

Darwin Initiative Main Project Annual Report

Important note: To be completed with reference to the Reporting Guidance Notes for Project Leaders:

it is expected that this report will be no more than 10 pages in length, excluding annexes

Submission Deadline: 30 April

Darwin Project Information

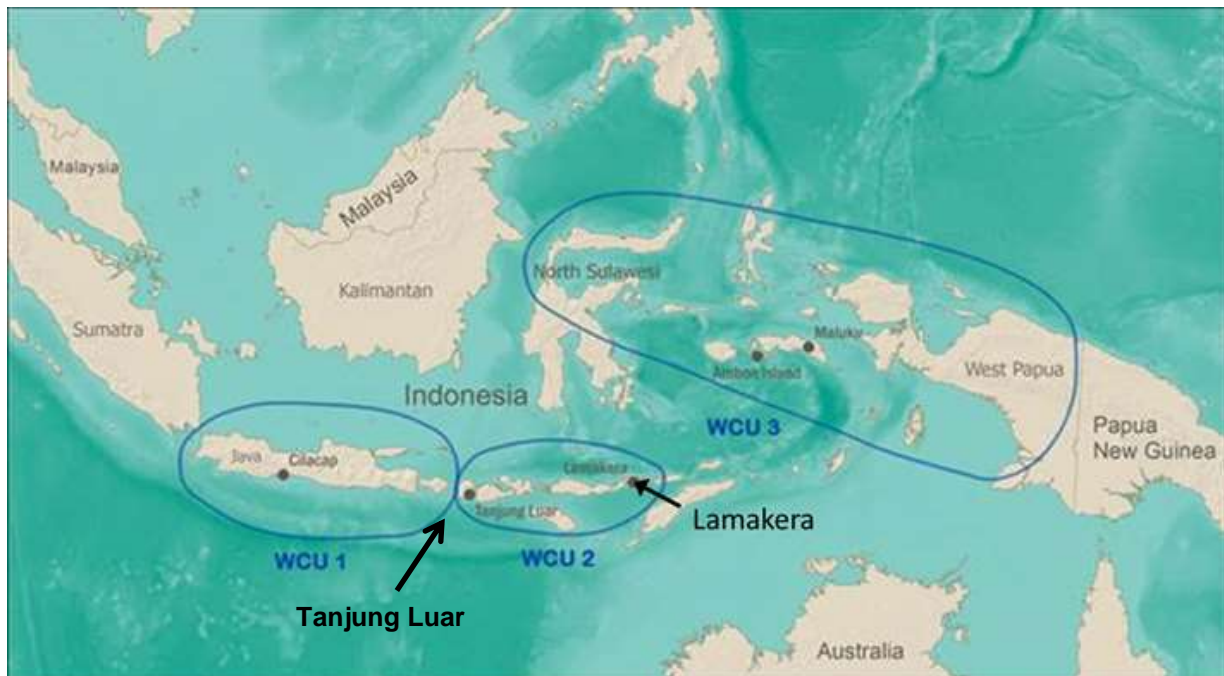
Project Reference	22-008
Project Title	Diversifying Indonesian fisheries to protect elasmobranchs and alleviate poverty
Host Country/ies	Indonesia
Contract Holder Institution	Wildlife Conservation Society – Indonesia Program
Partner institutions	Ministry of Marine Affairs and Fisheries (MMAF), Indonesian National Police – Criminal Investigation Division, Imperial College London
Darwin Grant Value	£272,599
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Start/end dates of project	Apr 2015 – Mar 2018
Reporting period (e.g., Apr 2015 – Mar 2016) and number (e.g., Annual Report 1, 2, 3)	Apr 2015 – Mar 2016, Annual Report 1
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1. Project Rationale

Indonesia is the world's largest shark fishery and is of critical importance for the conservation of sharks and rays, including several globally threatened elasmobranch species recently listed on CITES Appendix II. National political support for conservation action is high, and hunting and trade of mantas and whale sharks was declared illegal under national bans in 2014. However, despite these policy achievements, implementation has been poor because regulations are inadequate and enforcement capacity is limited. There have been no successful prosecutions to date against traders of illegal shark or ray products.

The project will adopt an integrated approach to ensure a substantial reduction in shark and ray (elasmobranch) fishing in Indonesia by strengthening enforcement and transitioning livelihoods. We will target sites in two provinces (West Nusa Tenggara and East Nusa Tenggara), focusing on Tanjung Luar and Lamakera, which are collectively responsible for c.75% of Indonesia's total manta catch (see map). These sites were selected based upon research conducted by WCS in 2012-14, which included monitoring shark/ray landings, gaining the trust of local fishers, and understanding their fishing practices. We will focus on four CITES-listed species: scalloped hammerhead shark (*Sphyrna lewini*; Endangered), oceanic whitetip shark (*Carcharhinus longimanus*; Vulnerable), and giant and reef manta rays (*Manta* spp.; Vulnerable).

Over 10 years, WCS has established the “Wildlife Crimes Unit” (WCU), a highly innovative and effective partnership with law enforcement agencies (Ministry of Marine Affairs and Fisheries, MMAF; Indonesian National Police, INP; Attorney General, Customs), which is responsible for the majority of enforcement actions against illegal wildlife trade in Indonesia. Building on this partnership, the project will: (1) strengthen regulations governing the protection of elasmobranch species, through providing information and supporting the ongoing MMAF review process; (2) enhance local government and community understanding of the regulations through local awareness campaigns; and (3) support government law enforcement agencies to undertake at least 10 test cases against major elasmobranch traders through the WCU. The project will only target major trade networks with the objective of restricting the trade, and hence the demand for shark/rays across Indonesia.



Effective implementation of the law will have significant implications for the livelihoods of local fishers, hence appropriate mitigation measures need to be developed. Previous WCS research has shown that manta/shark fishing in Indonesia is highly specialized, conducted by a very limited number of poor fishers using far-ranging boats, who land their catches at particular ports. Over 80% of profits are captured by a small number of traders who control the export market. With escalating costs (due to removal of fuel subsidies) and declining catches, manta/shark fishers are interested to transition to more sustainable fisheries, if appropriate support is provided. The project will undertake participatory planning with each interested household, identifying opportunities and barriers, and providing targeted assistance, such as training, equipment and access to capital to successfully navigate the transition.

2. Project Partnerships

The project is led by the Wildlife Conservation Society (WCS) Indonesia Program. WCS has been working to protect biodiversity in Indonesia since 1965, and has had a permanent office in the country since 1995, under an MoU with the Ministry of Environment and Forestry (MoEF) and a technical agreement with the Ministry of Marine Affairs and Fisheries (MMAF).

The enforcement component of the project is implemented through the Wildlife Crime Unit (WCU), which is a program of WCS Indonesia. Initiated in 2003, the WCU is an innovative partnership designed to combat illegal wildlife trade in Indonesia including: MoEF; MMAF; Indonesian National Police (INP); Attorney General; Customs; anti-corruption agencies (Financial Transaction Reports and Analysis Centre, PPATK); civil society and media organisations. Over 350 cases have been prosecuted by law enforcement agencies based upon information from the WCU, including the 10 largest wildlife crime cases in Indonesia. On

behalf of the WCU, WCS has agreements with the majority of law enforcement agencies in Indonesia. The project builds upon this established partnership. For example, for some enforcement actions the WCU is working with POLAIR (the marine police, part of the INP). WCS expects to sign an agreement with POLAIR for this work in May 2016. The strength of the WCU's partnerships with these agencies is evidenced by the 17 arrests of illegal traders of protected marine species conducted over the first year of the project (see below). The WCU plans all operations jointly with the law enforcement agencies, and action is only taken if the relevant agency is supportive.

The policy component is implemented based upon the wishes and direction of MMAF, the Ministry responsible for oversight of marine resources, including regulation of shark and ray species. WCS is unable to have a formal MoU with MMAF, because as an international organisation WCS can only have one MoU in Indonesia under national law. However, WCS has developed a separate technical agreement (called a PKS) with three Directorate-Generals of MMAF, including the DG responsible for regulating fishing, trade and protection of marine species. This DG has specifically invited WCS to help to develop the regulatory framework for sharks and rays, and this is evidenced by their request for WCS to second a technical policy expert (David Kuntel) to work within the Ministry. This secondment started in February 2016.

For the component with shark and ray fishers, WCS has initiated a new set of partnerships with a number of groups that are working with shark fisher communities. These include the Panglima Laot and KuALA network (which were in the original application) and a group of organisations that are working to help the fishers in Lamakera, led by Misool Baseftin, ReefCheck Indonesia and the Manta Trust. A first meeting of this partnership was supported by WCS in February 2016 in Jakarta to exchange workplans and approaches and agree coordination mechanisms for the next 2-3 years. Although this is a new partnership, the different organisations now meet and exchange notes regularly.

3. Project Progress

3.1 Progress in carrying out project activities

Note: In parallel, under DEFRA-IWT Project 016, WCS is supporting the Ministry of Environment and Forestry (MoEF, the CITES Management Authority) with efforts to reform the legal and policy framework for terrestrial species and to combat illegal trade for terrestrial species. Achievements for marine species (under MMAF) are reported in this report, and achievements for terrestrial species (under MoEF) are reported in the IWT report.

Output 1: Regulations for CITES-listed sharks and mantas have been developed or revised to ensure enhanced legal protection for at least four species

1.1 Assessment of existing government regulations and development of a strategy to strengthen regulations for CITES-listed sharks and rays.

In the first year of project, WCS focused on reviewing laws and regulations relevant to protected-listed species in Indonesia, including sharks and rays, such as Conservation Law Act No. 5/1990, Government Regulation (PP) No. 7/1999, Marine and Fisheries laws and regulations, and other related regulations from different sectors. A key obstacle to management of trade in marine species in Indonesia is that the Ministry of Environment and Forestry (MoEF) is the CITES Management Authority, but MoEF only has jurisdiction over terrestrial species, with MMAF responsible for marine species. Hence, WCS also focused on assisting MMAF to be the CITES Management Authority for aquatic species (e.g. CITES unit establishment under MMAF, Ministerial decree development, see also 1.4). With co-finance support from USAID, WCS prepared a comprehensive overview of species laws and implementing regulations in Indonesia, including CITES, analyses of existing loopholes or inconsistencies in rules and practices, and gaps in enforcement (*Wildlife Trade, Wildlife Crime and Species Protection in Indonesia: Policy and Legal Context*¹). During the last year, the report has been distributed to

¹ Available from USAID at:

<https://dec.usaid.gov/dec/content/Detail.aspx?q=KERvY3VtZW50cy5Eb2N1bWVudF9UaXRzZTood2IsZGxpZmUpKSBBTkQgKERvY3VtZW50cy5EZXRjcmldWdG9yc19HZW9ncmFwaGljOiqiSW5kb25lc2IhIikp&>

all government agencies who partner with WCS in combating wildlife trade, crime and protection. Key recommendations relevant to marine species include:

- 1) The protected species list (appendix to PP No.7/1999) should be urgently updated in line with CITES through a ministerial decree, with additional attention paid to mechanisms which enable automatic legal updates in the future to reflect CITES revisions. This will both increase the number of sharks and rays listed for protection and guarantee legal protection in perpetuity.
- 2) MMAF should be given responsibility for marine species under CITES through the formation of a new marine CITES Management Authority, alongside MoEF's terrestrial responsibilities. This would require modifications to the existing CITES implementation regulations in order to remain compliant.

Following key recommendation number (1), WCS conducted a legal assessment on GR no. 7/1999 and its appendix, the protected species list. A paper on an analysis of species protection legislation in Indonesia and a rapid assessment tool for species protection designation has been produced and has been submitted to LIPI as a recommendation for updating the protected species list, including recommendations to include sharks and rays in the list (see Activity 1.5).

Following key recommendation number (2), WCS has actively supported the process of the establishment of MMAF as the CITES management authority for marine species. From February 2016, WCS seconded David Kuntel, WCS's marine species policy officer, to work within the MMAF developing these regulations. As a first step, MMAF through the Directorate of Conservation and Marine Biodiversity (KKHL) is in the process to develop two ministerial regulations, namely (1) licensing processes for catching and trading regulated fish species; and (2) licensing processes for breeding regulated fish species. One of the purposes of these regulations is to support the CITES implementation in Indonesia, through regulating catching, trading and breeding of CITES-listed species. WCS's role has been to support MMAF with the development of these regulations. They are expected to be finalised and signed by the Minister by the end of 2016.

Activity 1.2 Hold meetings to align MMAF's, MoEF's, and LIPI (Scientific Authority) policies on the protection of marine species and implementation of CITES for marine species.

Building on the recommendations from Activity 1.1, WCS heavily supported MMAF and MoEF to explore revisions to the legal framework for species protection to close loopholes and reduce enforcement gaps. Activities focused on three key areas: (1) providing technical advice and supporting MoEF to urgently revise the GR No. 7/1999 protected species list (see Activity 1.5); (2) providing revisions to Conservation Law Act No.5/1990, the overarching environmental protection law; and (3) helping to develop National Plan of Action (NPOA) for sharks and rays (see Activity 1.4).

WCS worked with and resourced the CSO coalition POJKA Kebijakan (the Conservation Policy Working Group) to lead technical discussions on the review of Conservation Law Act No. 5/1990, as well as directly facilitating discussions with MMAF, MoEF and LIPI (the Indonesian Institute of Science, the CITES Scientific Authority). On 25 May 2015, an agreement was reached between the Indonesian Parliament (DPR) Commission 4 and the Minister of Environment and Forestry, under which Law No.5/1990 will be forwarded to the DPR for revision in the legislative program for 2016 (the prolegnas). This is a huge achievement, because it means the law will now be revised. Each commission can only propose two laws for revision each year.

Over the last year, in collaboration with POKJA, WCS supported and participated in a series of 20 meetings (discussions and public consultations) and one high level working group meeting which has resulted in Act No. 5/1990 being prepared revised for presentation to parliament. The new revision will incorporate the existing CITES list for sharks and rays which will increase

the number of shark and ray species under protection in Indonesia and provide a legal basis for automatic updates to the protection list, following changes to CITES as they occur.

A series of public consultations were conducted in Jakarta, Medan (North Sumatera), Makassar (South Sulawesi), Jayapura (Papua) and Pontianak (West Kalimantan). These public consultations aimed to inform on the revision process and the draft of Act no.5/1990 revision to public and also to gather inputs and recommendations before the new version is submitted to parliament.

In parallel with the task force internal meetings and public consultation, we were also organizing a high-level focus group discussion (September 2015), focusing on the issue of improving species protection under Law No. 5/1990. MoEF agreed that the revised Law should always reflect the current and existing CITES list (including CITES-listed shark and ray species) – a landmark step towards improved legal protection. The discussion was attended by 10 senior participants from LIPI, MoEF, and a number of other NGOs.

Activity 1.3 Hold meetings to strengthen policies and establish the protection status of CITES-listed Indonesian sharks and rays, and Activity 1.4 Facilitate the development of species regulations and policies by MMAF, which identify management actions or changes to trade regulations (e.g. size restrictions).

WCS supported the development of the National Plan of Action (NPOA) for Sharks and Rays through a series of meetings and workshops in late 2014 with finalization of the draft occurring in February 2015. The first consultation on the final draft of the NPOA for Shark and Rays (2015-2019) was conducted on April 10, 2015, where inputs on the draft from a range of government and NGO stakeholders were gathered. The revised NPOA draft was submitted to the Legal Bureau of MMAF in June 2015 for endorsement from Minister of Marine Affairs and Fisheries, but to date this has not been endorsed. WCS also contributed to the development of the NPOA for Manta Rays (2016-2020). A series of meetings was conducted in August 2015, and the draft NPOA was finalized on September 15, 2015.

Activities 1.1 and 1.2 have helped to prepare the policy and regulatory framework for the two NPOAs to be implemented over the next five years. This is likely to include development of specific management actions or changes to trade regulations in order for Indonesia to comply with its CITES obligations. The government is likely to endorse the NPOA for Sharks and Rays once a modification or revision is made to Government Regulation No. 59/2014, an existing regulation that bans exports of CITES-listed shark products.

In December 2015, MMAF issued an extension for protection of some CITES-listed shark species through ministerial decree no. 34/2015. This prohibits the export (but not necessarily capture or domestic trade) of oceanic whitetip shark and hammerhead sharks from Indonesia. Combined with the existing ministerial regulation for manta rays, this means that all four CITES-listed shark and rays species are covered by existing Indonesian government regulations (which was a key objective of the Darwin project). Through our seconded technical expert within MMAF, WCS is continuing to assist MMAF with the development of further ministerial decrees that would establish MMAF as a CITES management authority for aquatic species and other related trade regulations.

In addition, on March 2nd, 2016 WCS supported a meeting in Jakarta to discuss a proposed new national regulation regarding protection and sustainable use of all shark species in Indonesian water territory. The meeting was organized by the Directorate of KKHL, Ministry of Marine Affairs and Fisheries. Multiple inputs were proposed in the meeting about the positive and negative impacts of making shark species fully or partially protected. The meeting concluded that the Directorate of KKHL will gather inputs from the CITES Scientific Authority (Indonesian Institute of Science or LIPI) and NGOs working on shark protection in Indonesia. Over the next few months, follow-up meetings will be convened by the Directorate of KKHL in order to evaluate alternative protection options for shark species in Indonesia.

Activity 1.5 Facilitate changes in the protection status of CITES-listed species, through changes to the national protected species list (PP.7/1999), Ministerial Decrees, or changes to regulations under the fisheries law.

WCS ensured the findings from Activity 1.1 were well communicated to national policy makers, Government of Indonesia (GoI) agencies and Civil Society Organisation (CSO) partners. A series of meetings, focus group discussions, and workshops were held to communicate the recommendations, focusing on the update to the protected species list (Government Regulation No. 7/1999).

A first focus group discussion on the revision of the protected species list was held on October 9, 2015 and was attended by 30 participants from MoEF, MMAF, and LIPI. The discussion included specific measures to protect aquatic species. Following the focus group, LIPI produced the proposed revised list of protected species in Indonesia, which covered 1,349 terrestrial and aquatic species both plants and animals, a huge increase over the original list that had named only around 300 species. Therefore, later in December 2015, a public consultation was organized to disseminate the proposed revised list to the public as well as to gather public recommendations relating to protected species in Indonesia. Therefore, as a follow up activity, a second focus group discussion was organized to refine the proposed list and to finalize outstanding issues. WCS provided direct funding support for the workshops and consultations, and technical assistance to the government partners.

In the first focus group, there was a discussion about how to divide the management of terrestrial and aquatic species between MMAF and MoEF. The definition of "aquatic species" was further discussed by LIPI and MMAF as part of the identification of the aquatic species list.

The second focus group discussion was held by MoEF, MMAF and LIPI on February 24th, 2016. During the meeting, LIPI proposed that all aquatic species previously managed by MoEF should be transferred over to management by MMAF. A draft of the official document for the handover (*Berita Acara Serah Terima* or *BAST*) was prepared for signature by both Ministers. Signature of the BAST would delegate authority for aquatic species management from MoEF to MMAF. In addition, LIPI has prepared a draft list of protected aquatic species which MMAF would then manage. This authorization will become official when the BAST is signed by both ministers, from MMAF and MoEF

Output 2: Local government officials, traders and fishers have sufficient awareness and training in the new regulations and the applied management actions required to adequately manage shark and manta fisheries.

Activity 2.1 Create awareness-raising materials and distribute regulations on CITES-listed shark and ray species in landing areas for sharks and rays. Identify key persons including traditional leaders, village chiefs, and local MMAF officers as frontline leaders to disseminate the materials to fishers, fisheries middlemen, and exporters; and Activity 2.3 Train fisheries middlemen and exporters to improve their knowledge on implementing regulations for CITES-listed shark and ray species; and Activity 2.4 Assess the impact of awareness-raising campaigns and training events.

WCS has organized trainings for Indonesian management and law enforcement agencies (i.e. MMAF, Indonesian National Police, Customs), to build their knowledge and capacity regarding issues and laws concerning CITES-listed shark and ray species. Two specific events were held with 38 participants:

- On October 5th 2015, WCS was invited by the Indonesian Customs to conduct a training course for their officers on wildlife trafficking, focusing on the most commonly trafficked species and the known modus operandi of smugglers, including sharks and manta. The training was attended by 25 Customs investigators from Sub-Directorate of Intelligence and Investigation. After the training session, an informal collaboration was established by Customs and WCS to share intelligence information related to pangolins, tigers, ivory tusks, shark fins, manta and marine products smuggling. WCS also shared both legal and illegal captive breeders information that connect to international market to anticipate and detect their smuggling efforts.

- On February 22-26th 2016, WCS in collaboration with Conservation International (CI) and BKSDA Papua conducted 5 days training in Sorong, Papua. The training attended by 13 participants, consisted of BKSDA (MoEF), Coast and Sea Guarding Police (POLAIR), Papua Provincial Police, and Ministry of Marine Affairs and Fisheries (MMAF) officers. The aim of the training is to increase the skill of investigation, finding a strong evidence of illegal fishing and trade of protected marine species, including sharks and manta.

It is anticipated that these trainings will aid prosecution of selling or trafficking of these species, and the identification of species and their parts. As a result of the trainings, immediate follow-up actions included:

- The number of arrests by Customs to address illegal smuggling of sharks and marine products has increased significantly. A total of 5 smuggling cases were handled by Customs, such the smuggling of more than 4.3 tones of Great Hammerhead Shark fins and Guitarfish fins, 20 tones of Blue Shark fins and Ringstreaked Guitarfish fins, and 142 sacks of shark fins and 41 sacks of shark skins.
- An arrest also happened in Sorong following the investigation and law enforcement training. The arrest was made on April 15, 2016 involving POLDA Papua and BKSDA Sorong (the provincial nature conservation agency, part of MoEF). One international supplier was arrested with the evidence of up to 100 protected and non protected live animals. The law enforcement officers in Papua also strongly asked WCS to extend the activities in Papua to support the POLDA Papua and BKSDA in combating trade in protected species.

Awareness-raising with village leaders and local MMAF officers has so far occurred through dissemination of information of the issues and laws through meetings at field sites by WCU staff. WCS has developed awareness-raising materials to be used in these events (see Annex).

WCS also conducted awareness events to disseminate new regulations on Manta Rays (Ministerial Regulation No. 4/2014) and sharks (Ministerial Regulation No. 59/2014) to local government agencies, fishers, private sector, local communities, and other stakeholders. The approach included using traditional puppet shows (wayang). The event was conducted in Tanjung Luar (main shark fishing port in Lombok), and involved 1300 participants. At the event, local fishers and traders declared their commitment to follow the regulations.

Activity 2.2 Initiate regular joint meetings, workshops and training with MMAF local agencies, police, customs agencies to develop and implement regulations on CITES-listed shark and ray species.

To address issues of detection and investigation of the illegal trade in sharks and rays, a key responsibility of MMAF, on August 4, 2015, we assisted MMAF to organize a training session specifically for the Technical Implementation Unit of Aquatic Species and Area Conservation. The training was attended by 50 participants from provinces and districts in Indonesia responsible for investigating illegal trade in marine species. WCS's Wildlife Crimes Unit (WCU) staff shared their knowledge and skills with MMAF investigators on the detection of manta plates and shark products, and in understanding the modus operandi of approaches to combat illegal international trade in CITES-listed species, and illegal domestic trade in protected species.

Activity 2.5 Publish and disseminate law enforcement achievements, to promote the importance of abiding by shark and ray regulations among the wider community, and to create a deterrence effect. Emphasis will be placed on Indonesian websites, newspapers, TV or radio and social media, as well as regional and international press.

All cases that have resulted in the apprehension and prosecution of traders have been communicated in a range of media including websites, newspapers, TV or radio and social media, as well as regional and international press. A total of 55 articles have been produced focusing on enforcement of regulations regarding trade in shark and ray species, the majority in the Indonesian press. Examples:

<http://www.4-traders.com/news/Ministry-of-Finance-of-Republic-of-Indonesia-20-Tons-of-Shark-Fin-Failed-To-Be-Delivered-To-Hong-K--21795945/>

Output 3: A new “Marine Wildlife Crimes Unit” (marine WCU) has been established and is focusing on high-profile prosecutions of major manta/shark traders.

Activity 3.1 Create informant network to monitor shark and ray trafficking in key areas. Produce an assessment of the current trade networks.

An informant network has been established and has investigated shark and ray landing sites in Java, Aceh, Bali, West and East Nusa Tenggara. Surveillance of domestic and export traders at key trade hubs at Cilacap, Indramayu, Banten, Surabaya, Bali, Lombok, Lamakera, and Sidoarjo has resulted in the arrest and prosecution of a number of exporters. The surveillance of existing traders is ongoing and an up to date assessment of the current trade network is currently being finalised.

Activity 3.2 Provide technical assistance and information for law enforcement officers in intelligence, surveillance, apprehension and processing of evidence.

The WCU has targeted the trade in manta rays and other protected marine species through investigations that have uncovered more than 30 major manta traders across Indonesia. A total of 17 marine cases involving 19 suspects were handled by WCU during the reporting period. The marine cases including trading of manta and shark fins (11 cases), smuggling of shark fins and marine products (4 cases), and illegal fishing (2 cases). The marine cases involving huge number of evidences such as up to 25 tones shark fins, 1.2 tones dried sea turtle meats, 0.8 tones fish, more than 500 sea turtle carapaces, more than 300 kg gill rakers, more than 300 protected marine shells.

Activity 3.3 Assist the law enforcement officers to complete legal documents for each trafficking case, and maintain strong communications with prosecutors and judges to ensure that all cases are processed and adjudicated promptly and in accordance with law.

All 17 illegal marine wildlife trafficking arrests that occurred during this period of this Darwin Initiative project, are currently being processed through the Indonesian legal system. WCU legal and policy advisors are presently providing ongoing assistance to law enforcement officers and agencies in the legal procedures involved in prosecuting these cases. Six (6) suspects were sentenced to prison, 2 suspects were fined, 1 suspect got administration sanction, and 10 cases are currently being processed.

Activity 3.4 Support MMAF and the Attorney General’s Office to develop a tracking database, to record information on marine species crime cases, action taken by Indonesian law enforcement agencies, and the results (arrests, prosecutions, fines, etc.).

The WCU has initiated a database that contains information on all marine species trafficking cases, using the i2 Intelligence Database system. This enables the WCU to analyse wildlife trafficking networks and identify the criminals’ connections at national and international level. i2 was installed in February 2016 and 5 people were trained in its use.

Output 4: At least 100 manta/shark fishers have transitioned to alternative sustainable fisheries or other livelihood practices, and support structures are in place to help other manta/shark fishers to make the transition.

Activity 4.1 Produce an assessment report on the opportunities for manta/shark fishers to transition to sustainable fishing and other livelihoods.

With the assistance of Imperial College London, socioeconomic surveys were designed for shark fishers. Tanjung Luar in Lombok was selected as the target for the intervention, because its home to one of the largest shark fishing fleets in Indonesia. The survey methodology was designed during November 2015 – January 2016, and implemented from February – April 2016. The methodological approach included focus group discussions as well as individual household questionnaires, with the latter being used to collect data on shark and non-shark fisher households demographic and socioeconomic data. A key informant questionnaire was also used to collect general information about fisheries history and activities in each village.

The focus group discussions were used to gather in-depth information on livelihood strategies with different community members. A total of 527 respondents from three villages in Tanjung Luar (Tanjung Luar proper, Gili Maringkik and Rumbuk Villages) were interviewed during the survey. The respondents included shark fishers, household heads, female family members, shark processors, shark middlemen and traders, and boat owners. Using information gathered from both the questionnaire and the focus group discussions, a set of livelihood options will be designed for a subsequent choice experiment survey.

The expected outcomes from the surveys will include: (i) demographic and socioeconomic data on shark and non-shark fisher's households in Tanjung Luar; (ii) understanding the shark fishers' current livelihood assets and their livelihood strategies; (iii) identification of factors that will influence the shark fisher's and female family members' decision to transition from shark fishing to other livelihood strategies; (iv) assessment of the options for alternative livelihood strategies; (v) identification of factors that will influence the impact of the alternative livelihood program on shark fishers' household income; and (vi) recommendation for conservation measures to support the shark conservation. The livelihood program will be initiated in Year 2.

Output 5. The conservation and social outcomes of the project are evaluated.

Activity 5.1 Conduct monthly shark and manta fisheries catch surveys at target sites.

Shark and ray fisheries catch surveys have been ongoing at Tanjung Luar in Lombok on a daily basis each month, throughout Year 1.

Activity 5.2 Undertake surveys, analyse and assess changes in shark and ray catch landings, prices and demand in response to changes in stakeholder knowledge and capacity, law enforcement and awareness raising activities

Fisheries landing surveys document shark and ray catch landings, fishing effort, fishing ground locations, fishing operational costs and prices received by fishers for shark and ray parts including fins, meat, livers and gill rakers. Over the past 12 months we have found that landings of CITES-listed shark and rays have decreased by about 35% in Nusa Tenggara Barat (731 individuals landed in 2014, 476 landed in 2015, a decline of 35%). The price of manta gill rakers has fallen by 50% since the project started (from 1.7-2 million Indonesian Rupiah per kg in 2014 to 0.8-1.0 million currently), By contrast, the price of shark meat has increased by 50%. We are continuing to investigate the main drivers of these changes. Due to the enforcement by fisheries officers of the Indonesian wide ban on manta ray fishing and trading, traders at the Lombok site have ceased to purchase manta rays products, in particular gill rakers. In response, fishers are now targeting devil rays with the use of spears, although some manta rays are still caught by gill nets, and these are being traded through illegal trade routes under investigation by the WCU.

Activity 5.3 Design socio-economic surveys to examine fisher behaviour, attitudes, social norms around fishing and other livelihoods, and household well-being and occupational status, in partnership with Imperial College.

The WCS team have finalized the design of the first baseline study of fisher households to examine the demographics, wealth, occupational diversity, attitudes/perceptions, behaviour, economic incentives, and support for regulations that may influence fishing behaviour and the capacity of fishers to transition to other livelihoods.

Activity 5.4 Conduct socioeconomic surveys of fisher behaviour and household well-being and occupational status in years 1 and 3, for intervention and control households.

Socio-economic surveys and focused group discussions have been completed in three villages in East Lombok, involving more than 500 respondents/participants (see Activity 4.1). This study will be used to identify households targeted for livelihood interventions and the selection of control households.

Activity 5.5 Analyse and assess changes in fisher behaviour and household well-being and occupational status in response to the livelihoods transition intervention.

WCS initiated meeting of organisations working on sharks and rays fisher transitions, which held in February 2016, to review progress and ideas to support shark and ray fishers across Indonesia. Participating organisations included WCS, Manta Trust, ReefCheck, Misool Baseftin and Shark Savers.

Activity 5.6 At least one peer-reviewed paper produced in partnership with Imperial, by Indonesian scientists undertaking visiting research fellowships at Imperial.

WCS has contributed to one peer-reviewed scientific publication on trends in ray populations in Indonesia:

Lewis SA, Setiasih N, Fahmi , Dharmadi , O'Malley MP, Campbell SJ, Yusuf M, Sianipar AB. (2015) Assessing Indonesian manta and devil ray populations through historical landings and fishing community interviews. PeerJ PrePrints 3:e1642
<https://doi.org/10.7287/peerj.preprints.1334v1>

3.2 Progress towards project outputs

Output 1:	Regulations for CITES-listed sharks and mantas have been developed or revised to ensure enhanced legal protection for at least four species			
	Baseline	Change recorded by 2016	Source of evidence	Comments
Indicator 1.1. Reports on CITES policy and regulatory framework	None	Report produced	Published report (see Section 3.1 for weblink)	Complete
Indicator 1.2. Government-Civil Society meetings on CITES	None	20 meetings, 2 focus groups, 7 public consultations	See Section 3.1 above	Indicator will be exceeded
Indicator 1.3 Government scientific papers	1 – for manta rays	1 paper produced on the new protected species list	See Section 3.1 above	

Output 2:	Local government officials, traders and fishers have sufficient awareness and training in the new regulations and the applied management actions required to adequately manage shark and manta fisheries.			
	Baseline	Change recorded by 2016	Source of evidence	Comments
Indicator 2.1 Training modules produced and being used		1 training module produced with the Attorney General's Office	See Section 3.1 above	
Indicator 2.2 Trainings being conducted at landing sites		1 training event for 1,300 people in Tanjung Luar	See Section 3.1 above	
Indicator 2.3 Number of government officers trained		38 government officers from Customs, MMAF, Police trained in	See Section 3.1 above	

		two training events		
Indicator 2.4 Number of press articles		55 press articles	See Section 3.1 above	

Output 3:	A new "Marine Wildlife Crime Unit" has been established and is focusing on high-profile prosecutions of major manta/shark traders.			
	Baseline	Change recorded by 2016	Source of evidence	Comments
Indicator 3.1 Marine WCU established	No marine WCU	Marine WCU established	Ongoing arrests of marine species traders	
Indicator 3.2 Investigations into traders of CITES-listed shark and rays species	None	17 arrests, involving 19 suspects. Six (6) suspects were sentenced to prison, 2 suspects were fined, 1 suspect got administration sanction, and 10 cases are currently being processed.	See Section 1 above and news links.	Indicator is likely to be exceeded
Indicator 3.3 Wildlife Crimes Database established	None	i2 database installed on February 2016	See Section 3.1 above	

Output 4:	At least 100 manta/shark fishers have transitioned to alternative sustainable fisheries or other livelihood practices, and support structures are in place to help other manta/shark fishers to make the transition.			
	Baseline	Change recorded by 2016	Source of evidence	Comments
Indicator 4.1 Assessment report on shark fishers' livelihoods	None	Assessment of 527 households completed	See Section 3.1 above	
Indicator 4.2 Livelihood transitioning programs	None	None		to be initiated in Year 2, now surveys are complete
Indicator 4.3 Customary fisher institutions are empowered	None	None		to be initiated in Year 2, now surveys are complete

Output 5:	The conservation and social outcomes of the project are evaluated.			
	Baseline	Change recorded by 2016	Source of evidence	Comments
Indicator 5.1 Shark and ray fisheries catch monitoring program established	None	Shark and ray fish catch monitoring program established	Monthly reports from the data collectors	
Indicator 5.2 Assessment of fisher attitudes and behaviours	None	Assessment of 527 households completed	See Section 3.1 above	
Indicator 5.3 Peer reviewed paper	None	One paper published	Paper is online: https://doi.org/10.7287/peerj.preprints.1334v1	
Indicator 5.4 Information exchange and lessons learned events	None	One meeting of organisations working on sharks and rays fisher transitions, held in February 2016, with WCS, Manta Trust, ReefCheck, Misool Baseftin, Shark Savers.	See Section 3.1 above	

3.3 Progress towards the project Outcome

Outcome:	Enhanced law enforcement and fisher transition to more sustainable livelihoods causes a 50% reduction in catches of threatened elasmobranch species at major Indonesian ports whilst increasing fisher incomes by >25%.			
	Baseline	Change by 2016	Source of evidence	Comments (if necessary)
Indicator O.1 Number of new or revised government regulations on CITES shark and ray species	Two – for mantas and whale sharks	In December 2015, MMAF issued an extension for protection of some CITES-listed shark species through ministerial decree no. 34/2015.	See Section 3.1 above	Revision of the Conservation Law 5/1990 and protected species list GR 7/1999 is ongoing (see Section 3.1)
Indicator O.2 Knowledge of shark and ray regulations	5%	unknown		Not verified in Year 1
Indicator O.3 Prosecutions of traders of CITES-listed sharks and rays	None	17 investigations completed; 9 successful prosecutions.	See Section 3.1 above	Indicator is likely to be exceeded.

Indicator O.4 Transition of shark and ray fishers	None	None		Social surveys have been completed but implementation of livelihood program has not yet started.
Indicator O.5 Landings of CITES-listed shark and ray species at key sites	924 landings in 2013 of CITES-listed sharks and rays in Aceh and Nusa Tenggara Barat ((or 731 in 2014 in Nusa Tenggara Barat only).	A total of 476 CITES-listed sharks and rays were landed in Nusa Tenggara Barat in 2015, a decline of 35% against 2014. The price of manta gill rakers has fallen by 50% since the project started (from 1.7-2 million Indonesian Rupiah per kg in 2014 to 0.8-1.0 million currently).	See Section 3.1 above	

3.4 Monitoring of assumptions

Outcome Assumptions

Assumption 1: The project assumes that the government is willing to strengthen and implement shark and manta fisheries regulations. WCS has been a key partner supporting MMAF and the CITES Scientific Authority (the Indonesian Institute of Science; LIPI) with the development of national assessments of the scientific case for introducing regulation, including evaluation of the costs and benefits of protection (e.g. the value of the trade versus the potential benefits from marine tourism). This led to the MMAF decision to protect whale sharks and mantas in 2013 and 2014 respectively. Similar legal routes will be used to introduce regulations for other species, such as CITES-listed sharks.

Comments: This assumption is broadly true, and MMAF has shown its continued willingness to develop and implement shark and ray regulations following the approval of Ministerial Decree 34/2015 during Year 1. One complication is the rivalry between MMAF and MoEF, which is delaying the formal transfer of authority for aquatic species from MoEF to MMAF, thereby preventing the passage of additional regulations (such as the revised protected species list).

Assumption 2: Local Government officials and fisheries agencies must be willing to engage in awareness-raising about new manta/shark regulations and support prosecutions. Local government's primary concern is not to penalize against poor fishers, hence the developed of improved livelihoods for manta/shark fishers is critical in order to secure their support.

Comments: This assumption is broadly true and is unchanged.

Assumption 3: Government law enforcement agencies (Indonesian National Police, Attorney General) must also be interested in undertaking prosecutions of manta/shark traders under the revised regulations, and doing so in a fair and uncorrupt manner.

Comments: This assumption is broadly true and is unchanged, as evidenced by the 8 prosecutions completed to date.

Assumption 4: Fishers must be willing and able to transition to other fisheries or non-fishing livelihoods, and able to generate increased incomes from these livelihood transitions if provided with appropriate support.

Comments: The social surveys have indicated that the various alternative fishing options (e.g. tuna, snapper or grouper) are no more or less profitable than shark and ray fishing, and hence achieving livelihood transitions will be hard. During Year 2 we will initiate the livelihood program to test various options.

Assumption 5: Fisher communities and customary fisher institutions are receptive to embracing new laws on sharks and rays so long as mitigation measures are in place to ensure there are no adverse livelihood impacts.

Comments: this is still broadly true, evidenced by recent support from fishing groups in Tanjung Luar.

Output Assumptions

Assumption 1 (Output 1): WCS's support and advice on how to develop regulations for CITES-listed shark and ray species is sought and welcomed by MMAF and the other relevant government ministries.

Comments: this is still true, evidenced by MMAF's willingness to have a seconded WCS staff member working to support them.

Assumption 2 (Output 2): Local government officials, traders and fishers actively engage with and are able to learn from training and awareness-raising events.

Comments: this is still true, evidenced by the 1,300 people who attended the first event.

Assumption 3 (Output 2): There is sufficient interest by Indonesian, regional and international news agencies and media companies to promote the work the Indonesian government is doing to protect manta rays and introduce domestic regulations for CITES-listed shark species.

Comments: this is still true, evidenced by the large number of press items generated in Year 1.

Assumption 4 (Output 3): Sufficient information can be obtained on the extent of the trade in mantas and CITES-listed sharks in Indonesia, and identity of the traders, to enable enforcement actions.

Comments: this is still true, evidenced by the 17 arrests in Year 1.

Assumption 5 (Output 3): Traders in CITES-listed shark and rays stop trading protected species and focus on other fish species.

Comments: WCS will be re-evaluating supply chain studies done before the project (in 2012-2013) during Year 2, however anecdotal information suggests that major changes in supply chains have taken place following enforcement, with many traders choosing not to carry protected species. The price of manta gill rakers has collapsed as a consequence.

Assumption 6 (Output 4): The alternative livelihood opportunities that have been identified can be followed through into actual livelihood transitions that are poverty alleviating, risk reducing and sustainable, and that encourage further uptake by other fishers.

Comments: The social surveys have indicated that the various alternative fishing options (e.g. tuna, snapper or grouper) are no more or less profitable than shark and ray fishing, and hence achieving livelihood transitions will be hard. During Year 2 we will initiate the livelihood program to test various options.

Assumption 7 (Output 5): Sufficient capacity exists within the project team to design appropriate scientific monitoring programs to measure the effectiveness and impact of the project interventions.

Comments: this is true, evidenced by the support from Imperial College London, and now Oxford University (where the project advisor, Professor EJ Milner-Gulland, is now based).

Assumption 8 (Output 5): Ongoing information can be collected on shark and ray catches, prices and sales, and the behaviour of shark and ray fishers.

Comments: this is true, evidenced by the data collected in Year 1.

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

Biodiversity Conservation Impact: The project has had a major impact on the illegal trade of CITES-listed shark and ray species and other protected marine species. Together with the two regulating Ministries, MoEF and MMAF, the project has initiated a process to develop a comprehensive framework to regulate the trade of and protect marine species for the first time in Indonesia. On the ground, the project is working daily with law enforcement agencies to build understanding and operationalize this framework. A total of 17 illegal traders of CITES-listed marine species, and 19 suspects, have been arrested with 9 successfully completed prosecutions (a 100% arrest to conviction ratio) and 10 cases on-going in the courts. The price of manta gill rakers, which are collected in Indonesia and sold to China has fallen by 50% since the project started, and landings of CITES-listed sharks and rays have declined by 35% at the major site monitored over one year, providing concrete evidence of the project's impact.

Poverty Alleviation Impact: The livelihoods component will start in Year 2, now that the social surveys are completed. We will report on the impact of this component at the end of Year 2.

4. Contribution to SDGs

The project contributes towards SDG 14 *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*. It specifically will support Target 14.4, which is to effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing, through regulating the fishing and trade of CITES-listed shark and ray species. This is evidenced through the 17 arrests and 9 successful prosecutions of traders of protected marine species during Year 1, and the declines in landings and prices of CITES-listed sharks and rays and their products. During Year 2, the livelihoods component of the project will also support progress towards Target 14.b, which is to provide access for artisanal fishers to marine resources and markets.

5. Project support to the Conventions, Treaties or Agreements)

The project is supporting the Government of Indonesia to develop a regulatory framework for CITES-listed shark and ray species, including two species of manta rays, and develop appropriate enforcement capacity. The seventeen arrests conducted so far represents the first time any enforcement has been undertaken against the trade of any CITES-listed marine species in Indonesia, and is of high importance given that Indonesia is the world's largest shark and ray fishery and lies at the heart of the Coral Triangle, the centre of marine biodiversity. By supporting action against trade in protected species, the project is also supporting Indonesia to meet its commitments under the London Declaration on Illegal Wildlife Trade. The project is actively engaging with the CITES officers within the two Ministries (MoEF and MMAF) in the lead up to the CITES COP17, where Indonesia is likely to support the up-listing of devil rays.

The project is assisting Indonesia to fulfil its obligations under the CBD, in particular Strategic Goals A, B and C, by:

1. Raising awareness of the importance of biodiversity and conservation measures (Aichi Target 1), through the trainings and awareness-raising sessions with government officials, private sector and local communities and fisher groups.
2. Contributing towards ensuring the sustainable management of fisheries (Target 6), through developing and strengthening regulations for over-fished shark and ray species, supporting enforcement of these regulations, and (in year 2) the rolling-out of the livelihoods program to help shark and ray fishers to transition to other livelihood strategies.
3. Conservation of globally threatened species (Target 12), focusing on four species of shark and rays that have been targeted by the enforcement component and are the subject of the new MMAF regulation (decree no. 34/2015).
4. Overall, the project is contributing towards improving the effectiveness of marine protected areas and shark sanctuaries in Indonesia (Target 11). For example, new marine protected areas are being established around West Papua (in particular in Raja Ampat in the Birdshead

seascape) and Nusa Tenggara Barat. The actions of the marine WCU in these areas to target illegal traders of protected marine species helps to improve the effectiveness of those new marine protected areas.

6. Project support to poverty alleviation

The project is designed to provide direct and indirect benefits to marginalised fishing communities, improving shark and ray fishers' economic situation in the short term whilst putting in place structures that will create conditions for longer-term financial security through more sustainable fisheries and tourism.

The direct beneficiaries will be the households that specialise in shark and ray fishing, that are targeted by the livelihoods component. This component will start in Year 2, now that the social assessment phase is complete. WCS has also created a partnership to support three other groups (Manta Trust, Reefcheck Foundation Indonesia and Misool Basefin), which are working directly with shark and ray fishers in Lamakera, the major manta fishing community in Indonesia, to develop alternative livelihoods. In 2015-2016, 128 fishers in Lamakera directly benefited from participation in manta research activities, and 48 boats were involved in a fledgling manta tourism program. This livelihood program will be scaled up during the next few years. WCS's support to enforcement actions to traders buying from the Lamakera area is critical to the success of the Lamakera livelihood program, through providing an incentive for fishers to consider alternative livelihood strategies. WCS and the other partners are regularly exchanging information about project approaches and lessons learned.

Even though the livelihoods component has yet to start, the project is still providing indirect benefits. The actions taken against the major traders of manta products in year 1 of the project will help to ensure the survival of the Indonesia manta population, which is critical to a tourism industry worth over US\$15 million annually (versus only US\$442,000 for the entire Indonesian manta fishery), and generates significant local employment. Marine tourism focussed around charismatic marine megafauna is central to efforts to conserve Indonesia's incredible marine biodiversity, including the Coral Triangle, the richest marine environment in the world. For example, in Nusa Tenggara (which includes Komodo), marine tourism is calculated to generate US\$113-229 million annually, against only \$13 million for the entire Indonesian shark fishery. Here marine tourism is being promoted as the only viable alternative to large-scale fisheries exploitation. Through improving protection of charismatic marine species, the project is enhancing the viability of overall conservation efforts and the burgeoning marine tourism sector.

7. Project support to Gender equity issues

WCS is committed to gender equality and this is evidenced by the composition of our management and project teams. For example, the Director of WCS Indonesia, Dr. Noviar Andayani, is a woman, as is the team leader for the livelihoods component, Peni Lestari and the policy component, Sofi Mardiah. Peni is being advised by Professor EJ Milner-Gulland (Imperial College London/Oxford University), and Hollie Booth (Imperial College London) will be supporting setting up the monitoring framework for the impact evaluation in Year 2.

The training, awareness-raising and livelihoods components include specific measures to ensure full participation by women and marginalised groups. The social surveys interviewed 99 women (out of 527 interviews), focusing on female-headed households and female household members from major shark fishing families, and also interviewed 11 female shark processors or traders. The livelihood component will include specific measures to target women when it is implemented in Year 2.

8. Monitoring and evaluation

This project is implemented jointly by three WCS Indonesia project teams – the policy team (Output 1), the Wildlife Crime Unit (Outputs 2, 3 and 5) and the marine team (Outputs 2, 4 and 5). All three teams use their own specific M&E plans, which are consolidated into the results reported here. In addition, during year 2 WCS will be implementing an evaluation framework for the impact of the project at reducing or changing the trade in protected or CITES-listed shark and ray species, focusing in Nusa Tenggara Barat (including Tanjung Luar), Java and Nusa Tenggara Timur (including Lamakera); together these sites cover 90% of the manta trade in Indonesia. This will include using separate informant networks to gather information about how trade networks and landings change, as enforcement actions force traders and fishers into clandestine behaviours. Such information is important in order to assess the effectiveness of the project at reducing illegal trade.

9. Lessons learnt

The project has had phenomenal success identifying and supporting the investigation and arrest of major illegal traders of protected or CITES-listed marine species. This has surpassed predictions and highlights the scale of illegal wildlife trade throughout the Indonesian archipelago.

One major lesson learned is that following the initiation of enforcement actions the behaviour and identity of illegal traders has significantly changed, so that gathering information on the extent of trade of protected or CITES-listed species has become much harder. Consequently, WCS is putting in place a monitoring framework to gather information about this clandestine or underground trade and the trade networks in order to assess the effectiveness of the project interventions. For example, currently no mantas are being landed openly at Tanjung Luar, however this does not necessarily mean that the entire trade has been eliminated.

The household socioeconomic survey has highlighted the complexity of local dynamics around the trade of fish species, including local monopolies and patronage networks that significantly reduce incomes and limit fishers' ability to transition to other livelihood strategies. Although this is to be expected from other studies, it emphasises the difficulty of successfully implementing alternative livelihood programs.

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

11. Other comments on progress not covered elsewhere

12. Sustainability and legacy

There is no system in Indonesia to analyse, regulate or control the trade of any CITES-listed marine species, which is a CITES requirement. The project is supporting the Indonesian government to establish such a system for the first time, using sharks and rays as the model. The legacy of this investment will be significant. Already, the trade in manta rays, among the world's most charismatic, valuable and threatened marine species, is being significantly curtailed, evidenced by the declining prices for manta products. Government interest is high, and government law enforcement agencies are beginning to initiate their own enforcement interventions without external support. We anticipate that following the project, Indonesia will have functioning management capacity for CITES-listed sharks and rays, and law enforcement agencies will have the awareness and capacity to regulate legal trade and undertake enforcement against illegal trade. Given the huge size of Indonesia (over 17,000 islands spread over 6 million km²) leveraging action by national government law enforcement agencies is essential for the success of the project over the short and long terms.

13. Darwin Identity

The contribution of the Darwin Initiative has been widely recognised in the formal government meetings, focus groups and public consultations, as a contribution from the UK Government. The UK Embassy in Jakarta has also been briefed on project progress, and has been very supportive. Within the WCS program, the Darwin Initiative funding is recognised as a distinct project with a clear identity, which is focused on increasing the sustainability of shark and rays fisheries. Within Indonesia there is some understanding of the Darwin Initiative, because Darwin has supported several previous successful projects, especially in terrestrial conservation (eg on human-elephant conflict mitigation).

14. Project Expenditure

Table 1 Project expenditure during the reporting period (1 April 2015 – 31 March 2016)

Project spend (indicative) since last annual report	2015/16 Grant (£)	2015/16 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			8%	
Consultancy costs			-76%	Due to Indonesian labour law, it was necessary to hire some positions as staff, which we had previously assumed would be consultants. Hence the staff budget line is increased by c.£3,000 and the consultants budget line decreased by the same amount.
Overhead Costs			22%	Due to greater than expected office costs (rent, utilities, etc.).
Travel and subsistence			-9%	
Operating Costs			-12%	
Capital items (see below)			-3%	
Others (see below)			-29%	
TOTAL				

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2015-2016

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
<p>Impact</p> <p>Globally threatened elasmobranch populations in Indonesia are protected by simultaneously reducing trade through improved law enforcement, and diversifying livelihoods, demonstrating a replicable, scalable model for other highly threatened fisheries.</p>		<p>The project has had a major impact on the illegal trade of CITES-listed shark and ray species and other protected marine species. Together with the two regulating Ministries, MoEF and MMAF, the project has initiated a process to develop a comprehensive framework to regulate the trade of and protect marine species for the first time in Indonesia. On the ground, the project is working daily with law enforcement agencies to build understanding and operationalize this framework. A total of 17 illegal traders of CITES-listed marine species, and 19 suspects, have been arrested with 9 successfully completed prosecutions (a 100% arrest to conviction ratio) and 10 cases on-going in the courts. The price of manta gill rakers, which are collected in Indonesia and sold to China has fallen by 50% since the project started, and landings of CITES-listed sharks and rays have declined by 35% at the major site monitored over one year, providing concrete evidence of the project's impact.</p>	
<p>Outcome</p> <p>Enhanced law enforcement and fisher transition to more sustainable livelihoods causes a 50% reduction in catches of threatened elasmobranch species at major Indonesian ports</p>	<p>1. By 2018, at least two new or revised government regulations have been approved that enhance the protected status of CITES-listed shark or ray species, against a baseline of one regulation approved up until 2014.</p>	<p>In December 2015, MMAF issued an extension for protection of some CITES-listed shark species through ministerial decree no. 34/2015.</p>	<p>Revision of the Conservation Law 5/1990 and protected species list GR 7/1999 is ongoing (see Section 3.1). Delegation of authority to MMAF to be CITES management authority for aquatic species.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
<p>whilst increasing fisher incomes by >25%.</p>	<p>2. By 2018, surveys indicate that 50% of local government officials and manta/shark fishers understand regulations regarding CITES-listed manta/shark species, against a baseline of 5% in 2014, reflecting improved enforcement capacity and knowledge of shark and ray conservation measures.</p> <p>3. By 2018, government law enforcement agencies have successfully prosecuted 10 cases against major exporters or middlemen dealing in CITES-listed shark or ray species, from a baseline of 0 cases as of 2014.</p> <p>4. By 2018, at least 100 specialised shark and manta fishers have transitioned to alternative sustainable fishing or non-fishing practices, that increase incomes by >25% and offer long-term livelihood security.</p> <p>5. By 2018, landings of CITES-listed shark and ray species at key sites in Aceh and West Nusa Tenggara provinces (which together comprise 20% of Indonesia's total catch) have been reduced by at least 50%, against a baseline of 924 in 2013 (or 731 in 2014 in Nusa Tenggara Barat only).</p>	<p>38 government law enforcement officers were trained and over 1,300 fishers and local stakeholders participated in awareness-raising events.</p> <p>17 investigations completed; 9 successful prosecutions.</p> <p>None</p> <p>A total of 476 CITES-listed sharks and rays were landed in Nusa Tenggara Barat in 2015, a decline of 35%.</p> <p>The price of manta gill rakers has fallen by 50% since the project started (from 1.7-2 million Indonesian Rupiah per kg in 2014 to 0.8-1.0 million currently).</p>	<p>Trainings and awareness-raising events will continue.</p> <p>The WCU will continue to investigate and facilitate prosecution of illegal traders of marine protected species.</p> <p>Livelihoods program will start in Year 2.</p> <p>Continued monitoring in Year 2.</p>
<p>Output 1. Regulations for CITES-listed sharks and mantas have been developed or revised to ensure enhanced legal protection for at least four species</p>	<p>1.1 In year 1, MMAF and WCS produce a report in consultation with other key government agencies, which identifies policy and regulatory gaps, options to introduce regulation of trade in CITES-listed sharks and rays and increase the level of species protection.</p>	<p>Report produced. Available from USAID at:</p> <p>https://dec.usaid.gov/dec/content/Detail.aspx?q=KERvY3VtZW50cy5Eb2N1bWVudF9UaXRzZTood2lsZGxpZmUpKSBtKQgKERvY3VtZW50cy5EZjNjcmlwdG9yc19HZW9ncmFwaGljOiqiSW5kb25lc2Ihlikp&ctID=ODVhZjk4NWQtM2YyMi00YjRmLTkxNjktZTcxMjM2NDNmY2Uy&rID=MzYyMzE5&qcf=ODVhZjk4NWQtM2YyMi00YjRmLTkxNjktZTcxMjM2NDNmY2Uy&ph=VHJ1ZQ==&bckToL=VHJ1ZQ==&</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
	<p>1.2 During the life of the project, at least 5 government-civil society meetings are held with the support of WCS to review the status of CITES-listed sharks and rays and identify mechanisms to regulate the trade and enhance the overall level of protection.</p> <p>1.3 By end of year 3, at least three government scientific papers (Naskah Akademik) have been produced Indonesian Institute of Science (LIPI, the CITES Scientific Authority) with input from WCS, the project partners and other NGOs, setting out the scientific case for trade regulation or enhanced protection measures for CITES-listed sharks and rays.</p>	<p>20 meetings between government and civil society groups on the revision of Indonesia's CITES legislation and subsidiary regulations.</p> <p>2 focus groups and 1 public consultation completed on the revision of the protected species list.</p> <p>6 public consultations on the revision of the Law number 5/1990.</p> <p>4 meetings on sharks and rays with MMAF.</p> <p>1 new government scientific paper produced on the new protected species list by LIPI, with support from WCS.</p>	
<p>Activity 1.1 Examine the effectiveness of existing government regulations to protect shark and ray species, identify the gaps of government regulations to implement shark and ray protection, specifically the constraints of government regulations to create strong law enforcement efforts and deterrent effects, and set up a strategy to increase the profile of shark and ray species protection through revision of government regulations.</p>		<p>WCS prepared a comprehensive overview of species laws and implementing regulations in Indonesia, including CITES, analyses of existing loopholes or inconsistencies in rules and practices, and gaps in enforcement (<i>Wildlife Trade, Wildlife Crime and Species Protection in Indonesia: Policy and Legal Context</i>). The report identified two major areas: (1) revision of the protected species list; and (2) establishment of MMAF as the CITES management authority for aquatic species. These are the focus of the remaining activities.</p>	
<p>Activity 1.2 Hold meetings to align MMAF's, MoEF's, and LIPI (Scientific Authority) policies on the protection of marine species and implementation of CITES for marine species.</p>		<p>At least 20 meetings between government and civil society groups on the revision of Indonesia's CITES legislation and subsidiary regulations. 2 focus groups and 1 public consultation completed on the revision of the protected species list. 6 public consultations on the revision of the Law number 5/1990.</p> <p>These activities (revision of protected species list and Law 5/1990) will continue in Year 2.</p>	
<p>Activity 1.3 Hold meetings to strengthen policies and establish the protection status of CITES-listed Indonesian sharks and rays.</p>		<p>At least 4 specific meetings on sharks and rays were held in Year 1. The National Plan of Action (NPOA) for sharks and rays and separately for manta rays were finalised. A regulation regarding the protection of some CITES-listed shark species was issued by MMAF through decree no. 34/2015. This prohibits the export (but not necessarily capture or domestic trade) of oceanic whitetip shark and hammerhead sharks from Indonesia. Combined with the existing ministerial regulation for manta rays, this means that all four CITES-listed shark and rays</p>	
<p>Activity 1.4 Facilitate the development of species regulations and policies by MMAF, which identify management actions or changes to trade regulations (e.g. size restrictions).</p>		<p>At least 4 specific meetings on sharks and rays were held in Year 1. The National Plan of Action (NPOA) for sharks and rays and separately for manta rays were finalised. A regulation regarding the protection of some CITES-listed shark species was issued by MMAF through decree no. 34/2015. This prohibits the export (but not necessarily capture or domestic trade) of oceanic whitetip shark and hammerhead sharks from Indonesia. Combined with the existing ministerial regulation for manta rays, this means that all four CITES-listed shark and rays</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
		species are covered by existing Indonesian government regulations.	Over the next year, follow-up meetings will be held with MMAF in order to evaluate alternative protection options for shark species in Indonesia.
Activity 1.5 Facilitate changes in the protection status of CITES-listed species, through changes to the national protected species list (PP.7/1999), Ministerial Decrees, or changes to regulations under the fisheries law.		Focus groups and meetings were held regarding the status of marine species and mechanisms to regulate for their protection. A draft of the official document for the transfer of authority for aquatic species from MoEF to MMAF was prepared for signature by both Ministers. In addition, LIPI has prepared a draft list of protected aquatic species which MMAF would then manage. This authorization will become official when the documents are signed by both ministers, from MMAF and MoEF. Completion of this documentation is a key objective for Year 2-3.	
<p>Output 2. Local government officials, traders and fishers have sufficient awareness and training in the new regulations governing shark and ray conservation and the applied management actions required to adequately manage shark and manta fisheries.</p>	<p>2.1 By end of year 1, training modules have been designed and produced by WCS and MMAF, and are being used for training programmes with government officials, village leaders, fisher institutions and fishers on CITES-listed manta/shark species and enforcement of trade or protection regulations.</p> <p>2.2 Fisheries management agencies, community fisher institutions, fishers and traders at >5 key shark and ray landing sites are trained and updated annually by WCS and MMAF on knowledge and enforcement of regulations regarding CITES-listed manta/shark species.</p> <p>2.3 By end of year 3, 50 personnel from Indonesian law enforcement agencies are trained on knowledge and enforcement of regulations regarding CITES-listed manta/shark species.</p> <p>2.4 By end of year 3 there have been >250 news articles in Indonesian and international press based upon at least 10 individual incidences (arrests or prosecutions, press releases or events), against a baseline of one</p>	<p>WCS has supported the Attorney General's Office to develop guidelines and a training module for prosecution of illegal wildlife trade cases.</p> <p>WCS and MMAF has discussed about the possibility to create species identification modules for marine species. The progress is on going and we plan to produce at least 1 module in Year 2.</p> <p>1 awareness-raising event for 1,300 people in Tanjung Luar</p> <p>Two training events were held with Customs, MMAF, Police, etc, with 38 participants trained.</p> <p>55 news articles in Indonesian and international press.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
	<p>event in the period leading up to July 2014 (that event was the announcement of the MMAF Ministerial decree protecting mantas in February 2014).</p>		
<p>Activity 2.1 Create awareness-raising materials and distribute regulations on CITES-listed shark and ray species in landing areas for sharks and rays. Identify key persons including traditional leaders, village chiefs, and local MMAF officers as frontline leaders to disseminate the materials to fishers, fisheries middlemen, and exporters.</p>		<p>WCS has organized two trainings for 38 participants from Indonesian law enforcement agencies (i.e. MMAF, Indonesian National Police, Customs), to build their knowledge and capacity regarding issues and laws concerning CITES-listed shark and ray species. It is anticipated that these trainings will aid prosecution of selling or trafficking of these species, and the identification of species and their parts. Awareness-raising with village leaders and local MMAF officers has so far occurred through dissemination of information of the issues and laws through meetings at field sites by WCU staff. A specific awareness-raising event was held at Tanjung Luar, and involved 1300 participants from government agencies, fishers, private sector, local communities, and other stakeholders.</p>	
<p>Activity 2.2 Initiate regular joint meetings, workshops and training with MMAF local agencies, police, customs agencies to develop and implement regulations on CITES-listed shark and ray species.</p>			
<p>Activity 2.3 Train fisheries middlemen and exporters to improve their knowledge on implementing regulations for CITES-listed shark and ray species.</p>			<p>Further trainings and awareness-raising events are planned for Year 2.</p>
<p>Activity 2.4 Assess the impact of awareness-raising campaigns and training events using robust Knowledge, Attitude, and Practice surveys.</p>			
<p>Activity 2.5 Publish and disseminate law enforcement achievements, to promote the importance of abiding by shark and ray regulations among the wider community, and to create a deterrence effect. Emphasis will be placed on Indonesian websites, newspapers, TV or radio and social media, as well as regional and international press.</p>			<p>A total of 55 articles have been produced focusing on enforcement of regulations regarding trade in shark and ray species, the majority in the Indonesian press. This will be continued in Years 2-3.</p>
<p>Output 3. A new “Marine Wildlife Crime Unit”, comprising representatives of the Indonesian National Police, Attorney General and Ministry of Marine Affairs and Fisheries, has been established and is focusing on high-profile prosecutions of major manta/shark traders.</p>	<p>3.1 By end of year 1, a Marine “Wildlife Crime Unit”, facilitated by WCS in partnership with MMAF, Indonesian National Police and other law enforcement agencies, is operational and achieving arrests and prosecutions of major manta/shark traders.</p> <p>3.2 By end of year 3, at least 30 investigations into traders or trade routes of CITES-listed sharks and rays species have been undertaken by the marine WCU.</p>	<p>Marine WCU established</p>	<p>A total of 17 marine cases involving 19 suspects were handled by WCU during the reporting period. Six (6) suspects were sentenced to prison, 2 suspects were fined, 1 suspect got administration sanction, and 10 cases are currently being processed.</p>

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
	3.3 By end of year 1, a marine "Wildlife Crimes" tracking database is established by WCS in partnership with MMAF, which is cataloguing cases of trafficking of CITES-listed or protected marine species, especially sharks and rays, and recording actions taken (arrests, prosecutions, fines, etc.).	i2 database installed on February 2016	
Activity 3.1 Create informant network to monitor shark and ray trafficking in key areas, specifically in Java, Aceh, Bali, West and East Nusa Tenggara. Investigate key middlemen and exporters at hotspot locations for trade and export at Cilacap, Indramayu, Surabaya, Bali, Lombok, and Sidoarjo. Produce an assessment of the current trade networks.		An informant network has been established and has investigated shark and ray landing sites in Java, Aceh, Bali, West and East Nusa Tenggara and surveillance of domestic and export traders at key trade hubs at Cilacap, Indramayu, Banten, Surabaya, Bali, Lombok, Lamakera, and Sidoarjo is ongoing.	These activities will be continued in Years 2-3.
Activity 3.2 Provide technical assistance and information for law enforcement officers (Police, MMAF civil service investigators, Customs, Quarantine) in intelligence, surveillance, apprehension and processing of evidence.		The WCU has targeted the trade in manta rays and other protected marine species through investigations that have uncovered more than 30 major manta traders across Indonesia. At least 17 arrests have occurred.	These activities will be continued in Years 2-3.
Activity 3.3 Assist the Police, MMAF civil service investigators, Customs, and Quarantine officers to complete legal documents for each trafficking case, and maintain strong communications with prosecutors and judges to ensure that all cases are processed and adjudicated promptly and in accordance with law.		A total of 17 marine cases involving 19 suspects were handled by WCU during the reporting period. Six (6) suspects were sentenced to prison, 2 suspects were fined, 1 suspect got administration sanction, and 10 cases are currently being processed.	These activities will be continued in Years 2-3.
Activity 3.4 Support MMAF and the Attorney General's Office to develop a tracking database, to record information on marine species crime cases, action taken by Indonesian law enforcement agencies, and the results (arrests, prosecutions, fines, etc.).		The WCU has initiated a database that contains information on all marine species trafficking cases, using the i2 Intelligence Database system. This enables the WCU to analyse wildlife trafficking networks and identify the criminals' connections at national and international level. i2 was installed in February 2016 and 5 people were trained in its use.	The use of i2 will be scaled up in Years 2-3.
Activity 3.5 In the last year of the project, produce an assessment of how trade networks have changed after three years of enforcement.		A researcher from Imperial College London will help to put in place a framework to assess changes in trade networks in Year 2.	
Output 4. At least 100 manta/shark fishers have transitioned to alternative sustainable fisheries or other livelihood practices, and support structures are in place to encourage other interested	4.1 An assessment report on opportunities for shark and ray fishers to transition to sustainable fisheries, mariculture enterprises and other livelihoods is produced by WCS, MMAF	Assessment of 527 households completed	

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
fishers to make the transition.	<p>and Imperial College in year 1, based upon updating existing research and consultations with local fishers, fisher institutions and other stakeholders.</p> <p>4.2 Two livelihood-transitioning programs are developed with local fishing communities by WCS, MMAF and customary fisher institutions in year 2, which provide new opportunities in sustainable fisheries, mariculture enterprises and other livelihood practices.</p> <p>4.3 Customary fisher institutions are empowered and have the capacity to continue supporting fishers to transition from manta/shark fisheries to other livelihood strategies by year 3.</p>	<p>To be initiated in Year 2.</p> <p>To be initiated in Year 2.</p>	
Activity 4.1 Produce an assessment report on the opportunities for manta/shark fishers to transition to sustainable fishing and other livelihoods, based upon the focus groups and research conducted by WCS in 2014, and additional research and consultations in year 1 of the project.		With the assistance of Imperial College London, socioeconomic surveys were designed for shark fishers. Tanjung Luar in Lombok was selected as the target for the intervention, because its home to one of the largest shark fishing fleets in Indonesia. The survey methodology was designed during November 2015 – January 2016, and implemented from February – April 2016. 527 respondents were interviewed, including 99 women.	
Activity 4.2 Implement targeted livelihood assistance and incentive programs to transition households to alternative sustainable fishing or non-fishing practices, providing long-term livelihood security.		To be initiated in Year 2.	
Activity 4.3 Put in place long-term sustainability mechanisms, by embedding interventions in customary fisher institutions and other mechanisms (e.g. microfinance) to enable continuing support after the end of the project.		To be initiated in Year 2.	
Activity 4.4 Information exchange and learning events to spread awareness about the project approach and encourage other manta/shark fishers to also begin to transition to other livelihoods.		WCS initiated meeting of organisations working on sharks and rays fisher transitions, which held in February 2016, to review progress and ideas to support shark and ray fishers across Indonesia. Participating organisations included WCS, Manta Trust, ReefCheck, Misool Baseftin and Shark Savers.	Further exchanges are planned for Year 2.
Output 5. The conservation and social outcomes of the project are evaluated,	5.1 By the end of quarter 1 of year 1, a fully functioning shark and ray fisheries	Shark and ray fish catch monitoring program established and is providing monthly reports.	

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
<p>based on ongoing monitoring of shark and ray landings and change in the wellbeing and behaviour of fishers.</p>	<p>catch monitoring program is established by WCS, MMAF and Imperial College, collecting monthly data on landings of CITES-listed sharks and rays, catch and product prices and fishing activities, and providing quarterly reports. Thereafter reports are produced and made available by WCS on a quarterly basis throughout the life of the project.</p> <p>5.2 Assessment of fisher attitudes and behaviours, social norms around manta/shark fishing, and change in livelihoods and poverty. Surveys in year 1 and resurvey in year 3 of intervention and control households to determine the impact of the livelihood interventions, conducted by WCS and Imperial College.</p> <p>5.3 By end of Year 3, a peer-reviewed paper is produced by WCS and Imperial documenting the results of the project.</p> <p>5.4 By end of Year 3, at least 5 information exchange and lessons learned events have been held with customary fisher institutions or other organisations so that other groups can learn about the project approach and promote livelihood transitions in other sites.</p>	<p>Assessment of 527 households completed</p> <p>One paper published: https://doi.org/10.7287/peerj.preprints.1334v1</p> <p>One meeting of organisations working on sharks and rays fisher transitions, held in February 2016, with WCS, Manta Trust, ReefCheck, Misool Baseftin, Shark Savers.</p>	
<p>Activity 5.1 Conduct monthly shark and manta fisheries catch surveys at target sites. The program will build upon and be consistent with baseline data collected by WCS and others during 2012-2014.</p>		<p>Shark and ray fisheries catch surveys have been ongoing at Tanjung Luar in Lombok on a daily basis each month, throughout Year 1.</p> <p>This will be continued in Years 2-3.</p>	
<p>Activity 5.2 Undertake surveys, analyse and assess changes in shark and ray catch landings, prices and demand in response to changes in stakeholder knowledge and capacity, law enforcement and awareness raising activities.</p>		<p>Fisheries landing surveys document shark and ray catch landings, fishing effort, fishing ground locations, fishing operational costs and prices received by fishers for shark and ray parts including fins, meat, livers and gill rakers.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2015 - March 2016	Actions required/planned for next period
		This will be continued in Years 2-3.	
Activity 5.3 Design socio-economic surveys to examine fisher behaviour, attitudes, social norms around fishing and other livelihoods, and household well-being and occupational status, in partnership with Imperial College. These surveys will expand upon the existing baseline data collected by WCS in 2014, to be able to provide consistent information on trends. Identify both intervention and control households.		The WCS team have finalized the design of the first baseline study of fisher households to examine the demographics, wealth, occupational diversity, attitudes/perceptions, behaviour, economic incentives, and support for regulations that may influence fishing behaviour and the capacity of fishers to transition to other livelihoods.	
Activity 5.4 Conduct socioeconomic surveys of fisher behaviour and household well-being and occupational status in years 1 and 3, for intervention and control households.		Socio-economic surveys and focused group discussions have been completed in three villages in East Lombok, involving more than 500 respondents/participants (see Activity 4.1). This study will be used to identify households targeted for livelihood interventions and the selection of control households.	
Activity 5.5 Analyse and assess changes in fisher behaviour and household well-being and occupational status in response to the livelihoods transition intervention.		No activities in Year 1, this is planned for Year 3.	
Activity 5.6 At least one peer-reviewed paper produced in partnership with Imperial, by Indonesian scientists undertaking visiting research fellowships at Imperial.		WCS has contributed to one peer-reviewed scientific publication on trends in ray populations in Indonesia: Lewis SA, Setiasih N, Fahmi , Dharmadi , O'Malley MP, Campbell SJ, Yusuf M, Sianipar AB. (2015) Assessing Indonesian manta and devil ray populations through historical landings and fishing community interviews. PeerJ PrePrints 3:e1642 https://doi.org/10.7287/peerj.preprints.1334v1	

Annex 2 Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact:</p> <p>Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p> <p>Globally threatened elasmobranch populations in Indonesia are protected by simultaneously reducing trade through improved law enforcement, and diversifying livelihoods, demonstrating a replicable, scalable model for other highly threatened fisheries.</p>			
<p>Outcome:</p> <p>Enhanced law enforcement and fisher transition to more sustainable livelihoods causes a 50% reduction in catches of threatened elasmobranch species at major Indonesian ports whilst increasing fisher incomes by >25%.</p>	<p>By 2018, at least two new or revised government regulations have been approved that enhance the protected status of CITES-listed shark or ray species, against a baseline of one regulation approved up until 2014.</p> <p>By 2018, surveys indicate that 50% of local government officials and manta/shark fishers understand regulations regarding CITES-listed manta/shark species, against a baseline of 5% in 2014, reflecting improved enforcement capacity and knowledge of shark and ray conservation measures.</p> <p>By 2018, government law enforcement agencies have successfully prosecuted 10 cases against major exporters or middlemen dealing in CITES-listed shark or ray species, from a baseline of 0 cases as of 2014.</p> <p>By 2018, at least 100 specialised shark and manta fishers have transitioned to alternative sustainable fishing or non-fishing practices, that increase incomes by >25% and offer long-term livelihood security.</p>	<p>Revised regulations and government documents.</p> <p>Training sessions and project notes with fisheries officers and communities. Surveys of the level of awareness of government officers, community leaders and manta/shark fishers.</p> <p>Documented evidence of successful prosecutions, such as court documents, public announcements, and cases recorded by the Attorney General and Indonesian National Police.</p> <p>Surveys of the 134 fishers documented as involved in the fishery (by a WCS pilot study in 2012-14), to assess incomes and livelihood security, and the role of shark/manta fisheries in their livelihoods, at start and end of project.</p>	<p>The project assumes that the government is willing to strengthen and implement shark and manta fisheries regulations.</p> <p>Local Government officials and fisheries agencies must be willing to engage in awareness-raising about new manta/shark regulations and support prosecutions.</p> <p>Government law enforcement agencies (Indonesian National Police, Attorney General) must also be interested in undertaking prosecutions of manta/shark traders under the revised regulations, and doing so in a fair and uncorrupt manner.</p> <p>Fishers must be willing and able to transition to other fisheries or non-fishing livelihoods, and able to generate increased incomes from these livelihood transitions if provided with appropriate support.</p> <p>Fisher communities and customary fisher institutions are receptive to embracing new laws on sharks and rays so long as mitigation measures are in</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	By 2018, landings of CITES-listed shark and ray species at key sites in Aceh and West Nusa Tenggara provinces (which together comprise 20% of Indonesia's total catch) have been reduced by at least 50%, against a baseline of 924 in 2013.	Shark and manta fisheries catch data available on a quarterly basis from the sites.	place to ensure there are no adverse livelihood impacts.
<p>Outputs:</p> <p>1. Regulations for CITES-listed sharks and mantas have been developed or revised to ensure enhanced legal protection for at least four species.</p>	<p>1a. In year 1, MMAF and WCS produce a report in consultation with other key government agencies, which identifies policy and regulatory gaps, options to introduce regulation of trade in CITES-listed sharks and rays and increase the level of species protection.</p> <p>1b. During the life of the project, at least 5 government-civil society meetings are held with the support of WCS to review the status of CITES-listed sharks and rays and identify mechanisms to regulate the trade and enhance the overall level of protection</p> <p>1c. By end of year 3, at least three government scientific papers (Naskah Akademik) have been produced Indonesian Institute of Science (LIPI, the CITES Scientific Authority) with input from WCS, the project partners and other NGOs, setting out the scientific case for trade regulation or enhanced protection measures for CITES-listed sharks and rays.</p>	1a-1c. Published policy and regulatory review reports, meeting records, and copies of completed Naskah Akademik.	WCS's support and advice on how to develop regulations for CITES-listed shark and ray species is sought and welcomed by MMAF and the other relevant government ministries. The letter of support from MMAF is evidence that they are willing to engage actively with this project and welcome the partnership with WCS.
2. Local government officials, traders and fishers have sufficient awareness and training in the new regulations governing shark and ray conservation and the applied management actions required to adequately manage shark and manta fisheries.	2a. By end of year 1, training modules have been designed and produced by WCS and MMAF, and are being used for training programmes with government officials, village leaders, fisher institutions and fishers on CITES-listed manta/shark species and enforcement of trade or protection regulations.	2a-2d. Copies of training modules and awareness-raising materials. Records of training and awareness-raising sessions with fisheries officers, traders and fishers. Copies of media reports.	Local government officials, traders and fishers actively engage with and are able to learn from training and awareness-raising events. For these events to be useful they must be well designed and relevant in the local social and cultural context. The project will achieve this by integrating government training events

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	<p>2b. Fisheries management agencies, community fisher institutions, fishers and traders at >5 key shark and ray landing sites are trained and updated annually by WCS and MMAF on knowledge and enforcement of regulations regarding CITES-listed manta/shark species.</p> <p>2c. By end of year 3, 50 personnel from Indonesian law enforcement agencies are trained on knowledge and enforcement of regulations regarding CITES-listed manta/shark species.</p> <p>2d. By end of year 3 there have been >250 news articles in Indonesian and international press based upon at least 10 individual incidences (arrests or prosecutions, press releases or events), against a baseline of one event in the period leading up to July 2014 (that event was the announcement of the MMAF Ministerial decree protecting mantas in February 2014).</p>		<p>into formal government training programs, and with local fishers by working through the customary fisher institutions which are partners on this proposal.</p> <p>There is sufficient interest by Indonesian, regional and international news agencies and media companies to promote the work the Indonesian government is doing to protect manta rays and introduce domestic regulations for CITES-listed shark species. The high level of press attention afforded to MMAF's first enforcement action (in October 2014) indicates that this will be forthcoming.</p>
<p>3. A new "Marine Wildlife Crime Unit", comprising representatives of the Indonesian National Police, Attorney General and Ministry of Marine Affairs and Fisheries, has been established and is focusing on high-profile prosecutions of major manta/shark traders.</p>	<p>3a. By end of year 1, a Marine "Wildlife Crime Unit", facilitated by WCS in partnership with MMAF, Indonesian National Police and other law enforcement agencies, is operational and achieving arrests and prosecutions of major manta/shark traders.</p> <p>3b. By end of year 3, at least 30 investigations into traders or trade routes of CITES-listed sharks and rays species have been undertaken by the marine WCU.</p> <p>3c. By end of year 1, a marine "Wildlife Crimes" tracking database is established by WCS in partnership with MMAF, which is cataloguing cases of trafficking of CITES-listed or protected marine</p>	<p>3a-3c. Documented and photographic evidence of the agency structure, roles, goals, operations and successful actions of the Marine Wildlife Crime Unit. Data on investigations conducted and the results, from the marine wildlife crimes tracking database.</p>	<p>Sufficient information can be obtained on the extent of the trade in mantas and CITES-listed sharks in Indonesia, and identity of the traders, to enable enforcement actions. Although the trade is known to be extensive, as soon as law enforcement efforts start it is expected to become clandestine and information may be hard to obtain. WCS has >10 years experience documenting illegal wildlife trade networks for highly protected species such as tigers, rhinos and elephants in Indonesia, hence this is not expected to be a particular problem.</p> <p>Traders in CITES-listed shark and rays stop trading protected species and focus on other fish species. This is not expected to be a particular problem, as</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
	species, especially sharks and rays, and recording actions taken (arrests, prosecutions, fines, etc.).		the trade in CITES-listed mantas and sharks is reasonably small and represents very little of the traders' profits or traded volumes. Consequently, the expectation is that the traders, who operate legally-registered legitimate businesses, will simply stop carrying the risky (i.e. protected) products. This is quite different from the trade in highly endangered and valuable mammals (tigers, elephants, primates, etc.), which is entirely illegal and conducted by criminal syndicates that operate in secret.
<p>4. At least 100 manta/shark fishers have transitioned to alternative sustainable fisheries or other livelihood practices, and support structures are in place to encourage other interested fishers to make the transition.</p>	<p>4a. An assessment report on opportunities for shark and ray fishers to transition to sustainable fisheries, mariculture enterprises and other livelihoods is produced by WCS, MMAF and Imperial College in year 1, based upon updating existing research and consultations with local fishers, fisher institutions and other stakeholders.</p> <p>4b. Two livelihood-transitioning programs are developed with local fishing communities by WCS, MMAF and customary fisher institutions in year 2, which provide new opportunities in sustainable fisheries, mariculture enterprises and other livelihood practices.</p> <p>4c. Customary fisher institutions are empowered and have the capacity to continue supporting fishers to transition from manta/shark fisheries to other livelihood strategies by year 3.</p>	<p>4a-4c. Reports on livelihood options assessments. Survey data, photographs, and documentation of the manta/shark fishing fleet, fisher behaviour, and the interventions supported by the livelihood program.</p>	<p>The alternative livelihood opportunities that have been identified can be followed through into actual livelihood transitions that are poverty alleviating, risk reducing and sustainable, and that encourage further uptake by other fishers. The project will maximise the leveraged impact of the project by working with customary fisher institutions to ensure that results and approaches are widely known throughout the communities, and late adopters can also access support to achieve the transition.</p>
<p>5. The conservation and social outcomes of the project are evaluated, based on ongoing monitoring of shark and ray landings and change in the</p>	<p>5a. By the end of quarter 1 of year 1, a fully functioning shark and ray fisheries catch monitoring program is established by WCS, MMAF and Imperial College,</p>	<p>5a-5d. Quarterly reports on the shark and rays fisheries catch monitoring program, including photographs and data on catch, prices and sales.</p>	<p>Sufficient capacity exists within the project team to design appropriate scientific monitoring programs to measure the effectiveness and impact of</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
wellbeing and behaviour of fishers.	<p>collecting monthly data on landings of CITES-listed sharks and rays, catch and product prices and fishing activities, and providing quarterly reports. Thereafter reports are produced and made available by WCS on a quarterly basis throughout the life of the project.</p> <p>5b. Assessment of fisher attitudes and behaviours, social norms around manta/shark fishing, and change in livelihoods and poverty. Surveys in year 1 and resurvey in year 3 of intervention and control households to determine the impact of the livelihood interventions, conducted by WCS and Imperial College.</p> <p>5c. By end of Year 3, a peer-reviewed paper is produced by WCS and Imperial documenting the results of the project.</p> <p>5d. By end of Year 3, at least 5 information exchange and lessons learned events have been held with customary fisher institutions or other organisations so that other groups can learn about the project approach and promote livelihood transitions in other sites.</p>	<p>Completed reports on fisher behaviour, household well-being and occupational status. Final draft of the submitted paper for publication by a peer-reviewed journal. Reports on information exchange events.</p>	<p>the project interventions. The project team includes substantial academic expertise and a track record of collaborative impact evaluation using similar monitoring design, published in the scientific literature, hence this is not expected to be a problem.</p> <p>Ongoing information can be collected on shark and ray catches, prices and sales, and the behaviour of shark and ray fishers. As soon as law enforcement efforts start, the trade is expected to move undercover and such information may be hard to obtain. During 2014, WCS data collectors and researchers have built a strong relationship with the shark and ray fishers, which means they should still be trusted even as the level of awareness about the illegality of the trade increases. As noted under the ethics statement, WCS will keep the data collection and enforcement parts of this project separate, so as to protect the identify of interviewed subjects and data collectors.</p>
<p>Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p> <p>Activity 1.1 Examine the effectiveness of existing government regulations to protect shark and ray species, identify the gaps of government regulations to implement shark and ray protection, specifically the constraints of government regulations to create strong law enforcement efforts and deterrent effects, and set up a strategy to increase the profile of shark and ray species protection through revision of government regulations.</p> <p>Activity 1.2 Hold meetings to align MMAF's, MoEF's, and LIPI (Scientific Authority) policies on the protection of marine species and implementation of CITES for marine species.</p> <p>Activity 1.3 Hold meetings to strengthen policies and establish the protection status of CITES-listed Indonesian sharks and rays.</p> <p>Activity 1.4 Facilitate the development of species regulations and policies by MMAF, which identify management actions or changes to trade regulations (e.g. size restrictions).</p> <p>Activity 1.5 Facilitate changes in the protection status of CITES-listed species, through changes to the national protected species list (PP.7/1999), Ministerial Decrees,</p>			

Project summary	Measurable Indicators	Means of verification	Important Assumptions
or changes to regulations under the fisheries law.			
Activity 2.1	Create awareness-raising materials and distribute regulations on CITES-listed shark and ray species in landing areas for sharks and rays. Identify key persons including traditional leaders, village chiefs, and local MMAF officers as frontline leaders to disseminate the materials to fishers, fisheries middlemen, and exporters.		
Activity 2.2	Initiate regular joint meetings, workshops and training with MMAF local agencies, police, customs agencies to develop and implement regulations on CITES-listed shark and ray species.		
Activity 2.3	Train fisheries middlemen and exporters to improve their knowledge on implementing regulations for CITES-listed shark and ray species.		
Activity 2.4	Assess the impact of awareness-raising campaigns and training events using robust Knowledge, Attitude, and Practice surveys.		
Activity 2.5	Publish and disseminate law enforcement achievements, to promote the importance of abiding by shark and ray regulations among the wider community, and to create a deterrence effect. Emphasis will be placed on Indonesian websites, newspapers, TV or radio and social media, as well as regional and international press.		
Activity 3.1	Create informant network to monitor shark and ray trafficking in key areas, specifically in Java, Aceh, Bali, West and East Nusa Tenggara. Investigate key middlemen and exporters at hotspot locations for trade and export at Cilacap, Indramayu, Surabaya, Bali, Lombok, and Sidoarjo. Produce an assessment of the current trade networks.		
Activity 3.2	Provide technical assistance and information for law enforcement officers (Police, MMAF civil service investigators, Customs, Quarantine) in intelligence, surveillance, apprehension and processing of evidence.		
Activity 3.3	Assist the Police, MMAF civil service investigators, Customs, and Quarantine officers to complete legal documents for each trafficking case, and maintain strong communications with prosecutors and judges to ensure that all cases are processed and adjudicated promptly and in accordance with law.		
Activity 3.4	Support MMAF and the Attorney General's Office to develop a tracking database, to record information on marine species crime cases, action taken by Indonesian law enforcement agencies, and the results (arrests, prosecutions, fines, etc.).		
Activity 3.5	In the last year of the project, produce an assessment of how trade networks have changed after three years of enforcement.		
Activity 4.1	Produce an assessment report on the opportunities for manta/shark fishers to transition to sustainable fishing and other livelihoods, based upon the focus groups and research conducted by WCS in 2014, and additional research and consultations in year 1 of the project.		
Activity 4.2	Implement targeted livelihood assistance and incentive programs to transition households to alternative sustainable fishing or non-fishing practices, providing long-term livelihood security.		
Activity 4.3	Put in place long-term sustainability mechanisms, by embedding interventions in customary fisher institutions and other mechanisms (e.g. microfinance) to enable continuing support after the end of the project.		
Activity 4.4	Information exchange and learning events to spread awareness about the project approach and encourage other manta/shark fishers to also begin to transition to other livelihoods.		
Activity 5.1	Conduct monthly shark and manta fisheries catch surveys at target sites. The program will build upon and be consistent with baseline data collected by WCS and others during 2012-2014.		
Activity 5.2	Undertake surveys, analyse and assess changes in shark and ray catch landings, prices and demand in response to changes in stakeholder knowledge and capacity, law enforcement and awareness raising activities.		
Activity 5.3	Design socio-economic surveys to examine fisher behaviour, attitudes, social norms around fishing and other livelihoods, and household well-being and		

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Activity 5.4 Conduct socioeconomic surveys of fisher behaviour and household well-being and occupational status in years 1 and 3, for intervention and control households.</p> <p>Activity 5.5 Analyse and assess changes in fisher behaviour and household well-being and occupational status in response to the livelihoods transition intervention.</p> <p>Activity 5.6 At least one peer-reviewed paper produced in partnership with Imperial, by Indonesian scientists undertaking visiting research fellowships at Imperial.</p>	<p>occupational status, in partnership with Imperial College. These surveys will expand upon the existing baseline data collected by WCS in 2014, to be able to provide consistent information on trends. Identify both intervention and control households.</p>		

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	Number of People trained	Male	Indonesian	38				
6B	Training weeks	Male	Indonesian	2				
7	Number of training materials produced			1				
11A	Number of papers published in peer-reviewed journals	Male, Female	British, Indonesian, Australian, USA	1				
12A	Number of computer databases			1 (i2)				
14A	Number of conferences/w orkshops organised			8				
14B	Number of conferences/w orkshops attended			25				
23	Funding raised (MacArthur, Margaret A Cargill, Packard Foundations)			£154,527				

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Assessing Indonesian manta and devil ray populations through historical landings and fishing community interviews *	Journals	Lewis SA, Setiasih N, Fahmi , Dharmadi , O'Malley MP, Campbell SJ, Yusuf M, Sianipar AB. 2015	Female	British	PeerJ	PeerJ PrePrints 3:e1642 https://doi.org/10.7287/peerj.preprints.1334v1
Wildlife Trade, Wildlife Crime and Species Protection in Indonesia: Policy and Legal Context *	Report	WCS			WCS, USAID	Available from USAID at: https://dec.usaid.gov/dec/content/Detail.aspx?q=KERvY3VtZW50cy5Eb2N1bWVudF9UaXRszT0od2lsZGxpZmUpKSBBTkQgKERvY3VtZW50cy5EZXRNjcmldG9yc19HZW9ncmFwaGljOigiSW5kb25lc2lhlikp&ctlD=ODVhZjk4NWQtM2YyMi00YjRmLTkxNjktZTcxMjM2NDBmY2Uy&rlD=MzYyMzE5&qcf=ODVhZjk4NWQtM2YyMi00YjRmLTkxNjktZTcxMjM2NDBmY2Uy&ph=VHJ1ZQ==&bckToL=VHJ1ZQ==&