Activity Report:
CT Atlas Meeting

Penang, Malaysia, 14-16 May, 2013

CTSP Priority Geographies and Integration Sites in the Coral Triangle
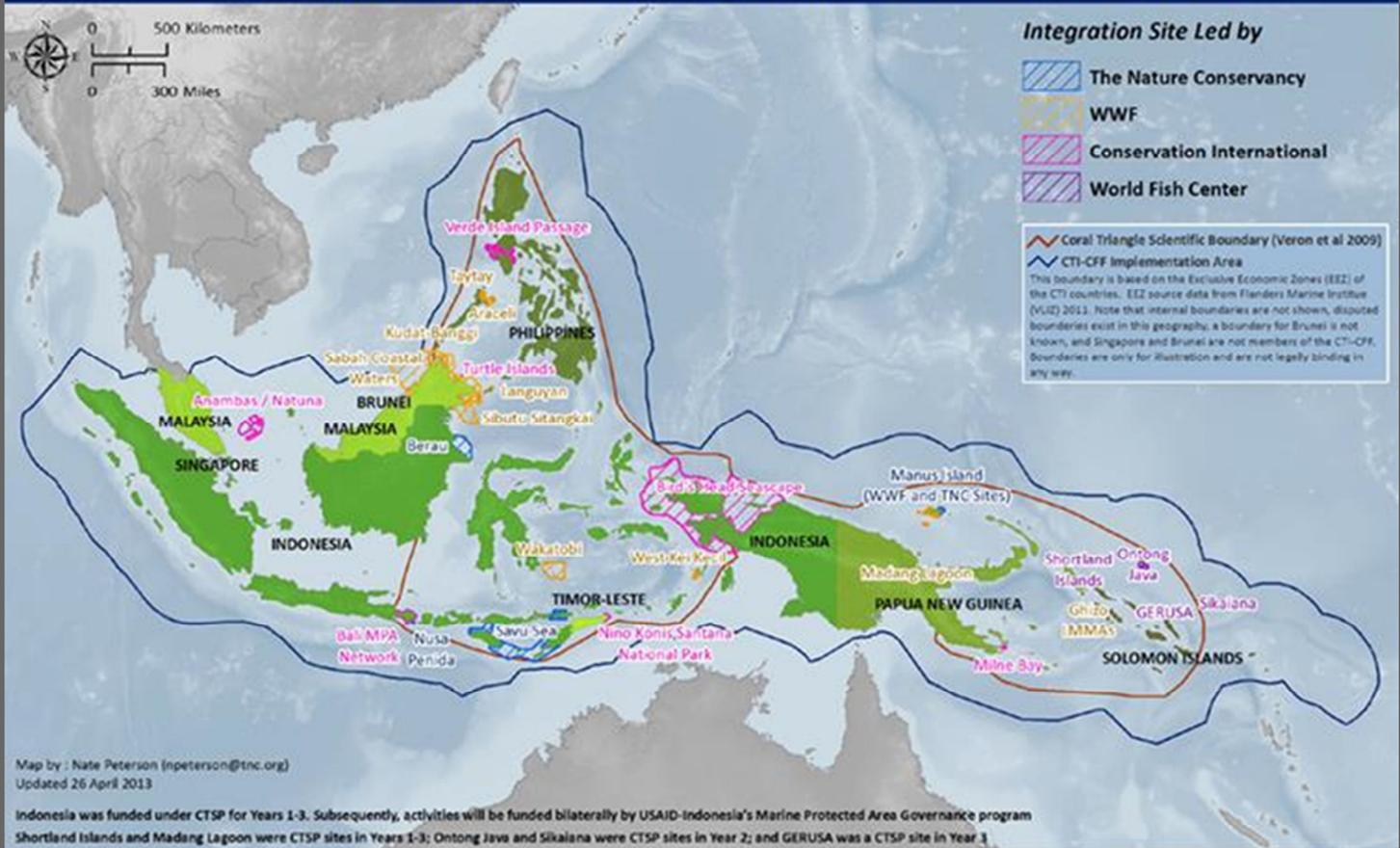
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ACRONYMS & ABBREVIATIONS

AAS	Aquatic Agricultural Systems (CGIAR)
ADB	Asian Development Bank
AIS	Automatic Identification System
CCAFS	Climate Change, Agriculture and Food Security (CGIAR)
CGIAR	CGIAR Consortium of International Agricultural Research Centers (formerly Consultative Group on International Agricultural Research)
CI	Conservation International
CRP	CGIAR Research Program
CSO	Council of Senior Officials (CTI-CFF)
CT	Coral Triangle
CT6	CT Countries (Indonesia, Malaysia, Philippines, Papua New Guinea, Solomon Islands, and Timor-Leste)
CTC	Coral Triangle Center
CTI	abbreviated form of CTI-CFF
CTI-CFF	Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security
CTMPAS	Coral Triangle Marine Protected Area System
CTSP	Coral Triangle Support Partnership
DENR	Department of Environment and Natural Resources (Philippines)
EAFM	ecosystem approach to fisheries management
Esri	founded as Environmental Systems Research Institute, now simply known as Esri
GIS	Geographic Information System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
IUCN	International Union for Conservation of Nature
IUU	illegal, unregulated and unreported fishing
M&E	monitoring and evaluation
MECDM	Ministry of Environment, Climate Change, Disaster Management and Meteorology (Solomon Islands)
MEWG	Monitoring and Evaluation Working Group
MMAF	Ministry of Marine Affairs and Fisheries (Indonesia)
MODIS	Moderate-resolution Imaging Spectroradiometer
MOSTI	Ministry of Science, Technology and Innovation (Malaysia)
MOU	memorandum of understanding
MPA	marine protected area
NCC	National Coordination Committee
NPOA	National Plan of Action
PNG	Papua New Guinea
RPOA	Regional Plan of Action (CTI-CFF)
SOM	Senior Officials Meeting
SST	sea surface temperature
TNC	The Nature Conservancy

TOR	terms of reference
TWG	technical working group
USCTI	United States Coral Triangle Initiative Support Program
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund

ACTIVITY REPORT

BACKGROUND

Members of the core team that developed the Coral Triangle (CT) Atlas (ctatlas.reefbase.org), along with representatives from some partner organizations, met in Penang, Malaysia, last 14-16 May 2013, to discuss a coordinated plan to ensure a smooth phasing of the Atlas out of current management and funding, and into new operational arrangements.

The CT Atlas is a GIS database on the Coral Triangle region developed primarily to provide support to the Coral Triangle Initiative on Coral Reefs, Fisheries and Food Security (CTI-CFF). For the past four years, the Atlas has been funded by the US CTI Support Program (USCTI), which is set for completion before end-2013.

The CTI-CFF is a multilateral partnership of six countries working together to sustain the rich marine and coastal resources of the most biodiverse marine area in the world – the Coral Triangle. It includes Indonesia, Malaysia, Papua New Guinea (PNG), Philippines, Solomon Islands and Timor-Leste (CT6). These countries have adopted a 10-year (2010-2020) Regional Plan of Action (RPOA) that includes five overall goals covering (1) priority seascapes; (2) ecosystem approach to managing fisheries and other marine resources (EAFM); (3) marine protected areas (MPAs); (4) climate change adaptation (CCA); and (5) threatened species.

There is a technical working group (TWG) corresponding to each of these goals. Composed of representatives from the CT6 and their development partners, the TWGs provide technical inputs and recommendations to the CTI-CFF Regional Secretariat and the National Coordination Committees (NCCs) and oversee, coordinate and monitor the implementation of the RPOA relative to their respective goals. In addition, a monitoring and evaluation (M&E) working group (MEWG) has been formed to develop the indicators for tracking these goals.

There is no direct reference in the RPOA to the CT Atlas or any online GIS, but the RPOA identifies as a priority action under its MPA goal (Goal 3) the completion and endorsement of a "comprehensive map and geo-referenced database delineating a region-wide CTMPAS" (Coral Triangle Marine Protected Area System) and recommends "special collaboration and external assistance from leading institutions… to analyze key information not addressed in previous spatial analysis exercises, such as spatial mapping of (i) areas with climate change resilience characteristics; (ii) fisheries-based food security data; and (iii) poverty data overlaid with data on climate change vulnerability of marine ecosystems."

First conceived in 2007 shortly after the inception of the CTI-CFF, the CT Atlas was created by a team pulled together by The Nature Conservancy (TNC) with funding from USCTI to the Coral Triangle Support Partnership (CTSP). CTSP is a consortium of TNC, World Wildlife Fund (WWF) and Conservation International (CI) tasked to implement activities that align with the CT6's national plans of action (NPOA). Working closely with the WorldFish Center, a research organization based in Penang, Malaysia that built and manages an online GIS for coral reefs called Reefbase (reefbase.org), TNC led a multi-organizational, geographically dispersed team that also includes WWF, Wildlife Conservation Society (WCS), and the International Union for Conservation of Nature (IUCN). Together, these NGOs developed the CT Atlas using data from numerous organizations working on MPAs in the region.

Since the first version came out end of 2009, the CT Atlas has built what is reputed to be the most up-to-date MPA database on the Coral Triangle. In November 2012, the CTI-CFF Council of Senior Officials (CSO) officially recognized the Atlas as integral to the implementation of the CTI-CFF M&E system, thus potentially expanding the current features of the website.

OBJECTIVES OF THE MEETING

With the implied mandate that comes with such CSO recognition and the fact that USCTI support is ending soon, this meeting was convened to map out a sustainability plan for the CT Atlas under the management of WorldFish. The meeting aimed to:

1) Provide WorldFish with a clear picture of the current status of the CT Atlas in terms of content, structure, partnerships and roles;
2) Develop Terms of Reference (TOR) and strategy to ensure that the CT Atlas continues to provide essential spatial information and mapping services to the CTI-CFF; and
3) Identify potential new sources of support for the CT Atlas over the next 3 years.

MEETING PARTICIPANTS AND ORGANIZERS

Held at WorldFish Center, Penang, Malaysia, the meeting was jointly organized by TNC and WorldFish Center, with assistance from USCTI through CTSP. It was attended by 19 participants, including 10 members of the CT Atlas core team and 9 representatives from supporting partner organizations and the CTI-CFF Interim Regional Secretariat (Annex 2 [A2]).
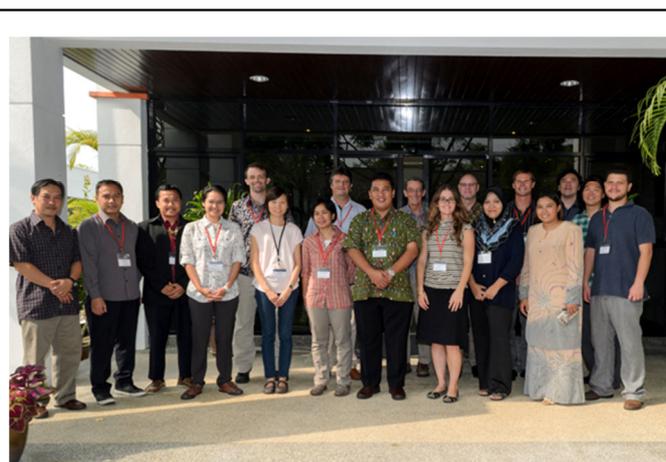
Participants at the CT Atlas Team Meeting held on May 14-16, 2013 in Penang, Malaysia. (Photo: WorldFish)

SUMMARY OF PROCEEDINGS

The meeting included three days of plenary presentations and discussions involving all participants, as well as small group work sessions mostly involving the CT Atlas core team. The discussions were generally focused around two major themes: (1) project sustainability, and (2) technical resources. Each day was scheduled with updates and discussions open to all participants. Plenary sessions typically ended at around 3pm, when the CT Atlas core team's work session was convened to discuss internal database technical matters (*see Agenda in Annex 1 [A1].*)

There were 6 sessions on Day 1, including the opening session and introductions. A presentation on the CT Atlas and its progress over 4 years started off the day's discussions. It was followed by presentations on the Atlas's central role in the CTI-CFF M&E process and on the draft TOR for the CT Atlas beyond 2013. The emphasis was on open discussion, and presentations were interspersed with questions and comments from participants. Over the course of the day, the meeting also tackled the capacity of WorldFish to sustain the CT Atlas, partner engagement, updates on the work to develop the MPA/CTMPAS layer and how the MPA/CTMPAS model can be applied to the GIS needs of the other TWGs (Seascapes, EAFM, Climate Change and Threatened Species).

Discussions on project sustainability resumed in the morning of Day 2, when the meeting focused on defining the relationship between the CT Atlas and the CTI-CFF Regional Secretariat and the CT6, primarily to ensure that the CT Atlas would be fully endorsed by the CTI-CFF. Presentations included an update on the process of getting data sharing memorandums of understanding (MOUs) signed with each member-country, and the CT Atlas budget. These kicked off participant discussion on how to resolve outstanding issues that remain about the data sharing MOUs and how to meet the CT Atlas's financial needs. The afternoon session on technical resources was primarily about how to improve the process

flow for map requests and mapping applications, and using cloud technology and other ways to improve data exchange. It also highlighted spatial information provided by the US National Oceanic and Atmospheric Administration (NOAA) and its applications in resource management.

There were two unscheduled presentations during the day: a presentation on a funding opportunity from "TA-7753 Strengthening Coastal and Marine Resources Management in the Coral Triangle of the Pacific (Phase 2)" under the Asian Development Bank (ADB) CT Pacific Program, and a presentation by Indonesia's Ministry of Marine Affairs and Fisheries (MMAF) on their "Data and Information Website for Marine and Aquatic Resources Conservation."

On Day 3, participants took stock to resolve outstanding issues before moving on to a discussion on communication and information dissemination. There were also four breakout sessions that tackled remaining technical concerns, worked on an MOU defining the relationship between CTI-CFF and WorldFish, discussed topic ideas for publications, and reviewed funding options to sustain the CT Atlas. A wrap-up session and statements of commitment from partners brought the main meeting to a close, and the core team concluded their small group discussions with a final work session to resolve pending technical issues and internal matters.

MEETING RESULTS

The meeting brought up the following points for consideration or action by the parties concerned:

1 – Status of the CT Atlas

The report and discussion on the status of the CT Atlas highlighted the following:

a) **The CT Atlas is now a fully functional product**
- A partnership between the CT6 that provides service to the countries and is also their product.
- Holds the best MPA datasets for the Coral Triangle region and the best publishable MPA datasets – At present, the Atlas includes datasets on 1900 MPAs in the region.
- Recognized by the countries as a resource for GIS expertise – The CT Atlas team conducted training to build the GIS capacity of the CT6, and is widely regarded as the go-to resource for Coral Triangle maps.
- Endorsed by the MPA TWG at their last meeting in Solomon Islands last March 2013 as an essential part of the CTMPAS – The MPA TWG's statement endorsing continued support for the CT Atlas will be transmitted to the August 2013 Regional Priorities Workshop in Manado, Indonesia.
- Officially recognized by the CTI-CFF CSO at their meeting in Malaysia in November 2012 (SOM8) as integral to the implementation of the CTI-CFF M&E system.
- Currently supported primarily by WWF, WorldFish and TNC with funding from USCTI to CTSP and managed by TNC in close coordination with WorldFish – Two other NGOs involved in its development (WCS and IUCN) are no longer active partners but maintain a relationship with the Atlas.

b) **The CT Atlas is still a work in progress**
- CTMPAS gap analysis using the Atlas – The countries have agreed that the CTMPAS should include all MPAs within their jurisdiction, not only those within the scientific boundaries of the Coral Triangle. The gap analysis is designed to determine deficiencies and weaknesses in the CTMPAS and measures to correct them.
- MPA attributes – The countries have agreed on the MPA data attributes to be included in the CT Atlas as part of the CTMPAS (see Annex 4 [A4]). The present focus is on these

attributes, but the CT Atlas need not be limited to these attributes and may in the future be expanded as deemed appropriate (e.g., the emphasis has been on spatial data, but there has been discussion on including as well some important non-spatial/non-geographic data).

- CTMPAS criteria – The countries have adopted a set of criteria for categorizing MPAs under the CTMPAS that will be integrated in the CT Atlas. As the CTMPAS gets underway, the CT Atlas will be updated continuously to reflect the different categories of MPAs.

- M&E system requirements – The CSO's recognition of the CT Atlas as an integral part of the CTI-CFF M&E system (see M&E coordination framework– Annex 5 [**A5**]) calls for the development of new data layers that cover the indicators for seascapes, fisheries, climate change adaptation and threatened species.

c) **The CT Atlas needs a smooth changeover at the top**

- Immediate steps – 2013 is a pivotal year for the CT Atlas. This year, USCTI funding for the CT Atlas will end, and so will TNC's current engagement with the CT Atlas. To sustain the CT Atlas beyond the life of USCTI, the following critical immediate steps must be taken:
    - Finish CT Atlas goals for USCTI – The CT Atlas team is working at completing its commitments to USCTI, according to the following project goals: (1) To compile base layers; (2) To compile and visualize indicators to measure progress; and (3) To provide a foundation for a regionally accessible platform for decision-making. In addition, although the momentum has been built for country support to the CT Atlas, there remains a need to pin down data sharing terms that are acceptable to each of the CT6 (see Annex 6 [**A6**] for an update on the MOU signing process).
    - Transition management from TNC to WorldFish – Since the CT Atlas's inception, TNC has played lead role in sourcing and then coordinating the various pieces needed to develop the Coral Triangle database and its online interface. WorldFish has been key partner to TNC in the development, maintenance and management of the CT Atlas and is well placed to take over TNC's role and turn the CT Atlas into something that in every sense belongs to the region. The transition entails (1) developing a TOR for WorldFish that clearly defines the Center's role as external manager of the CT Atlas and its relationship with pertinent CTI-CFF bodies; (2) fine-tuning the workflow for updating the MPA datasets; (3) formalizing partnerships with the CT6 and in general the CTI-CFF, which own the CT Atlas; (4) ensuring transfer of knowledge to new management team; and (5) finishing all "housekeeping" tasks.
    - Ensure continued support for CT Atlas – This includes maintaining ongoing partnerships where possible as well as tapping potential new partnerships.
- Longer-term requirements for sustainability – Over the longer term, other requirements for sustainability must be met, including (1) continued partner engagement and investment in the CT Atlas; (2) continued relationship with CT6; (3) development of M&E functions; (4) regular updates and regular reporting to CTI-CFF; (5) creation of a "permanent" team from existing capacity; and (6) sustainable funding.

2 – Sustainability Concerns

a) **Ownership of the CT Atlas**

- Who owns the CT Atlas – An essential ingredient for the long-term sustainability of the CT Atlas is the countries' acceptance of its ownership and their responsibility for

sustaining it. The CTI-CFF Regional Secretariat representative at the meeting emphasized that, as the management of the CT Atlas is transitioned from TNC to WorldFish, there is a need to reinforce the CTI-CFF/CT6 ownership of the Atlas and the identity of the CT Atlas as a CTI-CFF product: The CT6/CTI-CFF own the CT Atlas, and therefore the CT Atlas must always carry the CTI-CFF identity and brand name. As much as reasonably practicable, CT Atlas maps and other products must bear the name and logo of CTI-CFF.

- Issues on data-sharing – The CT Atlas team has been working out MOUs with each of the CT6 that aim to define the terms of cooperation and data sharing and formalize the relationship between each country (as owner of the CT Atlas) and WorldFish (as an external body providing management services to the CT Atlas). Timor-Leste has signed, while the other countries are at various stages in the signing process (see Annex 6 [A6] for an update on the signing process).
  - o There appears to be some reservations in some countries with the legal rigidity of an MOU, which suggests the need to simplify the data-sharing arrangement. A data-sharing agreement may be a good alternative for some countries and can include training, data collection and validation, terms of use, privacy policy and similar provisions, as well as a termination clause if one party has a reasonable cause to opt out of the agreement. Indonesia was represented at the meeting and indicated they would consider a data sharing agreement.
  - o Data sharing arrangements should include a provision for future expansion of the data structure to ensure that the data needs of the CTI-CFF, in particular its M&E system, are met. A timeframe can be set for including the M&E and other data, but care must be taken in wording the data sharing document so it cannot be interpreted as having an expiry on the sharing or use of the data.

b) Role of WorldFish

- Management of CT Atlas – While CT Atlas is part of the CTI-CFF, it is and will continue to be managed externally. As agreed, WorldFish is taking over TNC's role as lead coordinator and manager of the CT Atlas at least over the next 3 years. The role of WorldFish is defined in a draft TOR that also defines the relationship between WorldFish and relevant CTI-CFF bodies, in particular, the MEWG. It includes, among others, linking the different CT Atlas partners and, if there is new funding coming through, managing that funding for all the partners.
- WorldFish capacity – The management of the CT Atlas is presently under the WorldFish Natural Resource Department and largely limited to three people.
  - o The termination of USCTI funding this year will significantly cut capacity. WorldFish is committed to maintain the database but will not have the capacity to add layers or expand the functions of the CT Atlas.
  - o One option is to embed the CT Atlas in a bigger program of activities of WorldFish. WorldFish is part of the CGIAR network that derives its budget from member-countries. The budget is divided among 9 CRPs (CGIAR Research Programs), which run through CGIAR's 15 centers. The lead center for CRP on Climate Change, Agriculture and Food Security (CCAFS), for example, is in Colombia, but the funding for CCAFS (about USD20 million) is distributed among all the centers that have a climate change program.
  - o There is opportunity for funding for the CT Atlas from the CRP-CCAFS, which plans to expand into Asia and the Pacific, as well as from the CRP on Aquatic Agricultural Systems (AAS), a USD15-million program that is led by WorldFish and has a hub in the Solomon Islands and another in the Philippines. The idea is for the CT Atlas to be integrated into these CRPs while still retaining its CTI-CFF identity.

c) Financing requirements

- Budget estimate – Based on TNC's experience, the annual financing requirement for maintaining the current capacity of the CT Atlas is estimated to be more than USD200000.
    - The big expense items include manpower, meetings and travel.
    - Meeting the requirements of the M&E system will require a staff bigger than the CT Atlas staff that the WorldFish currently has.
    - Outsourcing some specialized tasks to partners is one solution to staff limitations and offers the advantage of partners bringing in their own funding.
    - New partners that can handle data for the "new" CTI-CFF themes (seascapes, fisheries, and threatened species) need to be invited into the CT Atlas. This will require additional funding.

d) Continued partner engagement and investment in CT Atlas

- Malaysian Government – Malaysia's Ministry of Science, Technology and Innovation (MOSTI) and Sabah Parks are promoting the use of the CT Atlas, particularly for the CTMPAS.
- Indonesian Government – Indonesia's MMAF recognizes the potential of the CT Atlas as a "one-stop shop" for information on the Coral Triangle.
- CTI-CFF Regional Secretariat – The Regional Secretariat will provide the overall coordination and information consolidation function for the CTI-CFF and thus will have some oversight over the CT Atlas.
- USAID – USAID has a partnership with NOAA and is supporting NOAA's work in the region. Negotiations are underway for another 5-year partnership.
- NOAA – NOAA has provided oceanographic datasets and remains committed in the short term to ensuring that the datasets are properly served on the CT Atlas.
- TNC – Although funding for the CT Atlas is coming to a close, TNC (N. Peterson) has a number of ongoing projects in Melanesia and will continue to support, promote and use the CT Atlas in the Solomon Islands and PNG in at least the next two years. TNC also has a Regional Pacific Program that will continue its support, albeit at a reduced level.
- WWF – WWF-US (C. Huang) has ongoing work on MPAs in the Coral Triangle and will continue to be involved in the CT Atlas in some capacity. WWF-Indonesia has also committed funding for one person based in the CTI-CFF Regional Secretariat who can help maintain the CT Atlas. WWF's focus is on seascapes and the use of the CT Atlas within those seascapes. The program is trying to coordinate its timelines with the Indonesian government.
- IUCN and WCS – Although no longer as active as they once were, IUCN and WCS remain committed and interested in getting involved.
- Coral Triangle Center (CTC) – The CTC is committed to supporting the Regional Secretariat's MPA Learning Network and regards the CT Atlas as a tool for disseminating information to MPA practitioners.

e) New sources of support

- German Society for International Development (GIZ) – GIZ has expressed interest in supporting the M&E system, which will have close links to the CT Atlas. The exact details of the GIZ proposal have yet to be worked out but will include support for a Regional Coordinator for M&E who will coordinate with the CT Atlas.

- ADB – The ADB CT Pacific Program is prepared to support the CT Atlas under *Phase 2 of TA 7753 Strengthening Coastal and Marine Resources Management in the Coral Triangle of the Pacific*, which provides technical assistance and commodity support (but not infrastructure) to five Pacific countries, namely, PNG, Solomon Islands, Timor-Leste, and two non-CTI-CFF countries, Vanuatu and Fiji. (*Note:* Fiji and Vanuatu will not be included in the CT Atlas but will receive GIS capacity assistance. Fiji has expressed interest in joining the CTI-CFF.)

  In the Solomon Islands, ADB has approved funding for the hiring of a GIS person assigned to the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM). The project does not cover the Southeast Asian members of the CTI-CFF, but between now and 2015, it can help fill some of the funding requirements of the CT Atlas for (1) building national GIS capacity in the target CTI-CFF countries; (2) CT Atlas coordination with the TWGs in target countries; (3) regional cross-training, with the Southeast Asian CTI-CFF countries providing resource persons/mentors; and (4) pertinent staff and consultant time, travel and mobilization, supplies and equipment. WorldFish agreed to prepare a draft proposal (to be submitted to ADB by 6 June 2013) that may include:

  - GIS capacity development and data management assistance for target countries;
  - Commodity assistance to target countries (recommendations on what commodities are needed can come from WorldFish, but the governments should make the request to ADB and will own the commodities);
  - Development of M&E system in target countries aligned with the CTI-CFF M&E system; and
  - Preparation of regional maps for target demo sites using existing data

- Immediate next step –
  - WorldFish will prepare a proposal for a grant under ADB TA 7753 (to be submitted to ADB/Mr. Raoul Cola by 6 June 2013).

f) CT Atlas coordination

- Coordination mechanism – The diagram below illustrates the relationships between WorldFish (as external manager of the CT Atlas) and the CTI-CFF. It is based on the following assumptions:
  - Theoretically, the CT Atlas is a part of the CTI-CFF structure, not outside of it; technically, it is managed externally.
  - The CTI-CFF Council of Ministers (COM) will officially recognize WorldFish as a CTI-CFF partner. As an official CTI-CFF partner, WorldFish can avail of donor funding to support CTI-CFF programs.
  - The M&E Regional Coordinator is responsible for coordinating with the CT Atlas on matters pertaining to the CTI-CFF M&E system.
  - The Regional Secretariat will designate a regional coordinator for each of the CTI-CFF TWGs (e.g., CTMPAS Regional Coordinator). These Regional Coordinators will coordinate with the CT Atlas through the MEWG/Regional M&E Coordinator.
  - The CT Atlas Regional Technical Manager will work closely with the relevant CTI-CFF themtic coordinators and partners on CT Atlas matters, primarily through the MEWG/Regional M&E Coordinator.
  - Two Field Coordinators (one for the Pacific countries and another for the Southeast Asian countries) will assist the Regional Technical Manager and will be responsible for coordinating with their respective countries of assignment.

CT Atlas Coordination Mechanism
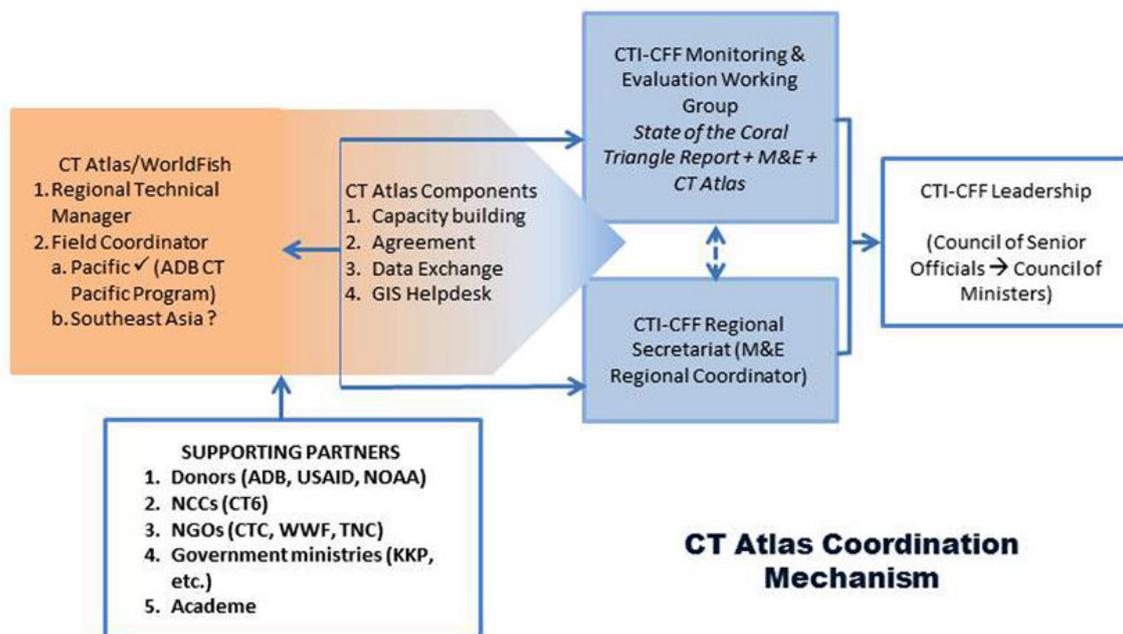
- Formalizing the relationship between WorldFish and CTI-CFF – The above coordination mechanism will officially take effect when WorldFish is formally recognized by the CTI-CFF COM as a CTI-CFF partner. For this to happen, WorldFish will submit a Letter of Intent to partner with CTI-CFF. Other requirements include:
  - TOR for WorldFish clearly defining its relationship (as external manager of the CT Atlas) with the CTI-CFF;
  - TOR for the CT Atlas Regional Technical Manager;
  - Updated TOR for the CTI-CFF MEWG and M&E Coordinator that includes coordination with the CT Atlas.

- Funding support – The CTI-CFF M&E Coordinator will be supported by GIZ, while the CT Atlas Regional Technical Manager can be partly supported by ADB (TA 7753). ADB will also support the CT Atlas Field Coordinator for the Pacific.
  - Until WorldFish is formally recognized an official CTI-CFF partner, funding for the CT Atlas may be covered by an agreement between the Regional Secretariat and WorldFish

- Immediate next steps –
  - WorldFish will write Letter of Intent to partner with the CTI-CFF.
  - WorldFish and Regional Secretariat will draft TOR for WorldFish clearly defining its relationship (as external manager of the CT Atlas) with CTI-CFF.
  - WorldFish will draft TOR for CT Atlas Regional Technical Manager.
  - Regional Secretariat will communicate to CTI-CFF MEWG the need to update their TOR and that of the M&E Coordinator to include coordination with the CT Atlas.
  - The Regional Secretariat will work out an interim agreement with WorldFish on any donor funding for CT Atlas that may come in before WorldFish is officially recognized as a CTI-CFF body.

3 – Technical Matters

a) **Mapping tools**
- Current features – The CT Atlas currently features 40 datasets with secure access for NCCs, interactive maps, a map gallery and access to Reefbase mapping application. It uses Google maps as base maps and live feed from partners' map servers. The use of cloud server (Amazon cloud) has reduced the cost significantly. The cost is variable, but at the moment, the CT Atlas is paying for minimum capacity at about USD200 per month (previously, the Atlas paid USD17000 a year for a dedicated server).
- Upcoming features – New features that are in the works include: (1) map templates that allow users to change the title and add footnotes; (2) enhanced "Save Map" function that includes custom functions such as title, notes and legend; (3) analysis applications; (4) improved metadata quality; and (5) easy update by partners.
- Issues –The popularity of the CT Atlas has increased, and it has created a demand for maps that is taking up a considerable amount of staff time. Even so, overall awareness level for the Atlas remains low, partly because of bandwidth limitations in the region, but mainly because of lack of promotion. Promotions will help build awareness, while the availability of map templates and an enhanced "Save Map" function will encourage users to generate their own maps.

b) **MPA data and CT Atlas**
- Data providers – The CT Atlas has developed good contacts for MPA data collection, but certain data issues remain, mostly concerning missing boundaries, incorrect locations, and incomplete attribute data. Validation from the countries is needed. (See Annex 7 [A7])
- Data validation policy – The countries hold the authority to validate – if the CT Atlas finds something wrong with the data reported, they must check with the countries concerned. The NCC is the clearinghouse for data at the national level and has password access to the database so they can update/correct data directly on the server.
- Other issues – These include:
  - Collaboration with government partners – Who will collate data nationally? Who will be the official/direct contacts for the CT Atlas?
  - Need an attribute structure – Must keep the attributes that the MPA TWG have agreed on at their formal meeting in the Solomon Islands last March 2013.
  - Mangroves – Are they marine or terrestrial? Some countries include them as terrestrial protected areas, others consider them as marine. (As a workaround, the March 2013 MPA TWG meeting agreed to include in the data attributes "Total marine area" in addition to "Reported area.")
  - Capturing individual zones – The attributes only indicate whether an MPA is zoned or not but do not show the individual zones.
  - Versioning – The name of the updater and date and time when the update is made must be recorded, and alert messages must be sent out to announce change.
  - Incorrect data – Incorrect data must not be perpetuated or left uncorrected longer than necessary.

c) **NOAA data**

- Data layers – The CT Atlas currently includes the following data layers:
  - Coral bleaching
  - Sea surface temperature or SST (historical, climatological) from Pathfinder V.5 (1985-2009) and NOAA Coral Reef Watch (2001-present) – Data need to go through a quality control process to remove effects associated with clouds, islands, etc.

- o Chlorophyll-a (monthly, climatological) from MODIS Aqua (2002-present) -- Used as a proxy for phytoplankton biomass, cholorophyll-a provides an indication of upwelling and other natural sources of nutrient input and has potential use as an indicator for stressors such as sedimentation and excessive nutrients.
  - o Irradiance from MODIS Aqua (2002-present) – Irradiance is critical for photosynthesis, but high irradiance can exacerbate coral bleaching.
  - o Wind (NOAA Blended Sea Winds, 1987-present)
  - o Currents (NOAA Ocean Surface Currents Analyses, real time)
  - o Night Light (1992-2009) – "Super-max" composite showing maximum extent of lighting from boats, cities, and fires (can show where the boats are congregating, seasonality of concentration, migration of fisheries). Combined with AIS (Automatic Identification System, used to retrace the routes and fishing activities of vessels), does it have any practical application in IUU monitoring, control and surveillance?
- Importance of climatological and time series data to coral reef ecosystems – Climatological and time series data are more relevant when combined: Climatology provides the baseline, while time series indicates whether or not conditions are anomalous. Environmental conditions that fall outside the climatological range can be considered anomalous, or beyond the reef ecosystem's "normal" or adapted range of environmental conditions (e.g. prolonged high SST can lead to mass coral bleaching)
- Additional work needed –
  - o In the short term, NOAA is committed to completing the following tasks: (1) presentation of all layers on the CT Atlas; (2) delivery of short descriptions of the products; (3) adjustment of color ramps specific to the Coral Triangle region; (4) appropriate storm track product; and (5) automation of time series graphs by ecoregion and seascape and calculation of direction and speed from wind and currents.
  - o Future CT Atlas work will cover climate change, focusing on identifying environmental parameters relevant to future coral reef ecosystem health and providing information that is ecologically relevant and applicable to management (what time scales are most useful?)
- Issues –
  - o Quality control on satellite data – Satellite-derived data require quality control to remove information that may cause bias or skew results. For example, chorophyll-a in shallow areas can be plentiful compared to entire study area, so it is necessary to remove data pixels for <30m contour to make sure that all data are from deeper water (>30m).
  - o Realities for coral reefs – There are quality concerns in nearshore waters, so a 10km filter was applied to take out all data within 10km, which can be removed when better datasets become available. This is a key issue for the Coral Triangle, where most of the stressors (pollution and sedimentation) are within the 10km that has been filtered out.
  - o Use of proprietary software – Proprietary software costs more, but would using open source system be appropriate given considerations for data integrity and system integration?
  - o Downscaling – Spatial footprint of data for most coral reef areas is coarse (1° 110x110km), so downscaling is hard to do for the entire Coral Triangle. It is, however, not impossible and can be done for some very specific purposes.
  - o Usability for managers – The CT Atlas team has yet to nail down the important questions that a manager may ask about how to use the data. (The team agreed to consult with the CCA TWG.)

        o Creating scenarios – This takes funding and time, and more information than is currently provided.

d) Meeting the needs of the CTI-CFF M&E system

- Assumptions –
  - The CT Atlas is functional – it exists and contains the necessary information, and there are organizations that provide that information and are checking it.
  - The CT Atlas will help serve the information needs for regional management strategies and planning and support the M&E process.
  - There is already a vision of how M&E will take place.
  - The Regional Secretariat will designate a Regional M&E Coordinator who will be supported by GIZ for at least the next three years (2013-2015).
  - Food security and socioeconomic factors have always been intended to be a part of the CT Atlas but at the moment they are not.
  - New data layers have to be added to the CT Atlas to meet the requirements of the M&E system – this will be done after USCTI support has ended.
- Data concerns and other considerations –
  - WorldFish can provide information on community resilience to climate change (a major focus of its CCAFS) as well as small-scale fisheries data, but it would be good to have large-scale fisheries data also. The Philippines, Indonesia and the Solomon Islands have some information, but it is difficult to manage and generally, countries are reluctant to share fisheries data. Commercial fisheries data are particularly sensitive (scientific data may be easier to generate).
  - How difficult would it be for the TWGs to develop data attributes? (Note: The CCA TWG has defined the data attributes for all of their indicators).
  - The current system can probably work for CCA, seascapes and even threatened species, but fisheries may require a different system, which will probably not be completed in the short term. The CT Atlas team needs to establish communication with the concerned TWGs as soon as possible so they do not redo the work that CT Atlas has already done, or develop a completely different system.
  - Providers of data on fisheries and threatened species have yet to be identified and invited into the CT Atlas.

- Immediate next step –
  - The Regional Secretariat will invite representatives from the TWGs to a consultation meeting with the CT Atlas Team.

e) FAQ/Tutorial

- An FAQ/Tutorial that will be added to the CT Atlas will include instructions (video with screenshots and text) on data upload/sharing and use of –
  - Dataset
    - Search tool, including export function, pop-up details, download function
  - Interactive maps
    - Layers, including pop-up details, download link, show/hide function
    - Drawing tools
    - Bookmark link
    - Zoom to function

- "ID" click
- "Save map" (ReefGIS app)
- Search tool
  - MPA database
    - Search tool (export, pop-up details, edit function for NCC)
  - NCC Login (update username to specific user)
    - Username/Login
    - Edit function/operation

f) Proposed enhancements to CT Atlas

- Develop fact sheet that describes how NOAA data can be used for management -- The CT Atlas provides tutorials to help users "read" maps and understand the applications of NOAA data in management, but it would be useful to identify the questions that managers may have about how to use these data. These questions can be compiled in a fact sheet that describes how the data can be applied to resource management. (CT Atlas will consult with CCA TWG to identify the most relevant questions.)

- Add feature to show how the MPA data are changing over time. (Automate time series?)

- Develop a data analysis query system that encourages users to do more of their own analysis (instead of asking CT Atlas staff to do it for them).

- Include CTI-CFF logo on maps (top of page), one line showing partners' logos (bottom of page), and logos of organizations that contributed the data.

- Develop a search engine that does not require exact matches.

- Develop customizable map templates to encourage users to generate their own maps.

- Develop templates that the NCCs can use to translate maps to other languages.

- Add a link to the CTI-CFF Facebook page.

- Add a "Like" button.

- MPA data on country websites must match CT Atlas data. Explore possibility of country websites (e.g. Indonesia's "Data and Information Website for Marine and Aquatic Resources Conservation") using CT Atlas data layers (or vice versa)
  - Having a database in several languages may be worthwhile. (Note: Indonesia is translating its website to English, and its GIS part is already in English.)
  - Start discussion with Indonesia's MMAF web team (Mr. Suraji) on:
    - Possibility of linking/integrating CT Atlas and MMAF website (how to pull the MMAF data into the CT Atlas)
    - "Combining" data.
    - Ensuring that data are consistent between websites (there should be no data inconsistencies if the CT Atlas data come from the MMAF's Directorate of Aquatic and Marine Resources Conservation, which is mandated to consolidate aquatic and marine conservation data in

Indonesia. This directorate handles all MPA data, except those for MPAs that are still under the Ministry of Forestry (these will gradually be transferred to MMAF).

g) Publications

The discussion on publications generated the following comments and ideas:

- The target is to produce three papers for publication.

- Some of the topic ideas that were put forward are as follows:
    - Analysis of the quality of data in the CT Atlas: Are they good for analysis? (possibly including comparison with other MPA databases); Gap analysis
    - Analysis of the coverage/distribution MPAs included in the CT Atlas: Do they conform to the guidelines on spacing of MPAs in a network?
    - Methodology for developing CT Atlas MPA dataset, lessons learned

- An MPA case study paper has been approved for publication in the special issue of the *Coastal Management Journal.*

- The paper about the CT Atlas may be written for a more general audience type magazine (a hybrid between a scientific paper and a feature article). Everyone who helped in the development of the CT Atlas (including those from the countries) can be contributors or co-authors.

- It is important that the message of the CT Atlas (as a tool to track MPAs in order to improve management at a regional scale) should be in one of the papers.

- Everyone who wants to help can be contributors or co-authors. (R. Venegas will send out email to discuss how people can participate in the development of the papers.)

h) Other technical matters

- The CT Atlas team's work sessions focused on cleaning up the MPA data and metadata, looking at third party background information to determine which data to delete, and linking these with biodiversity data. They also discussed:
    - Connectivity data from connectivity research on the different taxa in the Coral Triangle (e.g damselfish) and how to display these on interactive maps;
    - How to display nodes and lines, making sure the correct information is available to resource people, managers and the countries so they can link these with tools that they have for making decisions.
    - Data and tools already available on the CT Atlas, such as:
        - Interactive maps, datasets
        - Search functions
        - How MPA data are presented
        - How to make the site clearer and more focused, so users need not go to different locations to find information.
    - Improvements to the maps
        - The Philippines is still uncomfortable with the boundaries used and will send updated boundaries to Shwu Jiau and Nurul. The Regional Secretariat also needs to consult with NCC-Philippines (Lynette) on this matter.

4 – To-do Lists

Participants agreed on the following lists of "non-technical" and "technical" tasks that need to be completed before the end of USCTI:

a) **Non-technical**
   - Letter of Intent to partner (from WorldFish to CTI-CFF through the Regional Secretariat)
   - Pending MOUs (no need to draft new agreement)
   - Follow up on GIZ proposal
   - Complete ADB proposal (Doug/Raoul) – Gantt chart, etc. to be completed in a week and circulated for comments, proposal to be completed by 6 June 2013
   - CTI-CFF Regional Priorities Workshop (Aug 20-22, 2013, Manado, Indonesia) – Alan will attend; Regional Secretariat will invite potential partners (Regional Secretariat needs help in identifying people to invite).

b) **Technical**
   - Publications
   - Refinements to website
   - Finalize E. Treml data (June)
   - Housekeeping: metadata, Miguel data
   - MPA : Indonesia, integrate new attribute structure
   - Map templates
   - CTI-CFF logo plus "Like" button
   - Gerry Allen (Nate)
   - Coral list → photo (Annick)
   - MPA map for Esri and Regional Priorities Workshop
   - Stanley to link with Tomoko – June?
   - Tutorial and FAQ (target completion: Regional Priorities Workshop, August 20-22, 2013)
     - o Priorities are Dataset and Interactive map; Map Gallery and NCC log-in are secondary
     - o Guidance on data update for NCC
   - CTMPAS report (maps and area indicators) – June 15

ANNEXES

A1: AGENDA

(As published; does not reflect changes made during the meeting)

Day 1: Tuesday, May 14 *Facilitator: Nate Peterson*	Time Allotment	Lead
Objectives: 1. Provide an overview of the CT Atlas to participants and get endorsement on its role past 2013 2. Finalize the MPA layer	**Outputs:** 1. A completed and final TOR 2. A published MPA layer 3. A workflow mapped out to show how the CT Atlas stores, shares and analyzes information in the M&E system 4. A to-do list with roles and deadlines	
8:30-9:30	▪ Welcome Message ▪ Overview of meeting objectives, introductions ▪ Managing expectations		D. Beare A. Cros A. Cros
9:30-10:45	▪ History of the CT Atlas ▪ Role of the CT Atlas in M&E ▪ Example from MPA TWG ▪ Terms of Reference for the new CT Atlas: the new role & responsibilities ▪ Q&A	10 10 10 15 30	A. Cros A. Cros A. White D. Beare
BREAK		
11:00-12:00	▪ Assessment of WorldFish capacity ▪ Partners Message and engagement: TNC, WWF, NOAA, other ▪ In plenary, present updates.	10 30 20	D. Beare All partners
LUNCH		
1:00-2:00	▪ CTMPAS in depth and the role of the CT Atlas ▪ Role of the CT Atlas -- challenges ▪ Q&A – to do list	 20 20 20	A. White & R. Venegas
2:00-3:00	▪ Using the CTMPAS model for the other TWGs: Defining the process ▪ Q&A – to do list	 20 40	A. Cros & S.J. Teoh
BREAK		
3:15-5:00	▪ Work session focused on MPA data		Core team only

Day 2: Wednesday, May 15 *Facilitator: Annick Cros*		Time Allotment	Lead
Objectives: 1. Define the terms of partnership between the CT Atlas and the CTI Secretariat as well as the CT6 2. Define funding opportunities past 2013 3. Summarize the state of the CT Atlas database and process for mapping report		**Outputs:** 1. Draft of an MOU to work with the CTI Secretariat 2. First draft of a 12-month budget	
8:30-9:30	▪ Summary of Day 1 ▪ Message from the CTI Secretariat ▪ Relationship with the CTI-MOU ▪ Discussion	10 10 10 30	A. Cros Dr. Hendra Siry D. Beare
9:30-10:45	▪ CT6 MOUs – Summary, leaving a roadmap, building a database of contacts ▪ A simpler version ▪ Discussion ▪ Getting other partners involved ▪ Discussion, Q&A	10 10 20 15 30	N. Peterson & N. Fatan A. Cros All A. Cros
BREAK			
11:00-12:00	▪ Budget, funding needs, best way forward ▪ Discussion, Q&A		D. Beare
LUNCH			
1:00-2:00	▪ NOAA – what layers exist, how to share them, how to link to manager's needs		J. Gove
2:00-3:00	▪ Map requests, mapping applications, new technology		N. Peterson & S. Tan
BREAK			
3:15-5:00	▪ Housekeeping – where are we at? ▪ Discussion		Core team only S.J. Teoh

Day 3: Thursday, May 16 *Facilitators: Alan White and Stanley Tan*	Time Allotment	Lead
Objectives: 1. Final version of CTI Secretariat MOU and clear opportunities for funding 2. Resolve technical issues	**Outputs:** 1. Final CTI Secretariat MOU 2. Three abstracts for publication with roles and deadlines 3. To-do list for technical issues	

9:00-10:30	**Plenary** ▪ Summary of Days 1 and 2 ▪ Communications, disseminating information, engaging managers ▪ Going forward	A. Cros WorldFish
BREAK		
10:45-12:00	**Session 1:** Technical issues (S. Tan)	**Session 2:** CTI – Drafting MOU (A White and D. Beare)
LUNCH		
1:00-2:30	**Session 3:** Publications (R. Venegas)	**Session 4:** Funding options and resources going forward (A White and D. Beare)
2:30-3:00	**Plenary** ▪ Reports from breakouts ▪ Review of expectations ▪ Closing remark by each organization	
BREAK		
3:15-5:00	**Session 5:** Pending technical issues and internal matters (S. Tan) or publications (R. Venegas)	

A2:   LIST OF PARTICIPANTS

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A3: PARTICIPANTS BREAKDOWN BY GENDER AND ORGANIZATION

A.4.1. Gender

Country Delegates		
Male	2	100%
Female	0	0%
TOTAL	2	100%
Partners/Resource Persons		
Male	11	65%
Female	6	35%
TOTAL	17	100%
OVERALL TOTAL		
Male	13	68%
Female	6	32%
TOTAL	19	100%

A4.2.Country Delegates' Institutions

Government	3	16%
Academe, private sector, NGOs and CBOs	16	84%
TOTAL	19	100%

A4: MPA DATA ATTRIBUTES IN THE CT ATLAS

(as adopted by the CTI-CFF MPA TWG at their formal meeting on 16 March 2013 in Honiara, Solomon Islands)

DATA ATTRIBUTES IN THE CT ATLAS AND CORE (MINIMUM) DATA ATTRIBUTES FOR CTMPAS CATEGORY 1 SITES	
Attributes	**Explanatory notes**
Country*	Indonesia | Malaysia | Papua New Guinea | Philippines | Solomon Islands | Timor-Leste
Longitude*	Longitudinal coordinates
Latitude*	Latitudinal coordinates
Name*	The official name of the protected area[1]
Designation*	The type of protected area as legally/officially established/recognized (e.g. national park, world heritage site)
Legal/Formal Instrument	Legal Code/Number based on country systems[2]
Designation Type*	Local | National | International
Domain*	Marine | Marine-Terrestrial [3]
Status*	Designated | Proposed
Date Established*	Date/Year of the MPA established legally/formally
Reported area (ha[4])*	Total size of protected area in ha[4] based on legal/formal status/declaration
Total marine area (ha[4])*	Total size of marine area in ha[4] within protected area
Management Plan*	Yes | No | Unknown | Drafted
IUCN Management Category	Classification under IUCN (Ia, Ib, II, III, IV, V or VI)
International Convention	Designation of MPA by an international convention/program (e.g. Ramsar site, World Heritage Site, Unknown)
Administrative unit level-1	Government level that administers or holds jurisdiction over MPA (e.g. in Malaysia, an MPA may be administered by either the federal government or state government; in the Philippines, MPAs are typically administered either by the national government (NIPAS) or the municipal/local government.
Zonation	Yes | No | Unknown
No Take	All | Part | Seasonal | None | Unknown
Reported No Take Area (ha[4])	Total area of no take zones in hectares[4]
Management Effectiveness Model	Model used (eg. MEAT/ E-MPA) to assess management effectiveness
Management Effectiveness Rating	ME rating based on MPA ME system used
Source	Source/provider of the data
Validated	Yes | No | Unknown. If Yes, name of person/organization who validated the MPA
Notes	Additional notes/remarks about the MPA

Explanatory notes:

* Core (minimum) attributes required for an MPA to be included as a recognized CTMPAS site.

[1] The name of the MPA should include its location to avoid confusion over MPAs with similar names (e.g. Apo Island Protected Landscape/Seascape, Dauin, Negros Oriental; Apo Reef Natural Park, Occidental Mindoro).

[2] This refers to the number or code used to identify the legal/formal instrument that established the MPA. The full title/name of the law or formal declaration may also be provided, and when available, the full text of the document should be provided as an attachment.

[3] Where the protected area includes both terrestrial and marine components, the marine area should be disaggregated (countries will be responsible for providing data, e.g. size of marine area).

[4] The default unit of measure is hectare, but area data expressed in square kilometers/square meters will also be included as parenthetical information.

Note: Colors may be used to represent the CTMPAS Categories
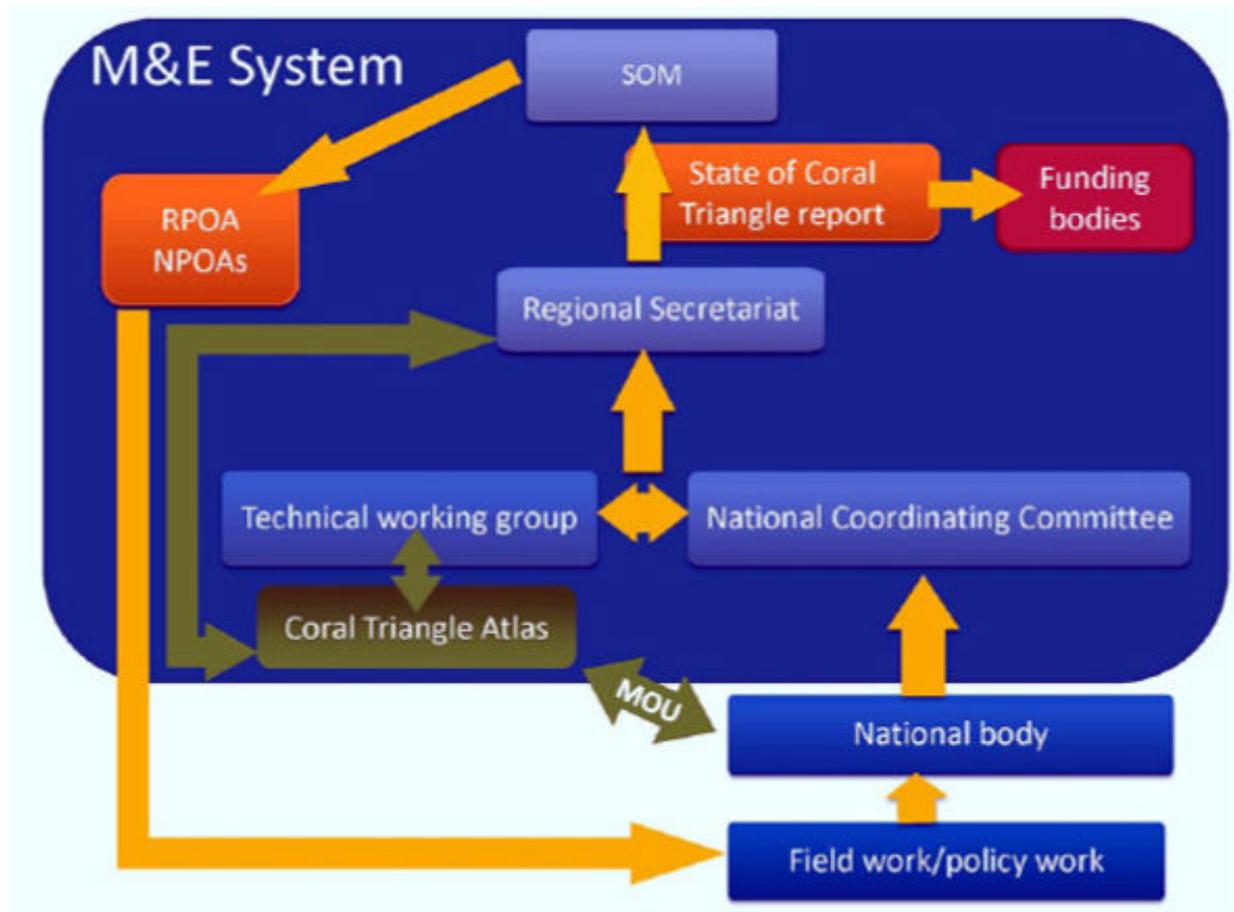
M&E Coordination Framework

A6:   UPDATE ON MOUs ON THE CT ATLAS (as of 15 May 2013)

Contact	Data available to share	Challenges / Opportunities	MOU status
INDONESIA (Ministry of Marine Affairs and Fisheries)			
--	MPA data	Difficulty in getting recognition from higher level administration and identifying focal person in government to help coordinate the MOU / Partnership with MMAF, Forestry Department	Initial discussion
MALAYSIA Department of Marine Parks Malaysia, NRE			
Datin Shima	MPA data, biological data, habitat data, no GIS data in MPDM but have data in the ministry	Non restricted data is available on website, dependent on Malaysia CTI-CFF national secretariat	Pending upon NOD/ MYS CTI secretariat Decision
Sabah Parks Board of Trustee			
Mr. Paul Basintal, Dr. Maklarin (MPA MYS TWG)	MPA data, terrestrial protected area	Limited GIS data, limited capacity in state, MOU terms considered too bureaucratic / New data sharing agreement drafted.	New data sharing agreement in review
PNG Primary: Department of Environment and Conservation Secondary: PNG Fisheries Authority, PNG Forest Authority			
Yvonne Tio; Bernard Suruman	Limited selection of terrestrial data sets	Limited data resources, limited capacity in country / Hungry for help and training	In review with DEC
PHILIPPINES Protected Areas and Wildlife Bureau			
Dr. Mundita Lim, Ms. Lynette Laroya	MPA data, limited GIS data	MOU still on hold although agreed to sign / Includes data on MPA management effectiveness	Pending although signed copy of WF sent
Coastal Conservation and Education Foundation			
Atty. Rose-Liza Eisma-Osorio	MPA data	None / Availability of MPA polygon data	Signed
SOLOMON ISLANDS Primary: Ministry of Environment, Climate Change, Disaster Management and Meteorology Secondary: Ministry of Forests, Ministry of Fisheries			
Agnetha Vavekaramui	No GIS data resources	Limited data resources, limited capacity in country / Hungry for help and training	Final review with SI Attorney General. Hung up on one line about settling disputes.
TIMOR-LESTE Ministry of Agriculture and Fisheries			
Mr. *Lourenco* Borges Fontes	MPA data	Communication challenge / Availability of MPA polygon data	Signed

Note: The Regional Secretariat reported "positive discussions" with Indonesian Government on sharing data with the CT Atlas (CT Atlas needs names of contacts.)

A7:   MPA DATA PROVIDERS AND COLLECTION STATUS

Country	Data providers (key contacts)	`Data collection status	Remarks
INDONESIA	TNC – Wen Wen Ministry of Forestry (Irawan Asaad) Ministry of Marine Affairs and Fisheries.	We have extra polygons!!!! - Needs validation <u>Attribute data</u>: Scarce data on Zoning, No take areas, Management Plans, Management effectiveness, and Monitoring.	Attributes have changed since MPA REX4 in Solomon Islands and need to be updated.
MALAYSIA	Reefbase: Peninsular Malaysia, Labuan and Sarawak: the islands were buffered 2nm (or1nm); Sabah Parks; Marine Parks department (Shahima) – very good and accesible attribute data.	Missing boundaries for Miri-Sibuti National Park. Sabah Parks: the boundary for Sipadan is not official yet. Needs validation, of the boundaries. We should contact the Sarawak Forestry Corporation. <u>Attribute data</u>: Scarce or no data on Zoning, No take areas, Management Plans, Management effectiveness, and Monitoring	Polygons come from Reefbase because most of the MPAs are within 2 nautical miles from the coastline No data from Sarawak (Nurul Fatan can contact). Found inconsistencies in terms of areas reported by the country and those reflected in the polygons
PHILIPPINES	<u>Polygon data</u>: PAWB (Lynette Laroya & Christine Laiero); CCEF (Liza Eisma-Osorio & Raffy Martinez) <u>Point data</u>: CCEF and MSN-MSI. (Perry Aliño, Andre Jon Uychiaoco, Vera Horigue).	MSN-MSI: database with over 1500 MPA records. ~ 1000 have x.y Many of these, are in incorrect locations. PAWB is actively working on updating the MPA GIS layers. <u>Attribute data</u>: Scarce data on Zoning, No take areas (all Sanctuaries are considered as no take zones), Management Plans, Management effectiveness, and Monitoring.	A big challenge because of the number of MPAs. So far the only country that reported management effectiveness data. About 60 percent of the points MSN-MSI points are misplaced. PAWB is working on this. MSN has about 360 polygons
SOLOMON ISLANDS and PNG	TNC (Nate Peterson) Reefbase Pacific & LMMA (Hugh Govan)	LMMAs, hard to obtain data. Reluctance of several communities to have their MMA boundaries displayed. <u>Attribute data</u>: we have scarce data on: Management Plans, Management effectiveness, and Monitoring.	It is NGOs (not government) that contributed to the database Land tenure is a sticky issue -- folks are sensitive about displaying the boundaries of their territory on a map. Point data may be used instead of polygon data but it would be good to have the area
TIMOR-LESTE	ALGIS (Raimundo Mau)	Need data on zoning	

A8.   LIST OF PRESENTATIONS

1) CT Atlas History and Status
   Presented by: Ms Annick Cros (TNC)

2) CTMPAS and CT Atlas
   Presented by: Dr. Alan White (TNC)

3) MPA Data and the CT Atlas
   Presented by: Mr. Ruben Venegas

4) Using the CTMPAS Model for the other TWGs: Defining the Process
   Presented by: SJ Teoh (WorldFish)

5) Indonesia's Marine and Aquatic Conservation Website
   Presented by: Mr. Suraji (MMAF-Indonesia)

6) Update on CT6 MOUs
   Presented by: Mr. Nate Peterson (TNC) / Ms Nurulhuda A. Fatan (WorldFish)

7) ADB's TA-7753 Strengthening Coastal and Marine Resources Management in the Coral Triangle
   of the Pacific (Phase 2)
   Presented by: Mr. Raoul Cola (ADB)

8) Environmental Data Products and the Coral Triangle Atlas: Overview, Current Status and
   Future Directions
   Presented by: Mr. Jamison Gove (NOAA)

9) Mapping and New Technology
   Presented by: Mr. Nate Peterson (TNC)/ Mr. Stanley Tan (WorldFish)