Designation	Area (ha)	Year Declared	KBAs	Marine Corridor
Sulawesi Utara	TN Bunaken	Taman Nasional	89,065	1991	yes	North Sulawesi
Sulawesi Utara	KKLD Kab. Minahasa Selatan	KKPD	26,000	2007	yes	North Sulawesi
Sulawesi Utara	KKPD Minahasa	KKPD	10,976	2013	yes	North Sulawesi
Sulawesi Utara	TPK Kepulauan Tatoareng dan Perairan sekitarnya	Taman Pulau Kecil	167,398	2017	yes	North Sulawesi
Sulawesi Utara	TWP Kab Minahasa Utara	Taman Wisata Perairan	26,525	2018	yes	North Sulawesi
Sulawesi Utara	KKPD Kepulauan Sitaro	Taman Pulau Kecil	44,110	2018	yes	North Sulawesi
Sulawesi Utara	KKPD Kota Bitung	Kawasan Konservasi Perairan Daerah	9,647	2014	yes	North Sulawesi
Gorontalo	KKPD Biluhu Timur	KKPD	105	2019	no	none
Gorontalo	KKPD Botubarani	KKPD	35	2019	no	none
Gorontalo	KKPD Dulangka	KKPD	3,419	2019	no	none
Gorontalo	KKPD Gorontalo Utara	KKPD	469	2019	yes	none
Gorontalo	KKPD Mabasar Maruangi	KKPD	1,164	2019	no	none
Gorontalo	KKPD Maruagi - Mabasar	KKPD	6,866	2019	yes	none
Gorontalo	KKPD Monduli	KKPD	7,380	2019	yes	none
Gorontalo	KKPD Pantai Olele	KKPD	479	2019	no	none
Gorontalo	KKPD Popaya	KKPD	1,267	2019	no	none
Gorontalo	KKPD Sumalata	KKPD	14,308	2019	no	none
Gorontalo	KKPD Tanjung Panjang	KKPD	2,953	2019	no	none
Gorontalo	KKPD Tolinggula	KKPD	2,097	2019	no	none
Sulawesi Barat	KKPD Majene	KKPD	no info	2016	no	none
Sulawesi Barat	KKPD Mamuju	KKPD	no info	2016	yes	West central Sulawesi
Sulawesi Barat	KKPD Polewali Mandar	KKPD	no info	2016	no	none

Province	Protected area name	Designation	Area (ha)	Year Declared	KBAs	Marine Corridor
Sulawesi Selatan	KKLD Pulo Pasi Gusung	KKPD	5,018	2011	yes	South Sulawesi
Sulawesi Selatan	KKL Kabupaten Luwu Utara	KKPD	606	2010	yes	none
Sulawesi Selatan	KKP3K Kab Barru	KKP3K	606	2014	no	South Sulawesi
Sulawesi Selatan	KKPD Bone Sinjai	Suaka Perikanan	423,942	2018	yes	South Sulawesi
Sulawesi Selatan	KKPD Liukang Tangaya	KKPD	500,738	2018	no	Pangkajene Kelpulauan
Sulawesi Selatan	KKPD Liukang Tupabiring (KKPD Pangkep)	KKPD	66,870	2018	yes	South Sulawesi
Sulawesi Selatan	KKPD Pulo Kauna Kayuadi	KKPD	3,983	2011	no	South Sulawesi
Sulawesi Selatan	TN Taka Bonerate	Taman Nasional	530,765	2001	yes	South Sulawesi
Sulawesi Selatan	TWP Kepulauan Kapoposang	Taman Wisata Perairan	50,000	2014	no	South Sulawesi
Sulawesi Tengah	KKP3K Kecil Banggai, Banggai Kepulauan, Banggai Laut	KKP3K	856,649	2019	yes	Togean-Banggai
Sulawesi Tengah	KKP3K Donggala, Buol, Tolitoli dan Perairan Sekitarnya	KKP3K	60,043	2019	yes	West central Sulawesi
Sulawesi Tengah	KKP3K Morowali, Morowali Utara, dan Perairan Sekitarnya	KKP3K	292,910	2019	no	none
Sulawesi Tengah	KKP3K Parigi Moutong, Poso, Tojo Una-Una	KKP3K	128,690	2019	yes	none
Sulawesi Tengah	TN Kepulauan Togean	Taman Nasional	362,605	2004	yes	Togean-Banggai
Sulawesi Tenggara	KKPD (SAP) Kolaka Utara	SAP	37,320	2015	no	none
Sulawesi Tenggara	TWP Pulau Wawonii	Taman Wisata Perairan	28,340	2016	no	South-east Sulawesi
Sulawesi Tenggara	KKPD (KWL) Selat Tiworo dan Pulau-pulau sekitarnya	Kawasan Konservasi Perairan Daerah	27,936	2004	yes	South-east Sulawesi

Province	Protected area name	Designation	Area (ha)	Year Declared	KBAs	Marine Corridor
Sulawesi Tenggara	TN Kepulauan Wakatobi	Taman Nasional	1,390,000	2002	yes	South-east Sulawesi
Sulawesi Tenggara	KKPD Buton Selatan	Kawasan Konservasi Perairan Daerah	182,147	2016	yes	South-east Sulawesi
Sulawesi Tenggara	KKPD Kabupaten Bombana	Taman Wisata Perairan	19,177	2011	yes	South-east Sulawesi
Sulawesi Tenggara	KKPD Kabupaten Buton	Taman Wisata Perairan	10,130	2005	yes	South-east Sulawesi
Sulawesi Tenggara	KKPD Kabupaten Kolaka	Suaka Perairan	60,400	2013	yes	none
Sulawesi Tenggara	KKPD Kabupaten Muna	Kawasan Konservasi Perairan Daerah	76,417	2014	no	South-east Sulawesi
Sulawesi Tenggara	KKPD Sulawesi Tenggara	Kawasan Konservasi Perairan Daerah	21,786	2014	yes	South-east Sulawesi
Sulawesi Tenggara	TWA Kepulauan Padamarang	Taman Wisata Alam	36,000	2003	no	none
Sulawesi Tenggara	TWA Teluk Lasolo	Taman Wisata Alam	81,800	1999	yes	South-east Sulawesi
Maluku	KKP3K Pulau Kei kecil, pulau-pulau dan perairan sekitarnya di Kabupaten Maluku Tenggara	Taman Pulau Kecil	150,000	2016	no	Outer Banda arc
Maluku	KKPD Kep. Lease	KKP3K	81,573	2016	yes	Buru marine
Maluku	KKPD Pulau Ay dan Pulau Rhun	KKPD	47,969	2016	yes	Banda marine
Maluku	KKPD Yamdena Kabupaten Maluku Tenggara Barat	Kawasan Konservasi Perairan Daerah	783,806	2016	yes	Outer banda arc
Maluku	KP3K Pulau Koon, Pulau-Pulau Kecil dan Sekitarnya di Kabupaten Seram Bagian Timur	Taman Pulau Kecil	9,901	2018	yes	Outer banda arc
Maluku	TWP Laut Banda	Taman Wisata Perairan	2,500	2014	no	Banda marine
Maluku	TW Pulau Baer di dusun Duroa kecamatan Pulau Dullah Utara	KKPD	82	2016	yes	Outer banda arc
Maluku	TWA Pulau Kasa	Taman Wisata Alam	1,100	1978	yes	Buru marine
Maluku	TWA Pulau Marsegu	Taman Wisata Alam	11,000	1999	no	Buru marine

Province	Protected area name	Designation	Area (ha)	Year Declared	KBAs	Marine Corridor
Maluku	TWA Pulau Pombo	Taman Wisata Alam	998	1996	no	Buru marine
Maluku Utara	KKPD Kepulauan Guraici dan Laut Sekitarnya	KKPD	6,386	2012	yes	Halmahera marine
Maluku Utara	KKPD Kota Tidore Kepulauan	KKPD	2,810	2012	no	Halmahera marine
Maluku Utara	KKP (TWP) Pulau Rao - Tanjung Dehegila Kabupaten Pulau Morotai	Taman Wisata Perairan	65,521	2018	yes	Halmahera
Maluku Utara	KKP3K Kepulauan Sula	Taman Pesisir	117,960	2018	yes	Sula islands
Maluku Utara	KKP3K Pulau Makian Kabupaten Halmahera Selatan	Suaka Pulau Kecil	42,799	2018	no	Halmahera marine
Maluku Utara	KKPD Gugusan pulau Widi sebagai Suaka pulau kecil	KKPD	7,690	2015	yes	Halmahera
Maluku Utara	SPK Kabupaten Halmahera Tengah	Suaka Pulau Kecil	192	2013	no	Halmahera marine
Nusa Tenggara Barat	TWP Gili Sulat dan Gili Lawang	Taman Wisata Perairan	10,000	2016	yes	Lombok – Sumbawa
Nusa Tenggara Barat	KKPD Pulau Lipan dan Rakit	Suaka Alam Perairan	26,641	2018	no	Lombok – Sumbawa
Nusa Tenggara Barat	TPK P. Keramat, P. Bedil, P. Temudong	Taman Pulau Kecil	2,000	2016	yes	Lombok – Sumbawa
Nusa Tenggara Barat	TP Penyu Lunyuk	Taman Pesisir	70,000	2016	yes	Lombok – Sumbawa
Nusa Tenggara Barat	TWP P. Gili Ayer, Gili Meno, Gili Trawangan	Taman Wisata Perairan	2,954	2014	yes	Lombok – Sumbawa
Nusa Tenggara Barat	TWP Gili Banta	Kawasan Konservasi Perairan Daerah	43,750	2016	yes	Komodo–Sumba strait
Nusa Tenggara Barat	TWP Pulau Liang dan Pulau Ngali	Taman Wisata Perairan	33,461	2016	no	Lombok – Sumbawa
Nusa Tenggara Barat	TWP Teluk Bumbang	Taman Wisata Perairan	6,310	2016	yes	Lombok – Sumbawa
Nusa Tenggara Barat	SAP Teluk Cempi	Suaka Alam Perikanan	39,000	2016	yes	Lombok – Sumbawa
Nusa Tenggara Barat	TPK Gili Balu dan TP Penyu Tatar Sepang	Taman Pulau Kecil dan Taman Pesisir	723	2016	yes	Lombok – Sumbawa

Province	Protected area name	Designation	Area (ha)	Year Declared	KBAs	Marine Corridor
Nusa Tenggara Barat	TWA Pulau Moyo	Taman Wisata Alam	6,000	2001	yes	Lombok – Sumbawa
Nusa Tenggara Barat	TWA Pulau Satonda	Taman Wisata Alam	2,600	1998	yes	Lombok – Sumbawa
Nusa Tenggara Barat	TWP Gili Tangkong, Gili Nanggu dan Gili Sundak	Taman Wisata Perairan	21,556	2016	yes	Lombok – Sumbawa
Nusa Tenggara Timur	CA Riung	Cagar Alam	2,000	1996	yes	none
Nusa Tenggara Timur	KKPL Kabupaten Sikka	KKPD	42,250	2010	yes	none
Nusa Tenggara Timur	SAP Selat Pantar dan Laut Sekitarnya	Suaka Alam Perairan	276,693	2015	yes	Solor–Alor
Nusa Tenggara Timur	KKPD Lembata	Kawasan Konservasi Perairan Daerah	225,620	2012	yes	Solor–Alor
Nusa Tenggara Timur	SAP Kabupaten Flores Timur	Kawasan Konservasi Perairan Daerah	150,000	2013	yes	Solor–Alor
Nusa Tenggara Timur	TNP Laut Sawu	Taman Nasional Perairan	3,355,353	2014	yes	Savu sea
Nusa Tenggara Timur	TWA Gugus Pulau Teluk Maumere	Taman Wisata Alam	59,450	1987	yes	none
Nusa Tenggara Timur	TWA Teluk Kupang	Taman Wisata Alam	50,000	1993	no	Savu sea
Nusa Tenggara Timur	TWA Tujuh Belas Pulau	Taman Wisata Alam	9,900	1996	no	none