



## Darwin Initiative Main Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

**Submission Deadline: 30<sup>th</sup> April 2018**

### Darwin Project Information

Project reference	23-024
Project title	Securing marine fisheries, livelihoods and biodiversity in Myanmar through co-management
Host country/ies	Myanmar (Burma)
Contract holder institution	Wildlife Conservation Society – Myanmar Program
Partner institution(s)	Ministry of Agriculture, Livestock and Irrigation (Department of Fisheries/DoF), Pyoe Pin, Rakhine Coastal Region Conservation Association (RCA), Rakhine Fisheries Partnership (RFP), University of Exeter
Darwin grant value	£ 299,870
Start/end dates of project	May 1, 2016 to March 31, 2019
Reporting period (e.g., Apr 2017 – Mar 2018) and number (e.g., Annual Report 1, 2, 3)	Apr 2017 – Mar 2018, Annual Report 2
Project Leader name	Barry Flaming
Project website/blog/Twitter	<a href="https://programs.wcs.org/myanmar/Wild-Places/Marine-Ecosystems.aspx">https://programs.wcs.org/myanmar/Wild-Places/Marine-Ecosystems.aspx</a> <a href="https://twitter.com/WCSMyanmar">https://twitter.com/WCSMyanmar</a> <a href="https://myanmarbiodiversity.org">https://myanmarbiodiversity.org</a>
Report author(s) and date	Barry Flaming, Kyaw Thinn Latt, Thaung Htut, Phoe Cho, Maung Maung Kyi - April 30, 2018

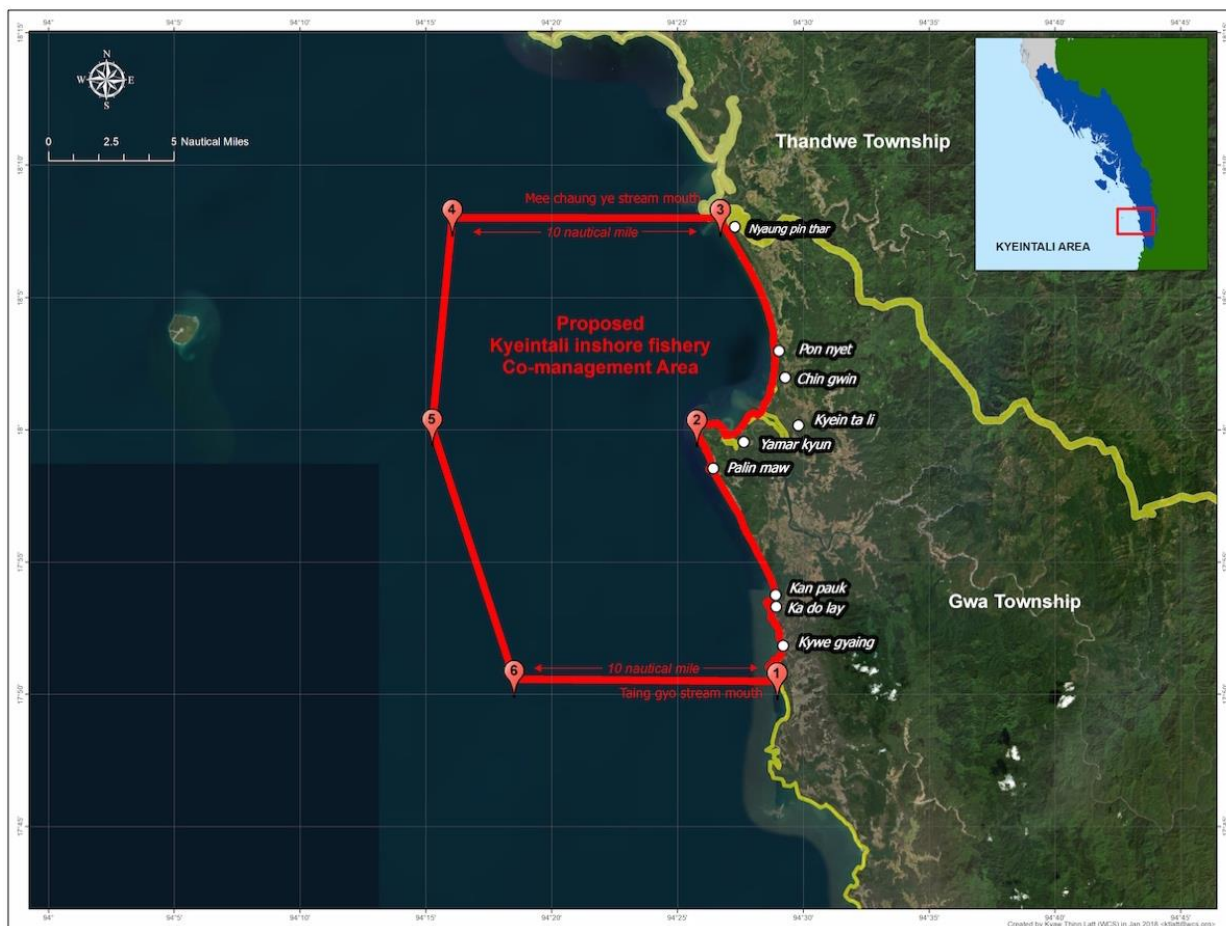
### 1. Project rationale

Fisheries are important economically in Myanmar (contributing 3.5% of GDP) and as a source of protein and food security (representing 43% of animal proteins consumed). Despite their importance, Myanmar has limited capacity for sustainable management of its fisheries resources. Overexploitation, encouraged by poor regulations, weak rule of law and enforcement, and unsustainable fishing techniques, has resulted in drastic declines of stocks. A marine survey in 2014 by Norway showed that pelagic stocks are currently 10% of their 1979 biomass, with similar estimates for inshore fisheries. Inshore fisheries are of particular concern, as many are currently over capacity and non-compliant with closed seasons.

In coastal Rakhine State, over 80% of the people are directly or indirectly involved in small-scale fisheries for livelihoods and subsistence, but are rarely involved in decision-making or planning processes. While data is limited, declines in catch over the past 5 years are indicated, particularly in sardine, anchovy and mackerel. There is also evidence of inshore fisheries

bycatch of a range of globally threatened species like dugongs, turtles, sharks and rays, though information is guarded and poorly documented. Compounding these problems, Rakhine is ranked second in Myanmar's States and Regions in terms of poverty, with 78% of the population poor and concentrated along the coast.

In summary, the project is aiming to ensure sustainable livelihoods and improved income for local fishing communities, reduce bycatch, and demonstrate an innovative resource governance model that can be further replicated across the country. Efforts to date have been concentrated around demonstrating an inshore fisheries co-management arrangement involving 10 coastal villages in Kyeintali sub-township, Gwa Township, in southern Rakhine State (see figure below). While this is a new model of resource management in Myanmar, with little to no previous experience in the country, it is part of a new trend under the ongoing decentralization and reform efforts underway. This approach of participatory co-management presents a significant divergence from the previous top-down, strict governance models, especially for the new government with little experience of alternative approaches. However, there is receptivity to these ideas within some government agencies, such as the fisheries department. Our work with local communities has also galvanized their enthusiasm for gaining greater control over their coastal resources and to do something about the state of their coastal fisheries and work collaboratively to develop a sustainable model of fisheries co-management that works for poor communities in Rakhine state.



**Figure.** Participating coastal communities (white circles) and proposed co-management area (red polygon) in northern Gwa Township, southern Rakhine State, Myanmar.

## 2. Project partnerships

Effective partnerships at the national and local levels are key to ensuring that the project achieves its intended results. WCS continues to serve as the lead implementer of the project, in collaboration with a number of strategic government and non-government partners. WCS has been working in Myanmar since 1993 and was instrumental in the creation and expansion of several protected areas, including the country's first marine and aquatic protected areas. WCS collaborates with the Ministry of Natural Resources and Environmental Conservation (MONREC), the Ministry of Agriculture, Livestock, and Irrigation's (MoALI) Department of Fisheries (DoF), and local civil society organizations to assess the status of Myanmar's ecosystems and build capacity for wildlife conservation and natural resource management. WCS has engaged the Department of Fisheries (DoF) for over ten years on freshwater and marine projects, and has utilised its long-standing relationships to obtain inputs to - and support for - this project from local partners. Working with a government partner (in this case, DoF) is necessary for any work like this in Myanmar.

From the project's beginning, we focused on ensuring its ownership by local partners – particularly the Rakhine Coastal Region Conservation Association (RCA) and Pyoe Pin. Being based in the project area around Kyeintali, RCA is particularly central to the success of the project. Under strong leadership (Dr. Maung Maung Kyi) and with support of a team of local staff and volunteers who are committed to environmental conservation in the area, RCA is a trusted local partner that is well-integrated into the local communities. Though joint implementation of project activities, this close relationship has by extension enabled WCS to become a trusted member of the Kyeintali fisher community. Our collective efforts to elevate fisheries in the area has also resulted in greater engagement from the district and township DoF officers to tackle local fisheries issues.

Another partner, Pyoe Pin, has also been able to bring a strategic advantage and governance focus to the project. Building off of previous successes in establishing a freshwater fisheries law in Rakhine State, Pyoe Pin is politically connected both in Rakhine State as well as at the national (Union) level on a wide range of resource governance and decentralization issues. During the second year of the project, Pyoe Pin has undergone some significant changes, evolving from a project to a fully-independent institute registered in Myanmar. While the events of the transition have hampered their ability to remain fully engaged in and provide continued support to the project, Pyoe Pin staff continue to help open doors and facilitate access to government agencies at both the state and national level, and well as to continue collaboration for advancing important reforms of the fisheries sector in Myanmar. One of the implications of these changes, for example, has been the need to transition the Fisheries Improvement Partner Coordinator from Pyoe Pin to RCA, with RCA's executive director taking on that role, ensuring the effective coordination of partner efforts with RCA at the community level.

The project also engages actively with two fisheries platforms at the national and state levels: the Myanmar Fisheries Partnership (MFP) and the Rakhine Fisheries Partnership (RFP). The MFP, of which WCS is one of the founding members, is a national consortium of NGOs, institutions of higher education, community based organizations, the Myanmar Fisheries Federation, and the DoF working together to stimulate fisheries reform in the country. RFP is a similar platform but at the state level. These partnerships have opened new opportunities for the project and its learning to access new audiences through various meetings and fora. For example, WCS provided an update on the Darwin project at the last MFP meeting in November 2017, and RFP representatives participated in the Second Annual Forum of the project held in Thandwe in March 2018.

WCS also works closely with the University of Exeter (UoE) on the project and on broader scientific activities in Myanmar. While not a formal partner, the team-members from UoE have been instrumental in helping the project develop a robust research methodology around fisheries data collection at the beginning of the project and have provided ongoing training to the WCS team and RCA staff/volunteers on data management and analysis. This academic partnership enhances the project's scientific foundation and credibility while facilitating opportunities for capacity building and enhancing scientific skills among the project team.

Taken together, all of the project partners collectively ensure that we have an implementation team that is diverse and capable in technical, social and political capital.

### 3. Project progress

During Year Two, some significant progress has been made in implementing project activities towards the project's specific outputs and overall outcome, as described in more detail below. In summary, the Kyeintali Inshore Fisheries Co-management Association (KIFCA) has been formed by representatives of the 10 participating communities, the proposed fisheries co-management area and zonations have been defined, and a co-management plan has been drafted. This is particularly noteworthy as co-management is an entirely new process in Myanmar, and as a result it has taken time for people to understand their roles in the process, including the project team. Extensive fisheries data collection efforts continue and will inform fisheries management efforts as well as baseline monitoring.

Responding to comments on the first Annual Report, some revisions have been made to project indicators and subsequently approved by Darwin in October 2017. Updated indicators are reflected in the logframe in Annexes 1 and 2. A new Project Leader, approved by Darwin, also joined in July 2017.

#### 3.1 Progress in carrying out project Activities

Overall the implementation of project activities has been progressing according to plans. As co-management is new in Myanmar, facilitating this process has taken time and effort to help different stakeholders to understand their roles. We have therefore needed to move systematically and methodically to ensure that all stakeholders are active and fully engaged in the processes we are trying to promote.

##### **Output 1. A gender-sensitive participatory planning process has led to the development and adoption of a co-management plan for coastal fisheries in Thandwe District in Rakhine State.**

*Activity 1.1 RFP/RCA stakeholder meetings to discuss challenges and propose and design the fisheries co-management planning process.*

In June 2017, a workshop was held in Kyeintali with representatives of the 10 participating communities, along with representatives from the Department of Fisheries (DoF), Rakhine Coastal Resource Conservation Association (RCA), Pyoe Pin (PP), Rakhine Thahaya Association (RTA), Rakhine Fisheries Partnership (RFP), University of Exeter, General Administration Department (GAD), and local Police. A total of 54 persons (13 women) attended including from: Government = 9, DoF = 6, Fishers = 22, RCA = 7, WCS = 6, and one each from RFP, RTA, PP, and Exeter.

Information was presented and discussed from participatory mapping exercises illustrating where different gear types are being used, conflict areas, and habitat maps. Based on the areas of concentrated fishing activity, community representatives **identified and agreed upon the proposed co-management area** (ranging from Naung Pin Thar village in the north to Kywe Gyaing village in the south, out to 10 nautical miles from shore – occupying a total of 280 sq. miles; see figure above). This includes the area of predominant fishing types including purse seine, drift gill net, and long line fishery. Additional discussions on by-catch, conflicts with offshore fishing vessels, illegal fishing activities, and options for no take zones and seasonal closure areas were also held to inform provisions in the co-management plan. A **co-management committee was established**, with two representatives (one female and one male) from each of the 10 participating communities (20 total). An Executive Committee of four representatives (chairperson, vice-chair, secretary, and treasurer) was created, roles and responsibilities defined, and committee members selected from out of the 20 co-management committee members. At the end of the meeting, a letter **recognizing the co-management area** was signed by local government representatives from DoF, GAD, the Police, and representatives of the co-management committee. After the meeting, WCS presented the proposed co-management area to DoF officials in Nay Pyi Taw for consideration of higher-level formal recognition. This process is ongoing, with DoF requesting presentation directly from the co-management committee. This subsequently occurred during the Second Annual Forum and field visits held in Thandwe in March 2018 (see Activity 4.1).

*Activity 1.2 Site-based / fisher village meetings to ensure awareness and uptake of the emergent input/output controls and adaptive management processes (legal framework, monitoring, compliance, reporting).*

During May through June 2017, fisheries co-management orientation sessions were held in each of the 10 participating coastal villages. These sessions included training to help familiarize fishers with co-management principles and processes, while setting a foundation for the subsequent formation of the formal Kyeintali Inshore Fisheries Co-management Association (KIFCA). A total of 207 participants (166 male and 41 female), representing the fishing communities, DoF, RCA, and village administrators took part in the meetings. In addition to raising awareness of co-management, the meetings also helped the communities identify their representatives to participate in the association that was subsequently formed.

In early October 2017, a two-day training was provided in Kyeintali for the members of KIFCA on fisheries management and institutional development. A total of 31 persons (19 men and 12 women) attended, representing KIFCA members (19), DoF (6), RCA (8), and WCS (2).

*Activity 1.3 Co-management plan developed and ratified by members of the RFP/RCA/fishing communities*

Discussions and outputs from the June workshop informed the **development of a co-management plan**, which has been drafted and signed by the co-management committee members – thereby documenting their support for it. The plan highlights their co-management vision and objectives: *To improve living standard by sustainable utilization of fishery resources*, through:

- Addressing the decline of illegal fishing activities collaboratively with involvement of the local community and government;
- Protecting the habitat and spawning grounds;
- Obeying the current rules and regulations and take responsibility for fishery improvement;
- Improving law enforcement; and
- Fostering development options for the fisher communities in each village.

The proposed co-management area includes designation of no take zones, seasonally closed areas, gear restricted zones, and turtle nesting beaches. The draft plan also addresses important fish habitats, control of trawls and illegal activities, steps to reduce conflicts and by-catch, and capacity building. One of the immediate next steps is for the co-management committee members to socialize the co-management plan within their communities to foster greater buy-in and uptake. WCS and RCA continue to provide mentoring and capacity building support to strengthen the co-management committee and build the confidence of its members. This will include efforts to begin addressing some of the more straightforward issues, such as reducing conflicts between inshore and offshore vessels and reducing illegal activities such as poison fishing. Over the coming months, WCS will continue to work with committee members and fishing communities, and other relevant stakeholders, to further develop the co-management plan and improve capacities for effective implementation. This will be an ongoing process.

In November 2017, awareness-raising meetings were held in each of the 10 communities to discuss and revise the proposed Kyeintali inshore fisheries co-management area, draft management plan, and committee. A total of 533 community members participated (356 male and 178 female). By December, a total of 1,435 community members (899 male and 536 female) had formally acknowledged their support for the co-management initiative by signing a joint letter of support.

## **Output 2. Baseline data is available and routine participatory collection of additional data is integrated into the governance mechanisms for co-management.**

*Activity 2.1 Training in fisheries (catch, compliance, etc.), socio-economic and value-chain data collection provided to members of the RFP/RCA/fishing communities*

Training in data collection was provided in year one and this activity has therefore been completed.

*Activity 2.2 Participative measurements of ecological and socioeconomic criteria through fish landing monitoring, semi-structured/key informant interviews, household and market/value-chain surveys.*

During year one, we conducted household interviews of 390 fishers (from a total of 1,387) from 10 landing sites in Kyeintali. At each landing site, we also conducted key informant interviews and participatory mapping, as well as semi-structured interviews of the 5 traders and 25 collectors / processors known to operate in the area. This has provided us with a rich database related to fishers, licences, gear types, target and non-target species catch and household numbers in the target district. Ten pelagic data loggers have been deployed on purse seine vessels who are participating in GPS tracking and data collection is ongoing.

WCS, RCA staff, and fishers are conducting an extensive program of collecting catch data, involving logbooks from the purse seine fleet, trader invoices, self-reporting of other gear types, and length-weight surveys. To date we have collected catch data during the first fishing season (Oct 2016 – April 2017), rainy (off) season fishing season (May – September 2017), and a second fishing season (Oct 2017 – present). This has provided us with an enormous data set that will be very useful to help inform management options and decisions. We continue to work with RCA to enter and analyse this extensive data, but this has proved to be rather challenging.

*Activity 2.3 Consultative meetings with RFP/RCA members/fishing communities to present survey results and discuss the design of adaptive management actions.*

These discussions occurred as part of the community meetings that were held in each of the 10 participating communities, as described above under activities 1.2 and 1.3.

### **Output 3. A strategy to reduce unintended bycatch of marine vertebrates has been developed and implemented by local fishing communities.**

*Activity 3.1 Rapid assessment boat based field survey to determine the presence and conservation status of dugong and other marine vertebrates known to be caught as by-catch in coastal fisheries in Rakhine.*

During year one, we worked with the University of Exeter to design a boat-based survey methodology to determine the presence and conservation status of dugong and other marine vertebrates. Boat based field surveys conducted during year one, and subsequently during year two, did not reveal significant incidences of marine vertebrates, with sightings primarily limited to dolphins in the area. Since surveys have been limited, it has been challenging to determine the conservation status of other marine vertebrates (i.e. dugong and marine turtles) that may be present in the area.

*Activity 3.2 Community workshops held to discuss and agree spatial and gear modifications / practices to minimise impacts on dugong and marine turtles.*

Community workshops were held in each participating community to discuss plans for the proposed co-management area, including spatial and temporal closure and management zones. Communities proposed their own no take zones, seasonally closed areas, gear restricted zones, and protected turtle nesting beaches, which were compiled and included in the draft management plan and proposed co-management area. These designations were presented at the Second Annual Forum held in March 2018, and subsequently revised to address feedback received (i.e. changing round areas to square areas as the latter are easier to designate and monitor). The revised co-management area and zones will be proposed to the DoF for formal consideration early in year three, with subsequent plans to monitor community compliance with these management areas.

*Activity 3.3 Participative reports of by-catch reductions presented at consultative meetings with RFP/RCA members/fishing communities.*

As became apparent by the end of the first year of the project, quantifying by-catch as initially envisioned proved to be challenging due to the sensitivities inherent in community fishers reporting it. As part of the June co-management workshop, discussions were held with community fisher representatives, DoF, and other stakeholders in relation to by-catch. Data was presented from the participatory mapping exercises including maps of where marine

vertebrates and species of concern are found. Consistent with our previous understanding, discussions on strategies to reduce by-catch centered around incentives, as most if not all species caught provide important income for poor fishers. Specific information on by-catch has been particularly problematic as few fishers are willing to openly report on incidences of threatened or restricted marine species. These challenges have limited our ability to quantitatively estimate By-catch Per Unit Effort (BPUE).

In response, we have revised our approach (and associated indicators, see below) in order to address by-catch issues through a more time-area management of fisheries. This revised strategy is now reflected through the management zones incorporated into the proposed co-management area, including no take zones, seasonally closed areas, gear restricted zones, and protected turtle nesting beaches. Subsequent efforts will focus on building community awareness of and compliance with these new management areas, as opposed to continuing to try and quantify by-catch reductions.

#### **Output 4. Lessons learned from fisheries co-management planning and practices are shared to boost national fisheries resource governance capacity.**

*Activity 4.1 Communicate project results, impacts and lessons learned at state, region and union levels through the annual forum.*

Following the June 2017 workshop that helped establish a co-management committee and determine the proposed-co-management area, WCS then presented these results to union level DoF officials in Nay Pyi Taw. DoF officials expressed keen interest in progress to date and requested to learn of these developments directly from the co-management committee and participating fishing communities. This then became a primary objective of the Second Annual Forum and field visits held in Thandwe in March 2018.

During March 6-8, WCS and partners hosted the *Kyeintali Inshore Fisheries Co-management and Rakhine Fisheries Partnership Annual Forum* in Thandwe. Over 90 participants representing the DoF and other government agencies, local and international NGOs, and other interested stakeholders attended the event. The two-day forum provided an update on the Kyeintali area inshore fisheries co-management project, implemented by WCS and RCA, Pyoe Pin, and the Rakhine Fisheries Partnership. The proposed co-management area and associated fisheries management zones (including no take zones, seasonally closed areas, turtle nesting beaches, etc.) were presented for discussion and feedback. A field visit was also conducted on day three to allow participants to observe the proposed area and meet directly with participating fishing community members and the co-management committee. Community representatives and other stakeholders from Ayeyarwady and Tanintharyi Regions, Mon State, and other areas of Rakhine State participated and learned directly from the Kyeintali co-management committee and their experiences. The Annual Forum was chaired by Rakhine State's Minister for Social Welfare, who subsequently invited WCS and RCA to present our progress to the Rakhine State government in late April.

*Activity 4.2 Conduct site visits to other states and regions to share lessons directly with other fisheries partnerships (e.g. in Ayeyarwady region)*

As noted above, community representatives and other stakeholders from Ayeyarwady and Tanintharyi Regions, Mon State, and other areas of Rakhine State (over 4 other districts, states, and regions) participated in the Annual Forum and learned directly from the Kyeintali co-management committee and their experiences. Following the event and formal field visit, WCS and RCA staff met with fishers from southern Gwa Township south of Kyeintali who participated in the forum and subsequently expressed their interest in having us help them to replicate a similar fisheries co-management area in their inshore fishing grounds. Representatives from the Sustainable Coastal Fisheries project, funded by Danida, also participated and will be able to share our lessons across the ten additional co-management pilot sites they are working on.

WCS staff also shared lessons with other fisheries partnerships, including in Mon State through meetings with the Community Led Coastal Management in the Gulf of Mottama project, as well as presenting at the fourth semi-annual Myanmar Fisheries Partnership meeting in November 2017.



*Activity 4.3 Promulgate project learning to an international audience through attendance at IMPAC4 (Chile) and social media channels.*

WCS's abstract to the International Marine Protected Areas Congress 4 (IMPAC4) was accepted and our senior marine manager travelled to Chile in September to present on our work there. In addition, WCS staff shared an update on our coastal fisheries work at a US-ASEAN regional fisheries meeting in Bangkok in September 2017.

We have also been sharing project learnings through social media and other communications outreach. In terms of our social media reach, we have broadcast messages about conservation and WCS Myanmar projects to an extensive audience, with over 3 million visualizations during the period from April 1, 2017 to March 31, 2018. On Facebook, we reached an audience of 2,088,473 people with 3,379,758 impressions that have generated 247,493 engagements, while on Twitter we have recorded 108,086 impressions and 2,213 engagements during the same period. During the Annual Forum, we created a video highlighting the Kyeintali experience that will be shared in year three.

### **3.2 Progress towards project Outputs**

**Output 1.** A gender-sensitive participatory planning process has led to the development and adoption of a co-management plan for coastal fisheries in Thandwe District in Rakhine State.

1.1 By 2017, more than 50% of the RCA members (current RCA members in Kyeintali = 40, but this is expected to rise by 2017), which includes a proportionally representative number of female fish-workers, have pledged support for a participative co-management plan.

1.2 By 2018, a suite of sustainable fisheries input and output controls are designed by the RFP/RCA.

1.3 By 2019, between 50-75% of participating fishers within the target geography are compliant with the co-management plan.

In this second year, significant progress has been made towards the development and adoption of an inshore fisheries co-management plan in Kyeintali. Importantly, community representatives identified and agreed upon a proposed co-management area (occupying a total of 280 sq. miles) with designated management zones, and a co-management plan has been drafted. A co-management committee was established, with two representatives (one female and one male) from each of the 10 participating communities (20 total). An Executive Committee of four representatives (chairperson, vice-chair, secretary, and treasurer) was created, roles and responsibilities defined, and committee members selected from out of the 20 co-management committee members. Local government representatives from DoF, GAD, the Police, and representatives of the co-management committee jointly signed a letter recognizing the co-management area. Due to the participatory nature of the initiative, community ownership is high and this is expected to be reflected in a high degree of compliance. This will be assessed through community surveys in year three. Future efforts will also help in achieving formal endorsement from DoF at the union level. The project is therefore on track to achieving this output and its associated indicators by the end of year three.

**Output 2.** Baseline data is available and routine participatory collection of additional data is integrated into the governance mechanisms for co-management.

2.1 By 2017, baseline fisheries, socio-economic and value-chain monitoring data is available for >30% of the participating small-scale fleet and associated fish-workers/households.

2.2 By the end of Year 1, fisheries and socioeconomic data has been circulated via the first RFP/RCA stakeholder workshop.

2.3 Co-management planning process receives annual inputs from collaborative monitoring data.

Extensive data collection efforts related to fishers, gear types, fish species catches, and socioeconomic status represents ~30% of the fishing community in the ten target communities. In addition, comprehensive catch data is being collected on an ongoing basis for the purpose



seine fleet, which represents nearly 50% of the fishing effort in these communities. A baseline has been created for fisher household income, while the catch data is in the process of being analyzed to calculate a baseline for Catch Per Unit Effort (CPUE).

RCA continues to collect daily data from trader invoices and purse seine log books, as well as trader length-weight surveys and self-reporting of participating fishers on their fish catch. Summaries of fisheries data are included in discussions with the co-management committee (such as at events like the Annual Forum, as well as other regular meetings) to inform the development and implementation of the co-management plan as well as facilitate interactions between community-based fisher groups, government agencies, and other stakeholders. This information will also help to further clarify important fish habitat areas, refine rules and regulations for sustainable fisheries, and reduce conflicts and IUU. During year three, concerted efforts will be made to further integrate data on fish catch baseline and trends to inform co-management planning and governance. The project is therefore on track to achieving this output and its associated indicators by the end of year three.

**Output 3** A strategy to reduce unintended bycatch of marine vertebrates has been developed and implemented by local fishing communities.

3.1 By 2017, areas and seasons to protect from fishing have been identified and incorporated into the co-management plan.

3.2 By 2018, increased awareness of bycatch reduction practices (including spatial and temporal closures and modified fishing methods) by 20% of participating fishers.

As a result of the challenges in directly monitoring by-catch (as noted above), a revised strategic approach is now being undertaken. In the development of the proposed co-management area, specific zones have been proposed by community representatives, including no take zones (occupying 8 sq. miles), seasonally closed areas (9 sq. mi), gear restricted areas (57 sq. miles), and turtle nesting beaches (1 sq. mile). Since these management designations have been proposed by community fishers themselves, awareness of these spatial and temporal closures is already relatively high. Consequently, we expect that compliance with these community-designated areas will also be quite high. A survey to be designed and implemented in year three aims to quantify community awareness and compliance of these new co-management zones aimed at reducing bycatch and protecting important species. The project is therefore on track to achieving this output and its associated indicators by the end of year three.

**Output 4** Lessons learned from fisheries co-management planning and practices are shared to boost national fisheries resource governance capacity.

4.1 By 2018, RFP/RCA members document key lessons learned to date.

4.2 By 2018, the annual forum hosts community and government officials from at least two other districts, states or regions.

4.3 By 2019, 2 alternative districts, states or regions pledge to support the implementation of fisheries co-management.

As one of the first inshore fisheries co-management pilot projects in Myanmar, many useful lessons are being learned in Kyeintali that can inform further replication and policy reform. During the reporting period, we have shared experiences through a number of fora, including: the Community-Led Coastal Management in the Gulf of Mottama Project planning meetings; presentation at the fourth Myanmar Fisheries Partnership meeting; and at a US-ASEAN regional conference on marine issues in Bangkok. In addition, the Second Annual Forum held in March 2018, brought community representatives and other stakeholders from Ayeyarwady and Tanintharyi Regions, Mon State, and other areas of Rakhine State (over 4 other districts, states, and regions) together to learn directly from the Kyeintali co-management committee and their experiences. WCS and RCA subsequently met with fishers in southern Gwa Township south of Kyeintali who participated in the forum, who then expressed an interest in replicating a fisheries co-management area in their inshore fishing grounds.

WCS is also now replicating the fisher household surveys and participatory mapping activities in an additional 13 communities in western Ayeyarwady Region, with separate funding support. Our partner RCA is serving as a trainer in these efforts, which we anticipate will also help build a foundation for a new co-management initiative in coastal communities that had been previously identified as a possible site for co-management replication. Co-management efforts are also underway in Mon State and Tanintharyi Region, with support from other NGO partners who have learned from Kyeintali efforts and are applying new lessons and tools to their own efforts. Consequently, the project is on track to achieving this output and its associated indicators by the end of year three.

### 3.3 Progress towards the project Outcome

**Outcome:** An inshore fishery co-management plan is implemented in Rakhine State, Myanmar, ensuring sustainable livelihoods and improved income for local fishing communities, reducing bycatch and providing a scalable resource governance model.

0.1 By 2019, 15% of fishers from our focus area (assuming Kyeintali is chosen = 420 participating people) document a 5% increase in CPUE compared to 2016 baselines.

0.2 By 2019, more than 25% (420 people) of the small-scale fishing fleet of Kyeintali Township, including a proportionally representative number of women, are actively engaged with resource governance decision-making processes. (2016 Baseline = 0).

0.3 By 2019, socio-economic surveys demonstrate a 3% increase in participating fisher (N=420) fishing-related incomes against 2016 baselines.

0.4 By 2019, increased awareness of bycatch reduction practices (including spatial and temporal closures and modified fishing methods) by 40% of participating fishers.

Important progress has been made in year two towards the overall project Outcome. Specifically, an inshore fisheries co-management association has been established, a co-management plan drafted, and the proposed co-management area defined. The co-management area includes specific spatial and temporal zoning to help transition to more sustainable fisheries and lessen incidences of unintended bycatch. A formal co-management proposal will be submitted to DoF early in year three to get formal recognition of the co-management area and rights of the association to manage it. Implementation of this work has involved broad community participation and engagement, with women representing 50% of the association's executive committee members. Baselines for CPUE and income have, or will soon be, determined and will enable us to assess changes in these key outcome-level indicators over the life of the project. However, it should be noted that these indicators generally assess processes that can take longer time periods to demonstrate meaningful changes. Other locations across Myanmar are learning from these demonstration efforts and are applying lessons and tools to replicate their own co-management approaches. Overall, there is therefore a very strong likelihood that the project will achieve its main outcomes by the end of the project period.

### 3.4 Monitoring of assumptions

**Assumption 0.1.** That communities and the newly emerging government (under the leadership of the National League for Democracy) are willing and able to actively participate in co-management.

*Comments:* Our target communities are actively participating in co-management activities, as they see this as a way to solidify greater control and benefits over their local resources, while strengthening their abilities to restrict incursions from offshore vessels. This interest is growing as we get closer to formal co-management designation. Myanmar's new government is still trying to address a number of key national political and development priorities. While the fisheries sector does not appear to be at the top of the list currently, there is keen interest within DoF, as the new draft marine fisheries law includes a chapter on co-management and a large DANIDA-funded project is also working with DoF on advancing this new approach. Local DoF

officials are also very supportive of co-management as it fosters improved relations with and compliance from local fishers.

**Assumption 0.2.** That fisheries are capable of recovering within project timeframe to secure improvements in CPUE and social-economic returns.

*Comments:* The most economically significant fisheries of the project area are those targeted by the purse seine fleet (especially anchovy and sardine), which are fast growing species. However, there is still much to learn about the seasonal and spatial distribution of this stock and of the stocks' status. Our ongoing work to record catch composition, length-weight estimates, and CPUE will lay the basis for the long-term future management and sustainability of this fishery. In addition, we are initiating a new partnership with the Environmental Defence Fund to help improve our understanding of this fishery and create bioeconomic models to understand how management interventions may affect stocks. However, it is not yet clear how changes in the fishery as a result of the project's co-management interventions will translate into measurable changes within the project timeframe.

**Assumption 0.3.** That no natural disasters impact the coastal communities and no socio-political unrest emerges.

*Comments:* There have been no major natural disasters in Rakhine State since the start of this project. However, significant social tensions are present in the northern part of the state and these erupted in violence in August 2017. While our project area in the far southern part of the state was not directly affected, there were some indirect impacts which slowed implementation temporarily. The current and ongoing situation has limited access to other fisheries and sites in northern Rakhine which has reduced opportunities for sharing lessons (e.g. with the Danida-funded project sites). However, we still have opportunities to engage with the Rakhine decision-makers and a meeting to inform them of the project's progress is planned for April 2018.

**Assumption 0.4.** Increased awareness translates into behavior change; adoption of bycatch reduction practices by the local community are closely monitored.

*Comments:* The original assumption was revised along with the revised indicators related to bycatch. Since the spatial and temporal measures to help address and reduce bycatch issues have been determined by the participating communities themselves, it is assumed that there will be a high degree of compliance. This will be closely monitored during year three of the project.

**Assumption 1.1.** That communities and fishers feel empowered by this governance framework and want to participate (and do not feel disenfranchised by historical government policies).

*Comments:* This year's formation of the Kyeintali Inshore Fisheries Co-management Association (KIFCA) is a strong indication of community interest in this project. Their interest continues to grow as we get closer to formal declaration of the co-management area by the DoF.

**Assumption 1.2.** That government remains stable over the lifecycle of the project and does not enact conflicting policies.

*Comments:* As per assumption 0.1. discussed above, to date the democratically-elected government is relatively stable and there are no overt signs of it changing any time soon. Of course, Myanmar is a very dynamic country undergoing substantial reforms, with new policies being developed and enacted. The government appears to remain resolute in its reform and decentralisation efforts, including greater responsiveness to local concerns and a devolution of resource management and rights to the sub-national and local levels. We also continue to engage and communicate with like-minded partners, such as through the national coastal resource management committee and the Myanmar Fisheries Partnership (MFP), in order to keep focus and momentum on these ongoing reforms.

**Assumption 1.3.** DoF maintains support for co-management.

*Comments:* DoF has consistently and publically voiced support for the benefits of co-management, including relevant provisions in the new draft marine fisheries law. DoF's leadership with the MFP also demonstrates a willingness and desire to work in partnership with other organisations to enable co-management. This is also evidenced by the joint DoF / Danida

large multi-year development project working to implement co-management in multiple sites across Rakhine State and Tanintharyi Region. Our project is engaged with technical leads of this project, and others, to ensure learning is shared across regions and the country to support DoF and give them increased evidence for the benefits of co-management.

**Assumption 2.1.** That communities and government are willing to participate in collaborative monitoring.

*Comments:* Our ongoing collaboration with RCA and local fishers clearly demonstrates their willingness to participate in collaborative monitoring. The major challenge is not willingness, but ensuring the capacities and consistency in the quality of data gathered through participative monitoring. While this issue was somewhat expected, it does continue to place significant demands on the team to monitor and evaluate data as it is collected by local participants.

**Assumption 2.2.** That the value chain is traceable / transparent

*Comments:* This is a challenging area of work due to the dynamic nature of fisheries value chains, for myriad species and across seasons. As a complex series of differentiated value chains appear to exist, it continues to take time to fully understand the routes of products and value capture through these chains.

**Assumption 2.3.** That training workshops are sufficient to generate a consistent quality of participative data / inputs.

*Comments:* Training workshops to date have enabled us to develop capacity of local staff and RCA regarding data collection. However, our early data analysis has demonstrated a need to continue boosting this training component, particularly for managing and analysing large biological data sets/surveys. This is also a requirement for our growing WCS team, and we are grateful for the ongoing technical support from the University of Exeter to help us develop these skills within the project team.

**Assumption 3.1.** That fisher interviews provide accurate information.

*Comments:* Our early data analyses have provided us with a rich understanding of the community and the associated fisheries. The key informant interviews, coupled with household and trader surveys (over 400 in all) provided a detailed insight into Kyeintali sub-township's coastal communities. While full analysis of the results is taking more time than originally anticipated, some interesting results are now coming out. During year three we will need to repeat some of the survey elements to capture changes in income and CPUE in particular, and anticipate that our established close relationships and trust with fishers will result in accurate information.

**Assumption 3.2.** That appropriate bycatch reduction practices will be adopted in the co-management plan and that support can be generated for marine vertebrate protection.

*Comments:* The original assumption was revised along with the revised indicators related to bycatch. In fact, the original assumption proved not to be correct, as it was difficult to collect quantitative data related to bycatch due to perceived sensitivities. Our new approach seems more adapted to the local context with both spatial and temporal designations to reduce bycatch now included in the proposed co-management area and plan.

**Assumption 4.1.** That Union Government support for co-management continues to persist.

*Comments:* As per assumption 1.3. above, the DoF continues to be interested in and supportive of co-management at the Union level.

**Assumption 4.2.** That Union Government policies continue to permit the devolution of management responsibility to states and regions.

*Comments:* The decentralization and reform process, although slow, continues in Myanmar, with new roles and responsibilities being devolved to the state and region level. In Rakhine State for example, a new state freshwater fisheries law has been enacted, and other coastal states and regions are in the process of developing their own. Continued devolution to the sub-national level appears to continue, with discussions that inshore fisheries will also be included in addition to inland/freshwater fisheries, though details remain unclear.

### **3.5 Impact: achievement of positive impact on biodiversity and poverty alleviation**

Our project is designed to improve human well-being and foster sustainable development through successful fisheries co-management, where people are directly involved in managing the natural resources upon which they depend. The goal is to have a positive impact on marine biodiversity by decreasing the negative impacts of fisheries on coastal species, while sustaining a long-term, positive impact on human well-being through improved fishery benefits. These benefits include reliable income and nutrition, as well as the benefits associated with biodiversity conservation. The communities' proposed fisheries co-management area includes no take zones, seasonally closed areas, and gear restricted areas that will help protect key marine habitats such as coral reefs and improve the sustainability of fisheries resources. In addition, proposed sea turtle beaches aim to help protect key nesting habitats of this important threatened species. As these areas are proposed by the communities themselves, expected levels of compliance are quite high. As the co-management area is expected to enhance local control over their own coastal resources, this is anticipated to have important medium to long-term benefits for coastal livelihoods and poverty alleviation.

## **4. Contribution to the Global Goals for Sustainable Development (SDGs)**

This project contributes towards SDG 14 *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*. The project specifically focuses on improving sustainability of coastal fisheries and improving fisheries management systems in Myanmar. The proposed co-management area offers a new model of decentralized natural resources management in the country and integrates important sustainability and conservation measures. As such, this demonstration project has the potential to have wide ranging impacts across Myanmar's coastal communities by showcasing how an innovative co-management approach can work in the local context and helping to inform broader policy reforms that can be replicated across the country.

## **5. Project support to the Conventions, Treaties or Agreements**

This program of work supports the goals of protecting marine biodiversity in Myanmar as described in the Myanmar National Biodiversity Strategy and Action Plan (NBSAP), as Myanmar's contributions to the CBD and the Aichi targets, especially SDG 14. In addition, our team is coordinating with the WCS Myanmar Wildlife Trade Team that has a grant from DEFRA on wildlife trade/CITES implementation, as well as a parallel initiative addressing shark and ray conservation across Rakhine State.

## **6. Project support to poverty alleviation**

The baseline socioeconomic data collected is informing the project's efforts to contribute to poverty alleviation. A baseline level for income has been calculated from these initial survey questionnaires and will be used to assess improvements by the end of the project. This has been calculated separately for crew and owners, in order to pull out differences between these two classes within targeted coastal communities. Initial surveys have also identified negative trends in fish catch volumes and sizes, with corresponding increases in effort, as well as community perceptions of the causes of these trends. Efforts to improve the sustainability of fisheries is anticipated to result in increased incomes over time, an indicator that we will re-assess towards the end of the project in order to quantify these impacts. Ultimately, the fisheries co-management planning process and associated plan will help limit the impacts of unsustainable and destructive fishing, towards recovery of depleted stocks, and therefore enhanced economic returns. In addition, local partners including RCA are also assessing alternative income opportunities such as ecotourism potential in the area, which could have indirect benefits to local resource users, including fishers.

## **7. Project support to gender equality issues**

While fishers in the target communities are predominately men, women play important roles in fish processing and often manage household finances. However, securing the participation of women in fisheries management and community development-related meetings is challenging due to long-established cultural norms and expectations. Women are not frequently involved in leadership or management decisions outside of the household. WCS and RCA staff have interviewed women fish traders and sellers in order to understand their roles in the fishery and to speak with them about fisheries management options. Through concerted efforts of the project team, the 20 community representatives in the inshore fisheries co-management association (two for each of the 10 targeted communities) are half men and half women, thereby ensuring a seat at the table for women's voices. In electing the four Executive Committee members, one woman and three men were selected by the association members for these leadership positions. At the recent Annual Forum held in March, the female committee member had a speaking role to share with participants about the progress of the association. These efforts are therefore helping to empower women's active participation in project activities, strengthen their voices and representation, and build their confidence and leadership skills. More efforts will certainly be needed to continue to build this momentum, such as through more focused meetings targeting female participants exclusively, but this initiative to date is helping to demonstrate how gender equality issues can begin to be proactively addressed in fisheries management activities.

## **8. Monitoring and evaluation**

Project activities are monitored both through regular work planning and the semi-annual and annual analyses linked to progress reporting. Data collection efforts during year one are assisting us with establishing quantitative baselines for key indicators such as income and CPUE and are provide a sound methodology to replicate and demonstrate progress during the project timeframe. Achievement of specific outputs and activities clearly demonstrate stepwise progress towards achieving the overall project outcome.

One of the major challenges had to do with the initial approach proposed to produce quantifiable data on by-catch of key species. This proved particularly problematic as few fishers are willing to report on incidences of threatened or restricted marine species, which subsequently limited our ability to estimate Bycatch Per Unit Effort (BPUE) as initially envisioned. This issue was also highlighted in the first Annual Report Review which recommended to "Revise log-frame, with particular emphasis to Outcome level indicators and the indicators for Output 3." This was discussed with Darwin in August 2017 and resulted in proposed changes to the project logframe, which were subsequently approved in October. The new revised project logframe is presented in Annex 2.

## **9. Lessons learnt**

Piloting a participatory approach to inshore fisheries co-management in Myanmar is an involved process that requires capacity building and engagement of a wide variety of stakeholders – most notably coastal fishing communities and relevant government agencies. While such a process can take time, it is currently progressing well. One key factor to maintain momentum during this process is to ensure, and continue building, the motivation of key stakeholders so that they will stay engaged over time. For local communities, they are motivated by gaining more formal recognition over their local resources, greater skills for more sustainable fisheries management, and a stronger collective voice to protect their resources from outsiders. For government agencies, this approach is helping to build greater trust with communities and strengthen compliance with relevant rules and regulations. It is also important to have shorter-term milestones to achieve along the way. As we are getting closer to formal recognition of the proposed co-management area, we can observe the motivation and engagement of these key stakeholders continuing to increase.

Some of the initial activities that were designed were probably too aspirational or a bit too ambitious. For example, it has been challenging to collect quantitative data on bycatch, and

therefore we have not been able to estimate bycatch per unit effort (BPUE) and utilize this as a key indicator to demonstrate measurable changes. Adaptive management is obviously a key necessity, as encountering situations on the ground has required us to modify approaches and activities to fit within the local context. At the beginning of the project, we also initiated a very comprehensive fish catch data collection effort, which has presented a number of challenges in terms of the level of effort involved in collecting, translating, entering, managing, and analysing large quantities of data. In hindsight, we might have recommended beginning with collecting only data that is immediately necessary, and once this was managed well, to expand from there. For others doing similar projects, it may very well be worthwhile to invest early on in considering carefully the data collection needs and approaches, including the level of effort and skills involved in collecting, managing, and analysing the data. Approaches to streamline this process, such as designing or utilizing a data collection application, may help improve efficiencies and accuracy.

As all of these efforts are designed to inform fisheries management, it is important that relevant data is collected and processed in a timely manner, and presented back to communities in a way that they can understand. This will be a key focus of year three of the project, as we work to ensure capacities of local partners and communities are sufficient to carry this work forward following the end of the project.

## **10. Actions taken in response to previous reviews (if applicable)**

We have proactively responded to the issues raised in the review of last year's annual report. Meetings were held with project partners in June to discuss these issues and determine appropriate responses. Project partners understood the review comments and were in agreement with key findings and suggestions. As noted above in Section 8. Monitoring and evaluation, revisions to the project logframe and indicators were subsequently proposed and have been approved by Darwin, with a revised logframe presented in Annex 2.

Two specific technical issues were raised in the review. The involvement of local partner Pyoe Pin and the role of the Fisheries improvement partner coordinator throughout the remaining of the project have been clarified above in Section 2. Project partnerships. In terms of the status of co-management plan, a draft plan has been created and will be submitted to the DoF together with the proposed co-management area for formal government recognition during the early part of year three.

## **11. Other comments on progress not covered elsewhere**

At the end of August 2017, violence and social unrest erupted in northern Rakhine State, sending hundreds of thousands of refugees across the border into Bangladesh. While the situation has not directly affected the project location in the southern part of the state, the tense situation has had indirect effects. Activities were temporarily put on hold for a short period but have since resumed. At present, it is not anticipated that the situation will significantly affect the project budget or timetable of activities. Our legitimacy with local communities is enhanced through our partnership with RCA and we do not foresee any specific risks at this point to the future implementation of project activities.

## **12. Sustainability and legacy**

The project has earned a reputation as one of the leading fisheries co-management demonstration projects in Myanmar, due to its strong local partners and robust data collection efforts. It carries the potential to serve as a model for replication to other areas across the country as the Government of Myanmar moves ahead with its reform and decentralization agenda. A field visit connected with this year's Annual Forum gave participants from across the country a chance to see the area first-hand and to hear the fishers' experiences directly. Additional presentations at important meetings, such as the Myanmar Fisheries Partnership, have also helped enhance the project's visibility. The main legacy of the project will be the establishment of the co-management area, expected by the middle of year three. This will help



ensure the sustainability of the project's investments through securing community rights over their local marine resources. The fact that our local partner RCA is embedded in the communities will contribute to ensuring that investments to date are sustained and that ongoing capacity development for the nascent co-management association is able to continue. Connections built between local communities and DoF officials will continue to be strengthened and institutionalized during year three and are expected to continue beyond the life of the project due to the mutual benefits derived from these improved collaborations. The exit strategy described in the initial project proposal remains valid, and we do not currently plan to make significant changes.

### 13. Darwin identity

WCS has been proactive in recognizing support of the Darwin Initiative for this project. The Darwin Initiative logo has been included on all banners and presentations used at workshops and meetings, in products produced related to this Darwin Award (such as the Marine Biodiversity Atlas), and on the Biodiversity Atlas web portal ([marine.myanmarbiodiversity.org](http://marine.myanmarbiodiversity.org)). Major events included the Second Annual Forum and highlighting progress of the project at the fourth Myanmar Fisheries Partnership meeting. In addition, the project has been actively communicating locally through Twitter and Facebook posts, which are linked to the Darwin Initiative's social media channels. Project partners, such as the University of Exeter, have also linked back to the Darwin Initiative and its social media channels. WCS also produced an article on the project that was published in the [Darwin Initiative Newsletter February 2018 issue on Life Below Water](#).

### 14. Project expenditure

**Table 1: Project expenditure during the reporting period (1 April 2017 – 31 March 2018)**

Project spend (indicative) since last annual report	2017/18 Grant (£)	2017/18 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			99%	
Consultancy costs				
Overhead Costs			100%	
Travel and subsistence			108%	
Operating Costs			97%	
Capital items (see below)				
Monitoring & Evaluation (M&E)			100%	
Others (see below)			102%	
<b>TOTAL</b>			<b>100%</b>	

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2017-2018

Project summary	Measurable Indicators	Progress and Achievements April 2017 - March 2018	Actions required/planned for next period
<p><b>Impact</b></p> <p>Myanmar's inshore fisheries are sustainably co-managed to recover depleted stocks, boost value capture, and minimise unintended catch of threatened species, while supporting food security, diverse and resilient livelihoods.</p>		<p>A co-management area is in the process of being proposed, which includes measures to protect important habitats and species (e.g. no take zones, sea turtle nesting beaches, etc.), as part of collaborative and participatory co-management of local fisheries in southern Rakhine State. Monitoring of fisher household income will enable assessment of tangible improvements in coastal livelihoods by the end of the project.</p>	
<p><b>Outcome</b></p> <p>An inshore fishery co-management plan is implemented in Rakhine State, Myanmar, ensuring sustainable livelihoods and improved income for local fishing communities, reducing bycatch and providing a scalable resource governance model.</p>	<p>0.1 By 2019, 15% of fishers from our focus area (assuming Kyeintali is chosen = 420 participating people) document a 5% increase in CPUE compared to 2016 baselines.</p> <p>0.2 By 2019, more than 25% (420 people) of the small-scale fishing fleet of Kyeintali Township, including a proportionally representative number of women, are actively engaged with resource governance decision-making processes. (2016 Baseline = 0).</p> <p>0.3 By 2019, socio-economic surveys demonstrate a 3% increase in participating fisher (N=420) fishing-related incomes against 2016 baselines.</p> <p>0.4 By 2019, increased awareness of bycatch reduction practices (including spatial and temporal closures and modified fishing methods) by 40% of participating fishers.</p>	<p>The inshore fishery co-management planning process is progressing well in Kyeintali. A proposed co-management area has been determined, a co-management plan drafted, and a community fisheries association set up. There is a strong likelihood that the project will achieve its overall outcome by the end of the project.</p>	<ul style="list-style-type: none"> <li>- submit co-management proposal for DoF approval</li> <li>- finalize co-management plan</li> <li>- continue to build local capacity and community-DoF connections</li> <li>- continue fishery catch data collection and analyses</li> <li>- conduct final surveys to assess changes in income, CPUE, and co-management compliance</li> </ul>

<p><b>Output 1.</b> A gender-sensitive participatory planning process has led to the development and adoption of a co-management plan for coastal fisheries in Thandwe District in Rakhine State.</p>	<p>1.1 By 2017, more than 50% of the RCA members (current RCA members in Kyeintali = 40, but this is expected to rise by 2017), which includes a proportionally representative number of female fish-workers, have pledged support for a participative co-management plan.</p> <p>1.2 By 2018, a suite of sustainable fisheries input and output controls are designed by the RFP/RCA.</p> <p>1.3 By 2019, between 50-75% of participating fishers within the target geography are compliant with the co-management plan.</p>	<p>The overall co-management planning process has been highly participatory, with strong commitment from fishing communities as well as government partners. Women represent 50% of the inshore fisheries co-management association, with 1 in 4 in a leadership position on the Executive Committee. A draft co-management plan has been prepared and is being proposed to DoF soon along with the proposed co-management area for formal approval. Zonation of the co-management area has been determined by communities themselves, so high levels of compliance are expected.</p> <p><u>Key future actions</u> planned include finalizing approval of the co-management area and plan, continued support to the fisher association, and end-of-project surveys to assess compliance with the co-management plan.</p>
<p>Activity 1.1. Meetings to discuss challenges and propose and design the fisheries co-management planning process.</p>		<p>This activity was completed in year one. No future activities planned.</p>
<p>Activity 1.2. Site-based / fisher village meetings to ensure awareness and uptake of the emergent input/output controls and adaptive management processes (legal framework, monitoring, compliance, reporting).</p>		<p>Meetings have been held with the co-management association during June to determine the co-management area and zonation, and with each participating community prior to this, during May-June, to build awareness of the co-management initiative among the broader fisher population.</p> <p><u>Key future actions</u> planned include additional discussions on co-management plan implementation, monitoring, and compliance.</p>
<p>Activity 1.3 Co-management plan developed and ratified by members of the RFP/RCA/fishing communities.</p>		<p>Co-management plan has been drafted, socialized with participating fisher communities, and endorsed by local stakeholders. In December, 1,435 community representatives signed a joint letter of support for the initiative.</p> <p><u>Key future actions</u> planned include proposing co-management plan and area to union level DoF for formal recognition.</p>
<p><b>Output 2.</b> Baseline data is available and routine participatory collection of additional data is integrated into the governance mechanisms for co-management.</p>	<p>2.1 By 2017, baseline fisheries, socio-economic and value-chain monitoring data is available for &gt;30% of the participating small-scale fleet and associated fish-workers/households.</p> <p>2.2 By the end of Year 1, fisheries and socioeconomic data has been circulated via the first RFP/RCA stakeholder workshop.</p>	<p>Extensive data collection efforts have been undertaken particularly related to household socioeconomic conditions and fish catch monitoring. The latter includes daily logbooks from fishers, invoices from traders, self-reporting of fishers, and length-weight surveys. Data management remains a key challenge due to a lack of familiarity with dealing with such large quantities of information by local staff and partners. We have been working with our field staff and RCA staff to improve their data collection systems and processes in order to facilitate more efficient data entry and analysis. The initial socioeconomic data has been analysed for establishing baselines for key indicators such as household income. Our technical partner the University of Exeter has been providing ongoing</p>

	2.3 Co-management planning process receives annual inputs from collaborative monitoring data.	capacity building for data collection, management, and analysis. <u>Key future actions</u> planned include finalizing data entry and analyses for the first seasons of fish catch data, and feeding that information into discussions with the fishing association and co-management planning process.
Activity 2.1. Training in fisheries (catch, compliance, etc.), socio-economic and value-chain data collection provided to members of the RFP/RCA/fishing communities.		Initial training on socioeconomic surveys and fish catch data collection was implemented in year one. Fish catch data collection is underway and ongoing throughout year two. <u>Key future actions</u> planned include training for final surveys to capture changes in income, CPUE, and co-management compliance.
Activity 2.2. Participative measurements of ecological and socioeconomic criteria through fish landing monitoring, semi-structured/key informant interviews, household and market/value-chain surveys.		Socioeconomic surveys were completed in year one, with fish landing monitoring ongoing throughout year two. <u>Key future actions</u> planned include implementation of final surveys to capture changes in income, CPUE, and co-management compliance.
Activity 2.3. Consultative meetings with RFP/RCA members/fishing communities to present survey results and discuss the design of adaptive management actions.		Regular consultations were held throughout year two with RCA and communities to inform the development of the co-management area and plan, including presentations at the second Annual Forum. <u>Key future actions</u> planned include additional discussions on fisher income, baseline CPUE, and co-management compliance in order to integrate existing data into co-management decision making.
<b>Output 3.</b> A strategy to reduce unintended bycatch of marine vertebrates has been developed and implemented by local fishing communities.	3.1 By 2017, areas and seasons to protect from fishing have been identified and incorporated into the co-management plan.  3.2 By 2018, increased awareness of bycatch reduction practices (including spatial and temporal closures and modified fishing methods) by 20% of participating fishers.	A revised strategy to addressing bycatch has been incorporated through the management zones identified in the proposed co-management area, including no take zones, seasonally closed areas, gear restricted zones, and protected turtle nesting beaches.  <u>Key future actions</u> planned include further socialization of these management zones with participating communities and a survey of compliance among fisher communities.
Activity 3.1 Rapid assessment boat based field survey to determine the presence and conservation status of dugong and other marine invertebrates known to be caught as by-catch in coastal fisheries in Rakhine.		Boat-based surveys were conducted during years one and two, but did not identify significant occurrence of species of interest. With a revised approach to addressing bycatch, this activity will not be continued in year three.
Activity 3.2 Community workshops held to discuss and agree spatial and gear modifications / practices to minimise impacts on dugong and marine turtles.		Discussions with communities in year two resulted in identification of no take zones, seasonally closed areas, gear restricted areas, and turtle nesting beaches, which were incorporated into the proposed co-management area. <u>Key future actions</u> planned include additional community meetings to socialize

		these new management areas with fisher communities.
Activity 3.3 Participative reports of by-catch reductions presented at consultative meetings with RFP/RCA members/fishing communities.		As noted previously, it has not been possible to acquire quantitative data on bycatch. With our revised approach, we will now focus on awareness of and compliance with co-management area zones and regulations, as described above.  <u>Key future actions</u> planned include a survey in year three to assess community awareness and compliance of these zones.
<b>Output 4.</b> Lessons learned from fisheries co-management planning and practices are shared to boost national fisheries resource governance capacity.	4.1 By 2018, RFP/RCA members document key lessons learned to date.  4.2 By 2018, the annual forum hosts community and government officials from at least two other districts, states or regions.  4.3 By 2019, 2 alternative districts, states or regions pledge to support the implementation of fisheries co-management.	Lessons from our co-management pilot initiative were shared through various fora, including the second Annual Forum, meeting of the Myanmar Fisheries Partnership and other relevant state, national, and international meetings.  <u>Key future actions</u> planned include holding a final Annual Forum and participation in the World Small Scale Fisheries Congress in October 2018.
Activity 4.1 Communicate project results, impacts and lessons learned at state, region and union levels through the annual forum.		Presentations on project status and results were presented at the Second Annual Forum in March 2018 as well as at meetings with union level DoF.  <u>Key future actions</u> planned include hosting a final Annual Forum in year three to celebrate successes and share results and lessons learned.
Activity 4.2 Conduct site visits to other states and regions to share lessons directly with other fisheries partnerships (e.g. in Ayeyarwady region).		WCS participated in Myanmar Fisheries Partnership events to share lessons learned, and hosted a field visit to Kyeintali area fisher communities to share lessons with participants from other regions.  <u>Key future actions</u> planned include hosting additional exchanges and supporting replication of co-management approaches in other states and regions.
Activity 4.3 Promulgate project learning to an international audience through attendance at IMPAC4 (Chile) and social media channels.		WCS presented on our work at IMPAC4 in Chile as well as at a US-ASEAN regional fisheries meeting.  <u>Key future actions</u> planned include continued social media engagement and production of a short video highlighting progress of the fisheries co-management initiative. A presentation is also planned for the World Small Scale Fisheries Congress in October 2018.

## Annex 2: Project's full current logframe *(changes have been agreed October 2017)*

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<b>Impact:</b>			
Myanmar's inshore fisheries are sustainably co-managed to recover depleted stocks, boost value capture, and minimise unintended catch of threatened species, while supporting food security, diverse and resilient livelihoods.			
<p><b>Outcome:</b></p> <p>An inshore fishery co-management plan is implemented in Rakhine State, Myanmar, ensuring sustainable livelihoods and improved income for local fishing communities, reducing bycatch and providing a scalable resource governance model.</p>	<p>0.1 By 2019, 15% of fishers from our focus area (assuming Kyeintali is chosen = 420 participating people) document a 5% increase in CPUE compared to 2016 baselines.</p> <p>0.2 By 2019, more than 25% (420 people) of the small-scale fishing fleet of Kyeintali Township, including a proportionally representative number of women, are actively engaged with resource governance decision-making processes. (2016 Baseline = 0).</p> <p>0.3 By 2019, socio-economic surveys demonstrate a 3% increase in participating fisher (N=420) fishing-related incomes against 2016 baselines.</p> <p>0.4 By 2019, increased awareness of bycatch reduction practices (including spatial and temporal closures and modified fishing methods) by 40% of participating fishers.</p>	<p>0.1 Fisher catch/log forms completed and submitted to WCS/RFP for CPUE analysis. Data will be disaggregated by gender.</p> <p>0.2 RFP/RCA meeting attendance records (including gender records) and documented support for decisions.</p> <p>0.3 Socio-economic surveys and reports demonstrate trends towards improvements in value capture and fishers and fish-workers livelihoods. Data will be disaggregated by gender.</p> <p>0.4 Fish landings survey data and fisher interviews/ surveys of awareness of co-management plan provisions related to bycatch.</p>	<p>0.1. That communities and the newly emerging government (under the leadership of the National League for Democracy) are willing and able to actively participate in co-management.</p> <p>0.2 That fisheries are capable of recovering within project timeframe to secure improvements in CPUE and social-economic returns.</p> <p>0.3. That no natural disasters impact the coastal communities and no socio-political unrest emerges.</p> <p>0.4. Increased awareness translates into behavior change; adoption of bycatch reduction practices by the local community are closely monitored.</p>
<p><b>Output 1:</b> A gender-sensitive participatory planning process has led to the development and adoption of a co-management plan for coastal fisheries in Thandwe District in Rakhine State.</p>	<p>1.1 By 2017, more than 50% of the RCA members (current RCA members in Kyeintali = 40, but this is expected to rise by 2017), which includes a proportionally representative number of female fish-workers, have pledged support for a participative co-management plan.</p> <p>1.2 By 2018, a suite of sustainable fisheries input and output controls are designed by the RFP/RCA.</p> <p>1.3 By 2019, between 50-75% of participating fishers within the target</p>	<p>1.1 RFP meeting notes demonstrate consensus, gender balance and commitments to co-management.</p> <p>1.2 Co-management plan and input/output controls and documented endorsement from RFP/RCA.</p> <p>1.3 Record of RFP/RCA meeting attendance and reported management infractions. Data will be disaggregated</p>	<p>1.1 That communities and fishers feel empowered by this governance framework and want to participate (and do not feel disenfranchised by historical government policies).</p> <p>1.2 That government remains stable over the lifecycle of the project and does not enact conflicting policies.</p> <p>1.3 DOF maintains support for co-management.</p>

	geography are compliant with the co-management plan.	by gender.	
<b>Output 2:</b> Baseline data is available and routine participatory collection of additional data is integrated into the governance mechanisms for co-management.	<p>2.1 By 2017, baseline fisheries, socio-economic and value-chain monitoring data is available for &gt;30% of the participating small-scale fleet and associated fish-workers/households.</p> <p>2.2 By the end of Year 1, fisheries and socioeconomic data has been circulated via the first RFP/RCA stakeholder workshop.</p> <p>2.3 Co-management planning process receives annual inputs from collaborative monitoring data.</p>	<p>2.1 Baseline fisheries, socio-economic and value-chain data records available. Data will be disaggregated by gender.</p> <p>2.2 Stakeholder workshop proceedings.</p> <p>2.3 Co-management planning process adaptive management updates.</p>	<p>2.1 That communities and government are willing to participate in collaborative monitoring.</p> <p>2.2 That the value chain is traceable / transparent</p> <p>2.3 That training workshops are sufficient to generate a consistent quality of participative data / inputs.</p>
<b>Output 3:</b> A strategy to reduce unintended bycatch of marine vertebrates has been developed and implemented by local fishing communities.	<p>3.1 By 2017, areas and seasons to protect from fishing have been identified and incorporated into the co-management plan.</p> <p>3.2 By 2018, increased awareness of bycatch reduction practices (including spatial and temporal closures and modified fishing methods) by 20% of participating fishers.</p>	<p>3.1 Participative temporal-spatial mapping (and GPS spot tracker) records demonstrate potential areas for protection.</p> <p>3.2 Surveys documenting increased understanding of co-management plan provisions regarding bycatch reduction. Data will be disaggregated by gender.</p>	<p>3.1 That fisher interviews provide accurate information.</p> <p>3.2 That appropriate bycatch reduction practices will be adopted in the co-management plan and that support can be generated for marine vertebrate protection.</p>
<b>Output 4:</b> Lessons learned from fisheries co-management planning and practices are shared to boost national fisheries resource governance capacity.	<p>4.1 By 2018, RFP/RCA members document key lessons learned to date.</p> <p>4.2 By 2018, the annual forum hosts community and government officials from at least two other districts, states or regions.</p> <p>4.3 By 2019, 2 alternative districts, states or regions pledge to support the implementation of fisheries co-management.</p>	<p>4.1 Lessons learned documented.</p> <p>4.2 Meeting membership lists demonstrate interest for co-management of small-scale fisheries in other areas.</p> <p>4.3 Minutes of meetings held in other districts, states or regions.</p>	<p>4.1 That Union Government support for co-management continues to persist.</p> <p>4.2 That Union Government policies continue to permit the devolution of management responsibility to states and regions.</p>



**Activities**

- 1.1 RFP/RCA stakeholder meetings to discuss challenges and propose and design the fisheries co-management planning process.
  - 1.2 Site-based / fisher village meetings to ensure awareness and uptake of the emergent input/output controls and adaptive management processes (legal framework, monitoring, compliance, reporting).
  - 1.3 Co-management plan developed and ratified by members of the RFP/RCA/fishing communities.
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- 2.1 Training in fisheries (catch, compliance, etc.), socio-economic and value-chain data collection provided to members of the RFP/RCA/fishing communities.
  - 2.2 Participative measurements of ecological and socioeconomic criteria through fish landing monitoring, semi-structured/key informant interviews, household and market/value-chain surveys.
  - 2.3 Consultative meetings with RFP/RCA members/fishing communities to present survey results and discuss the design of adaptive management actions.
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- 3.1 Rapid assessment boat based field survey to determine the presence and conservation status of dugong and other marine invertebrates known to be caught as bycatch in coastal fisheries in Rakhine.
  - 3.2 Community workshops held to discuss and agree spatial and gear modifications / practices to minimise impacts on dugong and marine turtles.
  - 3.3 Participative reports of by-catch reductions presented at consultative meetings with RFP/RCA members/fishing communities.
- 
- 4.1 Communicate project results, impacts and lessons learned at state, region and union levels through the annual forum.
  - 4.2 Conduct site visits to other states and regions to share lessons directly with other fisheries partnerships (e.g. in Ayeyarwady region).
  - 4.3 Promulgate project learning to an international audience through attendance at IMPAC4 (Chile) and social media channels.

## Annex 3: Standard Measures

**Table 1 Project Standard Output Measures**

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
6A	# people trained (< 1 yr sessions)	M and F	Myanmar	59	85		144	150
6B	# weeks of training			3	1		4	4
7	# types of training materials (manual, presentations, posters)			2	2		4	3
9	# management plans			1	1		1	1
10	# field guides (to monitoring methods)			1	0		1	1
11A	papers published			0	0		0	1
11B	papers submitted			1 (abstract)	1 (abstract)		2	2
12A	databases established			1	0		1	1
14A	conferences organized to present findings			1	1		2	3
14B	conferences, meetings attended to present findings			1	2		3	3
23	other sources of funding			2 grants pending	\$50,000 + 2 concepts pending		\$50,000	TBD

**Table 2**                      **Publications**

<b>Title</b>	<b>Type</b> (e.g. journals, manual, CDs)	<b>Detail</b> (authors, year)	<b>Gender of Lead Author</b>	<b>Nationality of Lead Author</b>	<b>Publishers</b> (name, city)	<b>Available from</b> (e.g. weblink or publisher if not available online)
Field Manual for Socio-Economic, Fisheries & Marine Vertebrate Surveys in Myanmar (English and Burmese)	manual (104 pp)	WCS and University of Exeter	male	UK	WCS and University of Exeter	on request

## Checklist for submission

	Check
<b>Is the report less than 10MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> putting the project number in the Subject line.	√
<b>Is your report more than 10MB?</b> If so, please discuss with <a href="mailto:Darwin-Projects@ltsi.co.uk">Darwin-Projects@ltsi.co.uk</a> about the best way to deliver the report, putting the project number in the Subject line.	
<b>Have you included means of verification?</b> You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	√
<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	√
Have you completed the Project Expenditure table fully?	√
Do not include claim forms or other communications with this report.	