

**Transforming the Management of Marine and Coastal Resources in the Coral Triangle:
A Region-wide Program to Safeguard Marine Biological Resources for Future
Generations**

**Coral Triangle Support Partnership (CTSP)
Year 2 Indonesia Activity Plan**

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LIST OF ACRONYMS AND DEFINITIONS

ADB – Asian Development Bank
APEC – Asia Pacific Economic Cooperation
BKSDA – Natural Resource Conservation Office of Ministry of Forestry
BSSE – Bismarck Solomon Seas Ecoregion – includes Indonesia, PNG and Solomon Islands
CCC – Coral Triangle Coordination Committee
CEO – Chief Executive Officer
CI – Conservation International
CRFC – Coastal Reef Fisheries Conservation Project
CRMP – Coastal Resources Management Program
CSC – Consortium Strategy Committee
CTC – TNC's Coral Triangle Center
CTICOM – CTI Council of Ministers
CTIP – Coral Triangle Initiative Partnership
CTI Secretariat – Regional CTI Secretariat, interim Secretariat hosted by Indonesia
CTISTEER – CTI Steering Committee
CTMPAN – Coral Triangle Marine Protected Area Network
CTSP – Coral Triangle Support Partnership Project – USAID project
DANIDA – Danish International Development Agency
MMAF – Indonesia's Ministry of Marine and Fisheries
Demersal – living or found near or in the deepest part of a body of water; sinking to or deposited on the bottom of a body of water
EAFM – Ecosystem Approach to Management of Fisheries
EBFM – Ecosystem Based Fisheries Management (the preferred term for this Project)
ECOGOV – Environmental Governance Project
ENT – East Nusa Tenggara
FADS – Fish Aggregation Devices
FISH – Fisheries Improved for Sustainable Harvest
GIS – Geographic Information Systems
GMSA – Global Marine Species Assessment
GoI – Government of Indonesia
HNSI – Indonesia's Fishers Association
IN – Indonesia
ICM – Integrated Coastal Management
ILMMA – Indonesia Locally Managed Marine Area Network
IUU – Illegal, unregulated and unreported
LMMAs – Locally managed marine protected areas

LOP – Life of Project
LRFFT – Live Reef Food Fish Trade
LRFT – Live Reef Fish Trade
M&E – Monitoring and Evaluation
MCAs – Marine Conservation Areas
Melanesia – PNG and Solomon Islands
MGTF – Mama Graun Trust Fund
MMAF – Indonesia’s Ministry of Marine Affairs and Fisheries
MPAs – Marine Protected Areas
MPAMES – Marine Protected Area Management Effectiveness Assessment System
MSC – Marine Stewardship Council
MSG – Melanesia Spearhead Group
MY – Malaysia
NCC – National Coordination Committee, aka National Secretariat
NGO – Non Governmental Organization
NOAA – National Oceanic and Atmospheric Administration
NPOA – National Plan of Action
Pelagic – of or pertaining to the open seas or oceans; especially to certain organisms living or growing at or near the surface of the ocean, far from land.
PH – Philippines
PHKA – Indonesia’s Directorate General of Forest Protection and Nature Conservation
PI – Program Integrator
PMP – Performance Monitoring Plan
PNG – Papua New Guinea
RDMA – USAID Regional Development Mission for Asia
RFMO – Regional Fisheries Management Organization
RNHP – Regional Natural Heritage Programme of the Australian Government
RPOA – Regional Plan of Action
Seascapes – large, multiple-use marine areas defined scientifically and designated and effectively managed strategically, in which government authorities, private organizations and other stakeholders cooperate to conserve the diversity and abundance of marine life and to promote human well-being.
SI – Solomon Islands
SML – *Suaka Margasatwa Laut* – Marine Sanctuary
SOM – Senior Officers Meeting
SRU – Sustainable Resource Use – site level
SSME – Sulu-Sulawesi Marine Ecoregion – includes Malaysia, Indonesia and the Philippines
TNC – The Nature Conservancy
TL – Timor Leste
TWAL – *Taman Wisata Alam Laut* – Marine Recreational Park
USAID – United States Agency for International Development
UNIPA – University of Papua
WWF – World Wildlife Fund

1. GENERAL INTRODUCTION

This activity plan is provided at the request of USAID Indonesia to supplement the CTSP workplan submitted to USAID's Regional Development Mission/Asia under GCP LWA Associate Award # LAG-A-00-99-00048-00. The activity plan provides information on activities, staffing, management and organization for implementation of the CTSP-I program. Financial information is provided in the official consolidated CTSP Year 2 Work Plan submitted to RDMA on February 26, 2010.

COUNTRY CONTEXT AND BACKGROUND

Indonesia is the largest archipelagic country in the world, stretching across three time zones, encompassing more than 7,000 islands, 86,700 square kilometers of coral reefs, and 24,300 square kilometers of mangrove areas. It is one of the largest countries in the world with a population of more than 230 million people. Indonesia depends on marine resources for much of its food and income. Presently, about 20% of Indonesia's GDP is derived from marine and fishery industries while 60% of the Indonesian population lives within 50 km of the coast and it is estimated that 70% of the country's protein source comes from fish, and upwards of 90% in some rural coastal villages. Fishing continues to be an important source of food and livelihood driven by population growth, limited employment opportunities, dwindling land area and quality for agriculture, and the open access to fisheries, particularly for small scale fishers. Indonesia estimates that the number of coastal fishers increased by more than 40% over the last 10 years as fishing is often considered to be a livelihood of last resort for the poor.

Despite a national increase in fisheries output (8.7 million tons in 2008 vs. 8.2 million tons in 2007) and export (895,000 tons in 2008 vs. 854,329 tons in 2007), it is acknowledged that most of the fishery zones in the western areas of Indonesia are severely depleted or at least over-exploited and in need of rehabilitation. Thus, the focus of much fishing effort has moved to the eastern waters that represent a major part of the Coral Triangle, a 6 country region in Southeast Asia and the Pacific representing the epicenter of marine life abundance and diversity on the planet. Domestic port fisheries development is planned at a rate that simultaneously attempts to provide economic opportunities in the region, and increase contribution to GDP in some areas. This is contributing to unsustainable pressures on already stressed resources

Indonesia is a young and rapidly evolving democracy, electing its first President by name in 2004. It is still in the early stages of decentralization, with less than a decade of experience in working with a decentralized government that is now sending the bulk of the country's money to the more than 300 districts. Although decentralization to the district/city level (or *kabupaten/kota*) was proposed in an effort to bring natural resources management decision making to villages and communities, it has also created a huge need and demand for capacity building for district-based managers. New organizational operations are still evolving and new cultures for individual performance and responsibility will take a decade or more to put in place.

At the national level, the Ministry of Marine Affairs and Fisheries (MMAF) plays a central role in addressing the need for institutional, organizational and personnel development. The complexity of its mission is clear when remembering that it has responsibilities for managing

marine resources sustainably while increasing the value of the marine and fishery sector as well as increasing the quality of life for coastal citizens. However, MMAF's current strategies do not fully meet the demand for expanded management and protection of biodiversity and fish stocks. It is believed that most of the country's fishery stocks are plummeting and that the capture fisheries sector is facing an inevitable decline over the medium-term.

Current trends strongly suggest that over the next decade Indonesia's coastal waters will require substantially more protection and integrated management if they are to provide a sustained resource for coastal artisanal fishing. In addition, the sustainability of important livelihoods such as deep-sea fishing, on- and off-shore aquaculture, seaweed cultivation, marine-based tourism and other coastal activities is in question if they are not more effectively managed. In order to meet this challenge, Indonesia must address the currently visible gaps related to integrating effective area-based management approaches, namely marine protected areas (MPAs), with biodiversity and fisheries management practices. Progress over the medium- to long-term is made more complicated by the need for connectivity among MPAs within Indonesia as well as in the Coral Triangle region. Developing networks of MPAs that are connected necessitates both provincial and regional cooperation to manage such concerns as spawning aggregation sites, juvenile grow-out areas and adult migration routes for the country's most important commercial and food fish species.

The Indonesian National Fisheries Law (UU 31/2004) and the National Coastal Management Law (UU 27/2007) both discuss the need to use MPAs to improve the management and sustainability of the fisheries. There is already recognition that the Fisheries Law will need to be revised to include provisions for a broader range of management tools, including expanded provisions for MPAs, to bring in a broader range of technical approaches that will sustain resources and biodiversity. The Ministry of Marine Affairs and Fisheries (MMAF) has the national mandate to expand marine resources contribution to the national GDP, and is committed to integrating MPAs into the larger biodiversity and fisheries management approaches.

MMAF is also greatly challenged by the sheer size and diversity of the country. While keen to work strategically to protect and manage those sources of highest value, MMAF has long needed better scientific guidance on what constitutes true marine conservation priorities. It has been 30 years since the last scientific assessment was performed to establish a clear profile of Indonesia's marine resources, and prioritize these resources in terms of conservation value. MMAF has long needed the country's marine resources better profiled and prioritized so that MMAF can better focus its limited resources to where they can have the greatest impact.

THE CORAL TRIANGLE INITIATIVE - INDONESIA NATIONAL PLAN OF ACTION

Indonesia is recognizing the inter-connectedness of marine resource management with neighboring countries, in the region known as the Coral Triangle—the epicenter of marine life abundance and diversity on the planet. In August 2007 President Yudhoyono of Indonesia proposed a new multilateral partnership to safeguard the region's extraordinary marine and coastal biological resources. Since September 2007, when 21 leaders from across Asia Pacific welcomed the Coral Triangle Initiative (CTI) in the APEC Summit Declaration, the CTI has developed a remarkable momentum. The six governments recently confirmed

the CTI Plan of Action at the World Ocean Conference in Manado, Indonesia in May 2009, and the donor community has resoundingly supported these efforts with early substantial commitments by the US Government, Global Environment Facility (GEF) and the Asian Development Bank (ADB). These six-countries of the Coral Triangle include Malaysia, Indonesia, Philippines, Timor Leste, Papua New Guinea, and the Solomon Islands, collectively referred to as the “CT6.” CT6 confirmed support for a Regional Plan of Action (RPOA), setting out five goals to improve marine resources management in the region. These same five goals, addressing issues of fisheries, marine protected areas, seascapes, species, and climate change adaptation, are mirrored in each of the National Plans of Action (NPOAs) generated for and by each member country. (Seascapes in this context refer to large, multiple-use marine areas defined scientifically and designated and effectively managed strategically, in which government authorities, private organizations and other stakeholders cooperate to conserve the diversity and abundance of marine life and to promote human well-being.)

In Indonesia, MMAF has responsibility for the implementing the NPOA. MMAF’s scope of authority has recently expanded to include management for marine biodiversity and fisheries resources conservation in Indonesia. Under this new authority, MMAF will take over the mandate of managing all types of aquatic protected areas from the Ministry of Forestry. One immediate result of this is the transfer of eight marine conservation areas (MCAs) from the Ministry of Forestry to MMAF. Additional transfers will happen in time. MMAF already has requested US Government support to build sufficient capacity to smooth the transfer of this authority and result in the effective management of these and other MPAs. Priority needs include developing a system for collecting and using key biology and socioeconomic data in decision making, an approach for involving multiple stakeholders in the planning and management of MPAs, developing and applying an effective adaptive management approach, developing and delivering training and mentoring programs for managers and other participating stakeholders, and institutionalizing management approaches and skills-building programs in MMAF and local universities.

Indonesia has ratified its National Plan of Action (NPOA), targeting the same five goals laid out in the CT6 Regional Plan of Action. While committed to the entire NPOA, Indonesia has placed a higher priority on Goal 3: Marine Protected Areas (MPAs) Established and Effectively Managed, for the importance of preserving the nation’s biodiversity resources. Indonesia already has an impressive MPA network and system throughout the country, managed through a combination of national and local government institutions, as well as by local communities in some instances. Indonesia’s MPA system currently spans 11 million hectares, and Indonesia has plans to increase this coverage to 20 million hectares by 2020. But site designation is not sufficient; with MPAs established, the government must ensure effective design (zoning) and management for these MPAs, as per the goal laid out in the National Plan of Action.

The Coral Triangle Support Program (CTSP) is a collaborative a five-year project to bring about the protection of marine systems and their myriad habitats for the benefit and sustainable livelihoods of communities across the Coral Triangle Region. Implemented by a consortium of the international conservation organizations, in partnership with the United States Agency for International Development, and in concert with CT6 countries and private sector actors, CTSP works to advance progress on the National Plan of Action within in each of these countries.

CTSP GOALS

In Indonesia CTSP will work with the MMAF, Department of Forestry, local governments and other stakeholders to:

Support the GOI to develop a strategy for MPAs that integrates biodiversity conservation and fisheries management;

Support the creation of a learning network and mechanisms to deliver long-term MPA capacity building;

Support the development of MPA networks in seascapes (or parts thereof) through policy support and biodiversity and socio-economic surveys;

Support GOI and local stakeholders to advance conservation action in Indonesia by institutionalizing successful MPA management approaches;

Assist GOI in establishing a prioritization of priority geographies as national policy that will assist the government in making best strategic use of limited resources.

GEOGRAPHIC PRIORITIZATION

Commissioned by CTSP, Conservation International conducted a questionnaire survey and technical consultation in June and July 2009 among world-renowned experts to prioritize among marine eco-regions in Indonesia. Delineation of eco-regions was based on marine eco-regions of the world (MEOW) defined by Spalding et al. (2007) (Figure 1).

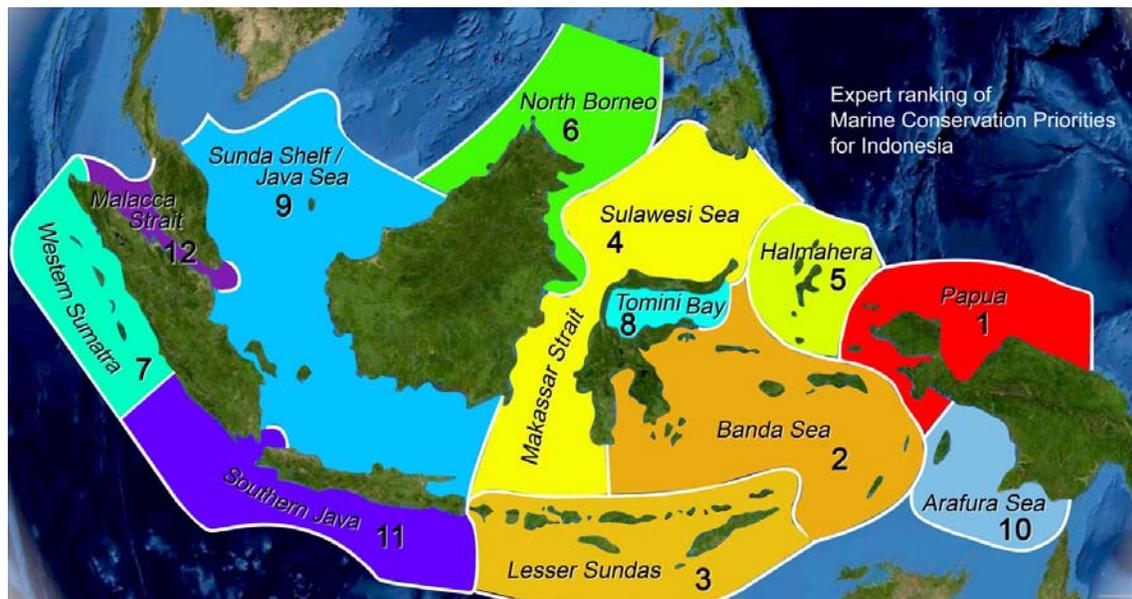


Figure 1: Map showing the twelve Indonesian marine eco-regions as defined in the Marine Eco-regions of the World (MEOW) classification scheme, with prioritization rankings highlighted. C. L. Huffard, M.V Erdmann, and T. Gunawan 2009, et.al. Defining geographic priorities for marine biodiversity conservation in Indonesia. USAID Coral Triangle Support Partnership, 2009. 103 p.

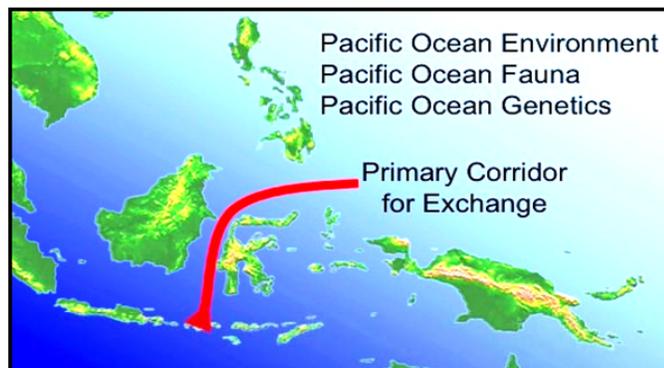
A brief summary of the rankings per eco-region is as follows:

Papua: Papua was overwhelmingly ranked the top marine biodiversity conservation priority in Indonesia – ten of the 16 experts ranked Papua number 1, while the remaining six ranked it either second or third. Papua tops most counts of coral reef biodiversity and boasts numerous animals, habitats, and genetic clades that are rare elsewhere throughout Indonesia, including record numbers of endemic species of fish, corals and stomatopods, sperm whale calving grounds, the world's largest Pacific leatherback turtle rookery, major green turtle rookeries, resident Bryde's whales in Kaimana, and healthy populations of dugongs and estuarine crocodiles. Low human population density adds to the conservation potential for this area, though aligning forces of exploitation intensify the urgency for marine conservation action in this region.

Banda Sea: The Banda Sea ranks second for conservation priority in Indonesia based on its high diversity of coral reef species, high reef habitat diversity (including abundant near shore yet deep sea habitats, otherwise rare throughout the world), strategic role in connectivity based on current patterns, significant role in sea turtle life cycles, and significance to highly endangered oceanic cetaceans such as blue whales. As a very deep basin, the Banda Sea has provided an important refuge for reefs during past sea level regressions, and may play a similar role in the future as global climate change heats up more shallow seas. Like Papua, human population density in the Banda Sea is low. However the Banda Sea is considered to be heavily fished, putting the above attributes at risk.

Lesser Sundas: In addition to having very high diversity and levels of endemism surpassed only by Papua, the Lesser Sundas function as an extremely important migration corridor for many forms of large migratory marine life (including cetaceans and commercially important pelagic fishes) moving between the Indian and Pacific Oceans via the multiple near shore, deepwater channels through the islands. The coldwater upwellings created along the southern coastlines of the Lesser Sundas may help buffer this region from climate change, but just as importantly, drive extremely high primary productivity that is the basis of a rich food chain that supports all manner of large pelagic fishes and cetaceans, including blue whales.

Sulawesi Sea/Makassar Strait: The Sulawesi Sea/Makassar Strait ranks fourth in conservation priority based on its integral role in connectivity and larval dispersal via the Indonesian Throughflow, its very high species richness, importance for cetaceans and high taxonomic and genetic representativeness of diversity from across Indonesia. Existing infrastructure and capacity in Bunaken National Park should serve as a sound expansion point for additional conservation measures, which should include the creation of a network of MPAs running north to south and creating a “connectivity corridor” through the Makassar Strait.



Halmahera: Halmahera ranks fifth as a marine conservation priority in Indonesia based on its exceedingly high biodiversity and habitat diversity, representativeness of Asian and

Australian fauna, and important role in connectivity between Papua and Sulawesi. Several experts suggested that Halmahera should perhaps be viewed as an extension of the Bird's Head Seascape within the Papua marine eco-region.

North Borneo: The Palawan/North Borneo eco-region, which spans waters in Indonesia, Malaysia, and the Philippines, is ranked sixth for marine conservation priority in Indonesia. The biodiversity of this eco-region represents a subset of others nearby, especially the higher ranked Sulawesi Sea/Makassar Strait. The extensive mangrove forests and seagrass meadows of this eco-region sustain endangered Irrawaddy dolphins, finless porpoises, seabirds, and sea turtles. This eco-region is considered of global significance to green and hawksbill turtle populations, and the Berau MPA in East Kalimantan is home to the largest green turtle rookeries in SE Asia.

Western Sumatra: Western Sumatra ranks seventh for marine conservation priority, despite being considered the most biodiversity data deficient eco-region in Indonesia. Although its biodiversity is not well surveyed, most experts agreed that Western Sumatra hosts the best reef development and widest range of reef habitat types along Indonesia's Indian Ocean coast, and captures Indian Ocean assemblages better than any other eco-region. From a genetic diversity perspective, Western Sumatra is considered second in importance only to Papua, and contains a host of distinct genetic lineages not found elsewhere in Indonesia. All six sea turtles found in Indonesia forage and/or nest here, though their spatial use patterns are not well known. This eco-region ranked as the most urgent priority for follow-up survey work to better understand the biodiversity contained within, and many experts noted that its ranking might well rise with further surveys.

Tomini Bay (NE Sulawesi): The Northeast Sulawesi/Tomini Bay eco-region is ranked eighth based on its high biodiversity, distinctive genetic clades and endemic taxa, especially in the Togeian Islands. The representative biodiversity of Tomini Bay is already protected in great part by the recently declared Togeian Island National Marine Park, though the provincial governments which surround the bay are currently discussing plans for cooperation in implementing integrated coastal zone management for this unique area.

Sunda Shelf/Java Sea: The Sunda Shelf/Java Sea eco-region is ranked ninth for marine conservation priority in Indonesia. This region is characterized by marginal reefs that have only been established since the end of the last glacial maxima, with relatively low species richness and almost no endemism. Significant stressors include freshwater run off, sediment input, and anthropogenic impacts. Despite this, this region offers very important feeding and nesting areas for green and hawksbill turtles, with perhaps the most important hawksbill rookeries in SE Asia located in the Anambas and Natuna Islands. The eco-region is also home to regionally significant mangrove stands, and birds migrating along the eastern coast of Sumatra use the Sunda Shelf/Java Sea as an important flyway. Finally, though depauperate in reef fauna, this eco-region has a high diversity of soft bottom fauna including stomatopods and other benthic infauna.

Arafura Sea: The Arafura Sea ranks tenth for marine conservation priority in Indonesia because of its overall low degree of reef development and hence lowered biodiversity, both taxonomically and genetically. Nonetheless, some of the world's most extensive and biodiverse mangrove stands are found along this southern coast of Papua, which generally lacks habitat variability but is globally important to mangrove and seagrass communities sustaining threatened seabirds, dugongs, sea turtles, estuarine crocodiles, whale sharks and

possibly sawfish. This large shallow shelf and wooded shore is considered prime undisturbed habitat for coastal cetaceans. The Arafura Sea is also home to one of the most important green turtle rookeries in Indonesia (in the Aru Islands), and is an important foraging ground for migrating Hawksbill, Olive Ridley and possibly flatback turtles. This region is considered of high importance for further survey work as it is not well known.

South Java: Southern Java is ranked eleventh for marine conservation priority in Indonesia. Where known, this area exhibits low species richness, all of which is already captured in the Western Sumatra eco-region and to a lesser extent in the Lesser Sunda eco-region (both of which are given higher priority). Sheer drop-offs, low coral reef coverage, high wave energy, and rough sea conditions limit most fishing activities, however those coastal fisheries that are accessible proceed with high intensity. This eco-region is nonetheless very important to sea turtles (greens, hawksbills, leatherbacks and olive ridleys nest along the beaches of southern Java), and the Cilicap/Segera Anakan lagoon has locally significant mangrove stands which are important to seabirds as well.

Malacca Strait: The Malacca Strait ranks the lowest of all 12 eco-regions for marine conservation priority in Indonesia. While this eco-region represents a unique shallow-water habitat that is globally significant to many seabirds, and is a potential corridor for dispersal channel between Indonesia and the Eastern Indian Ocean, human activities including overfishing, destructive fishing, sedimentation, and pollution related to major population centers and Malacca Strait shipping traffic are contributing to depauperation of reef diversity and resiliency.

2. MPA MANAGEMENT: BIODIVERSITY & FISHERIES RESOURCES

MPAs & BIODIVERSITY CONSERVATION

The CTSP Objective is “strengthened enforcement and management of MPAs/marine sanctuaries/fish refugia through networks for species conservation, habitat protection and fisheries production.” The CTI Jakarta Draft objective states that by 2020, a comprehensive, ecologically representative, fully functioning, and region-wide MPA Network is in place, composed of priority MPAs and smaller networks of MPAs, and designed in ways that significantly improve the income, diverse livelihoods and food security of coastal communities, and conserves the region’s rich biological diversity.

Awareness is increasing that highly valued marine resources depend on and are affected by processes and pressures that operate across large geographical areas, often extending beyond national and regional boundaries. To ensure access to critical marine resources in perpetuity, productivity of the natural systems must be maintained. Scientifically-sound, ecosystem-based management strategies at ambitious scales must be coupled with multi-scaled incentives for sustainable resource use in order to produce a real impact. MPAs and MPA networks will play a fundamental role in developing this vision.

Consortium members have been supporting the design and effective co-management capacity of MPAs in the Indonesia for decades. This experience has revealed that a number of existing MPAs were not strategically located in areas critical to the maintenance of productivity and resilience to climate change and natural disasters. Protecting natural assets required for food and livelihoods only recently has been factored into MPA placement. Additionally, practitioners still struggle with constraints on effective management because of both institutional and capacity challenges.

The adaptive management process of this project will continue to examine these issues during the life of this program as it advances effectively managed MPA Networks. Addressing the ecological system of Indonesia as an integrated whole is an innovation that will greatly increase management effectiveness at all levels and underpin the success of all Indonesia objectives. CTSP will assist Indonesia in its process of developing both goals for the MPA Network and a comprehensive map of priority areas for spatial management. An integrated and accessible information management system will support this regional decision-making at all levels.

The Ministry of Marine Affairs and Fisheries (MMAF) has the challenging task of institutional oversight of marine resources in Indonesia. This includes ensuring that marine resources are used sustainably while at the same time increasing the value of the marine and fishery sector with the ultimate goal of increasing the quality of life for all Indonesian citizens. The MMAF has increasingly sought to achieve these two objectives by including marine protected areas (MPAs) as a key tool in its national fisheries and biodiversity management and conservation planning. Effective marine protected areas are critical to achieving MMAF’s national objectives and require the development of ecologically-connected networks of MPAs at both the provincial and regional scales to address concerns such as spawning aggregation sites, juvenile grow-out areas and adult migration routes for the country's most important commercial and food fish species. Development of effective MPA

networks is even more important given the expected negative impacts of climate change to biodiversity and fisheries-based food security. A national system of marine protected areas (MPAs) should obviously strive to represent each of these faunal components and representativeness is therefore considered an important factor for consideration in the overall CTSP geography selection process.

2.1. RELEVANT DEFINITIONS

Definitions:

2.1.1. Marine Protected Area (MPA)

An accepted international definition of MPA that CTSP prefers is: “a clearly defined geographical space, recognized, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values.” (IUCN-WCPA 2008). An MPA in the Indonesian context contains the range of marine ecosystems and resources prevalent in the Coral Triangle region (e.g. coral reefs, seagrass beds, mangroves, estuaries, beaches, and a large variety of associated fisheries (UU 31/2004). In addition, an effective MPA is a mechanism that can ensure sustainable use of economically valuable resources such as fisheries, tourism services, aquaculture development and others that are compatible with sustainable utilization. All MPAs establish agreed spatial controls on use and access to resources to ensure ecosystem and resource viability and conservation through time and include areas where no-extraction of resources is permitted.

2.1.2. MPA Networks

An MPA network as defined by IUCN-WCPA 2008 is:

“a collection of individual MPAs or reserves operating cooperatively and synergistically, at various spatial scales, and with a range of protection levels that are designed to meet objectives that a single reserve cannot achieve.”

Not just any collection of MPAs constitutes an MPA network. A network can include several MPAs of different sizes, located in critical habitats, containing components of a particular habitat type or portions of different kinds of important habitats, and interconnected by the movement of animals and plant propagules (PISCO 2007). They must be appropriately placed, sized and spaced to function collectively as an ecological network and successfully achieve biodiversity goals. Protection of the ecological interconnectedness between and within ecosystems through strategically placed MPAs can strengthen the resilience of the systems to maintain the key functions and processes in the face of stresses (Holling 1973). Additionally, a network implies a coordinated system of MPAs, linked through biological levels, as well as administrative levels, reflecting a consistent approach to design, finance, management and monitoring. Incorporating no-take areas is considered a foundation in most networks. The proportion of no-take areas contained in the network system depends on the degree of protection, recovery being sought and the level of decline in an area. No-take areas can be an effective tool for maintaining or enhancing fisheries, especially those that target long-lived demersal species with planktonic larval dispersal and sedentary adults. Social, economic and environmental benefits are generally greater where the no-take area(s) is/are insufficiently large and well-integrated into broad ecosystem-based management regimes.

2.1.3. National MPA System

CTSP is supporting the Government of Indonesia to enhance its National MPA System. For CTSP's purposes this is defined as the MPAs across the nation of Indonesia that collectively are designed to support the Governments goals in terms of MPA management. This may include both individual MPAs and Networks of MPAs in specific geographies of the country.

For the purposes of CTSP or other programs in Indonesia, the term “MPA system” is suggested to be used for the nationwide scale (or Coral Triangle scale) of MPA development and implementation. This is because unless a group of MPAs can meet the criteria specified above that includes ecological connectivity and other factors, it is not a true “network”. The CTSP will use the term “MPA network” to refer to following groups of MPAs or zones within MPAs in Indonesia:

A large MPA or marine conservation area that contains various use zones including no-take areas that with relative certainty are both ecologically and administratively connected.

A group of MPAs within a defined seascape or eco-region that with relative certainty are both ecologically and administratively connected.

2.1.4. Eco-regions, Seascapes & Priority Geographies

An eco-region is defined by WWF and an expert workshop group (TNC et al 2007) and adopted by CTSP as: “a large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions”. The boundaries of an eco-region are not fixed or sharp, but rather encompass an area within which important ecological and evolutionary processes most strongly interact. Criteria for determining an eco-region include: Geographically distinct areas; distinct natural communities and species; and environmental conditions (e.g. currents, sea surface temperatures, salinity, bathymetry) that are significantly homogeneous. Eco-regions within Indonesia and the Coral Triangle are defined and named according to the map in Figure 1.



Figure 1. Coral Triangle Eco-regions in Indonesia.

At a smaller scale within an eco-region, a *functional seascape* was defined in a workshop (AIMS and CRC Reef Research Center 2002) as: “Areas within a wider eco-region within which there is some geographical or ecological distinctiveness, but over a smaller area that maybe more suitable for the application of management measures such as MPA networks”

Seascapes can be further defined as ‘large multiple-use marine areas, defined scientifically and strategically, in which government authorities, private organizations and other stakeholders cooperate to conserve the diversity and abundance of marine life, and to promote human well-being’. Seascapes typically have high biological diversity, ecological and economic connectivity, and aesthetic and cultural values. By nesting them within seascapes government-authorized MPAs have a logical foundation for the various management needs that may be identified. This approach allows for addressing special management needs and provides an opportunity for government agencies to coordinate their efforts voluntarily to secure more effective regional management programs.

The primary criteria used by MMAF and CTSP to identify functional seascapes in Indonesia, that are consistent with the above definition, include:

- Geographic integrity (contiguous areas with similar habitats, communities, and species);
- Good connectivity within areas (within and among ecosystems);
- Environmental factors that may help explain how species are distributed, or that maybe required for biological values to survive (e.g. wave or current energy regimes);
- Shared ecological characteristics among sites within the functional seascapes (such as particularly high biodiversity, or the area of importance for a particular species group);
- Large area: scale 100s of kilometers across.

The CTSP in Indonesia adopts the above definitions of eco-region and seascape and will use them accordingly.

The term “Priority Geographies” is used by CTSP to describe eco-regions, seascapes, MPA networks or MPAs where the Indonesian government is focusing efforts for improved management and implementation due to the presence of rich biodiversity and/or because they are areas that lack effective management intervention or other criteria justifying the need for support in these priority areas. CTSP is focusing its site specific work in Priority Geographies that contain important MPAs or MPA networks. These Priority Geographies for CTSP’s work are being identified through an Expert Prioritization and Review Process. This process includes both biological prioritization and review based on Government Priority and the potential for effective conservation work within each area.

NO-TAKE AREAS IN MPAS

Understanding the threat is a key starting point for design of effective MPA zoning and management plans. The most important immediate threat to reef ecosystems and fisheries is over-fishing. Over-fishing is caused by industrial fishers as well as artisanal fishers, by foreign and domestic fishers, using both legal and illegal methods. Overfishing is not something that is exclusively caused by “outsiders” and it is not a problem that can be solved by replacing destructive fisheries with “non-destructive” methods. Every fishing method is potentially destructive when the fishing effort is too high and every fisher contributes to the

problem, just by fishing. Not only from an ecological perspective, but also from a socio-economic perspective global fisheries are in a weakened state. In a recent study, the World Bank and the FAO conclude that global fisheries are an under-performing asset, with losses of no less than US\$50 billion per year. The report concludes that over-fishing practices are currently maintained through direct as well as indirect subsidies (mainly fuel subsidies). Ironically, these subsidies would suffice to finance management a global network of no-take areas that would sustain fisheries on surrounding fishing grounds. Overfishing is a fact around the World but consequences and management needs are poorly understood and management action is insufficient.

Over-fishing has become such a problem as a result of an ever increasing human population, “open access/shared resource” fisheries policies, and failing conventional fisheries management. Conventional fisheries management by catch volume (quota), gear design (mesh sizes etc.) or fishing effort (number of boats) is often too complex and expensive in terms of the required data and enforcement. Especially so in reef and bottom fisheries in developing countries with millions of very small units of fishing gear, all different, targeting thousands of different species of fish and spread out over tens of thousands of kilometers of coastline. Fisheries scientists have come to the conclusion that MPAs and NTZs are essential fishery management tools in these situations.

Addressing over-fishing through no-take areas remains an important yet underutilized element of fisheries management around the World. The need for no-take areas for sustaining fisheries has been highlighted in scientific studies, it has been affirmed by political statements, and many NGOs have included it in their work plans. Few organizations, however, have outlined or implemented concrete steps to achieve no-take areas.

It is tempting to build a conservation strategy on MPAs that allows traditional fishing by locals. In that way, a “difficult” discussion with local fishing communities can be avoided, and conservation organizations can easily engage local fishing communities to keep outsiders out. Marine Protected Area regulations that allow fishing by locals with small-scale gear throughout the MPA, lead to generally ineffective MPAs. Regulations like “traditional fishing only” usually emanate from a perception that small-scale fishers have little effect on reef fish stocks, and that by simply preventing destructive fishing and large-scale fishing, reef fish stocks will replenish. This is a mistaken perception. There are many examples throughout the world of traditional, small-scale, and artisanal fisheries depleting local stocks, and international conservation organizations like World Wildlife Fund (WWF) have recently alerted policy makers to problems caused by small-scale fishing. Even recreational fisheries can deplete local fish stocks. Therefore, for MPA’s to be effective, they must work towards the development of 100% No-Take Zones of considerable size.

NTZs sustain coastal fisheries in four ways:

1. *By export of eggs and larvae.* Most reef fish have planktonic as eggs and larvae, which are carried away from their place of birth by currents. Hence, an NTZ with a high abundance of large, reproducing fish will export many eggs and larvae, which grow up on reefs outside the NTZ. There, these exported eggs and larvae will eventually support fisheries.
2. *By spill-over of juvenile and adult fish from the NTZ into surrounding fishing grounds, where they can be caught by the local fishery.* It has been demonstrated that

un-fished populations can reach a density where part of the fish stock is forced out of the protected area into surrounding fishing grounds. Fishers throughout the world tend to fish near no-take areas to benefit from this spill-over effect.

3. *By safeguarding fish stocks from total collapse due to failing fishery management in surrounding fishing grounds.* Unfortunately, there are many examples of failures and very few examples of successful fishery management. Even well-studied fisheries ended up over-exploiting and depleting fish stocks because of weaknesses in management as well as science, resulting in collapse of major fisheries that sustained coastal people for centuries. Fishery scientists and managers are constantly trying out new approaches to fishery management, but it will take some time before a robust, successful fishery management approach is widely applied. Until that time, no-take areas help to prevent the worst, and they will help to speed up recovery of depleted stocks.
4. *By decreasing variability in fish catches.* Marine reserves keep fish stock sizes above levels where recruitment limitation occurs, which means that variation in stock size does not affect recruitment too much. This results in a more stable catch.

Scientific evidence that MPAs with substantial no-take zones result in higher fish biomass, larger bodied fish, and a more natural species composition is already strong. Furthermore, MPAs provide a tool for protection of sensitive sites, such as spawning aggregation sites. But there are important criteria for NTZs to be effective. Size matters for individual NTZs, as well as total amount of habitat included in NTZ networks. And so do other aspects of design.

Research shows that no-take areas can only support fisheries on surrounding fishing grounds if the following conditions are met:

- No-take areas must be entirely no-take, meaning that all types of fishing, including subsistence, artisanal, and recreational fishing must be prohibited.
- No-take areas must be large enough for fish to complete the part of their life cycle that they are vulnerable to fishing inside the no-take area. Because large fish tend to have a larger home range than small bodied fish, no-take areas for large-bodied species must be much larger than for small-bodied species. The home range of adults of most reef fish is 10s-100s of km, so no-take areas must be of that order of magnitude. Scientists advise 1,000 ha as an optimum size for sustainable fisheries. No-take areas within the Great Barrier Reef Marine National Park (Australia) are at least 20 km across over the smallest dimension.
- The surface area of all no-take areas combined must be large enough. For the purpose of sustaining fisheries, most studies recommend to set 20-40% of fishing grounds aside as no-take areas for fish stocks subject to moderate or high fishing mortality. A lower value would result in insufficient spill-over, and a higher value would leave too little area for fishers. The optimal percentage of habitats or fishing grounds that needs to be set aside as a no-take area continues to be a subject of much discussion among scientists and managers. This percentage depends on biological, operational, and social factors, including the risk that society is willing to take that stocks cannot be sustained.

- No-take areas only generate fishery benefits if they displace fishing effort, or if they prevent fishing effort from increasing. Obviously, a no-take area that is planned in such a way that it avoids fishing areas is nonsensical, it merely formalizes a status quo and it does not contribute to a behavioral change toward sustainability. Still many organizations involved in MPA design create No-Take Zones in areas that are not important to fishers in an effort to avoid confrontation. Such confrontations are likely to happen if local constituencies do not understand the threat of over-fishing or the role of no-take areas in threat mediation.
- No-take areas must include habitat of those commercial fish that are the objective of improved management. This seems obvious, but there clearly is misunderstanding about this; participatory design processes have often led to choices of locations that do not have the habitat to support commercially important reef fish.

When developing comprehensive fisheries management plans for entire seascapes it is important to realize that MPAs and NTZs form only *parts* of the seascapes - fisheries continue to take place on the surrounding fishing grounds. NTZs help to sustain those surrounding fisheries but this will only be effective if fisheries on those fishing grounds are rationalized in terms of total effort and gear application, using additional tools such as catch shares, rights based management, license limitations and moratoria, gear restrictions and other forms fisheries management. In principle, no take areas represent an essential management tool in the larger kit, with the same ultimate objectives as quota, or gear and effort restrictions. They are especially suitable to address over-fishing in coastal ecosystems in developing countries because:

- They provide local communities with a safeguard against failing fishery management in surrounding fishing grounds.
- The concept of and need for no-take areas is easy to explain to any audience, scientific underpinning is strong, and effects on fish populations within no-take areas are obvious.
- No-take areas can address over-fishing caused by multi-species, multi-gear fisheries, which are common in the coastal areas of the Coral Triangle.
- Implementation of no-take areas requires far less knowledge of fishery practices and fishery management than regulations that influence the catching process.
- Individuals from fishing communities can easily be involved in management of no-take areas because of their local presence.

In terms of the extent to which NTZs should be applied, the 5th IUCN World Park's Congress in Durban, South Africa (8-17 September 2003), recommended to the international community as a whole to:

“...establish by 2012 a global system of effectively managed, representative networks of marine and coastal protected areas, consistent with international law and based on scientific information. These networks should be extensive and include strictly protected areas (i.e., NTZs) that amount to at least 20-30% of each habitat, and contribute to a global target for healthy and productive oceans.”

Recent studies and publications have agreed on the 20-30% figure as a percentage of all habitat and authors have referred also the Durban recommendations as recommendations to include 20-30% of all habitat in no-take reserves (and not 20-30% of MPAs in no-take zones, which is deemed insufficient, unless all habitat is covered by MPAs).

Although costs for establishing and managing networks of MPAs are substantial, benefits far outweigh costs. A global network of MPAs covering 20–30% of the seas globally would cost US\$5–19 billion per year, but it would increase sustainability of a global marine fish catch currently worth US\$70–80 billion annually and such a network may help sustain unseen ecosystem services worth US\$4.5–6.7 trillion each year. The amount needed to establish and manage a global network of MPAs is less than the amount spent by developed world economies on harmful subsidies to industrial fisheries (US\$15–30 billion per year).

During the course of this project, CTSP will employ NTZs in its MPA work, striving towards an eventual goal of NTZs at 20%-30% of habitat. At the same time it must be recognized the success or failure of MPAs in Indonesia will largely depend on the willingness and participation of all of Indonesia's stakeholders, and in each location CTSP and its partners must work within the realities of the local socio-political environment. The introduction of new elements that restrict local fisherfolk in pursuing their livelihoods will, if not carefully handled, meet with resistance. CTSP recognizes it will be essential to pace the introduction of NTZs in each location commensurate with the political will present to make it successful. As such, CTSP will employ as strategy that begins with building awareness and education on the importance of NTZs, concurrently local community stakeholders as well as local policy makers. By building stakeholder awareness for the need for NTZs to sustain marine resources and associated livelihoods into the future, CTSP will build a foundation upon which it may introduce NTZs, and from which, may expand toward the eventual goal of 20%-30% of habitat.

3. MEASURING PERFORMANCE IN CTSP PROJECTS

This chapter and Table 1 below with essential outcomes, parameters and critical values were adapted for CTSP as a framework for program management. The essential outcomes are one level higher than the 16 outcomes of the CTSP program, and they are independent of location. As such, they provide a means for ensuring that workplan outputs and outcomes contribute to tangible results at sea. The essential outcomes are grouped into four categories:

- Enabling conditions,
- Human behavior,
- Ecosystem health, and
- Socio-economic conditions

The framework guides comprehensive planning of MPA components in CTSP, it creates a consistent way to measure progress over the course of the CTSP program, and allows CTSP to roll up its progress across a number of seascapes in a consistent way and see how the portfolio is doing.

Each essential outcome is associated with a parameter, for which critical values at three levels are defined:

- Green:** Project has set proper objectives that clearly address the parameter and its critical values, *or* project is on-track, *or* project has met the objective.
- Yellow:** Intermediate between “green” and “red”
- Red:** Project fails to address parameters, *or* project is falling behind on achieving critical values for the parameter, *or* (at the end of the project) project has failed to meet the objective associated with the parameter and its critical value.

Note that the color coding has different meanings depending on the maturity of the project. During planning and before implementation, the coding refers to the appropriateness of the *objectives*. For example, if a project aims to achieve 10-20% of all seascape reefs in no-take areas, then that parameter will be coded yellow, and a manager may decide to adjust the plan. During implementation, the coding refers to progress or status, and at this stage “yellow” means that extra attention for the activities that contribute to that parameter is required. At the end of the project, the coding refers to status and to which extent the project has met objectives. This means that a manager or supervising committee can “eyeball” a status report and decide on the urgency for intervention at each phase of the project.

By painting the cells in the spreadsheet version of Table 1 with the color that belongs to the value that was applies, a quick impression can be obtained of the overall status of the project. Alternatively (or in addition), each color can be converted into a percentage achievement, and after weighting each essential outcome the percentages can be averaged for an overall achievement index (scorecard approach).

The presented table with essential outcomes and parameters is not intended as an outline of a conservation program. Instead, it provides a set of conditions that guarantees a high level of comprehensiveness and clarifies what the program is trying to achieve. A conservation program may comprise activities that are not explicitly mentioned in the outcomes and metrics framework, but that are necessary to achieve this set of conditions. For example, characterization and mapping of resources may be necessary to develop quality zoning systems, a project team may decide that marking of MPA boundaries is necessary to achieve 99% compliance, or that it is necessary to pass new local laws in order to increase the size of a small existing MPA. Likewise, a project team will probably decide that stakeholder involvement in planning and management is necessary to achieve compliance, and therefore they must include activities that ensure stakeholder participation in their project plan.

The framework focuses on MPA network strategies for the conservation and sustainable use of coral reef and mangrove eco-systems in the Coral Triangle. There are, of course, areas where there are other conservation features that require protected area management for sustained use or their survival, and that would be missed if the conservation program only focuses on reefs and mangroves. Furthermore, certain fish stocks or rare and unique habitats or species assemblages may require conservation strategies beyond Marine Protected Areas. In such situations, project teams may define additional specific and essential outcomes, with clear metric parameters and critical values based on detailed justifications.

TABLE OF ESSENTIAL OUTCOMES & CRITICAL VALUES

Table 1: Essential outcomes, measurable parameters & critical values in traffic light system for tropical coral reef seascapes. See text for further explanation.

Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
Enabling Conditions				
1) Design of MPA and No Take Zone Networks.	Sufficient amounts of essential habitat are strictly protected with MPAs spread out at distances that ensure connectivity and spreading of risk.	20-30% of ALL coral reefs, mangroves and other habitats in the Seascape is included in no-take zones and MPAs are spaced less than 100 km apart.	10-20% of ALL coral reefs, mangroves and other habitats in the Seascape is included in no-take zones and MPAs are spaced 100-200 km apart.	Less than 10% of ALL coral reefs, mangroves and other habitats is included in no-take zones and MPAs are spaced > 200 km apart.
2) Design of Individual MPAs and No Take Zones.	MPA contributes significantly to network outcomes and includes sufficient habitat in No Take zones which are each sufficiently large for purposes of sustainable use.	MPA contributes to at least 5% of the network outcomes, and includes at least 50% of each enclosed habitat type in No Take zones which are each at least 1,000 ha large.	Each individual MPA contributes to 2-5% of the network outcomes, and includes 20-30% of each enclosed habitat type in No Take zones some of which are 1,000 ha or larger.	MPA contributes to less than 2% of the network outcomes, and includes less than 20% of each enclosed habitat type in No Take zones which are each less than 1,000 ha large.
3) Mandate, capacity and effectiveness of management .	Management authorities established, with capable personnel and sufficient budget to develop & implement adaptive management and zoning plans for regulation of resource use.	Management authority established with capable staff, sufficient facilities and budget > US\$ 10/ha/yr to cover tasks set forth in management plan, zoning system and regulations.	Management authority established but under-staffed, insufficient facilities and budget < US\$ 10/ha/yr, not fully covering management tasks, but management supported by NGOs.	Management authority not yet established. MPA only supported by facilities and budget from NGOs, without mandate for enforcement and not covering all management tasks.

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Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
4) Political will and supportive policy & legal framework.	Supportive policy and legal framework in place at all levels to develop and implement management plans, zoning systems and regulations.	National and local level legal framework and political will in place to provide mandate for effective implementation of management.	Either national or local level legal framework and political will in place to provide mandate for management and progress being made at other levels.	Neither national nor local level legal framework and political in place to provide mandate for effective implementation of management.
5) Supportive constituencies and stakeholder buy-in.	A strong constituency supports management, with constituents and stakeholders well aware and supportive of regulations.	Management messages visible and regulations known by 90% of resource users while 75% of the public and at least 50% of the users are supportive.	Management messages visible and regulations known by 60% of resource users while at least 50% of the public and 25% of the users are supportive.	Management messages invisible and regulations known by less than 50% of users while less than 50% of the public and few users are supportive.
Human Behavior				
6. Effective surveillance, enforcement and legal follow up.	Surveillance frequently and randomly covers the entire MPA and surroundings, with violators warned, fined or arrested and processed according to laws & regulations.	Surveillance covers the entire MPA at least once a week in random, all violators are fined and/or arrested and prosecuted / judged according to laws and regulations.	Surveillance infrequently covers the MPA and violators are generally warned but fined or arrested according to laws and regulations for the most serious violations.	Infrequent surveillance, often covering only part of the Park, enables violators to avoid arrest and only extreme violations lead to action by surveillance personnel.
7. Efficient monitoring and adaptive management.	Monitoring of resource use, resource health and stakeholder perceptions covers the full MPA and surroundings, and delivers reports to inform stakeholders and adapt management.	Monitoring data & reports describe health of reefs, mangroves and fish stocks, and patterns in fisheries, tourism and stakeholder perceptions throughout the MPA and surroundings.	Some reports available on resource health, use and perceptions, but monitoring / reporting not covering the entire MPA and insufficient resolution to obtain within-MPA patterns.	Monitoring is incomplete, or unfocussed / inefficient and does not cover the management area, while data and conclusions are not published in accessible reports.

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Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
8. Resource user compliance.	MPA monitoring and independent reports show that resource users comply with fisheries regulations, as well as with established No Take Zones and tourism regulations.	Internal as well as independent resource use monitoring reports show that >99% of resource users comply with zoning, licensing, fishing gear, catch and tourism regulations.	Internal and independent resource use monitoring reports show that more than 90% of resource users comply with zoning, licensing, fishing gear, catch and tourism regulations.	Internal reports are hard to come by but indicate low compliance with zoning and essential regulations while independent reports consistently indicate frequent violations.
9. Training and Education.	Government agencies ensure that managers, stakeholders and public are educated and trained in relevant issues of MPAs and fisheries management.	Government institutions established and functioning to provide public education on sustainable resource use and to deliver effective training programs for resource managers.	Some training provided by NGOs in MPA and fisheries management, but staff of management authorities lack specific formal education and public awareness remains limited.	No specific formal education or effective training for government staff in management authorities and little or no specific social marketing for essential management approaches.
10. Support from private sector and financing partners.	Compatible businesses and capable financing partners are involved in the MPA and fisheries management and ensure sustainable economic development and MPA financing.	Private sector invests in sustainable development in and around the MPA, and capable financing partners support MPA financing in accordance with MPA management objective.	Private sector invests in development around the MPA, providing livelihoods / jobs, but not well aligned with MPA objectives while financing partners provide limited support to authorities.	There is little or no private sector involvement in MPA management or support for MPA goals and there are no capable financing partners to support the management authorities.

Ecosystem Health

Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
11. Reefs are healthy.	Reef slopes have good and stable live hard coral cover throughout the MPA, not declining over time, with low and stable macro algae cover and low incidence of diseases / predators.	Reef slopes on avg. have stable >15% live hard coral cover, with stable coral mortality coefficient < 10% (dead/live), algae cover below 5% and less than 1 predator / disease outbreak / 5 yrs.	Reef slopes on avg have stable >10% live hard coral cover, with stable coral mortality coefficient < 25% (dead/live), algae cover below 5% and less than 1 predator / disease outbreak / 5 yrs.	Reef slopes have less than 10% live hard coral cover, a coral mortality coefficient >25% (dead/live) and rising, algae cover over 5% and more than 1 outbreak in each 5 yrs period.
12. Fish Populations are healthy.	Stable or increasing abundance and body size in populations of commercial fish species and especially in larger reef predators in MPAs and surroundings.	Populations of >75% of indicator species show stable or increasing abundance & mean length over 5 yrs, and >75% of specimen in catch are mature or passed sex-change.	Populations of >50% of indicator species show stable or increasing abundance & mean length over 5 yrs, and >50% of specimen in catch are mature or passed sex-change.	Populations of >50% of indicator species show decreasing abundance and/or mean length over 5 yrs, and >50% of specimen in catch are immature or before sex-change.
13. Mangroves are healthy.	Satellite or aerial imagery shows constant or increasing mangrove cover and there are no cutting marks recorded during on the ground inspections.	Mangrove coverage is constant or increasing. No recent cutting marks. Areas of historical mangrove cover that was previously cut, are being 100% effectively re-planted.	Mangrove coverage is constant. Less than 50% of 1-ha mangrove plots show recent cutting marks. In some areas of historical mangrove cover there is re-planting.	Mangrove area decreasing. More than 50% of 1-ha mangrove plots show recent cutting marks. Re-planting is minor or absent and does not compensate for losses.
14. Endangered species are protected.	Critical habitat for endangered species protected in No Take Zones and specific threats successfully mitigated.	For all legally protected species, critical habitats are included in no-take zones and species are effectively protected from harvest.	More than 90% of legally protected species in the MPA have their critical habitats included in no-take zones and are effectively protected.	Less than 90% of legally protected species in the MPA have their critical habitats included in no-take zones and protection is incomplete.

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Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
15. River estuaries are healthy.	Natural habitat in river estuaries is maintained or restored, water flows are unobstructed and threats like, sedimentation, nutrient load, pollution and over-fishing are mitigated.	All estuaries are healthy, without excessive load of sediments, nutrients or pollution, though some are subject to significant threats. Present threats are being addressed by management.	More than 50% of estuaries are healthy, and significant impacts in the remaining 50% are reversible with effective management. Some threats are being addressed by management.	Less than 50% of estuaries are healthy, and in half of the unhealthy estuaries impacts cannot be reversed within 25 years. Management is insufficient to mitigate present threats.

Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
Socio-Economic Conditions				
16. Compatible business development partners.	Significant volume of sustainable business, compatible with MPA objectives, is present or being developed in coordination with MPA and/or resource managers.	More than 75% of new businesses developed in and around the MPA are sustainable and compatible with MPA goals, while investors cooperate with MPA management and employ locally.	More than 50% of new businesses developed in and around the MPA are sustainable and compatible with MPA goals, while investors cooperate with MPA management and employ locally.	Less than 50% of new businesses in and around the MPA are compatible with MPA goals, while investors do not coordinate with management and do not prioritize to employ locally.
17. Jobs and livelihoods for stakeholders.	Opportunities for changes in fishing methods or fishing grounds, and jobs - livelihoods outside the fishing sector are available for those displaced by area closures in MPAs.	MPA program evaluates which fishers are exclusively dependent on areas that will be closed, and measures are successfully implemented to avoid hardship for these fishers.	MPA program evaluates which coastal people are exclusively dependent on areas that will be closed, and measures are identified to avoid hardship for these fishers.	MPA program does not have completely clear which coastal people are exclusively dependent on areas that will be closed, and measures are not identified to avoid hardship.

Essential Outcomes	Parameter Definitions	Critical Values: Green	Critical value: Yellow	Critical value: Red
18. Financial sustainability of management.	Management plans have been completed with detailed and accurate cost projections which are covered by multiple year guaranteed budgets from governments or other sources.	Management plans and budgets are accurate, consistent with objectives, follow requirements of lead agency and are covered for >5 yrs with sufficient financial resources.	Management plans and budgets are accurate, consistent with objectives, follow requirements of lead agency but are guaranteed for only 3-5 yrs with sufficient financial resources.	Management plans vague or budgets inaccurate or inconsistent with objectives, or do not follow requirements. Budgets not guaranteed beyond the year.
19. Markets for sustainable services and products.	Stable or increasing demand for sustainable ecosystem goods and services (fisheries products, tourism) provides basis for sustainable socio-economic development.	Non-extractive use increases while extractive use decreases. Importance of "green" species (WWF seafood guide) in catch increases at the expense of "red" species.	Extractive use does not increase but neither does non-extractive use. Importance of "green" species on WWF's seafood guide increases at the expense of "red" species.	Extractive use continues to increase and non-extractive use does not replace this. "Green" species in the catch do not show any trend to replace the "red" species.
20. Quality of life of local stakeholders.	Quality of life of local stakeholders is improving through education and engagement in new opportunities in sustainable development and resource management.	Resource users perceive that the MPA and associated development programs improve present and future livelihoods and this can be substantiated with survey data.	Resource users perceive that the MPA and associated development programs improve present and future livelihoods but this can not be substantiated with survey data.	Resource users perceive that the MPA and associated development programs do not improve present or future livelihoods and this can be substantiated with survey data.

4. PROJECT OUTCOMES: NATIONAL & PRIORITY REGIONS

NATIONAL

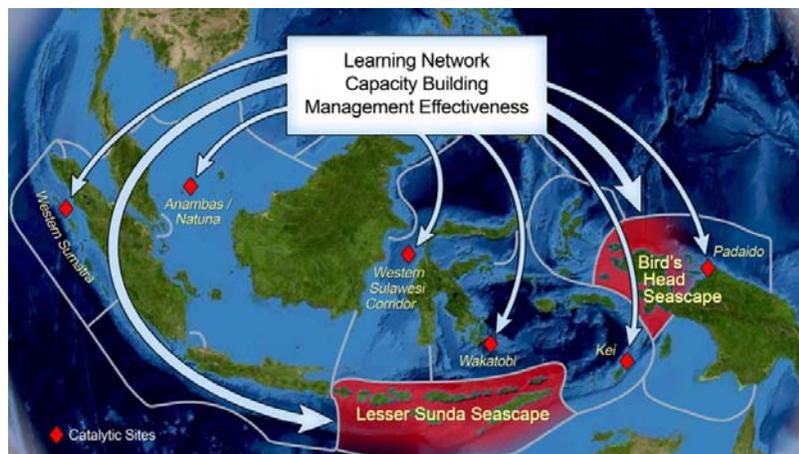
4.1.1. ***OUTCOME #1: Learning & Coordination: vertical integration; learning networks***

Background

Indonesia already has 11 million hectares of legally declared MPAs. Only a minority of these MPAs, however, are effectively managed. While the GoI is addressing deficiencies in management effectiveness, it also plans to double its MPA network to 20 million ha by the year 2020. Expansion of the MPA network and putting in place efficient management require a vision and a strategy. CTSP will assist GoI to develop a National System of MPAs. This National System of MPAs, which is a management framework rather than a geographic network, integrates the various systems that exist today (for example, those declared under UU5/1990, under decentralization laws, or under the fisheries and coastal zone management laws), and it will clarify how these systems can strengthen each other.

The National System of MPAs can only achieve its goals if there are strong linkages between administrative levels (district, province, and nation), and if planning agencies (BAPPEDA and BAPPENAS) succeed in ensuring that MPA development and fisheries management plans are supported by, or at least compatible with, development plans of other sectors. Incompatibility between sectoral development plans can completely negate the good intentions of plans towards sustainable fisheries and biodiversity conservation, and poor coordination between fisheries administrators at different levels may derail national policies. Therefore, CTSP will task consortium members to assist with coordination among administrative levels within the fisheries sector (i.e. among district, provincial, and national representations of the Ministry of Marine Affairs and Fisheries), and who will ensure that new MPAs show up in spatial development plans at all administrative levels.

Three important vehicles for regional cooperation on marine biodiversity conservation and sustainable fisheries are the Coral Triangle Initiative (with its National Coordinating Committee, which is hosted by MMAF), the Sulu-Sulawesi Marine Ecoregion (Indonesia, Philippines, and Malaysia), and the



Bismarck Solomon Seas Marine Ecoregion (Indonesia, Papua New Guinea, and the Solomon Islands). CTSP will support Indonesia's contribution to each of these fora.

As a complex, collaborative program, CTSP will have to allocate substantial effort towards consensus building and coordination. The organizational structure (Figure 2) for decision-making and annual work planning in Indonesia comprises:

- NGO consortium partners in Indonesia (i.e., CI, TNC, and WWF), lead by the CTSP Project Leader
- Consortium Strategy Committee (CSC), which is made up of two senior representatives from each NGO
- CTSP Regional Program Office, with Chief of Party and Deputy Chief of Party
- Indonesia CTI National Coordinating Committee (NCC)
- Ministry of Marine Affairs and Fisheries
- USAID
- Other stakeholders as appropriate

In Indonesia, the CTSP Consortium Leader also acts as a Point of Contact (POC) who responds to requests for information from GoI and USAID.

The CTSP **Oversight Committee** is jointly chaired by the head of the NCC and USAID, and its function is to review CTSP progress and ensure coordination and consensus among all parties.

Multi-Year Outcome:

Organizations and agencies involved in MPA development at different administrative levels (district, province, nation) will be engaged through new CTSP facilitated learning and coordination mechanisms to achieve conservation of biodiversity and sustainable fisheries in Indonesia's seas. This will be achieved through the following multi-year outputs:

1. Senior policy and technical support ensures that linkages between administrative levels and across government agencies are maintained.
2. Vertical integration of MPA development initiatives among districts, provinces, and national-level agencies is strengthened.
3. A National System of MPAs is established and embedded in a supportive regulatory framework.
4. National programs and coordinating structures are strengthened resulting in increased capacity in Indonesia to participate in efficient at-sea interventions towards abatement of threats that must be addressed at both national and regional scales (e.g. trade in sea turtle products, national contributions to regional action towards abatement of over-fishing).
5. Sustainable and diversified financing mechanisms for MPA management in Indonesia are identified (governmental and non-government) and contribute to sustained management and protection of MPA networks in Indonesia.
6. Regional Program Office and CTSP-I consortium members contribute to efficient implementation and administration of the CTSP program in collaborations with the CTSP Oversight Committee (comprised of the Regional Program Office, CTSP

consortium member representatives, USAID, MMAF and CTI National Coordinating Committee).

4.1.2. *OUTCOME #2: Capacity Development Coordination and Strengthening: Sustained Delivery of Effective Capacity Development Approaches in Priority Geography and Nationally*

Background

In recent years, a number of sources have pointed directly to lack of conservation training opportunities as a primary constraint for Indonesian conservation. The 2000 UNDP-GEF Capacity Development Initiative in Indonesia notes (with prescience), “it is likely that during initial stages of decentralization, technically qualified and competent personnel to perform newly devolved functions in biodiversity management will not be available in sufficient numbers at local levels”. To address this, the document calls for “enhancing the capacity of local government and other local institutions in conservation and utilization of biological diversity, through workshops and training”. The 2001 Indonesia Training Needs Assessment by the ASEAN Regional Center for Biodiversity Conservation notes 13 key topics for which in-country conservation training is lacking. In the same year, a survey of 18 conservation organizations by The Nature Conservancy (TNC) found that a lack of indigenous capacity is the critical constraint to conservation in the long term.

The Indonesia Biodiversity Strategy and Action Plan 2003-2020 (IBSAP) highlights the lack of training with Objective 1 calling for developing the quality of Indonesian individuals and society who are concerned with the conservation and sustainable use of biodiversity, and Objective 4 focusing on empowering institutional, policy and law enforcement arrangements so as to be effective and conducive for the management of biodiversity. Within the Action Plan section, four programs focus on capacity building and training: Program 1.3 “improving the effectiveness of conservation area management”, Program 1.4 “developing community capacity in biodiversity management”, Program 4.10 “improving law enforcement to protect conservation areas”, and Program 4.21 “improvements of local government capacity in the implementation of regional autonomy in environmental and biodiversity management”. In the final chapter of the IBSAP, conservation capacity building is one of the “preconditions” for IBSAP implementation.

In addition it has been highlighted in discussions within the Indonesian National Coordinating Committee (NCC) Working Group on Capacity Building that ongoing delivery of capacity building approaches both Nationally and in Priority Geographies is essential. Even though individuals may be trained and gain skills to become more effective in conservation, they may move on from their positions or be shifted to new locations. As a result, it is essential to formulate and implement strategies for sustained delivery of Capacity Development in Priority Geographies and Nationally.

Despite the limited availability of capacity development opportunities, there are several successful programs and approaches that can be applied to solve this problem. These include expanding existing training and mentoring programs, developing multi-institutional training and mentoring teams, enhancing national coordination of capacity development efforts, creating learning networks to exchange skills and lessons learned to improve overall conservation practice, and developing and implementing strategies for sustaining successful capacity development delivery. CTSP will focus significant attention on Capacity Development as a mechanism to greatly improve conservation practice in Indonesia.

Multi-Year Outcome:

A sustained marine conservation Capacity Development Program is created and implemented to cover critical training and education needs in MPA and sustainable fisheries management. This outcome will also result in a major sustained increase in on the ground marine conservation capacity through the establishment of sustained delivery mechanisms for capacity development in several key Priority Geographies and vertically integrated to MMAF National Programs.

This will be achieved through the following multi-year outputs:

1. An effective coordination mechanism and a team of trainers/mentors in place and successfully building marine management capacity in Priority Geographies and Nationally.
2. Expansion of Effective Training Programs (such as NOAA BHS training program) to a new set of Priority Geographies.
3. Learning and Mentoring Networks Operational and Providing an Ongoing Mechanism for Capacity Development.
4. Strategies to institutionalize sustained delivery of capacity development programs are successful in several key Priority Geographies nationally.

4.1.3. *OUTCOME #3: Capacity Building, MPA Managers School & Coral Triangle Center*

Background

Marine resources conservation in Indonesia is a challenging undertaking that requires a specialized skill set. Indonesia's conservation successes have usually involved a small cadre of committed Indonesian conservationists, most of whom were educated outside the country in temperate zones and/or mentored within foreign organizations. Their number, however, is still too small to tip the balance, and there is little chance this will change by itself. Indonesians who want to study conservation find few opportunities within the country. Some universities offer academic degrees in biology that include some conservation components, but there is no training facility for government staff that focuses on conservation management directly.

For more than 100 years, though, there were dedicated conservation training centers in Indonesia. The School of Environmental Conservation Management in Bogor was the last. In 1992, the Suharto administration suddenly discontinued development cooperation with the Netherlands government, and consequently Dutch funding ceased prematurely, and the school closed two years later. About 70% of Indonesia's protected areas and regional natural resource conservation offices (so-called UPT's) are headed by conservation and watershed management specialists trained between 1978 and 1992 by the SECM. However, the 477 middle-managers who were trained at SECM are retiring at an increasing rate (now close to 40%), leaving key positions in Indonesia's conservation management system to less-experienced and less-equipped personnel. Furthermore, since the premature demise of the SECM, Indonesia's protected area system more than doubled in size, with particularly marine protected areas growing in size and number rapidly. The Ministry of Marine Affairs and Fisheries, established in 2001, in the mean time largely lacks trained middle-cadre to support its mandate, which includes coastal and marine management and Marine Protected Areas and restricted use zones.

During the last 15 years, conservation training in the country has shifted to academic, or largely special-purpose ad hoc courses run by (and mostly for) conservation (BI)NGOs, and academic institutions. The Ministries of Marine Affairs and Fisheries (MMAF), Environment (KLH), and Forestry (DEPHUT) have only just established training bodies. The lack of training opportunities in-country means there is a growing generation gap within Indonesian conservation personnel: people trained in the 1980s are retiring, while the pool of candidates to replace them is shrinking.

The 2001, "big bang" decentralization in Indonesia shifted power from the national to the district level, moving 2 million central government staff (62 percent) to the districts and provinces. The majority of national protected area staff was not transferred but the mandate for natural resource management was. Districts are now tasked with managing local natural resources except protected areas but have few skilled people and very little experience doing so. As a result, protected areas now resemble "centrally governed islands" in a "local sea", lacking in coordination between conservation managers and district government officials.

Because decentralization greatly expanded the number and nature of stakeholders, conservation managers face new and different challenges, and thus require new and different competencies to operate in a new, localized ‘political economy of green and blue spaces’. While the focus used to be on technical training, that now has to be complemented with modern approaches and additional competencies relating to, for instance, sustainable financing mechanisms, economic valuation of nature and natural resources, conflict and dispute management, shared management methods, etc. to break through the isolation of central government PA islands in the sea of increasingly more local mainstreaming of natural resources conservation.

Greater conservation capacity is clearly a strategic priority for the country. It will also directly contribute to Millennium Development Goal #7 (“ensuring environmental sustainability”), commitments made at the 2002 World Summit on Sustainable Development, and the targets agreed to by Indonesia and 187 other countries at the recent 7th meeting of the Conference of the Parties (COP-7) to the Convention on Biological Diversity, especially the protected areas’ Program of Work focused on “effectively managed national and regional systems of protected areas” and building national protected area management capacity. A combination a modern formal training program for government MPA managers with a more NGO focused training program for other conservation practitioners is urgently needed here.

Multi-Year Outcome:

Strategic planning of capacity building for MPA managers and other marine conservation practitioners in Indonesia leads to development of effective training institutions, facilities and programs, where practical and focused training is provided for on-site MPA managers and other practitioners, and from where high-quality curricula and educational materials are developed and disseminated.

This will be achieved through the following multi-year outputs:

1. A specific role for the Coral Triangle Centre in Bali, in capacity building for marine conservation practitioners is defined and agreed among NGOs and Government.
2. Partners, details on training curricula, target groups for capacity building, and minimum level of capacity and resources at the CTC and other institutions is determined.
3. A specialized school for MPA managers is developed in association with Government Departments responsible for Marine Protected Area Management in Indonesia with a well designed and locally appropriate curriculum including theoretical and practical training components and implemented by a highly knowledgeable, skilled and experienced team of trainers.
4. All training curricula are closely linked to competency standards for MPA practitioners as defined by MPA management authorities.

4.1.4. OUTCOME #4: “Horizontal integration” of MPA networks & capture fisheries management

Indonesia is known as the number one in the world for its marine resources. With more than 9000 islands, 86,700 square kilometers of coral reefs, and 24,300 square kilometers of mangrove areas, as well as supporting nearly 230 million population with a large proportion dependent on marine resources. Presently about 70% of the country's protein comes from fish (in some poor coastal communities this figure approaches 90%), while nearly 20% of the country's GDP is derived from fisheries and other marine-related industries.

While in recent years Indonesia saw increase in fisheries output and export, anecdotal evidence suggests that most of fishery zones in the western areas of Indonesia for certain stock of fish commodity are over-exploited, severely depleted and in need of rehabilitation. Given that millions of people in Indonesia are dependent upon small-scale fishing for protein and cash, the current focus on continued expansion of fisheries is endangering economic development and food security.

The Ministry of Marine Affairs and Fisheries (MMAF) has the challenging task of institutional oversight of marine resources in Indonesia. This includes ensuring that marine resources are used sustainably while at the same time increasing the value of the marine and fishery sector with the ultimate goal of increasing the quality of life for all Indonesian citizens. The MMAF has increasingly sought to achieve these two objectives by including marine protected areas (MPAs) as a key tool in its national fisheries and biodiversity management and conservation planning. Effective marine protected areas are critical to achieving MMAF's national objectives and require the development of ecologically-connected networks of MPAs at both the provincial and regional scales to address concerns such as spawning aggregation sites, juvenile grow-out areas and adult migration routes for the country's most important commercial and food fish species. Development of effective MPA networks is even more important given the expected negative impacts of climate change to biodiversity and fisheries-based food security.

Evidence for the benefits of MPAs as a fisheries management tool for tropical demersal fisheries is strong. Recent recognition of eco-system based approaches for fisheries management points clearly to the use of a range of MPAs design for different outcomes. Besides permanent reduction of national fishing capacity, MPAs designation are one of the most tangible options for sustainable fisheries management.

Indonesia already has 11 million hectares of legally declared MPAs; however even with this vast area, there are gaps that need to be filled in legal protection as well as in management effectiveness of the existing sites. The Government is targeting the creation of as much as 20 million hectares of MPAs by 2020 and has requested CTSP assistance in the identification of important areas to be included and the development the grand strategy for a National MPA Systems. Additionally, MMAF has highlighted the importance of advancing Indonesia's National MPA System to more fully integrate biodiversity conservation and fisheries considerations and to enhance co-management between the National Government and Local Government and stakeholders.

Co-managed networks of Marine Protected Areas need to be developed as a crucial component of Ecosystem-Based Fisheries Management and as the cornerstone of sustainable fisheries management. Setting aside no-take zones will prevent total collapse of fish stocks

and support fish catches in surrounding areas. Government financial support for fisheries needs to be re-directed from subsidizing and expanding fishing capacity to better governance and better protection for these zones. This can be achieved by financing marine protected area management and enhanced enforcement of regulations. Policy-makers must develop co-management mechanisms for marine resources, where responsibility is shared by local communities, user groups and government agencies. This will help local enforcement of fisheries regulations.

CTSP will work closely with MMAF to design and pursue a process to fully design a Grand Strategy for National MPA System that integrates these important priorities. As such, CTSP will augment the current approach of working through the Directorate of Conservation and Marine Parks in the Directorate General for Coasts and Small Islands. This will expand CTSP's engagement beyond biodiversity and coastal fisheries to include a specific focus on capacity and system needs for large-scale fisheries management in Indonesia (i.e. by engaging Directorate General for Capture Fisheries).

This effort will be focused on improving linkages with capture fisheries management and the biodiversity conservation priorities. Indonesia's Fishery Management Areas (*Wilayah Pengelolaan Perikanan* or WPP) offer an excellent handle to achieve goal. Indonesia has 11 WPPs (Figure 1) that provides avenue to link the different planning areas used by the biodiversity conservation (i.e. seascapes). The approach is in line with one of the most important actions in Indonesia CTI National Plan of Action to achieve Goal 1: "Priority Seascapes" Designated and Effectively Managed. Each of WPP will have its own management plan, offering flexibility to adapt to local conditions as well as the geographic priority areas for biodiversity conservation.

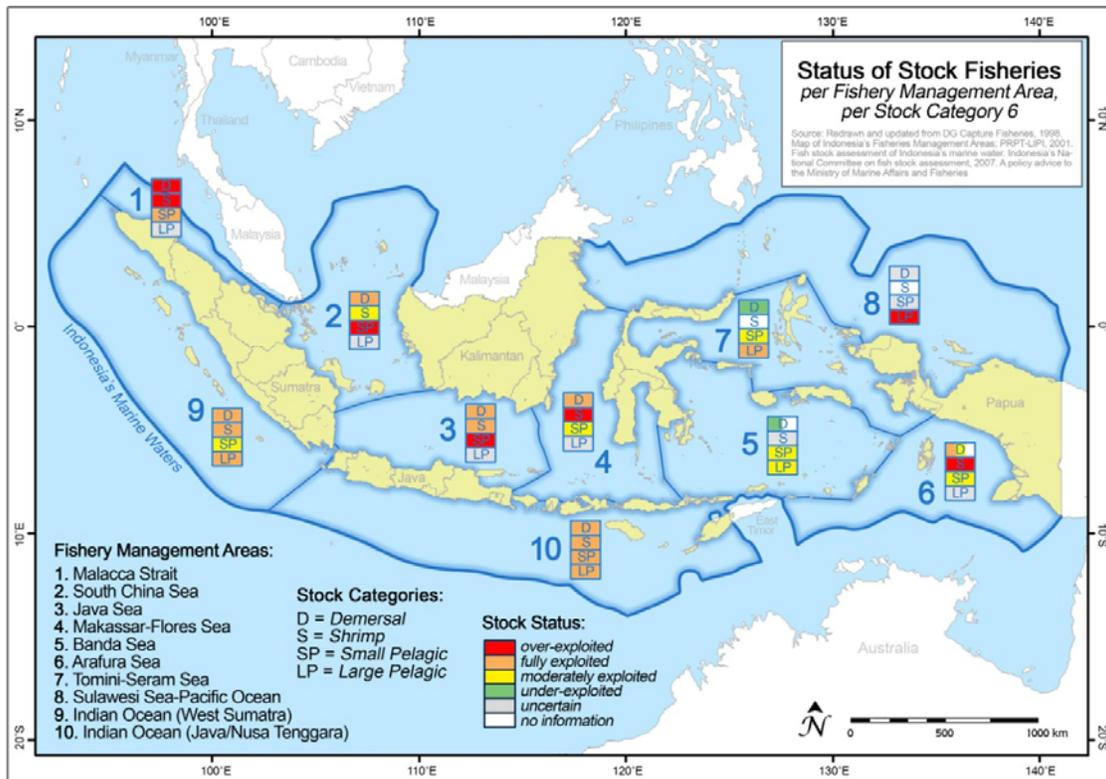
There are two national committees that are well positioned to integrate WPP management plans with MPA development (both expansion of new MPAs or strengthening MPA management): The National Committee for Marine Conservation (KOMNAS KOLAUT) and the National Committee for Marine Fish Stock Assessment (KOMNAS KAJISKANLAUT). CTSP will involve both committees, which are already formalized through ministerial decrees.

Multi-Year Outcome:

Integration of MPA networks with management of capture fisheries and ecosystem-based fisheries management, resulting in healthy fish stocks that sustain productive capture fisheries in Indonesia.

This will be achieved through the following multi-year outputs:

1. A documented Grand Strategy for National MPA Systems that address integration of MPA networks with ecosystem-based capture fisheries management plans rooted in Indonesia's system of Fishery Management Areas (*Wilayah Pengelolaan Perikanan*, WPP) and Geographic Priority Areas for Marine Biodiversity Conservation.



2. A shift from development-oriented capture fishery management that is focused on outputs (catch) to management that aims to keep fish stocks in good health (aka ecosystem-based fishery management)
3. Recognition of roles and responsibilities of national, province, and district authorities in planning of MPA networks and fisheries management in WPPs has been clarified, process and work-flow towards completion of a WPP management plan has been formalized
4. Management Plans developed for 3 WPPs (see UU31/2004, Chapter III, Article 7), which are based on a “classic” fishing regulations (effort, gear, quota, species, size) and no-take areas.
5. Regulations subsidiary to UU31/2004 and UU27/2007 that are supportive of integration of MPA networks in eco-system-based fisheries management are formulated and operationalized (incl. guidance, operation procedures, etc.)
6. Institutionalization of no-take areas as a fisheries management tool, and technically sound no-take area policies through collaborative research programs. Senior MMAF official have a good understanding of EBFM and the role of MPA networks therein
7. Effort

PRIORITY REGION 1: PAPUA

4.1.5. OUTCOME #5: Bird's Head Seascape MPA Network

Background

The recent national marine prioritization workshop conducted jointly by CTSP and MMAF ranked the region of the Bird's Head Seascape (BHS) as 1st out of 12 seascape/ecoregions. With 1511 recorded species of coral reef fishes and over 600 species of scleractinian corals (approximately 75 percent of the world's total), the BHS has the highest coral reef biodiversity recorded for an area of its size anywhere in the world. The BHS also includes critical habitats for globally threatened marine species, including the world's largest Pacific leatherback turtle



nesting site in Jamursba Medi, regionally important green and hawksbill turtle rookeries in Sayang/Piai in Raja Ampat and in Pulau Pisang and Pulau Venu in the FakFak/Kaimana area. The BHS is equally important for its numerous subsistence and small- scale fisheries that are vital to the livelihoods and well being of local communities.

With a common understanding of the uniqueness and global importance of the Bird's Head Seascape, along with a shared goal of protecting its biodiversity, fisheries, and the well being of its citizens, CI, TNC, and WWF, joined together in 2008 in a partnership for the second phase of the Bird's Head Seascape Initiative. The three NGOs each have a slightly different but complementary geographic focus within the BHS, allowing this conservation team to apply a truly Seascape-level approach to marine conservation in the region. Together the three NGOs aim to protect over 3.5 million ha of critical marine ecosystems in a network of ecologically connected MPAs across the Bird's Head Seascape.

Despite its globally significant biodiversity, the Bird's Head Seascape is very vulnerable to immediate threats from coastal mining and logging, development of large-scale capture fisheries, over-fishing and destructive fishing, ill-conceived transmigration projects, and poorly planned coastal development including island/coastal ring roads. Compounding these issues is the generally low capacity of local governing agencies in regards to spatial planning and the management of marine resources to ensure sustained benefits for local communities.

In his Independence Day speech, President Susilo Bambang Yudoyono stated that spatial planning is Indonesia's number one priority in the coming 5 years, underlining the importance of proper and strictly enforced spatial planning. Unfortunately, rather than providing a foundation for a balanced development trajectory, spatial planning in the BHS to date has largely been focused on short-term exploitative and destructive development activities, many of which are in direct conflict with the goals of the BHS MPA network and are being planned

within its borders. A recent presentation by the provincial planning authority showed that the draft spatial development plan for Papua Barat fails to even show the newly developed network of Marine Protected Areas, let alone minimize destructive activities near them. Issues that need urgent attention are the constant threat of mining in Raja Ampat and in Tambrau (Jamursba Medi), oil and gas exploration in Kaimana, trans-migration into Raja Ampat, and the planned construction of a road right along the Jamursba Medi nesting beaches.

In this era of decentralization and special autonomy for provinces in Papua, it is imperative that planning involves district and province authorities (planning agencies, i.e. BAPPEDA at district and province levels) and that these planning agencies are provided with sufficient capacity building and technical input to be able to create a balanced and sustainable development plan. To address this urgent gap, CTSP will provide technical support to development of district- and province-level spatial plans, ensuring that these plans feed into national-level planning processes.

Another major issue in the development of an effectively managed network of MPAs in the Bird's Head Seascape is the lack of trained local MPA managers and practitioners. To address this major capacity gap, CI, TNC, and WWF-Indonesia, in partnership with the NOAA/ National Marine Sanctuary Program's International MPA Management Training Team, have launching a comprehensive two-year MPA management capacity building program in the BHS. The program, which has with the goal of turning local village leaders, local MPA practitioners, and local government officials into highly effective and exemplary MPA managers, offers an entirely new approach to MPA management in Indonesia. By investing in local Papuan managers rather than transient experts who have no direct connection to local communities nor any long-term commitment to the area, this capacity building program will lay the foundation for effective and long-term management of the BHS MPA network.

The two year program, which has been specially designed to meet the specific capacity needs in the BHS, will cover a range of topics including a basic MPA primer course, marine spatial planning, MPA management planning, sustainable fisheries, integrated coastal zone management, community and stakeholder engagement, and leadership and management skills. The broader MPA management capacity building program will be further complimented with an intense mentorship program in which key MPA practitioners will trained to become instructors in the course material, becoming conduits to ensure the continued long-term development of effective local MPA managers across the BHS.

The Bird's Head Seascape is looked to as a model for marine conservation and an experiment in the development and implementation of an ecologically connected network of MPAs throughout Indonesia and the broader Coral Triangle region. As such, the BHS MPA management capacity building program has the potential to guide future MPA management capacity building initiatives across Indonesia and in the other Coral Triangle countries. Although the program is being developed to fit the unique cultural and ecological context of Papua, attention will be paid to ensuring the course is easily adaptable to other priority geographies in Indonesia.

The contribution of CTSP will support direct implementation of this capacity building program and provide resources to develop the foundation for the institutionalization and expansion of the program. This CTSP outcome is closely aligned with activities under

Outcomes 1, 2, and 3, and lead implementer CI is well positioned to ensure that lessons learned from those outcomes will find their way to the Bird's Head Seascape.

Multi-Year Outcome:

By 2013, the Bird's Head Seascape will have a framework for spatial planning in support of marine resources management at the provincial level, and provincial and district agencies and institutions will have capacity to manage the Bird's Head Seascape MPA network effectively, ensuring conservation of marine biodiversity and sustainable use of marine resources in Papua and West Papua Provinces.

This will be achieved through the following multi-year outputs:

1. Legalized spatial plans developed with a participatory process at the provincial and district level using ecosystem-based approach. Marine Protected Areas in the Bird's Head Seascape MPA network are acknowledged in district and provincial spatial plans, and spatial plans show provisions to avoid environmental impact from road development, mining, forestry, fishery infrastructure development, etc.
2. Increased capacity for effective management for MPA and MPA network at the Seascape level for district and provincial agencies. In West Papua Province focus districts are Raja Ampat, Kaimana, Wondama, and in Papua Province focus districts are Nabire and Biak-Numfor.
3. MPA management capacity building program is institutionalized within a local Papuan University or government agency and is linked to district, provincial, and national level MPA capacity building initiatives.

4.1.6. OUTCOME #6: Padaido MPA

Background

The Padaido archipelago, situated to the Southeast of Biak (Papua province), is a group of small, low-lying islands with fringing coral reefs, extensive patch reefs, and large seagrass beds. A survey conducted by Conservation International in 2006 shows that biodiversity is as high as can be expected from an area in the bull's eye of the Coral Triangle. Nearby Numfor island, which is to the Southwest of Biak, has a healthy fringing reef and extensive mangrove forests. Of special importance is the presence of at least two still functioning grouper spawning aggregation sites: One at Tanjung Barari on the Eastern tip of Biak, and one along the Southeastern coast of Biak. Both are exploited, and both are in need of immediate protection. 50% of the reefs of district Biak-Numfor (20,564 ha) are found in Padaido. Live coral cover used to be high in many of the reefs, but uncommonly bad weather and strong wave action caused widespread damage on July 10-11 2007. A rapid survey in September 2007 (16 sites) found that average live coral cover amounts to 25%, where especially shallow corals showed extensive damage. Due to availability of World War II explosives, blast fishing is still common in Padaido, especially around Nusi island. Though reef fish populations are clearly over-fished, fish stocks are healthier than average in Indonesia. This means that good governance will likely result in recovery of fish stocks.

The Padaido islands have seen various MPA development initiatives, but at-sea management remains weak. The area scores a modest 29% on the World Bank MPA scorecard, despite its importance. The area was gazetted as a Marine Tourism Park by the Ministry of Forestry in 1997 (Menteri Kehutanan Nomor 91/Kpts-VI/1997), and management responsibility has been with the provincial representation of the Ministry, the Agency for Conservation of Natural Resources (BKSDA). As such, it never had an earmarked budget, and management lacked continuity because of a transfer of management responsibility from one BKSDA unit to another, special autonomy for Papua, upgrading of the status of the Agency (from *Balai* to *Balai Besar*), and, finally, transfer of management responsibility from the Ministry of Forestry to the Ministry of Marine Affairs and Fisheries. Though TWAL Padaido is entitled to support from the PHKA allocation of COREMAP, management agencies faced difficulties accessing available funds. With the exception of a defunct ranger station, TWAL Padaido lacks any form of operational infrastructure.

The official management unit for TWAL Padaido has been under-staffed and under-equipped, but various other institutions have stepped to the plate to improve this situation. Padaido participated in COREMAP Phase I, and LIPI conducted extensive surveys to map marine habitats. COREMAP Phase II engaged both BAPPEDA and BBKSDA to strengthen governance of marine living resources. In contrast to COREMAP Phase II projects elsewhere in Indonesia, in Biak implementation is with BAPPEDA rather than with MMAF. Last but not least, Padaido has been one of the focus areas of LMMA-Indonesia, a local NGO that specializes in community-managed marine protected areas (LMMAs). Many of the LMMAs were supported in the framework of COREMAP Phase II as *Daerah Perlindungan Laut* (DPL).

CTSP creates an opportunity to re-engage governmental and non-governmental stakeholders towards creating a vision and strategy for this protected area. As one of the protected areas that was transferred from the Ministry of Forestry to the MMAF, it is on the radar screen of

provincial and national authorities, and Padaido can become a learning ground for MPA establishment under a new set of laws and regulations. CTSP will help LMMA-Indonesia to continue its work in Padaido, ensuring that community-based approaches go hand-in-hand with formal governance. In addition, lead agency, CI, will explore with local stakeholders the formal integration of the Padaido MPA into the Bird's Head Seascape MPA network.

Multi-Year Outcome:

By 2013, CTSP support results in strengthened at-sea management of TWAL Padaido, a Marine Protected Area of 183,000 ha in the District Biak-Numfor (Bird's Head Seascape). Strengthened management addresses over-fishing and blast fishing, and it results in sustainable use and conservation of biodiversity. Management responsibility is shared between local government agencies and local communities. Padaido is well-embedded in the Bird's Head Seascape MPA network and supported by national, provincial, and district government agencies.

This will be achieved through the following multi-year outputs:

(Note: In the first year of implementation will focus on output 1, whereas subsequent years will see more effort to outputs 2-5).

1. Locally-Managed Marine Area network in and around Padaido strengthened and integrated with formal designations.
2. TWAL Padaido is formally delineated based on GoI Regulation 60/2007, has a collaborative management mechanism established, and a zonation plan that designates at least 30% of critical habitats as No-Take Zones, and is integrated into the Bird's Head Seascape MPA network.
3. Ecological characterization and mapping of resource use patterns for Padaido is completed and resulting information supports the development of an effective management plan including zoning and detailed resource use regulations.
4. Effective infrastructure developed and support provided for sufficient facilities for management (incl. support for community-based surveillance and other community involvement initiatives).
5. Successful outreach, monitoring, and surveillance and enforcement programs developed and implemented to effectively raise awareness and support, monitor resources and resource.

4.1.7. OUTCOME #7: Kep. Raja Ampat MPA

Background

The Marine Wildlife Reserve (*Suaka Margasatwa Laut*) Kepulauan Raja Ampat is a 60,000 ha protected area situated in Raja Ampat district, West Papua province. After biodiversity surveys by Conservation International in 2001 and The Nature Conservancy in 2002, Raja Ampat is now world renowned for its reef diversity and its value as a dive tourism destination. The protected area SML Kep. Raja Ampat covers only a small part of the District Raja Ampat: It contains only 2.7% of all reefs in Raja Ampat (2,400 ha of 89,000 ha).

SML Kep. Raja Ampat was established in 1993 (Keputusan Menteri Kehutanan 81/Kpts-II/93) and later included in the network of seven district-managed protected areas (KKLD) declared in Raja Ampat in 2007. Protected status only pertains to sea, not to the islands within its boundaries. Until 2008, SML Kep. Raja Ampat was managed by the provincial representation of PHKA, *Balai Besar Konservasi Sumber Daya Papua* (BBKSA) in Sorong. In contrast to National Parks, areas managed by BBKSDA do not have an earmarked budget, and they are managed as part of a portfolio. After its establishment during the Suharto era of centralized governance, the political situation changed dramatically with decentralization after 1998, special autonomy for Papua, and the spit-off of Raja Ampat from its mother district Sorong in 2004. In 2008, PHKA transferred management of SML Kep. Raja Ampat to the Ministry of Marine Affairs and Fisheries (MMAF), but BBKSDA remains involved in management because MMAF does not yet have operational capacity in this area.

SML Kep. Raja Ampat benefited from COREMAP Phase II in two ways: Through support from the COREMAP allocation to PHKA, and through COREMAP support to the District Agency for Marine Affairs and Fisheries (MMAF). Supported by COREMAP, MMAF established five community-managed reserves (*Daerah Perlindungan Laut*) with a surface area of 1,100 ha within SML Kep. Raja Ampat. DPLs are no-take areas that are formalized through a village decree (PERKAM). The PHKA component of COREMAP resulted in the development of a draft zoning plan and various consultations.

SML Kep. Raja Ampat is one of seven MPAs in Raja Ampat. The other six, which are embedded within the Bird's Head Seascape, have benefited from significant technical support and investment from CI and TNC. Although neither CI nor TNC has directly focused on SML Kep. Raja Ampat to date, they have made substantial efforts to formally establish the entire network of district managed protected areas (KKLD) across Raja Ampat, including SML Kep. Raja Ampat. In December 2008, those efforts led to a Raja Ampat Regency Law (PERDA 27/2008) strengthening the legal basis and management structure for all seven MPAs in the Raja Ampat MPA network.

Unfortunately, the actual management of SML Kep. Raja Ampat has been relatively weak and the level of technical support for the MPA is significantly lower than in the other six Raja Ampat MPAs. The recent transfer of management authority to the MMAF, however, opens up new opportunities, which CTSP can help explore. One of the opportunities is to assess together with MMAF and the district government whether the area and the entire Raja Ampat MPA network can be managed through a new type of agency, the *Badan Layanan Umum Daerah* (BLUD), or District Agency for Public Services. One of the interesting aspects of a

BLUD is that it can receive and administer funds from non-governmental sources as well as from the District government budget—thus offering additional flexibility in the development of a sustainable financing scheme.

With CTSP support, Conservation International will work to embed SML Kep. Raja Ampat in the Bird's Head Seascape and to strengthen its management mechanisms. In the first year of implementation, CI will specifically support SML Kep. Raja Ampat by providing technical recommendations for the management planning and zonation planning processes. The establishment of a BLUD will be an important aspect of the management planning. Due to its innovative nature, the establishment of a BLUD will require involvement of officials at district, provincial, and national levels. These officials will also be important to ensure that SML. Kep. Raja Ampat is included in district and provincial spatial development plans. As such, CI will facilitate a series of stakeholder and government consultations regarding the BLUD management authority and spatial development plans for SML. Kep Raja Ampat. In addition, in an effort to build both stronger partnerships and biological monitoring capacity in local management agencies, CI will partner with MMAF, BBKSDA, and COREMAP to conduct a broad scale ecological assessment of the area, which will help inform the zonation plan. After the first year, CTSP will continue its engagement by strengthening operational capacity for MPA management.

Multi-Year Outcome:

By 2013, Marine Wildlife Reserve SML Kep. Raja Ampat has a management authority, a management plan (including zoning) and strengthened management towards biodiversity conservation and sustainable fisheries. SML Kep. Raja Ampat is included in spatial development plans (district, province), integrated with rest of Bird's Head Seascape MPA network and supported by national, provincial, and district government agencies.

This will be achieved through the following multi-year outputs:

(Note: In the first year of implementation will focus on outputs 1 and 2, whereas subsequent years will see more effort to outputs 3 and 4).

1. Ecological characterization and mapping of resource use patterns for SML Kep. Raja Ampat is completed and resulting information supports the development of an effective management plan including zoning and detailed resource use regulations.
2. MMAF endorses SML Kep. Raja Ampat as a protected area under GoI Regulation 60/2007, and District and provincial governments include the protected area in their spatial development plans. The District government takes a lead in management through designation of a Public Services Agency (Badan Layanan Umum Daerah, BLUD) as management authority.
3. Effective infrastructure developed and support provided for sufficient facilities for management (incl. support for community-based surveillance and other community involvement initiatives).
4. Successful outreach, monitoring, and surveillance and enforcement programs developed and implemented to effectively raise awareness and support, monitor

resources and resource use and protect key habitats and species in SML Kep. Raja Ampat.

PRIORITY REGION 2: THE BANDA SEA

4.1.8. OUTCOME #8: West Kei Kecil MPA

Background

West Kei Kecil is a small group of islands at the eastern side of the Banda Sea Eco-Region. The area is recognized as a globally significant foraging ground for endangered leatherback turtles, which are hunted here by local fishers. The marine ecosystem surrounding the Kei islands is also important for five other species of marine turtles: Green, hawksbill, olive ridley, loggerhead, and flatback turtles are all using this area, which has also been identified as a key migratory pathway for several species of whales. The coral reefs here have been little studied, but it is certain that they are highly diverse due to their location in the Coral Triangle, the high diversity of habitat types in these islands, absence of pollutants, and the excellent water quality afforded by its oceanic environment. Reef fish populations have been relatively healthy until recently, due to a focus on pelagic fish species by local fishers.

During the last decade or so, the live reef fish and aquarium fish trades have operated in this area, resulting in damage from cyanide fishing and over-fishing of groupers, Napoleon wrasses and other reef fish. Leatherback turtle populations are seriously threatened by local hunting traditions, with killing rates of 50 or more of these animals each year. This is a very significant number for this critically endangered (and legally protected) species. The involvement of new hunting groups associated with jobless villagers, and seasonally lowered income from other economic activities, were identified as driving factors behind the continuation of this practice. Marine resource conservation comes at a critical time here, as there is an increasing focus on fisheries development, after a recent loss of income from forestry due to over harvesting and other unsustainable practices.

The presence of leatherback foraging areas in Kei Islands provides a unique opportunity for eco-tourism development. This presence has raised interests in recent years from professional under water photographers, documentary film makers and eco-tourism operators. Involving hunters in field research, photography, film projects and tour guiding have proven to reduce hunting pressure. Community involvement in eco-tourism is a priority for the new district government.

WWF has been working in the Kei islands since 2004 in collaboration with a local NGO partner called the SIRaN Foundation, jointly aiming to reduce the traditional hunting of leatherback turtles. Conservation strategies to date have focused on development of community support for turtle conservation, through awareness-raising and education, community participation in leatherback conservation and development of a sustainable hunting system regulated by customary and government law. WWF Indonesia is currently aiming to expand this program to the development of a large multiple-use MPA with significant no take zones, as part of a sustainable fisheries management strategy and to protect critically endangered species like the leatherback turtles at the locations where they are most vulnerable.

During the coming 3 years, WWF Indonesia will be working with local governments and communities, supported by expert partners, to facilitate the development of an MPA management plan that includes no take zones covering at least 30% of all critical habitats, to

enhance fisheries on surrounding fishing grounds and to protect endangered species. WWF already identified major leatherback hunting locations, and monitoring results have provided useful data on hunting locations, killing rates, and local socio-economics.

WWF has recently appointed a project leader to further develop the project in the Kei islands. In the next four months, the project leader will recruit program staff, and WWF will set up a field office. The Kei island MPA program itself will be supported by 11 staff including the project leader. The staff will be divided into three main functions: Community and Outreach, Monitoring and Surveillance, and Admin and general support.

Multi-Year Outcome:

By 2013, a West Kei Kecil (WKK) MPA is established of at least 50,000 ha. A management plan is available in draft (for endorsement in 2013) with a zoning plan that includes NTAs for 30% of critical habitat and 90% of turtle nesting beaches. Monitoring protocols are agreed and a management unit is established.

This will be achieved through the following multi-year outputs:

1. Ecological characterization and mapping of traditional resource use patterns for the West Kei Kecil Islands is completed and resulting information supports the development of an effective management plan including zoning and detailed resource use regulations.
2. West Kei Kecil MPA is endorsed as KKLD by local communities, industry and traditional leaders in 2011 and listed as candidate MPA based on GoI Regulation 60/2007 for Ministerial Decree approval by 2013.
3. The West Kei Kecil MPA management plan drafted with zoning system (incl. no take zones) and associated regulations, based on biodiversity representation, resilience and sustainable use. The management plan to be endorsed and implemented by an authorized collaborative management body in 2013.
4. Effective infrastructure developed and support provided for sufficient facilities for WWF field activities.
5. Successful outreach, monitoring, and surveillance and enforcement programs developed and implemented to effectively raise awareness and support, monitor resources and resource use and protect key habitats and species in the West Kei Kecil MPA.

4.1.9. OUTCOME #9: Wakatobi MPA

Background

Wakatobi Marine National Park (WMNP), covering most of the new District of Wakatobi, is an archipelago at the southern tip of the Indonesian island of Sulawesi. The archipelago is named after its four main islands: Wangi-Wangi, Kaledupa, Tomia, and Binongko. This archipelago is also known as the *Tukang Besi Islands* after its iron craftsmen working here in centuries past. In 1996, the Government of Indonesia established the 1.39 million hectares large marine protected area here. In terms of diversity of marine life, scale, and reef condition, WMNP ranks as one of the highest priorities for marine conservation in Indonesia. The main threats to WMNP are over-fishing and destructive reef fishing practices using explosives and poisons. Outside fishers pose a major threat, both directly by adding to fishing pressure and resource destruction, and indirectly by reducing the sense of ownership and responsibility among local communities.

During a Rapid Ecological Assessment in 2003, a total of 396 species of scleractinian corals were recorded. A total of 590 fish species were seen, and after accounting for cryptic species the survey team concluded that 942 species are likely to be found throughout the Wakatobi region. Coral damage was widespread at the time, seen in one form or another at most sites, although at relatively low levels. The reefs are currently in relatively good health, most likely due to their large extent and a reduction in major disturbances in recent years. Overall, survey results all clearly substantiate Wakatobi's importance from the standpoint of biodiversity conservation, and moreover, WMNP is also a logical centerpiece for a network of mutually-replenishing MPAs along the southeastern coast of Sulawesi. Circulating and seasonally changing currents in the Flores and Banda Seas facilitate fast re-seeding after disturbance. Because of upwelling of cooler waters from the south, the area is also relatively protected from bleaching events that have affected so many reefs around the world. Large populations of cetaceans also frequent the open waters in and around Wakatobi.

WNP is home to about 90,000 people, who rely heavily on marine resources as a source of protein and cash income. Coral reefs and fisheries are threatened by overfishing, including the use of destructive methods. Other threats include coral and sand extraction by local communities for construction in local villages. There are several large No-Take Zones (NTZs) in the WMNP, totaling nearly 44,000 hectares. Most of the NTZs are on the more remote reefs further away from the islands, and they have not been effectively managed to date. Recent monitoring reports show that 12% of the total fishing effort in WNP takes place within NTZs (2007-2008). Some arrests have been made recently and some prosecutions were successful. Nevertheless, fishing pressure is still at unsustainable levels in most areas of the MPA, as shown from declining mean lengths in the populations of commercially important groupers. Sustainable fisheries and other economic development is a high priority for the local government and sustainable opportunities exist in pelagic fisheries, marine tourism, including scuba diving, whale watching.

Until recently, the WMNP authorities had insufficient resources, infrastructure and skills to develop or implement effective MPA management. Misunderstandings among local communities lead to opposition which was counter-productive to sustainable resource use. Gaining stakeholder support in an area with very intense resource use is one of the important challenges to conservation in this area. Management capacity is still limited in this large

National Park, but since 2003 WWF in partnership with TNC has been engaged on the ground to assist the Park and District authorities. Support from the local government of the new District of Wakatobi, working in coordination with NGOs and tourism operators, has also contributed to a more enabling environment for MPA management in recent years.

The WMNP and local government, supported by NGOs and stakeholders, have developed a management plan and zoning system, which is currently in the early years of implementation. This Wakatobi zoning and management plan ensures the full protection of at least 30% of critical habitats (coral reefs, mangroves, seagrass beds) in No-Take Zones. A collaborative management body has been established and WWF and partners currently focus their support for the Wakatobi authorities on implementation of the zoning and management plans. Simultaneously with the support for implementation, WWF has started to work with WMNP authorities and other partners on ideas for sustainable financing, and the identification of revenue sources that could complement existing and future government budgets for protected area management.

Multi-Year Outcome:

By 2013 the 1,390,000 ha Wakatobi National Park (WNP) is effectively managed through implementation of the WNP management plan and enforcement of zoning and regulations. Established No Take Zones are enforced and supported by 80% of residents in the WNP, with the results that fishing efforts remains 100% outside the NTAs, and hard coral cover commercially important fish populations are stabilizing.

This will be achieved through the following multi-year outputs:

1. Wakatobi District is given the status of "Conservation District" by the national government, enabling funding to be provided for the sustainable management of the district and the Marine Protected Area therein.
2. District government drafts fisheries and tourism regulations that promote the channeling of taxes from these industries directly to MPA management. Draft regulations are endorsed by local communities and provide opportunities for long-term financing of MPA management in Wakatobi.
3. Increased understanding of WNP Management plan, zoning system and regulations is evident among all stakeholder groups.
4. Successful and financially sustainable outreach, monitoring, surveillance and enforcement programs are developed and implemented by the management unit responsible for implementing the WNP Management Plan (based on adequate staffing, equipment and facilities for WNP management).

PRIORITY REGION 3: THE LESSER SUNDAS

4.1.10. OUTCOME #10: Savu Sea Marine National Park

Background

The 3.5 million hectares Savu Sea Marine National Park (MNP) was declared on May 13, 2009, during the World Ocean Conference in Manado (Decree of the Minister of Marine Affairs and Fisheries KEP.38/MEN/2009). The area covers 11 districts in the East Nusa Tenggara (NTT) Province, and is currently one of the largest marine protected areas under development in the Coral Triangle. This is currently also the highest priority MPA program for the Indonesian Government in its commitment to achieve the 10 million hectare MPA target by 2010. The provincial government is accordingly committing to align provincial spatial planning with the a Savu Sea MNP zoning process. In addition to this development, in the Northern part of the Savu Sea, the District of Alor in March 2009 designated the Alor District Marine Protected Area (KKLD) of about 400,000 hectares.

The Savu Sea, including the Alor-Solor area, comprises a major section of the “Indonesian through-flow”, a massive North-South current connecting the Pacific and Indian Oceans. This is one of the major shipping passages in Indonesia, as well as an important migration corridor for many species of marine life. The Savu Sea includes important fishing grounds for big-eye and yellow-fin tunas, benefiting commercial long liners as well as local small-scale tuna fisheries (hand-liners). Reef and other near-shore fisheries locally contribute to livelihoods and economies. Coral reefs and other marine habitats in the region contain high levels of biodiversity and the area contains critical habitat (major migratory corridors) for 14 species of whales, including blue whales and sperm whales. It also includes important habitat for dolphins, dugong, manta rays and turtles, and several islands (Lembata, Rusa, Pantar, etc.) have been identified as important sea turtle nesting sites.

As in other regions of Indonesia, the main threats to the marine resources in this area are destructive fishing practices and over-fishing. Elevated threat levels to manta rays, whale sharks, dolphins and whales, sharks and other larger marine species, exist as a result of hunting practices in the Solor-Lembata-Pantar-Alor-Wetar island chain. Large numbers of manta rays are harvested by villagers from Lamakera on the island of Solor. Dolphins and whales are caught and killed by fishermen from the village of Lamalera on the Island of Lembata. Harvesting is for cetacean meat (barter trade), for whale skeletons (sold as ornaments in Bali), and for meat as bait in long-line fishing for sharks. During traditional whale hunting there are many whales harpooned and lost without hope of survival. This “by-catch” effect results in several whales killed for each whale actually landed. One of the most obvious management needs in a protected area that focuses on the protection of whales and dolphins, and this area currently indeed enjoys a unique interest in cetacean conservation, would seem to be a stop to the killing of whales and dolphins. The “Solor-Alor” area is the only area in all of Southeast Asia where hunting of whales still takes place by local coastal communities. It is a uniquely diverse area in terms of cetacean species and populations are highly vulnerable here when traveling through the narrow sea straits.

The killing of whales and dolphins in this area is a controversial subject which has even lead to the exclusion of the Solor-Lembata-Pantar-Alor-Wetar Island chain from the current Savu Sea Marine National Park, as declared in May 2009. This exclusion of the “Solor-Alor” area,

where WWF-Indonesia currently implements a marine conservation program, has a significant negative impact on the potential value and effectiveness of the Savu MNP as a whole, since the most important and critical habitats, migrations corridors, coral reefs and species concentrations are all found in that area. These facts justify continued attempts to try and include this area in a broader defined Savu Sea MPA Network. Supported by WWF, local government already established a District Conservation Area (KKLD) around Pantar and Alor, but this KKLD does not include the areas around Solor and Lembata where manta rays and whales are being harvested.

Multi-Year Outcome:

By 2013 the Savu Sea Marine National Park (currently 3.5 million hectares) is formally established, expanded to include the Solor-Alor areas, and effectively managed by a collaborative management body that is lead by MMAF. Management plan and zoning plans (including 30% of critical habitats in No Take Zones) are aligned with national, provincial and district spatial plans, and include sustainable fisheries plans and sustainable financing schemes.

This will be achieved through the following multi-year outputs:

1. The Savu Sea region is sufficiently characterized in terms of ecology, marine resource distribution, socio-economics and capture fisheries, and MPA managers are trained to enable detailed MPA network planning, MPA zoning and adaptive MPA management.
2. Major threats to biodiversity and fisheries have been identified and mapped.
3. The Savu Sea MPA network design is completed, and Savu Sea MPA management plans and zoning systems are finalized (with 30% of critical habitats included in No-Take Zones).
4. MPA co-management units are formed by Provincial and District Governments under MMAF leadership, and capable MPA managers are tasked with implementing MPA management plans and regulations.
5. Savu Sea MPAs are legally declared at all necessary levels enabling effective enforcement of zoning and regulations.
6. Regular surveillance and monitoring of marine resources and resource use enables adaptive management.
7. A comprehensive Savu Sea MPA Communications Campaign builds and maintains stakeholders' awareness and support for the establishment of the Savu Sea MPA Network.
8. Workshops and discussions with local stakeholders show that communities and local governments are supportive of MPA management.

9. Public feedback of information from monitoring and surveillance programs via various media creates strong sense of ownership among local stakeholders.

10. The Savu Sea Marine National Park is fully integrated in the management of a wider MPA network that also includes the highly important Alor MPA in the Pantar Strait and other MPAs as those are developed in the Solor-Alor area.

4.1.11. OUTCOME #11: Bali MPA Network

Background

The Bali MPA network lies at the southern end of the Coral Triangle and encompasses the surrounding waters of Bali and neighboring islands that belong to the Province of Bali. This network is of outstanding conservation and marine tourism value. Complex currents driven by the Indonesian through-flow among these islands are likely to result in good connectivity among reefs. They also cause local upwelling and vertical mixing of the water column that cools surface waters and reduces heat stress on corals and other communities linked to global warming and thereby contribute to the resilience of these communities. The area supports a diverse range of habitats and extremely high biodiversity of corals and fish. It is also important for cetaceans as a migration corridor, for manta aggregations and for turtle nesting. The island of Bali is the basis of one of the world's largest yellow fin tuna fisheries.

Resource management issues include tourism and other coastal development, over-fishing and consumption of turtles. The proximity of deep-sea ocean habitats to coastal villages means that assemblages of (often endangered) migratory species provide unique opportunities community-based tourism development, featuring cetaceans, mantas and ocean sunfish.

The Island of Bali is a rapidly developing and internationally famous tourism destination with its surrounding seas one of its major attractions. Several marine conservation initiatives, some with existing marine protected areas, are scattered around the island, including Bali Barat National Park, Nusa Penida, Les Village, Pemuteran Village, Lovina "dolphin watching" area, Tulamben-Amed and Peruncak "turtle beach" conservation village. To ultimately achieve effective and efficient management, governance and financing of the MPA sites, CI will start a process of development of a fully integrated MPA network around Bali, fully aligned with provincial spatial planning. This Bali MPA Network development program will start with the recruitment of a Bali MPA Network coordinator and a series of meetings and other activities to start the process of network development.

The Nusa Penida MPA (outcome 12), which is currently being developed through a joint initiative between the District Klungkung Government, TNC, and CI, will act as a critical anchor site in the Bali MPA network. Its declaration will serve as a catalyst for the formation of the Bali MPA network and its management plan and tourism code of conduct will provide a strong model on which MPA and tourism management mechanisms can be designed for the broader Bali MPA network. As such, in the first year of implementation CI will primarily focus on working with TNC and government partners to facilitate the declaration of the Nusa Penida MPA and supporting the development of an effective MPA management plan and tourism code of conduct.

Multi-Year Outcome:

By 2013, a network of Marine Protected Areas covering approximately 60,000 ha is established for the marine and coastal waters of Bali Island, is fully aligned with the Bali Spatial Plan, and includes No-Take Zones covering at least 30% of critical habitats. Effective and sustainably financed governance systems will be agreed upon at all levels of government to manage the Bali MPA network for biodiversity

conservation and sustainable resource use (such as tourism and responsible fisheries), for the benefit of local communities.

This will be achieved through the following multi-year outputs:

Guiding principles for MPA network design, management, governance and financing are adopted by key stakeholders (including MMAF, PHKA and Pemprov Bali) for the Bali MPA Network.

A resilient network of MPAs is designed in draft for Bali waters, based on existing MPA sites, MPAs already proposed by government and new sites based on an ecoregional assessment of critical habitat, natural resources and patterns of resource use. Existing sites include: Bali Barat National Park, Nusa Penida, Les Village, Pemuteran Village, Lovina "dolphin watching" area, Tulamben-Amed and Peruncak "turtle beach" conservation village.

1. By 2012, a provincial government decree in Bali formalizes the establishment of the Bali MPA network.
2. The Bali MPA Network is incorporated into provincial and district spatial plans and associated planning documents.
3. All MPAs have designated management units as well as management and zoning plans, and no-take zones comprise at least 30% of critical habitats within MPAs (coral reefs, mangrove forests, seagrass beds).
4. Enhanced awareness of socio-economic benefits of Marine Protected Areas, No-Take-Zones (NTZs) and sustainable fisheries through a well-defined communications, media relations and marine conservation education program targeting specific stakeholders within the Lesser Sunda Network.
5. By 2013, The Nusa Penida MPA is established as an anchor site for the Bali MPA Network, with an effective MPA Management Plan, and Tourism Management Plan and Code of Conduct that can be used as models for other MPAs in Bali.
6. By 2013 a sustainable financing mechanism for the Bali MPA network is designed and the principles are agreed upon at all levels of government.

4.1.12. OUTCOME #12: Nusa Penida MPA

Background

The proposed Nusa Penida MPA encompasses a cluster of three small islands located off the southeastern shore of Bali—Nusa Lembongan, Nusa Ceningan and Nusa Penida, of which Penida is the largest. Situated within the Coral Triangle and squarely between the Indian and Pacific Oceans, Nusa Penida harbors a unique blend of species, including a number of Indian/Pacific hybrids. As confirmed in a 2008 rapid assessment of the biodiversity, the islands support a high diversity of reef fishes, corals and other invertebrates. They are also world-famous for aggregations of ocean sunfish and manta rays that occur predictably on the south coast of Penida each year. Whales and dolphins migrate through the straits to the East and West of these islands and healthy mangrove stands are found on the Northern coast of Lembongan.

Since 2003, TNC has implemented a range of conservation awareness and outreach activities in Bali, focusing on the islands of Lembongan, Ceningan and Penida. In May 2003, TNC initiated the “Reviving the Beaches of Bali” project. The goal of this activity was to strengthen the positive image of Bali’s coasts and seas, areas of exceptional natural richness that provide benefits for local communities through tourism, fisheries and seaweed culture. This project has increased awareness among local communities and tourism operators on marine conservation issues and also resulted in an excellent working relationship between TNC and local communities. CI has also had a strong presence in Nusa Penida, working since 2007 with local communities, the Klungkung government, and the private sector to increase awareness of the importance of sustainable marine resource use and conservation. CI has taken a lead in the scientific characterization of the islands, sponsoring satellite tagging of ocean sunfish (*Mola mola*) off of Nusa Penida and leading a rapid assessment of biodiversity and ecological resources, in partnership with LIPI and TNC. As a next step, TNC and CI have designed together a multiple year process that will provide local government and local communities with the tools to effectively manage the coastal and marine resources of Lembongan, Ceningan and Penida. The tool of choice is a co-managed Marine Protected Area, designed for sustainable use by the tourism and fishery industries.

The islands of Lembongan, Ceningan and Penida together form the municipality or kecamatan of Nusa Penida in Bali’s smallest district or kabupaten Klungkung. Nusa Penida has ca. 50,000 inhabitants who farm seaweed, catch fish in the surrounding waters and work in local agriculture, mainly animal husbandry (cattle, pigs) and coconut and cashew nut culture. Tourism is a major source of income in Nusa Penida, with numerous (mainly small) hotels especially on Lembongan island. There is also an important day tourism industry from Bali, focusing on three pontoons of which two are situated at the West coast of Lembongan and one at the West coast of Penida. These pontoons are serviced by modern catamarans with a capacity of several hundred passengers each. From these pontoons a range of water sport activities are carried out like parasailing, snorkeling, scuba diving etc. The area also offers excellent surfing, scuba diving and snorkeling opportunities. The intensive use of this area for tourism makes this a unique and important learning ground in relation to issues that will surface in other MPAs as well, as visitor numbers increase there.

Increasing tourism development also leads to increased fishing pressure from recreational fishers, both anglers and spearfishers. Reefs and capes around Penida and Lembongan have good populations of sought-after spearfishing targets such as dogtooth tuna and giant trevally: An Australian speared a world record dogtooth tuna in Penida, and this widely published achievement attracts spearfishers from all over the world. This increasing, and as of yet uncontrolled, recreational fishing pressure has already resulted in depletion of reef-associated pelagics in the street between Ceningan and Penida (once known as 'Trevally Alley') and the population of giant trevally on the Eastern tip of Penida.

Apart from increasing tourism activities, other developments have also caused excessive pressure on this area. Overfishing, using both legal and illegal fishing gear including cyanide fishing for aquarium fish, poses a serious threat to the reef ecosystems of the proposed Penida MPA. Coastal development, mostly related to tourism infrastructure, will become a more serious threat if environmental issues are not considered. Seaweed culture covers most of the reef flats in this area, resulting in an almost complete lack of undisturbed sections of this type of habitat. Solid wastes, such as plastics from Bali, are frequently perceived as one of the most serious environmental problems threatening the marine environment at this site. As fishery and tourism are intensifying, a lack of effective governance will certainly result in further degradation of coastal and marine habitats.

The District government of Klungkung has demonstrated strong interest and initiative in the process of developing and Nusa Penida MPA, but presently does not have the tools to effectively manage the coastal seas in the interest of sustainable resource use. Technical support is needed to manage increasing fishery and tourism pressure and to protect these important coastal and marine habitats. The District government of Klungkung has directly requested this support from TNC and CI. Therefore, TNC, in partnership with CI, will be leading a conservation program in the Penida area in direct support to the local government and in close coordination with local communities, private sector and other locally relevant partners. A multi-year outcome for this conservation program has been articulated, together with a number of more detailed outputs that will together result in an effectively managed MPA in Nusa Penida.

This outcome will be directly linked with Outcome 11, the development of a Bali MPA Network, which will be led by CI in partnership with TNC. The Nusa Penida MPA will serve as an important anchor site for the future Bali MPA network.

Multi-Year Outcome:

By 2013, a multi-purpose Penida MPA is designed with surface area of at least 10,000 ha, and with No Take Zones covering 20-30% of critical habitats. A management plan is drafted, a management unit established and monitoring protocols agreed and implemented.

This will be achieved through the following multi-year outputs:

1. Completion of scientific characterization of the Penida area ecosystem and socio-economic systems, with results of analysis informing the development and implementation of an effective zoning plan.

2. Endorsement by local communities, industry and traditional leaders for listing of the Penida area as a candidate MPA based on GoI Regulation 60/2007 and resulting Ministerial Decree approval within 2 years of listing.
3. Development and endorsement of a Penida MPA management plan by local authorities (including No Take Areas of at least 1,000 ha each, incorporating 20-30% of critical habitats in the MPA).
4. The MPA Management plan is budgeted and potential funding sources identified.
5. A Tourism Management Plan and Code of Conduct developed and endorsed by government, private sector and other stakeholders.
6. A Penida MPA management unit is effectively implementing early stages of the Management Plan.
7. Financially sustainable outreach, monitoring, surveillance and enforcement programs are developed. Effective patrolling ensures increased compliance with regulations and zoning.
8. Biological monitoring demonstrates that coral cover remains above 15% on slopes, mangrove cover is not reducing and there is no decline in abundance or body size of commercially important fishes.

PRIORITY REGIONS 4 & 9: WEST SULAWESI & SUNDA SHELF

4.1.13. OUTCOME #13: West & North Sulawesi; Anambas-Natuna MPA Networks

Background

The North and West coasts of Sulawesi forms the eastern boundary of the Sulawesi Sea – Makassar Strait ecoregion, which ranks 4 in geographic priority for conservation in Indonesia. This area covers a coast line of about 1,500 km length stretching from Manado (with Bunaken National Park) in the North to Makassar (with Kapoposang Tourism Reserve) in the South. The Natuna-Anambas area is situated in the northern part of Sunda Shelf region, which ranks 9 in geographic priority for conservation in Indonesia, but has been identified as a priority conservation area by MMAS. The area consists of two island groups, Natuna and Anambas, which measure about 100 km across and which are at 250 km distance from each other. Neither of these areas have been studied comprehensively, and consequently conservation NGOs prioritized these areas for biodiversity surveys of their coastal marine ecosystems to inform an MPA designation process.

The Sulawesi Sea/Makassar Strait is an extremely important dispersal corridor (particularly for larvae) via the Indonesian Throughflow, from the Philippines to the north and southward towards the Lesser Sundas and Nusa Tenggara Timur. Oceanic species, both wide-ranging and resident, also enjoy these coastlines and rich, swift waters for migratory routes and critical reproductive grounds. Whale sharks aggregate in the Spermonde islands from yet-unknown origins. The Sulawesi Sea area is critically important for many cetacean species, especially sperm whales, which calve north of Sulawesi. The Lembeh Strait historically had large aggregations of cetaceans, mantas and whale sharks, though the regional significance of these cannot be assessed as they were severely degraded by overfishing in late 1990's. Flying fish spawn in the Sulawesi Sea/Makassar Strait, providing important but vulnerable fishing grounds for their eggs. The northern coast of Sulawesi hosts numerous nesting sites for Pacific Leatherback turtles, while Green and Hawksbill turtles nest on the Bira, Sambar Gelap and Pulau Laut Islands, as well as the small islands off the west coast of south Sulawesi. The Makassar Strait probably serves as a migration/dispersal corridor for at least some reef fish species, however Palawan and the Sulu Islands appear to be more important for reef fish dispersal. Finally, the mangrove stands and surrounding waters in South Sulawesi, Mampie and Bulukumba regions provide important stopping and foraging grounds for seabirds ranging from ducks to frigates. For example, the latter site is important for approximately 28 species of coastal and migratory seabirds.

The Sunda Shelf/Java Sea features important foraging grounds for green, hawksbill, and leatherback turtles, a migration corridor for adult green turtles, and a post-nesting migration corridor for green turtles between Malaysia – Bangka – Natuna –North Sabah – Philippines, as well as Vietnam – Riau, Indonesia –Philippines. The Natuna islands in particular have very important nesting beaches for hawksbill turtles, with this ecoregion being perhaps the highest hawksbill population numbers in all of Southeast Asia. Natuna and Anambas clearly used to harbor significant reef fish (grouper and Napoleon wrasse) spawning aggregations that may have once seeded an expansive area, but now seem to be exterminated by overfishing. As Natuna-Anambas are among the outer islands of Indonesia, Natuna-

Anambas are of strategic importance, and GoI prioritized this area for MPA development. The gas fields in North and South Natuna are among the largest in the world and Matak Island of the Anambas has now become a base for the oil and gas industry.

Both North and West Sulawesi and Natuna-Anambas lack *comprehensive* initiatives towards development of MPA networks, but these areas have seen MPA development projects on limited scale. Natuna-Anambas has been the focus of the ADB-funded part of COREMAP, resulting in support for small community-managed protected areas. Major MPAs along the North and West coasts of Sulawesi are Bunaken in the far North and Kapoposang in the far South, with a few small community-managed MPAs in between. In both areas, however, MPA coverage is only a fraction of what is needed to conserve biodiversity and sustain fisheries.

CI plans to engage in these areas with initial stakeholder workshops towards formation of conservation coalitions, and a major effort towards rapid assessments of biodiversity and ecological resources (RAP). In the first year of implementation, CI in partnership with the Indonesian Science Institute (LIPI), will conduct a comprehensive RAP in Natuna-Anambas, the results of which will be presented to the government and stakeholder to inform a MPA network designation process, which CI will actively support over the coming years. In North and West Sulawesi, CI in partnership with LIPI and WSC will begin expert consultations and preparations for a RAP during the first year of implementation, and will conduct the RAP in the second year of implementation. Following the RAP, CI will present technical recommendation to the government for the design of an MPA network and work with the government and partner WSC to develop a strategy for the MPA network development process and identify a lead support agency.

Multi-Year Outcome:

By 2013, an 880,000 ha Anambas-Natuna MPA network and a large-scale West-and-North Sulawesi network are established, and priority sites in the networks are managed effectively towards biodiversity conservation and sustainable fisheries.

This will be achieved through the following multi-year outputs:

(Note: In the first year of implementation, primary emphasis will be on output 1 as well as initial activities in output 2. Outputs are segregated by network in the tabular work plan and in the budget)

1. Scientific characterization of the coastal marine ecosystems in the Natuna-Anambas area and the western and northern coasts of Sulawesi inform the identification of MPAs as well as development of effective management and zoning plans.
2. Government and communities designate a Natuna-Anambas network and a West and North Sulawesi network of MPAs.
3. All MPAs have designated management units as well as management and zoning plans, and no-take zones comprise at least 30% of critical habitats within MPAs (coral reefs, mangrove forests, seagrass beds).

4. Management units for each MPA in the network are effectively implementing management plans.
5. Financially sustainable outreach, monitoring, surveillance and enforcement programs are developed.
6. Effective surveillance ensures high compliance with MPA regulations. Biological monitoring demonstrates that reefs and mangroves remain healthy and that there is no decline in abundance or body size of commercially important fishes.

PRIORITY REGION 6: NORTH BORNEO

4.1.14. **OUTCOME #14: Berau social marketing**

Background

The most important threats to Indonesia's reefs and coastal fisheries are over-fishing, destructive fishing and poaching of vulnerable species. Fisheries reform is essential for the success of marine conservation and Marine Protected Areas (MPAs). Substantial and strict No-Take Zones (NTZs) need to be included in the toolbox for fisheries management. The role of NTZs as the most effective strategy to conserve coral reefs and their ecosystem services has become widely accepted among scientists, as well as in governments and NGOs, and a wide array of efforts involving their planning and financing is underway. Local threats from over-fishing and destructive practices can be effectively addressed in NTZs that guarantee against the collapse of fish stocks and can serve as sources of fish for surrounding fishing grounds. Development of local public support for NTZs is by far the most urgently needed conservation strategy in Indonesia and in the Coral Triangle



Rare trains partners how to achieve behavior change using social marketing strategies integrated with threat reduction to conserve biodiversity. Rare has a proven track record in more than 50 countries for creating local constituencies to advance conservation goals. Rare does this by changing attitudes and behaviors through a method called a “Pride campaign,” which inspires people to take pride in the natural assets that make their communities unique and offers them alternatives to protect these assets. Social marketing uses private sector marketing techniques to “sell” behavior change. These tools include audience analysis and segmentation based on opinion surveys, focus group testing of targeted messages, use of multiple media vehicles and outlets to reinforce messages over a sustained period of time, and rigorous measurement of “product adoption,” such as new understanding, attitudes, and behaviors compatible with conservation of biodiversity. Starting in 2010, Rare will apply its experience in social marketing for conservation to create local support for NTZs through Pride campaigns.

The Pride campaign towards creating local support for NTZs requires a slightly different approach from the Pride campaigns that RARE conducted so far. Therefore, RARE engaged People and Nature Consulting Int, a company based in Bali that specializes on governance of

renewable natural resources, to help with the customization of the RARE curriculum and to assist with implementation of the campaigns.

Rare is committed to implementing two cohorts of Pride social marketing campaigns at 24 sites to strengthen the management effectiveness of NTZs across the region. The first of these cohorts will be focused on Indonesia, possibly with additional sites in Malaysia and East Timor. The second will be focused on the Philippines and Melanesia.

CTSP will support one of the campaigns in the first cohort, namely the one in Berau MPA. This campaign has a high likelihood of success, because it is embedded in the conservation program implemented by WWF and TNC, which is also supported by CTSP.

Multi-Year Outcome:

By 2011, a two-year social marketing campaign and community involvement in surveillance results in local support for no-take zones as a fishery management tool in Berau MPA.

This will be achieved through the following multi-year outputs:

1. Program for campaign managers developed (funded through co-financing).
2. District constituencies (the coastal villages and fishing communities surrounding Berau MPA) understand and support the role of no-take zones as tools for management towards sustainable fisheries.
3. Coastal fishing communities are involved in surveillance and because of public support and community involvement, voluntary compliance is high.

4.1.15. OUTCOME #15: Berau MPA

Background

The Berau MPA is Indonesia's first major MPA that was established through a District Government (head of district) decree (no. 31/2005). This process stimulated national recognition of district-initiated protected areas as a new type of MPA (see Government Regulation no. 60/2007 on Conservation of Fishery Resources). The President of Indonesia commended the establishment of the Berau MPA as an important contribution towards achieving the national target of establishing 10 million hectares of MPAs by 2010 (speech during the COP-8 Convention on Biological Diversity in Brazil, March 2006).

This large MPA of 1.27 million hectares is of enormous regional importance for conservation of marine turtles, mangrove forests, coral reefs and coastal fisheries resources. Berau features green turtle nesting beaches that are among the most significant in Southeast Asia, unique saltwater lakes with endemic jellyfish species, and aggregation sites of manta rays. Situated in the heart of the Coral Triangle, the reefs of the Derawan Islands are extremely diverse and its reef communities are unique because of the influence of the Berau River on the coastal waters. A rapid ecological assessment conducted in 2003 and earlier surveys confirmed 507 hard coral species (Turak, unpublished report) and 872 species of coral reef fishes (Allen, unpublished report). The Berau MPA features 66,122 hectares of coral reefs (14% of all coral reefs found in the Sulu and Sulawesi Seas) and 49,000 ha of mangroves (81% of all mangroves found in the Sulu and Sulawesi Seas).

The Berau MPA harbors more than 60% of the rookery and nesting sites of green turtle in the Sulu and Sulawesi Seas. During the period of 2000-2002, more than 5,000 females---mostly green turtles---were nesting in the area, the single largest number of female turtle nesting ever recorded in Southeast Asia. Unfortunately, over the years 2002-2005 the nesting number started to decrease by 50% as a result egg collection (“concessions”) in the area. In January 2006 the egg collection concessions were terminated, and full protection of nesting sites – initially in two of seven islands- was effected in January 2008. The local management aims to fully protect all turtle nesting and rookery sites in the MPA by the end of 2011.

The marine resources of the Derawan Islands are threatened by unsustainable fishing practices, notably fishing with explosives and poison. In addition, there are strong indications that the current level of fishing pressure is much higher than fish stocks can sustain. Although progress has been made with protection of the turtle nesting beaches, poaching of eggs and adults is still occurring. Changing land use patterns in the watershed of the Berau River are also impacting the coastal reefs through nutrient loading and silting.

The MPA management aims to designate 30% of the critical habitats (coral reefs, mangroves and sea grass beds) as no-take area, which will be a huge contribution to sustainable fisheries. A detailed zoning system will be included in a comprehensive Berau MPA management plan that will be completed and implemented by 2011. The District Government is very supportive and the Berau MPA has already been included into District Government development plans and initial funding for management was allocated in the District budget.

TNC began work in the coastal waters of Berau in 2003, partnering with provincial and district governments, national and local NGOs WWF, KEHATI, Bestari and Kalbu, as well as communities, to establish a co-managed MPA that includes regulated use zones and no-

take zones. As a result, a Steering Committee for the development of the Berau MPA was established by the Berau District Government. The Berau MPA serves as an example and learning ground for district-managed MPA development.

Multi-Year Outcome:

By 2013, the 1.27 million ha Berau district MPA is designed, with No-Take Zones covering 30% of critical habitats and 100% of turtle nesting sites (excluding P. Maratua and P. Sambit as they are Indonesia's Outer Islands and under the National Strategic Areas). A management plan is completed, monitoring protocols are agreed, and a co-management unit is established and has started at-sea management.

This will be achieved through the following multi-year outputs:

1. The Berau MPA is recognized by national government through a Ministerial Decree based on GoI Regulation 60/2007.
2. A Berau MPA co-management unit is formed by the District Government and tasked with finalizing and implementing an MPA management plan.
3. The Berau MPA management plan is developed, finalized and endorsed by local authorities, including No-Take Zones, zoning and regulations that are based upon biodiversity representation, resilience and sustainable use.
4. An officially established management unit leads the implementation of the plan, which includes a detailed MPA financing strategy.
5. Support to the Berau MPA management unit results in effective implementation of early stages in the MPA management plan.
6. Successful and financially sustainable outreach, monitoring, surveillance and enforcement programs are developed. Adequate staffing, equipment and facilities are in place.
7. Effective operational support and sufficient facilities and infrastructure are provided for all field activities.

5. ACTIVITIES TABLES

Outcome #1. (WWF) Learning and Coordination: Organizations and agencies involved in MPA development and capture fisheries management at different administrative levels (district, province, nation) work together to achieve conservation of biodiversity and sustainable fisheries in Indonesia's seas.			
Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
1.1 Senior policy and technical support ensures that linkages between administrative levels and across government agencies are maintained.	Engage senior policy and technical capacity to support governmental MPA policy initiatives between administrative levels and across government agencies.	Senior policy and technical support person deployed at MMAF in Jakarta	MMAF, Provincial and District Governments
1.2 Ensure vertical integration of MPA development initiatives among districts, provinces, and national-level agencies	1.2.1 Task (part-time coordinators (totaling three full-time equivalents) who are based at province capitals to assess district, province, and national development plans (esp. fishery, mining, oil and gas, coastal development, MPA establishment) in areas close to CTSP-supported sites.	Sectoral development plans affecting living natural resources are aligned in spatial plans at all administrative levels.	Multi-sectoral ministries (MMAF, MoForestry, Public Works, M. of Environment), Provincial, District Governments.
		Coordinators alert site projects to developments that may affect their work, resulting in policy action to manage new threats.	Multi-sectoral ministries (MMAF, MoForestry, Public Works, M. of Environment), Provincial, District Governments.

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	1.2.2. Support MMAF to conduct two workshops on MPA establishment with MMAF officials from district and province levels.	Alignment in MPA policies and procedures between district, provincial, and national levels.	Multi-sectoral ministries (MMAF, MoForestry, Public Works, M. of Environment), Provincial, District Governments.
1.3 A National System of MPAs developed, embedded in a supportive regulatory framework.	No activity this year - activity is merged with Output 4.1 Grand strategy MPA	No Deliverables	
1.4. Regional programs and regional coordinating structures are strengthened, resulting in efficient at-sea interventions towards abatement of threats that must be address at regional scales (e.g. trade in sea turtle products, regional action towards abatement of over-fishing).	Activity dropped.		

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1.5 Sustainable and diversified financing (governmental and non-governmental) mechanisms for MPA management in Indonesia are identified, eventually contributing enduring protection of MPA networks in Indonesia.	1.3.2. Study: (1) Collect and analyze SSME conservation management plans in need of sustainable financing needs. (2) Map out strategies for sourcing of sustainable financing as well as mechanisms for delivery and management of those funds. (3) Prioritize projects or focus areas in need of sustainable financing.	Recommendations to strengthen existing mechanisms and develop new and innovative financing mechanisms at different levels and scales.	MMAF, Ministry of Finance
		Evaluation of constraints and opportunities linked to the recommended options.	MMAF, Ministry of Finance
		Proposal for an action plan to implement the financing required to create regional, sub-regional and national mechanisms.	MMAF, Ministry of Finance
1.6 Regional Program Office, Consortium Strategy Committee, and WWF-US (CTSP management) ensures efficient implementation and administration of the CTSP program in collaborations with the CTSP Oversight Committee (comprising Regional Program Office, MMAF and CTI National Coordinating Committee, and NGO Consortium).			

Outcome #2 (CI) - Capacity Development Coordination and Strengthening: A sustained marine conservation Capacity Development Program is created and implemented to cover critical training and education needs in MPA and sustainable fisheries management.			
Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
2.1. An effective coordination mechanism and team of trainers/mentors in place and successfully building marine management capacity in key Priority Geographies and Nationally.	1.1 Hire Coordinator to coordinate the program and delivery key capacity development activities.	Coordinator TORs.	NOAA, TNC, WWF, WCS, DKP.
		Coordinator hired.	
	1.2 Work in selected Priority Geographies to identify collaborating institutions and work toward Capacity Development “teaming arrangements” in which individuals from collaborating institutions become trainers and mentors and work together to deliver capacity development activities.	Reports of potential collaborating organizations.	NOAA, CTI NCC Capacity Building Working Group, DKP TNC, WWF, WCS, COREMAP, WWF, TNC, Provincial and Regency governments, COREMAP, DKP, independent experts.
		Teaming agreements between organizations.	
		Agreed to workplans.	

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2.2. Expansion of Effective Training Programs (such as NOAA Bird's Head Seascape MPA training program) to a new set of Priority Geographies.	2.1. Support the development of Indonesian specific curriculum for MPA management training modules, including MPA-101, MPA management planning, and Marine Spatial Planning.	Indonesia Specific Training modules.	NOAA, CTI NCC Capacity Building Working Group, DKP, Provincial and Regency governments, TNC, WWF, WCS, NOAA, COREMAP, Independent Experts.
	2.2. Senior Mentors from the Bird's Head Seascape Capacity Building Program and the capacity development coordinator assist with the delivery of at least two MPA-101 trainings conducted by NOAA's international MPA management capacity building program in other priority geographies in Indonesia.	Support secured for the delivery of at least two trainings.	NOAA, CTI NCC Capacity Building Working Group, DKP, Provincial and Regency governments, local Universities, TNC, WWF, WCS, NOAA COREMAP, Independent Experts.

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2.3. Learning and Mentoring Networks Operational and Providing an Ongoing Mechanism for Capacity Development:	No Activities in Year 2.	No deliverables in Year 2.	
2.4. Strategies to institutionalize sustained delivery of capacity development programs are successful in several key Priority Geographies nationally.	No Activities in Year 2.	No deliverables in Year 2.	

OUTCOME #3 (TNC) - MPA MANAGEMENT CAPACITY: Strategic planning of capacity building for MPA managers and other marine conservation practitioners in Indonesia leads to development of effective training institutions, facilities and programs, where practical and focused training is provided for on site MPA managers and other practitioners, and from where high quality curricula and educational materials are developed and disseminated.			
Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
2.1. A specific role for the Coral Triangle Centre in Bali, in capacity building for marine conservation practitioners, is defined and agreed among NGOs and Government Partners, including details on training curriculum, target groups for capacity building and minimum level of capacity and resources at the CTC	2.1.1 A working group of representatives from International and National NGOs and their relevant government partners develop a consensus document on the specific niche that the Coral Triangle Center in Bali will fill in capacity building for marine conservation practitioners in Indonesia.	Working group established, consensus achieved and a role for CTC agreed, endorsed and prepared for publication with endorsement from major NGO and Government partners working in the field of marine conservation in Indonesia.	International and National NGOs, relevant Government Departments.

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	<p>2.1.2 Cataloguing for existing capacity and competencies for MPA management training is initiated, gaps in existing capacity are identified and a plan of action instigated, including a financial plan, to clarify how CTC will contribute directly to capacity building for MPA management.</p>	<p>Draft CTC Plan of Action is produced and aligned with the consensus of future role of CTC in capacity building for marine conservation practitioners, and a draft CTC Staffing Plan and Business Plan available with information on capacity and resources to implement the Plan of</p>	<p>International and local NGOs, relevant Government Departments, private sector representatives from businesses with an interest in marine conservation.</p>
<p>2.2. A specialized school for MPA managers is developed in association with Government Departments responsible for Marine Protected Area Management in Indonesia, with a well designed and locally appropriate curriculum including theoretical and practical training components, implemented by a highly knowledgeable, skilled</p>	<p>No activities in year 2.</p>	<p>No deliverables in year 2.</p>	

OUTCOME #4 (WWF, CI, TNC) – HORIZONTAL INTEGRATION: Integration of MPA networks with management of capture fisheries and ecosystem-based fisheries management, resulting in healthy fish stocks that sustain productive capture fisheries in Indonesia.			
Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
4.1. A documented Grand Strategy for National MPA Systems that address integration of MPA networks with ecosystem-based capture fisheries management plans rooted in Indonesia's system of Fishery Management Areas (Wilayah Pengelolaan Perikanan, WPP) and Geographic Priority Areas for Marine Biodiversity Conservation.	4.1.1 Support two workshop meetings of the National Marine Conservation Committee (KOMNASKOLAUT) and the National Stock Assessment Committee (KOMNASKAJISKANLAUT).	Strategy towards integration of MPA systems / networks in Indonesia's WPP framework.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.
	4.1.2 Compile an atlas of WPPs, including maps on commercial fish stocks, fishing grounds and types of fisheries, marine habitats, and MPAs. Conduct a gap analysis to identify additional MPAs and additional area-specific and ecosystembased fishery management interventions.	A compilation of atlas and maps on commercial fish stock and fishing ground, WPP, marine habitat and MPA. Team of national and international experts completes the atlas and the gap analysis.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.

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	<p>4.1.3 Bring the National Marine Conservation Committee (KomNasKoLaut) and the National Stock Assessment Committee together to establish an MPA-Sustainable Fisheries working group. CTSP will support 6 sessions of this working group.</p>	<p>Working group formulates technical advice that informs MMAF policies.</p>	<p>MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.</p>
	<p>1.4 Synthesize all information to produce the draft on Grand design of MPA networks for sustainable fisheries in Indonesia, based on WPP, MPA Network and Geographic Priority areas for Biodiversity Conservation in partnership with the Research Center for Capture Fisheries and the Directorate of Conservation and Marine National Parks.</p>	<p>Recommendations on design parameters for networks of MPAs that sustain capture fisheries (specified by type of fishery: small-scale coastal, small-scale offshore, large-scale offshore).</p>	<p>MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.</p>

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4.2. A shift from development-oriented capture fishery management that is focused on outputs (catch) to management that aims to keep fish stocks in good health (aka ecosystem-based fishery management)	Study: Design a new (set of) ecosystem indicator(s) as performance indicators for governance that will be used in tandem with output measures (catch volume and value).	Indicators that relate to the health of assets (fish stocks and ecosystems), add these to the list of performance indicators (see Indonesian Fisheries Book 2009, section 1.5).	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.
	Workshops and meetings at MMAF, MMAF province, and MMAF district (selected provinces and districts)	Obtain inputs on proposed indicators, ensure buy-in from officials.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.
		Identify pilot provinces and pilot districts who will participate in a try-out.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.
	Compile a plan for collecting ecosystem indicators.	Operating procedures, staff requirements, budget.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.
	Workshops and meetings at MMAF province, and MMAF district to explain indicators.	Mainstream use of this (set of) indicator(s), include in yearly statistical reports.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.
	Study on institutional factors and mechanisms that drive management at district and provincial levels.	Recommendations towards creating incentives for province and district agencies to invest in better governance rather than in development.	MoF, MMAF, Consortium NGOs, KOMNASKOLAUT, KOMNASKAJISKANLAUT.

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<p>4.3. Roles and responsibilities of national, province, and district authorities in planning of MPA networks and fisheries management in WPPs has been clarified, process and work-flow towards completion of a WPP management plan has been formalized.</p>	<p>No activities in Year 2.</p>	<p>No deliverables in Year 2.</p>	
<p>4.4. A management plan developed for 3 WPPs (see UU31/2004, Chapter III, Article 7), which is based on a “classic” fishing regulations (effort, gear, quota, species, size) and no-take areas.</p>	<p>No activities in Year 2.</p>	<p>No deliverables in Year 2.</p>	

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<p>4.5. Regulations subsidiary to UU31/2004 and UU27/2007 that are supportive of integration of MPA networks in eco-system-based fisheries management are formulated and operationalized (incl. guidance, operation procedures, etc.).</p>	<p>No activities in Year 2.</p>	<p>No deliverables in Year 2.</p>	
<p>4.6. Institutionalization of no-take areas as a fisheries management tool, and technically sound no-take area policies through collaborative research programs. Senior MMAF official have a good understanding of EBFM and the role of MPA networks therein.</p>	<p>No activities in Year 2.</p>	<p>No deliverables in Year 2.</p>	

Outcome #5 (CI) - Bird's Head Seascape MPA Network: By 2013, the Bird's Head Seascape will have a framework for spatial planning in support of marine resources management at the provincial level, and provincial and district agencies and institutions will have capacity to manage the Bird's Head Seascape MPA network effectively, ensuring conservation of marine biodiversity and sustainable use of marine resources in Papua and West Papua Provinces.

Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
5. 1. Legalized spatial plans developed with a participatory process at the provincial and district level using ecosystem-based approach. Marine Protected Areas in the Bird's Head Seascape MPA network are acknowledged in district and provincial spatial plans, and spatial plans show provisions to avoid environmental impact from road development, mining, forestry, fishery infrastructure development, etc.	5.1.1 Hire a spatial planner, trained in sustainable resource use, who will be based in Manokwari to support provincial and district level spatial planning agencies.	Secure technical support for spatial planning.	BAPPEDA (district and province), BBKSDA, Cenderawasih National Park Authority, DKP (district and province), TNC, WWF, UNIPA
	5.1.2 Compile, verify, and analyze spatial data on development, resource use, and conservation.	Technical reports, GIS, and maps for inclusion in district and province spatial plans.	
	5.1.3 Analyze spatial plans of districts, provinces (Papua and Papua Barat), and national planning agencies.	Ensure vertical integration of spatial plans.	

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5.2. Increased capacity for effective management for MPA and MPA network at the Seascope level for district and provincial agencies. In West Papua Province focus districts are Raja Ampat, Kaimana, Wondama, and in Papua Province focus districts are Nabire and Biak-Numfor.	5.2.1 Hire a MPA management capacity building coordinator	Secure support for Bird's Head Seascope capacity building program	NOAA, MMAF, DKP (district and province), BBKSDA, Cenderawasih National Park Authority, TNC, WWF, UNIPA
	5.2.2 Conduct two capacity-building workshops in the Bird's Head Seascope on topics related to MPA management.	District and provincial officials, MPA practitioners, and local community leaders have increased capacity in MPA management. Course modules and handouts.	
	5.2.3 Develop Mentor program with at least 5 mentors from the BHS, who are trained in facilitation, conflict resolution, and MPA management course material.	At least 5 Mentors identified and trained.	
5.3. MPA management capacity building program is institutionalized within a local Papuan University or government agency and is linked to district, provincial, and national level MPA capacity building initiatives.	No planned activities for year 2.	Institutionalization effort will formally begin in year 3.	NOAA, MMAF, DKP (district and province), BBKSDA, Cenderawasih National Park Authority, TNC, WWF, UNIPA

Outcome #6 (CI) – Padaido MPA: By 2013, CTSP support results in strengthened at-sea management of TWAL Padaido, a Marine Protected Area of 183,000 ha in the District Biak-Numfor (Bird's Head Seascape). Strengthened management addresses over-fishing and blast fishing, and it results in sustainable use and conservation of biodiversity. Management responsibility is shared between local government agencies and local communities. Padaido is well-embedded in the Bird's Head Seascape network and supported by national, provincial, and district government agencies.

Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
6.1. Locally-Managed Marine Area network in and around Padaido strengthened and integrated with formal designations.	6.1.1 Sub-grant to LMMA towards establishment of community-managed No-Take Zones (25K).	Continued support for existing LMMAs	LMMA
	No activities for this year, besides a preliminary review of published information (no cost).	No deliverables	LMMA, MMAF, DKP Biak-
		No deliverables	Numfor, BAPPEDA Biak-Numfor, BBKSDA

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<p>6.2. TWAL Padaido is formally delineated based on Gol Regulation 60/2007, has a collaborative management mechanism established, and a zonation plan that designates at least 30% of critical habitats as No-Take Zones, and is integrated into the Bird's Head Seascape MPA network.</p>	<p>No activities for this year. Strategy to be developed based on feasibility assessment conducted in activity 1.2.</p>	<p>If appropriate based on feasibility assessment, plans will proceed in year 3.</p>	<p>COREMAP, CRTIC, LIPI, LMMA, MMAF, DKP Biak-Numfor, BAPPEDA Biak-Numfor, BBKSDA Papua, formal and informal village leaders.</p>
<p>6.3. Ecological characterization and mapping of resource use patterns for Padaido is completed and resulting information supports the development of an effective management plan including zoning and detailed resource use regulations.</p>	<p>No activities for this year, besides a preliminary review of published information (no cost).</p>	<p>Plan for any additional assessments, which will take place in year 3.</p>	<p>COREMAP, CRTIC, LIPI, LMMA, MMAF, DKP Biak-Numfor, BAPPEDA Biak-Numfor, BBKSDA Papua.</p>

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<p>6.4. Effective infrastructure developed and support provided for sufficient facilities for management (incl. support for community-based surveillance and other community involvement initiatives).</p>	<p>No major investment in this year, plan for infrastructure development in coming year depending on output 2 and 3 (no cost in this year)</p>	<p>Plan for infrastructure development to take place in year 3</p>	<p>COREMAP, CRTIC, LIPI, LMMA, MMAF, DKP Biak-Numfor, BAPPEDA Biak-Numfor, BBKSDA Papua</p>
<p>6.5. Successful outreach, monitoring, and surveillance and enforcement programs developed and implemented to effectively raise awareness and support, monitor resources and resource use and protect key habitats and species in TWAL Padaido.</p>	<p>No major investment in this year, plan for coming year depending on output 2 and 3 (no cost in this year).</p>	<p>Program development plan for year 3.</p>	<p>COREMAP, CRTIC, LIPI, LMMA, MMAF, DKP Biak-Numfor, BAPPEDA Biak-Numfor, BBKSDA Papua</p>

Outcome #7 (CI) – SML Kep. Raja Ampat MPA: By 2013, Marine Wildlife Reserve SML Kep. Raja Ampat has a management authority, a management plan (including zoning) and strengthened management towards biodiversity conservation and sustainable fisheries. SML Kep. Raja Ampat is included in spatial development plans (district, province), integrated with rest of Bird's Head Seascape MPA network, and supported by national, provincial, and district government agencies.

Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
7.1. Ecological characterization and mapping of resource use patterns for SML Kep. Raja Ampat is completed and resulting information supports the development of an effective management plan including zoning and detailed resource use regulations.	No activities in Year 2.	No deliverables in Year 2.	DKP Raja Ampat, BBKSDA Sorong, COREMAP.

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<p>7.2. MMAF endorses SML Kep. Raja Ampat as a protected area under Gol Regulation 60/2007, and District and provincial governments include the protected area in their spatial development plans. The District government takes a lead in management through designation of a Public Services Agency (Badan Layanan Umum Daerah, BLUD) as management authority.</p>	<p>7.2.1 Consultations in Raja Ampat, Sorong, and Jakarta to explore possibility to establish a BLUD for management of SML Kep. Raja Ampat.</p>	<p>Agreed-upon strategy and workplan towards establishment of a BLUD, or identification of an alternative management unit.</p>	<p>MMAF, DKP Raja Ampat, DepDagri, BBKSDA Sorong, COREMAP, TNC</p>
	<p>7.2.2 Support a governmental VIP trip to Raja Ampat to study implications of establishment of a BLUD for management of SML Kep. Raja Ampat.</p>	<p>No deliverables for year 2.</p>	<p>MMAF, DKP Raja Ampat, DepDagri, BBKSDA Sorong, TNC</p>

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	<p>7.2.3 Draft technical recommendations on the zonation plan for SML Kep. Raja Ampat will be provided in subsequent years, pending funding for the ecological characterization..</p> <p>Recommendations will suggest at least 30% of critical habitats and all known spawning aggregation sites to be included in no-take zones, and a minimum size of no-take zones of 1000 ha.</p>	No deliverables for year 2.	MMAF, DKP Raja Ampat, formal and informal village leaders, COREMAP, LIPI-CRTIC, TNC
	<p>7.2.4 Form and participate in a task force (lead agency, consultative forum, MMAF reps) to formalize SML Kep. Raja Ampat as a protected area under regulation 60/2007.</p>	<p>SML Kep. Raja Ampat fully recognized as a protected area by district, provincial, and national agencies.</p> <p>SML Kep. Raja Ampat included as a protected area in District and provincial spatial development plans.</p>	MMAF, DKP Raja Ampat, BBKSDA Sorong, TNC, COREMAP

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	7.2.5 Invite stakeholders to participate in Bird's Head Seascape events (yearly meeting and NOAA training)	Increased capacity of local stakeholders to engage in MPA management, local stakeholders share experiences with other practitioners in Bird's Head Seascape.	TNC, WWF, NOAA.
3.Effective infrastructure developed and support provided for sufficient facilities for management (incl. support for community-based surveillance and other community involvement initiatives).	No major investment in this year, plan for infrastructure development in coming year depending on output 2 (no cost in this year).	Plan for infrastructure development to take place in year 3.	-

Outcome #8 (WWF) - Kei Kecil MPA By 2013, a West Kei Kecil (WKK) MPA is established of at least 50,000 ha. A management plan is available in draft (for endorsement in 2013) with a zoning plan that includes NTAs for 30% of critical habitat and 90% of turtle nesting beaches. Monitoring protocols are agreed and a management unit is established.

Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
8.1 Ecological characterization and mapping of traditional resource use patterns for the West Kei Kecil Islands is completed and resulting information supports the development of an effective management plan including zoning and detailed resource use regulations.	1.1 Conduct analysis of existing information, gap analysis and additional rapid surveys as needed on leatherback turtles foraging populations and other endangered species in the West Kei Kecil Islands to establish baselines and to inform management planning and zonation.	Recommended delineation, zoning and regulations for West Kei Kecil MPA , based on protected species distribution and behavior, with complete protection plans for leather back turtle foraging areas, and identification of conflict areas with traditional leatherback hunting patterns.	Pattimura University, Fisheries Politechnics, SiRan NGO

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	<p>1.2 Conduct comprehensive survey of reef condition, fish biomass and distribution (with manta tows, UVC, etc), nesting beaches, mangroves and other important habitats in the West Kei Kecil Islands to inform MPA zonation system.</p>	<p>Reef condition and fish biomass distribution mapped together with other habitat characteristics, species distribution patterns and other ecological characteristics, and used in recommendations for zoning (especially placement of no-take zones) and management plans.</p>	<p>Pattimura University, Fisheries Politechnics, SiRan NGO</p>
	<p>1.3 Conduct marine resource utilization surveys including monitoring of turtle hunting and egg collecting to establish baselines and inform management planning.</p>	<p>Current resource utilization is mapped in the West Kei Kecil Islands region and patterns are analysed in view of recommended locations of the minimum of 30% no-take zones and areas of potential conflict are identified for a process of outreach and community consultation.</p>	<p>Pattimura University, Fisheries Politechnics, SiRan NGO</p>

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	1.4 Collate and analyse traditional knowledge and decision making processes prevalent in communities and key stakeholder societies, to support MPA management in understanding local tenure regime processes.	Mechanisms that influence decision making processes, traditional approaches to resource management and tenure regimes are assessed and understood at site level and findings are fed into planning of effective and efficient management approaches.	District government, local NGOs, community leaders and relevant university
8.2 West Kei Kecil MPA is endorsed as KKLD by local communities, industry and traditional leaders in 2011 and listed as candidate MPA based on GoI Regulation 60/2007 for Ministerial Decree approval by 2013.	2.1 Raise awareness on the importance of MPAs (and NTAs) for local communities, and get village agreements on local conservation initiatives in preparation for the implementation of collaborative management of the newly established MPA.	All targeted villages (incl the 9 turtle hunting villages) commit formally in a village decree to the establishment of the MPA and a selection of at least 2 villages (especially the hunting communities) implement community conservation initiatives that will directly support effective zoning of the MPA.	SiRan NGO, Village Heads, Local Government, traditional leaders

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<p>8.3 The West Kei Kecil Islands MPA management plan drafted with zoning system (including no take zones) and associated regulations that are based on biodiversity representation, resilience and sustainable use. The management plan to be endorsed and implemented by an authorized collaborative management body in 2013.</p>	<p>No Activities in Year 2</p>	<p>No Deliverables in Year 2</p>	
<p>8.4 Effective infrastructure developed and support provided for sufficient facilities for WWF field activities.</p>	<p>4.1 Ensure that MPA preparation activities are effectively supported with necessary facilities, including WWF field station in Tual, monitoring and patrol speedboats.</p>	<p>WWF West Kei Kecil Field Station is constructed, properly equipped and operational WWF Marine vehicle is operational and well managed by trained monitoring staff and relevant protocols</p>	<p>PEMDA Maluku Tenggara, BBKSDA Maluku</p>
<p>8.5. WWF Marine vehicle is operational and well managed by trained monitoring staff and relevant protocols.</p>	<p>No Activities in Year 2.</p>	<p>No Deliverables in Year 2.</p>	

Outcome #9 - (WWF) Wakatobi National Park: By 2013 the 1,390,000 ha Wakatobi National Park (WNP) is effectively managed through implementation of the WNP management plan and enforcement of zoning and regulations. Established No Take Zones (NTZs) are enforced and supported by 80% of residents in the WNP, with the results that fishing effort remains 100% outside the NTZs, and that hard coral cover as well as commercially important fish populations are stabilizing.

Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
9.1 Wakatobi District is given the status of "Conservation District" by the national government, enabling funding to be provided for the sustainable management of the district and the Marine Protected Area therein.	No activities in Year 2.	No deliverables in Year 2.	
9.2 District government drafts fisheries and tourism regulations that promote the channeling of taxes from these industries directly to MPA management. Draft regulations are endorsed by local communities and provide opportunities for long-term financing of MPA management in Wakatobi.	No activities in Year 2.	No deliverables in Year 2.	

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<p>9.3 Increased understanding of WNP Management plan, zoning system and regulations, by all stakeholder groups.</p>	<p>3.1 Support MPA staff and other managers to deliver comprehensive briefings and consultations with key stakeholders to socialize the zoning system and regulations. Responses fed into adaptive management process.</p>	<p>Awareness of MPA zoning is enhanced, with 80% of residents in WNP supporting the zoning regulations, as evidenced through perception monitoring and the reduction in the number of detected infringements into NTZs.</p>	<p>Min. of Forestry. MMAF, Wakatobi District Government, COREMAP</p>
	<p>3.2 Produce communication materials to support socialization of the zoning plan and resource use regulations, with clear explanations on the why and where of No Take Zones.</p>	<p>Wakatobi communication products include press articles and TV coverage with information about the zoning plan for the Wakatobi MPA, as well as posters and signboards with similar information distributed on the islands.</p>	<p>Min. of Forestry. MMAF, Wakatobi District Government, COREMA, Matoa Communications, MMC</p>
	<p>3.3 Design and implement cost-efficient demarcation of No-Take Zones (maps on bulletin boards and/or markers on the shore or on shallow reefs).</p>	<p>Local and visiting fishers understand where No-Take Zones are situated.</p>	<p>Min. of Forestry. MMAF, Wakatobi District Government, COREMAP</p>

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	3.4 Implement first year of a 2-year social marketing campaign on the need for No-Take Zones.	District communities understand the need for No-Take areas, eventually resulting in a high willingness among fishers to comply with regulations.	RARE, Park Authority
9.4 Successful and financially sustainable outreach, monitoring, surveillance and enforcement programs are developed and implemented by the management unit responsible for implementing the WNP Management Plan (based on adequate staffing, equipment and facilities for WNP management).	No activities in Year 2.	No deliverables in Year 2.	

OUTCOME #10 (TNC) – SAVU SEA MARINE NATIONAL PARK: By 2013 the Savu Sea Marine National Park (currently 3.5 million hectares) is formally established, expanded to include the Solor-Alor areas, and effectively managed by a collaborative management body that is lead by MMAF. Management plan and zoning plans (including 30% of critical habitats in No Take Zones) are aligned with national, provincial and district spatial plans, and include sustainable fisheries plans and sustainable financing schemes.

Multi Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
<p>I. The Savu Sea region is sufficiently characterized in terms of ecology, marine resource distribution, socio-economics and capture fisheries, and MPA managers are trained to enable detailed MPA network planning, MPA zoning and adaptive MPA management. Major threats to biodiversity and fisheries have been identified and mapped. The Savu Sea MPA network design is completed, and Savu Sea MPA management plans and zoning systems are finalized (with 30% of critical</p>	<p>I.1 Develop and produce Conservation Action Plan (using CAP tool) as basis for management plan of the overarching Savu Sea Marine Managed Area.</p>	<p>CAP training completed, provincial core team established, CAP processes accomplished, CAP document for wide Savu Sea area recognized by government authorities and used as basis for the development of Management Plan for Savu Sea MPAs</p>	<p>District Governments, Provincial Government, Local Universities, Independent Experts, WWF, CI.</p>

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	<p>1.2 Provision of maps for MNP system and proposed spatial planning. Consultations and coordination meetings to providing recommendations and adoption of the MNP zoning system and revision/amendment/adjustment of the provincial/districts spatial plan.</p>	<p>Based on the review on available data bases and legal studies, proposed design on criteria and principles of the district MNPstem will be developed. A series of meeting and consultations with key stakeholders especially those potential for providing necessary inputs will be facilitated. The initial compilation and analysis of the data bases and studies will be led by the policy coordinator and as necessary supported by invited experts. The project will</p>	<p>District Government Representatives, Provincial Government Representatives, Savu MPA Steering Committee (PPP KKP Laut Sawu), WWF, MMAF.</p>
	<p>1.3 Develop revenue and investment schme scenarios for Savu Sea MPAs</p>	<p>Investment scheme options (cost model, financial mechanism, cost/revenue) for Savu Sea MPAs completed and endorsed by provincial and district governments together with Ministry of DKP through BKKPN (National Fisheries Management Board)</p>	<p>Independent Experts, Private Sector Representatives, District Government, Provincial Government, Savu MPA Steering Committee.</p>

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<p>2. MPA co-management units are formed by District Governments under MMAF leadership, and capable MPA managers are tasked with implementing MPA management plans and regulations. Savu Sea MPAs are legally declared at all necessary levels enabling effective enforcement of zoning and regulations. Regular surveillance and monitoring of marine resources and resource use enables adaptive management.</p>	<p>2.1 Develop draft management body and working mechanism of collaborative management board (CMB) for Savu Sea MPA a three MPA regions of Savu Sea in relation to BKKPN (National Fisheries Management Board)</p>	<p>CMB study accomplished, institutional structure and working mechanism include grievant mechanism of CMB for Savu Sea MPAs clearly defined and acknowledged by provincial government of NTT together with Ministry of DKP through BKKPN (National Fisheries Management Board). 'Tim PPKKL formed in three MPA regions (I, II and III) of Savu Sea MPA, local government commitment to prepare CMB and TOR develop for CMB initiation.</p>	<p>District Government Representatives, Provincial Government Representatives, Savu MPA Steering Committee (PPP KKP Laut Sawu), WWF, MMAF.</p>
	<p>2.2 Drafting local regulations on sustainable fisheries and marine protected area. Support the initial operation of surveillance team.</p>	<p>study completed, major threats compiled, printed and recognition by provincial government and BKKPM, and used as basis in the development of Savu Sea MPAs management plan .</p>	<p>District Government, Provincial Government, Savu MPA Steering Committee (PPP KKP Laut Sawu), MMAF.</p>

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<p>3. A comprehensive Savu Sea MPA Communications Campaign builds and maintains stakeholders' awareness and support for the establishment of the Savu Sea MPA Network. Perception monitoring shows that communities and local governments are supportive of MPA management. Public feedback of information from monitoring and surveillance programs via various media creates strong sense of ownership among local stakeholders.</p>	<p>3.1 Develop and implement an outreach strategy that focuses on the benefits and needs of No Take Zones as essential components of effective MPA management. Strategy will use effective and locally appropriate multi-media to increase and maintain stakeholder support and participation in Savu MPA management.</p>	<p>The Savu Sea MPA Campaign builds stakeholders' awareness and support for the establishment of the Savu Sea MPA Baseline socio-economic data, including community perceptions on MPAs and marine ecosystems, is available, providing input to management decision making.</p>	<p>RARE, Provincial Government, District Government, Savu MPA Steering Committee, local stakeholders, general public, media, WWF.</p>
		<p>Key stakeholders are engaged in a series of campaign activities and involved in conservation efforts: 1) Seminars and workshops; district events such as exhibitions; Savu Sea Festival and competition, etc 2) Production and distribution of collaterals such as infosheets, fact sheets, posters, position papers, etc.</p>	

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		Information of Savu Sea is disseminated to broader audiences through; - at least 4 media events are held with local media	
4. The Savu Sea Marine National Park is fully integrated in the management of a wider MPA network that also includes the highly important Alor MPA in the Pantar Strait and other MPAs as those are developed in the Solor-Alor area.	No activities in year 2	No deliverables in year 2	

Outcome #11 (CI) – Bali Network: By 2013, a network of Marine Protected Areas covering approximately 60,000 ha is established for the marine and coastal waters of Bali Island, is fully aligned with the Bali Spatial Plan, and includes No-Take Zones covering at least 30% of critical habitats. Effective and sustainably financed governance systems will be agreed upon at all levels of government to manage the Bali MPA network for biodiversity conservation and sustainable resource use (such as tourism and responsible fisheries), for the benefit of local

Multi Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
<p>I.1.1. Guiding principles for MPA network design, management, governance and financing are adopted by key stakeholders (including DKP, PHKA and Pemprov Bali) for the Bali MPA Network.</p>	<p>I.1 Organize a stakeholder orientation workshop with the objective to start the process of development of the guiding principles for Bali MPA network design, management, governance and financing.</p>	<p>Stakeholders express commitment to jointly develop the principles and guidelines for MPA Network development around Bali.</p>	<p>TNC, WWF, Local NGOs (e.g. ROLE, PPLH), Provincial and District Governments, DKP, PHKA, Local Universities.</p>

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<p>11.2. A resilient network of MPAs is designed in draft for Bali waters, based on existing MPA sites, MPAs already proposed by government and new sites based on an ecoregional assessment of critical habitat, natural resources and patterns of resource use. Existing sites include: Bali Barat National Park, Nusa Penida, Les Village, Pemuteran Village, Lovina "dolphin watching" area, Tulamben-Amed and Peruncak "turtle beach" conservation village.</p>	<p>2.1 Recruit a Bali MPA Network coordinator to analyze available information on Bali marine and coastal resources management including previous and current conservation programs.</p>	<p>Bali MPA Network Coordinator recruited by CI.</p>	<p>TNC, WWF, Local NGOs (e.g. ROLE, PPLH), Provincial and District Governments, DKP, PHKA, Local Universities.</p>
	<p>2.2 Round of site visits / meetings to obtain support from key site-based stakeholders, resources people and decision makers for the development of a resilient MPA network in Bali waters, including all major existing marine conservation</p>	<p>Support is publicly expressed by stakeholders for the development of a Bali MPA network.</p>	<p>Site based leaders in MPA initiatives, Provincial and District Governments.</p>

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	<p>2.3 Meeting with key government officials and Bali-based tourism industry representatives to start a process of joint development of ideas about potential governance structures, institutional arrangements, co-management arrangements and sustainable financing options for the Bali MPA network.</p>	<p>Meeting results in initiation dialogue among key government and private sector stakeholders on the idea of the Bali MPA network and on potential co-management and long term financing opportunities.</p>	<p>Provincial and District Governments and leading representatives of the Bali-based tourism industry.</p>
<p>11.3. By 2012, a provincial government decree in Bali formalizes the establishment of the Bali MPA network. The Bali MPA Network is incorporated into provincial and district spatial plans and associated planning documents. All MPAs have designated management units as well as management and zoning plans, and no-take zones comprise at least 30% of critical habitats within MPAs (coral reefs, mangrove forests, seagrass beds).</p>	<p>3.1 Collect and analyze all spatial plans of district and provincial (Bali Province) planning agencies.</p>	<p>Document with current conflicting development plans surrounding existing MPAs in Bali and a strategy for integration of the Bali MPA Network into district and provincial spatial plans.</p>	<p>Provincial and District Government institutions and local Universities.</p>

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	3.2 Collect and analyze all existing management plans and zonation plans for MPAs in Bali.	Document identifying existing gaps in management and any consistencies or inconsistencies in management strategies across Bali MPAs.	Provincial and District Government institutions, existing MPA management bodies.
11.4. Enhanced awareness of socio-economic benefits of Marine Protected Areas, No-Take-Zones (NTZs) and sustainable fisheries through a well-defined communications, media relations and marine conservation education program targeting specific stakeholders within the Lesser Sunda Network.	4.1 Start development process for Bali-specific awareness materials on socio-economic benefits of MPA networks and sustainable fisheries management principles such as infosheets, posters, etc, for at least 3 levels of audiences in Bali.	Detailed work-plan completed for the development of Bali-specific awareness materials on socio-economic benefits of MPA networks, NTAs and sustainable Fisheries management principles.	TNC, WWF, RARE, Local NGOs, Provincial and District Governments, DKP, PHKA, Local Universities.

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<p>11.5. By 2013, The Nusa Penida MPA is established as an anchor site for the Bali MPA Network, with an effective MPA Management Plan, and Tourism Management Plan and Code of Conduct that can be used as models for other MPAs in Bali.</p>	<p>5.1 Support Nusa Penida MPA advisory committee to draft a proposal as per Regulation No 60/2007 for Head of District to list Penida as an MPA. Provide Head of District with necessary background information and assist in consultations with stakeholders.</p>	<p>Proposal to list Penida as candidate MPA drafted, based on sound scientific and socio-economic information and endorsed by stakeholders.</p>	<p>TNC, Pemda Klungkung, Desa Pakraman, Community Groups, Private sector, NGOs, MMAF</p>
		<p>Support and consensus expressed by stakeholders in relation to the proposal to establish the Penida MPA.</p>	
		<p>Kabupaten draft proposal for Penida MPA includes a proposed management structure and roles and responsibilities for MPA co-management partners.</p>	
		<p>Advisory committee identifies a management authority</p>	

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	<p>5.2 Advisory committee and/or management authority takes ownership over the drafting of a management plan, including an effective zoning plan and associated regulations (including No Take Areas and special regulations for endangered species protection), surveillance and enforcement protocols, plans for communication programs, and monitoring protocols to inform adaptive management and a Sustainable Tourism Development Plan.</p>	<p>Management plan drafted, and major regulations and zoning endorsed by local leaders, ready for final endorsement and implementation. Key aspects of the plan socialized at relevant government offices and prepared for embedding in kabupaten marine spatial plan, fisheries regulations and tourism strategy.</p>	<p>TNC, PEMDA Klungkung, Desa Pekraman, Private Sector (Gahawisri, PHRI, BTB), Local NGOs, University</p>
	<p>5.3 Facilitate PEMDA Klungkung to develop marine tourism plan that brings revenues to the MPA, the regency and the local communities.</p>	<p>Tourism development plan is drafted in concept.</p>	<p>TNC, PEMDA Klungkung, Gahawisri, PHRI, Bali Tourism Board, University of Udayana, Desa Pekraman Penida, INDICON, Bali Provincial Government</p>

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		Draft Tourism development plan is shared with provincial government agencies to serve as a model for the provincial level tourism plan.	
	5.4 Together with private sector partners and other stakeholders develop a draft marine tourism code of conduct (best practice), as part of MPA management plan.	Draft Code of Conduct for marine tourism in Penida developed.	TNC, PEMDA Klungkung, Gahawisri, PHRI, Bali Tourism Board, University of Udayana, Desa Pekraman Penida,
	Review existing guidelines for responsible marine tourism, and begin consultations.	Draft Tourism Code of Conduct is shared with provincial government agencies to serve as a model for the provincial level tourism plan.	INDICON, Bali Provincial Government
11.6. By 2013 a sustainable financing mechanism for the Bali MPA network is designed and the principles are agreed upon at all levels of government.	No activities in year 2	No deliverables in year 2	

OUTCOME #12 (TNC) - PENIDA MPA: By 2013, a multi-purpose Penida MPA is designed with surface area of at least 18,650 ha, and with No Take Zones covering 20-30% of critical habitats. A management plan is drafted, a management unit established and monitoring protocols agreed and implemented.

Multi Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
I2.1. Scientific characterization of the Penida area ecosystem and socio-economic systems are completed and inform the development of an effective zoning plan	I2.1.1 Conduct data gap analysis and additional rapid ecological and socioeconomic assesment for the Penida region to inform the MPA zoning plan and management planning	Rapid assesment on ecology and socio-economic are conducted, final report submitted.	Udayana University and Warmadewa University
	I2.1.2 Mapping of fishing ground and important marine biota habitat (e.g mola mola, manta ray, sea turtle, dugong, whale and dolphins, etc).	Fishing ground and important marine biota habitat mapped.	Udayana University, Yayasan Bahtera, Warmadewa University, Wisnu Foundation, Kalimajari, Local Community Group
	I2.1.3 Set-up temperature logers around Nusa Penida to record temperature trend-change related with climate change impact and marine biota and ecosystem life.	Temperature loggers around Nusa Penida are installed.	Udayana University, Warmadewa University, BROK-DKP

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	12.1.4 Coral reef and SPAGs monitoring	Coral reef and SPAGs monitoring are conducted and monitoring report is produced	DPPK Klungkung, BROK-DKP, Bahtera Nusantara Foundation, Udayana University, Warmadewa University
12.2. Penida MPA is endorsed by local communities, industry and traditional leaders and listed as candidate MPA based on GoI Regulation 60/2007 and Ministerial Decree approved within 2 years of listing.	12.2.1 Conduct series of meetings/workshop (village roadshow).	Socialisation of MPA related concept, benefit and establishment plan are conducted in sub-district level and 16 villages.	Nusa Pednida MPA establishment task-force.
	12.2.2 Form an ad-hoc advisory committee/task force (comprised of government agencies and partner organisations).	Three workshops with key stakeholder in Nusa Penida conducted to form an ad-hoc task force.	Sub-district Government, Desa Pakraman, Community Groups, local NGO, private sector.

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	<p>I 2.2.3 Support ad-hoc advisory committee to draft a proposal as per Regulation No 60/2007 for Head of District to list Penida as an MPA. Provide Head of District with necessary background information and assist in consultations with stakeholders.</p>	<p>A draft of Nusa Penida MPA establishment proposal for Head of Klungkung District developed through 4 workshops.</p>	<p>Nusa Penida ad-hoc committee/task force.</p>
	<p>I 2.2.4 Declaration of Nusa Penida MPA.</p>	<p>Nusa Penida MPA is declared under Bupati Klungkung Decree with defined outerboundaries.</p>	<p>Klungkung District government.</p>

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<p>12.3. The Penida MPA management plan is developed, finalized and endorsed by local authorities (including No Take Areas of at least 1000 ha each, incorporating 20-30% of critical habitats in the MPA). Management plans are budgeted and potential funding sources identified.</p>	<p>12.3.1 Advisory committee and/or management authority, key stakeholders, wider community groups, private sector and local governments takes ownership over the zoning plan draft.</p>	<p>Three workshops which lead by advisory committee together with key stakeholders conducted and draft of zoning plan is developed.</p>	<p>PEMDA Klungkung, Desa Pekraman, Private Sector (Gahawisri, PHRI, BTB), Local NGOs.</p>
	<p>12.3.2 Identify potential funding mechanisms focussing on tourism revenue streams and prepare concepts for a local sustainable financing mechanism as additional support to government budgets for MPA management (and consider the administrative arrangements for the funding scheme)</p>	<p>Report on assesment on willingness to pay of visitors to support marine conservation activities in Nusa Penida is produced</p>	<p>District government (MMAF, Tourism local agency - dinas pariwisata), Starling, Bali Hai, other private sector, Gahawisri, PHRI, BTB</p>

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	<p>12.3.3 Develop efficient MPA monitoring protocols to monitor resource use, ecosystem health and stakeholder perceptions and conduct a one-week long training workshop for field monitoring teams and other stakeholders in utilising protocols and tailoring them to site-specific needs. Monitoring protocols should effectively support adaptive MPA management</p>	<p>Four workshops to develop the protocols conducted and the protocol is implemented annually, except for perception monitoring which will be conducted every two years</p>	<p>DKP, PHKA, Local NGOs, Community Groups, Universities</p>
<p>12.4. Tourism Management Plan and Code of Conduct developed and endorsed by government, private sector and other stakeholder</p>	<p>12.4.1 Conduct rapid survey to profile the existing tourism practice in Penida and identify development opportunities as well as current and future sustainability issues. This includes issues related to coastal development, use of dive sites (e.g. Crystal Bay), and recreational fishing (angling and spearfishing)</p>	<p>Rapid survey on existing tourism practices conducted and development opportunity identified</p>	<p>PEMDA Klungkung, Gahawisri, PHRI, Bali Tourism Board, University of Udayana, Desa Pekraman Penida, INDICON, Marine tour operator association</p>

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	12.4.2 Together with private sector partners and other stakeholders develop a draft marine tourism code of conduct (best practice), as part of MPA management plan. Review existing guidelines for responsible marine tourism	Four workshops of marine tourism code of conduct development conducted and the draft of the code of conduct produced	PEMDA Klungkung, Gahawisri, PHRI, Bali Tourism Board, University of Udayana, Desa Pekraman Penida,INDICON, Marine tour operator association
	12.4.3 Work with private sector and local communities to deploy appropriate mooring buoy/s for dive boats in Penida	10 mooring buoys on dive spots around Nusa Penida, Ceningan and Lembongan are installed	Marine tour operator association

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<p>5. A Penida MPA Management Unit is effectively implementing the management plan. Financially sustainable outreach, monitoring, surveillance and enforcement programs are developed. Effective weekly patrolling ensures increased compliance in the MPA with regulations and zoning. Biological monitoring demonstrates that coral cover remain above 15% of slopes, mangrove cover is not reducing and there is no decline in abundance or body size of commercially important fishes.</p>	<p>12.5.1 Develop and implement an outreach strategy with MPA TAsk-Force, District government, tourist operators and community organizers. Strategy will use effective and locally appropriate multi-media to increase and maintain stakeholder support and participation in Penida MPA management</p>	<p>Comprehensive outreach strategy developed, initial multi-media campaigns conducted, Nusa Penida poster published, earth day and world environment day related events are conducted, exhibition, community center, mangrove replanting, sea turtle conservation and coral rehabilitation program runned</p>	<p>Local NGOs, Desa Pekraman Penida, MPA management body, journalist</p>
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	12.5.2 Facilitate the development and longterm support of Pecalang Laut - a legally enforceable MPA community based patrol and enforcement system. Pecalang Laut is implemented by local authorities with the involvement and support of traditional leaders, tourist operators and local communities.	Meetings with 3 of POKWASMAS in Nusa Penida to develop Pecalang Laut are held, Pecalang Laut conducts patrol and surveillance in their villages supported and 3 workshops to develop joint patrol team and SOP development conducted.	MPA management body, Local NGOs, Desa Pekraman, Local Police, PEMDA Klungkung
6. Effective operational support and sufficient facilities and infrastructure are provided for all TNC field activities conducted to develop and manage the Penida MPA	12.6.1 Patrol on Nusa Penida water	Three joint patrols are conducted in Nusa Penida MPA supported (meals and fuel)	MPA management body, Local NGOs, Desa Pekraman, Local Police, PEMDA Klungkung
	6.2 Penida field station constructed, staffed, properly equipped and operational	Field station operated with Staffed - (Project Leader (1), Conservation Coordinator (2), Community Outreach Officer (1), Admin Officer (1)), Equipment - 1 Laptop, 1 PC, 1 external hard-disc, TNC-IMP Management and VIP Trip	

Outcome #13 (CI) – West & North Sulawesi MPA- & Natuna-Anambas MPA-Networks: By 2013, an 880,000 ha Anambas-Natuna MPA network and a large-scale West-and-North Sulawesi network are established, and priority sites in the networks are managed effectively towards biodiversity conservation and sustainable fisheries.

Multiple Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
13.1A. Scientific characterization of the coastal marine ecosystems in the Natuna-Anambas area inform the identification of MPAs as well as development of effective management and zoning plans.	13.1A.1 Conduct desktop studies on ecosystems and socio-economics.	Briefing materials in preparation for a rapid ecological assessment.	LIPI, MMAF, BBKSDA, national and foreign universities, PEMDA (District and Province), local universities.
		Geographic Information System on the area-of-interest	
	13.1A.2 Conduct a comprehensive rapid assessment of biodiversity and ecological resources with national and foreign experts and scientists.	No deliverables in year 2	
		No deliverables in year 2	
		No deliverables in year 2	
13.1B. Scientific characterization of the coastal marine ecosystems on the western and northern coasts of Sulawesi inform the identification of MPAs as well as development of effective management and zoning plans.	No activities in year 2.	No deliverables in year 2.	LIPI, MMAF, BBKSDA, national and foreign universities, PEMDA (District and Province), local universities, WSC

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<p>13.2A. Government and communities designate a Natuna-Anumbas network of MPAs. All MPAs have designated management units as well as management and zoning plans, and no-take zones comprise at least 30% of critical habitats within MPAs (coral reefs, mangrove forests, seagrass beds).</p>	<p>Stakeholders meetings for designations of MPA Network in Natuna/Anambas.</p>	<p>Agreement on approach for MPA Network designation in Natuna/Anambas.</p>	<p>LIPI, PHKA, BAPPENAS, BAPPEDA, MMAF, LH, PEMDA (Province and District), local universities.</p>
<p>13.2B. Government and communities designate a network of MPAs in the coastal waters of West and North Sulawesi. All MPAs have designated management units as well as management and zoning plans, and no-take zones comprise at least 30% of critical habitats within MPAs (coral reefs, mangrove forests, seagrass beds).</p>	<p>No activities in year 2.</p>	<p>No deliverables in year 2.</p>	<p>LIPI, PHKA, BAPPEDA, MMAF, PEMDA (Provinces in area-of-interest, some Districts), local universities, WCS.</p>

<p>13.3. Management units for MPAs in the two networks are effectively implementing management plans. Financially sustainable outreach, monitoring, surveillance and enforcement programs are developed. Effective surveillance ensures high compliance with MPA regulations. Biological monitoring demonstrates that reefs and mangroves remain healthy and that there is no decline in abundance or body size of commercially important fishes.</p>	<p>No activities in year 2</p>	<p>No deliverables in year 2</p>	
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OUTCOME #15 (TNC) – BERAU MPA: By 2013, the 1,270,000 ha Berau district MPA is designed, with No-Take Zones covering 30% of critical habitats and 100% of turtle nesting sites (excluding P. Maratua and P. Sambit). A management plan is completed, monitoring protocols are agreed, and a co-management unit is established and has started at-sea management.

Multi Year Outputs	Year 2 Activities	Year 2 Deliverables	Partners
1. The Berau MPA is recognized by national government through a Ministerial Decree based on Gol Regulation 60/2007 and a Berau MPA co-management unit is formed by the District Government and tasked with finalizing and implementing an MPA management plan	1.1 Conduct series of meetings to build understandings of MPA concepts and its benefit, and encouraged the adoption of the concept by local stakeholders	Meetings with community in grassroots level conducted	FORMAL ((community representatives in Subdistrict level)),Local Governments, MMAF
	1.2 Establish stakeholders forum with representatives from communities, fishers, tourism industry, and partner organizations to facilitate stakeholders participation in MPA development and participation. Develop guidelines for the stakeholders forum to meet on a regular basis and at times of key decision. Input from stakeholders forum to be fed to the Berau MPA Collaborative Management Steering Body and any queries from forum participants will be responded to promptly.	Regular meeting of CMB supported and conducted	FORMAL ((community representatives in Subdistrict level)),Local Governments, MMAF

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<p>2. The Berau MPA management plan is developed, finalized and endorsed by local authorities, including No-Take Zones, zoning and regulations that are based upon biodiversity representation, resilience and sustainable use. An officially established management unit leads the implementation of the plan, which includes a detailed MPA financing strategy.</p>	<p>No activities in year 2</p>	<p>No deliverables in year 2</p>	
<p>3. Support to the Berau MPA management unit results in effective implementation of early stages in the MPA management plan. Successful and financially sustainable outreach, monitoring, surveillance, and enforcement programs are developed. Adequate staffing, equipment, and facilities are in place.</p>	<p>2.1 Develop and implement an outreach strategy that focuses on the benefit and need of No Take Zone as essential components of effective MPA management. Strategy will use effective and locally appropriate multi-media to increase and maintain stakeholder support and participation in Berau MPA management</p>	<p>Community radio developed, Articles on MPA and fishery published in local newspapers and other materials on MPA and fishery issues to coastal and small islands community distributed</p>	<p>Working together with FORMAL (community representative in Subdistrict level), Journalists</p>

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	<p>2.2 Conducts a series of training workshops on MPA Zoning and network design , covering the principles for establishing MPAs and the use of science in planning, including the application of up to date planning tools. Training participants will represent MPA staffs and managers from the Berau MPA management unit as well as other MPA practitioners from within the North Borneo MPA network.</p>	<p>MPA training for local facilitators and key stakeholders in community who will become the key persons in sharing the knowledge about MPA design to community in grassroots level conducted</p>	<p>RARE, District Government, Berau MPA Collaborative Management Steering Body, Community Forum, WWF.</p>
	<p>2.3 Implement monitoring protocols for routine ecological, resource use and perception monitoring in support of adaptive MPA management. Develop a well-trained locally based monitoring team capable of undertaking this work.</p>	<p>Monitoring activities e.g. turtle monitoring, coral reef monitoring, seagrass monitoring, etc., conducted.</p>	<p>Local facilitator and key stakeholders.</p>

4. Effective operational support and sufficient facilities and infrastructure are provided for all field activities.	3.1 Ensure the MPA management is effectively supported with necessary facilities including field station in Tanjung Batu, monitoring and patrol speedboat, and Floating Surveillance Station.	FSS crew (captain, mechanic, etc) recruited and all existing boats maintained.	
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These activities are included in the official CTSP Regional Workplan submitted to RDMA in the following tables. These tables are included here to enable USAID Indonesia to easily compare the two separate lists of activities.

RESULT 1: REGIONAL AND NATIONAL PLATFORMS STRENGTHENED

IR 1.2 Institutional Capacity & Collaboration

ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
C10-1.2-020	Designate Country Conservation Leads/Managers who work with the CTSP NGO consortium and relevant CT6 entities at the regional, national and local level.	Indonesia	N/A	N/A	WWF	W. Ridwan	Indonesian Gov't	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM4	1

RESULT 3: MARINE PROTECTED AREA MANAGEMENT IMPROVED IN CT COUNTRIES

RESULT 3 ACTIVITY TABLES

IR 3.1 Marine Protected Areas System Framework Developed

ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
C10-3.1-001	Integrate MPA, capture fisheries and EAFM networks to ensure healthy fish stocks and sustainable Indonesia capture fisheries industry.	Indonesia	N/A	N/A	CI, WWF, & TNC	W. Ridwan, K. Putra	MMAF, Gov't of Indonesia	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM3	1
C10-3.1-002	Engage MMAF in a spatial planning process in Bird's Head Seascape to support improved MPA management effectiveness.	Indonesia	West Papua Province	N/A	CI	T. Gunawan	MMAF	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM3	1
C10-3.1-003	Link national policy decision to the locally management marine areas (LMMA) in Padaido to improve MPA management effectiveness.	Indonesia	West Papua Province	Padaido Islands	CI	C. Marlessi, Laura Kate	Local Gov't	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM3	1
C10-3.1-005	Develop design, management plan, and monitoring protocols and the establish a co-management unit that works on at-sea mgt.	Indonesia	Berau, East Kalimantan	N/A	TNC	A. Halim	TBD	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM3	1
C10-3.1-006	Initiate establishment of a management authority and management plan (including zoning), and strengthen management capacity towards biodiversity conservation and sustainable	Indonesia	West Papua Province	Marine Wildlife Reserve SML Kep.	CI	M. Erdmann	TBD	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM4	1

ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
	fisheries.			Raja Ampat.							

IR 3.2 Marine Protected Area Management Capacity Increased

ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
C10-3.2-002	Establish a network of MPAs covering approximately 60,000 ha for the marine and coastal waters of Bali Island aligned with the Bali Spatial plan that includes no-take zones.	Indonesia	N/A	Bali	CI	K. Putra	MMAF	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM3	1
C10-3.2-003	Provide focused and practical training to MPA and fisheries managers in Indonesia.	Indonesia	N/A	N/A	CI, TNC	T. Gunawan, A. Halim	MMAF, LG, Univs.	Q1 (Oct-Dec)	Q3 (Apr-Jun)	PM3	1

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ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
C10-3.2-005	Develop learning networks that identify, establish, standardize, and institutionalize best practices in MPA management throughout Indonesia.	Indonesia	N/A	N/A	CI, TNC, WWF	TBD	TBD	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM3	1

IR 3.3 Marine Protected Area Effectiveness Improved

ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
C10-3.3-001	Initiate a consultative process that leads to the creation of a multi-purpose Penida MPA with a management plan, a management unit and agreed upon and implemented monitoring protocols.	Indonesia	East Nusa Tenggara	Savu Sea	TNC	Rudyanto	LG, MMAF, Local Univ.	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM1	1
C10-3.3-002	Develop an MPA management plan with participation of relevant stakeholders.	Indonesia	East Nusa Tenggara	Nusa Penida	TNC	M. Welly	LG, MMAF	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM1	1
C10-3.3-003	Support MMAF to address critical marine information gaps in Anambas/Natuna.	Indonesia	South China Sea-Sunda	Anambas/	CI	C. Huffard	MMAF, LIPI, BPPT,	Q1 (Oct-	Q4 (Jul-	PM2	1

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ID	ACTIVITY	ACTIVITY LEVEL	PRIORITY GEOGRAPHY	SITE	LEAD ORGANIZATION	INDIVIDUAL LEAD	PARTNER	START QUARTER	END QUARTER	INDICATORS	FUNDING TIER
			Shelf	Natuna			LG	Dec)	Sep)		
C10-3.3-004	Implement the WMP management plan and the enforcement of zoning and regulations.	Indonesia	Wakatobi National Park	Wakatobi National Park	WWF	W. Santiaji	MMAF, LG	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM1	1
C10-3.3-005	Establish an MPA, a management plan, and a management unit to improve the conservation of marine resources in the Banda Sea.	Indonesia	West Papua Province	Kei Islands	WWF	M. Leuna	Siran	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM2	1
C10-3.3-006	Garner local support for no-take zones as a management tool, undertaking a social marketing campaign and involving community members in surveillance activities.	Indonesia	East Kalimantan Province	N/A	RARE	N. Sizer	TBD	Q1 (Oct-Dec)	Q4 (Jul-Sep)	PM4	1

6. PROGRAM COORDINATION WITH US CTI PARTNERS OTHER DONORS AND DONOR PROJECTS

Donor and Partner Coordination

In Year 2, the Program Integrator (PI) will facilitate increased cooperation and activity integration with other USCTI partners with a particular focus on regional support. At the same time, the PI's small grants program will be leveraged for specific contributions to the CTSP-I program. CTSP will work towards a stronger, better integrated partnership with NOAA. CTSP and NOAA have already started developing a joint strategy for capacity development, discussing cooperation on fisheries management, and coordinating on marine protected area development, including monitoring and evaluation of MPA effectiveness. Joint CTSP-PI-NOAA-supported national and regional exchanges are designed to result in regional learning networks with contributions based on the comparative advantage of each organization.

CTSP is working closely with the Government of Australia to define complementary programs of work. Discussions with the Government of Australia included cost-share learning exchanges to support Indonesia's development of its 'Grand Strategy' integrating MPAs and the national fisheries management policy.

Although the Asian Development Bank (ADB) Melanesia/Pacific and South East Asia program development activities are ongoing, CTSP has been in contact with those developing these activities to avoid overlaps in both technical and geographic programming. After discussions on ADB's IWLearn program CTSP reduced its allocation to information management programming to benefit from ADB's leadership in this area.

CTSP has discussed cooperation with the German agency GTZ in Manila, as well as with Western Pacific organizations, such as South Pacific Regional Environment Programme (SPREP).

Donor Project Coordination

CTSP works with WWF's CTNI staff that lead work to establish a sustainable live reef fish trade program in Indonesia that links suppliers with buyers and consumers in key countries. CTNI brings its own resources to the joint effort, and future efforts will be further supplemented by CTSP.

In 2008, the Indonesia Ministry of Forestry transferred a number of marine parks to Ministry of Marine Affairs and Fisheries, including *TWAL Padaido* and *Suaka Margasatwa Laut (SML)* both in Raja Ampat and both are COREMAP sites.

TWAL Padaido (Outcome #6)

Padaido is one of the sites transferred in 2008 by the Ministry of Forestry to Ministry of Marine Affairs and Fisheries for its management. In Padaido, COREMAP and CTSP work together with the Indonesia Locally Managed Marine Area (LMMA) network, which has worked for several years in Padaido. LMMA has shown its effectiveness in achieving measurable results at low costs by directly engaging communities in coastal and marine resources management. CTSP will not work

directly in Padaido but provide funds to LMMA to expand its engagement of community members and strengthen its partnership with COREMAP. Padaido is not currently included in the Raja Ampat official MPA network and CTSP will work toward its official adoption by the Raja Ampat Government.

SML Raja Ampat (Outcome #7)

Because the recent transfer to MMAF as with Padaido, Suaka Margasatwa Laut is not officially included in the Raja Ampat MPA network developed with support by CTSP consortium members. COREMAP has developed community-managed reserves (DPLs) in SML and CTSP is working closely with COREMAP to include these and the overall marine sanctuary in Raja Ampat's official MPA network. COREMAP specifically requested CI to provide a physical characterization assessment of the marine sanctuary in response to gaps in COREMAP supported technical expertise. Given current funding levels CTSP was unable to respond but hopes this activity will be funded in the future to strengthen collaboration between COREMAP, CTSP and the Government of Raja Ampat.

CTSP also works with COREMAP to support Raja Ampat Government to establish the district UPDT (*Unit Pelaksana Teknis Daerah* or district technical implementation unit). CTSP consortium members are currently working with Raja Ampat District Government to establish effective management of six MPAs already included within the official Raja Ampat MPA network that will be served by the UPDT. With USAID funding, CTSP will continue to work with COREMAP and other partners to establish the UPDT, including duties and responsibilities for the entire Raja Ampat MPA network, including these recently transferred areas, creating a unified system for MPA management in Raja Ampat.

Kei Kecil MPA (Outcome #8)

As Kei will be a new district MPA, CTSP will facilitate coordination with and between government agencies at both national and district government, mainly Ministry of Marine Affairs and Fisheries, Maluku province, and Kei district government. CTSP will complement efforts to promote marine conservation awareness and support within local communities on Kei island initiated by local NGOs that are already active on the ground such as Yayasan Siran and the LMMA foundation.

Wakatobi National Park (Outcome #9)

In Wakatobi, CTSP consortium members and COREMAP have a long history of working together. COREMAP supports the national park authority and the local Fisheries Service (*Dinas Kelautan dan Perikanan*), and the joint TNC-WWF program has existing strong working relationships with both. TNC-WWF do not know the details of the national park budget, but the existing joint program is aware that the park authority uses COREMAP funding to finance its part of the surveillance program that the joint program conducts together with the park authority.

With DKP, CTSP consortium members agreed on a strategy to complement each other's efforts during meetings held in 2007 onboard the Menami Floating Ranger Station. CTSP's TNC and WWF support implementation of the park zoning system which includes no-take zones in more remote atolls and reefs around distant islands.

Near-shore waters around the main islands are under-represented in the park's system of no-take zones. DKP, on the other hand, is interested to harness COREMAP support for the establishment of small community-managed no-take areas (Daerah Perlindungan Laut) mostly located in the near-shore waters around the main islands. Recognizing that near-shore waters around the main islands are subject to a high fishing pressure, are mostly zoned as Traditional Use Zones with little active surveillance, and fill an important gap in the overall conservation of the park, all partners (CTSP's TNC and WWF, DKP, and the park authority) agree to coordinate surveillance and to increase surveillance in the location of the park no-take zones as well as in the traditional use zones of DPLs. Park regulations allow establishment of DPLs without need for adaptation of the park zoning plan and CTSP will capitalize on this flexibility.

Anambas/Natuna MPA Network (Outcome #13A)

In Natuna, as part of the Anambas/Natuna network, CTSP will coordinate closely with COREMAP and communities to incorporate its community-managed reserves (DPLs) as part of government's plan to declare that area as the Anambas Marine National Park. The process to achieve this declaration will be directly supported and facilitated by CTSP. CTSP and the government –at provincial, district and national levels – are currently exploring the possibility to engage private companies (notably oil and gas industries) in the management of MPA Network in Anambas/Natuna. A workshop including these and other stakeholders was held in February, 2010 that launched CTSP support for this effort.

Related to cooperation with COREMAP in the various priority geographies, CTSP would like to emphasize that its primary focus is the government agencies that implement COREMAP rather than COREMAP itself. COREMAP is a project, an instrument that enables government agencies to achieve certain goals (which the NGO consortium wholeheartedly supports), but strengthening COREMAP is not a goal in itself that needs support.

7. SUPPORTING THE GOVERNMENT OF INDONESIA

CTSP will work through and with the Indonesia Ministry of Marine Affairs and Fisheries as the lead Indonesian Government entity for the marine sector, and the key institution identified in the Bilateral Assistance Agreement for USAID Environment Programs in Indonesia. All policy and regulations work related to marine conservation and fisheries will be conducted together with Ministry of Marine Affairs and Fisheries (MMAF). The CTSP will work with the MMAF as the legitimate bilateral partner of USAID and look to MMAF to be the primary responsible entity for ensuring coordination with other relevant ministries, agencies, and entities at the national level either directly or through the NCC.

CTSP will also ensure that MMAF is a partner in its direct engagement with provincial and district governments in CTSP priority geographies and implementation sites. The CTSP-I Consortium members already are working with MMAF to identify cost-share funding related to jointly planned MMAF/CTSP activities and objectives.

8. OVERALL FUNDING OVERVIEW FOR BIRD'S HEAD SEASCAPE

In a number of sites selected by CTSP, there are ongoing programs funded by various donors for a multiple years. At USAID's request, we provide information specific to the funding in this seascape from major donors such as Walton Family Foundation and the World Bank/GOI funded project COREMAP in Wakatobi National Park whose boundaries coincide with the Wakatobi District administrative boundaries.

Bird's Head Seascape Funding Overview

The Bird's Head Seascape (BHS) sits at the "Heart of the Coral Triangle," the global epicenter of marine biodiversity. Located in northwest Papua, Indonesia, it has the highest coral reef biodiversity recorded for an area of its size anywhere in the world, with more than 1,487 recorded species of coral reef fishes and 600 scleractinian corals (75 percent of the world's total). Papua was recently ranked overwhelmingly as the number one priority geography for conservation in Indonesia during the USAID supported geographic prioritization workshop and is without question considered a global conservation priority.

With a common understanding of the uniqueness and global importance of the Bird's Head Seascape, along with a shared goal of protecting its biodiversity, fisheries, and the well-being of its citizens, Conservation International, The Nature Conservancy, and The World Wide Fund for Nature Indonesia joined their existing Papua marine programs together in 2008 in an unprecedented partnership to support the second phase of the Bird's Head Seascape Initiative.

Together CI, TNC, and WWF developed a vision and comprehensive five-year workplan that outlines a conservation strategy for the entire Bird's Head Seascape. At the core of the strategy is the development and implementation of an ecologically connected network of 10 focal MPAs, covering over 3.5 million ha, which are to be supported by local and national legislation and co-managed by local communities and local government agencies. Applying a truly seascape-level approach to marine conservation in the BHS, the team also outlined critical cross-cutting initiatives to compliment the MPA network, including (a) seascape-level conservation science to support ecosystem based management, (b) national, provincial, and regency-level policy engagement; (c) MPA management capacity building; (d) development of a sustainable financing plan; (e) communications, outreach, and environmental education; (f) technical support for spatial planning; (g) the development of sustainable livelihoods; and (h) the development of an integrated ecosystem based fisheries management plan for the BHS.

Through the generous support of a few large donors, most notably the Walton Family Foundation, significant operational costs of the BHS MPA network are covered, including the implementation of 9 out of the 10 focal MPAs. The Walton Foundation covers the operational costs of these areas resulting in outstanding progress towards conservation in this critical region. Only SML Raja Ampat MPA remains largely unfunded and as a result is reflected in the CTSP budget and program.

In addition, many of the identified cross-cutting seascape-level initiatives remain unfunded and work in the BHS is certainly not finished. There are still real and imminent threats from economic development initiatives focused on short-term exploitation, such as continued nickel mining, destructive coastal infrastructure development, transmigration programs, overfishing and other forms of resource exploitation that are not yet addressed through existing funding. Furthermore, the provincial and local governments in the BHS still lack critical resource management capacity.

Other donors, including the David and Lucile Packard Foundation and Paine Foundations, also invest support for the tri-institutional collaboration for ecosystem-based management and small grants for local non-government organizations.

With core operational costs secure, significant infrastructure and staff capacity already on the ground, and a small grants program in place, new conservation investments made in the BHS through CTSP will be directly utilized to support discreet initiatives that have significant impact on the overall conservation and effective management of the Bird's Head Seascape.

Wakatobi National Park Funding Overview

Wakatobi National Park is located in the Banda Sea Marine Ecoregion which was ranked second in the USAID supported CTSP geographic prioritization exercise in July, 2009. With its unique features, Wakatobi National Park is under the purview of Directorate General for Forest Protection and Nature Conservation of the Indonesia Ministry of Forestry.

COREMAP is a major project operating within Wakatobi supporting the development of community-managed marine sanctuaries as well as capacity development for coral reef rehabilitation and management. The unofficial number of COREMAP multiple year investment in Wakatobi amounted to approximately US\$1.2 through 2011. The unofficial level of Government of Indonesia investment in Wakatobi for conservation is estimated at US\$775,000. In addition, WWF Netherland has invested around US\$200,000 for FY 10.

According to the study by Community Conservation Investment Forum in July, 2006, total funding required to effectively manage this high priority for marine conservation area in 2010 is US\$2.7 millions. This wide gap in funding primarily impacts effective management of MPAs, and particularly near-shore MPAs which are under heavy pressure. Funding gaps rated as high priorities as a result of their potential to contribute to the effective management the marine protected areas included the following:

1. Funding to establish Wakatobi as an official "Conservation District"
2. Drafting of fisheries and tourism regulations for Wakatobi District
3. Successful and financially sustainable outreach, monitoring, surveillance and enforcement programs
4. Increased awareness, enforcement and community mobilization for maintenance of near-shore marine protected areas, including no-take areas.

USAID funding through CTSP will leverage existing GOI and COREMAP funding, RDMA funding through the PI, and non-USG funding brought in by CTSP consortium members in their roles as donors, to address these high priority needs.