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	EIDPO046
Project Title	Linking marine biodiversity conservation and fisher prosperity through marketplace innovation
Host Country	Peru
Contract Holder Institution	University of Exeter
Partner institutions	ProDelphinus, Shellcatch, Pescadores Amigos de la Naturaleza, Ecopesca, Universidad Cientifica del Sur, San Jose municipality
Darwin Grant Value	£188,153
Funder (DFID/Defra)	Defra
Start/end dates of project	April 2015 / March 2017
Reporting period (e.g., Apr 2015 – Mar 2016) and number (e.g., Annual Report 1, 2, 3)	Apr 2015 – Mar 2016 Annual Report 1
Project Leader name	Prof. Brendan J. Godley
Project website/blog/Twitter	Website, Blog, Facebook, Twitter
Report author(s) and date	Joanna Alfaro Shigueto, Jeffrey C. Mangel, Brendan J. Godley, 30 April 2016

1. Project Rationale

Peruvian small-scale fisheries (and globally) are massive in scale (10,000+ vessels, 40,000+ fishers), spread over vast areas, with over 100 landing sites, subject to little regulation, and communities are typically characterized by poverty and few employment alternatives. This means there is little motivation, pressure or financial resources for fishers to take the steps necessary to promote biodiversity conservation, even with identified solutions. Moreover, conservation initiatives typically encourage implementation of solutions (sometimes costly) but costs normally fall solely on fishermen.

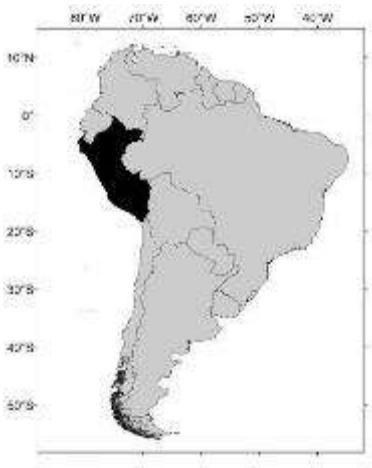

Figure 1. Peru (filled polygon and the South American continent.

This was a challenge identified in our Main Round Project, as was the latent, unfulfilled interest on the part of consumers for sustainably fished products. Our objective is to spread the costs of conservation action – a societal benefit – across stakeholders and to reward fishers who proactively adopt solutions by providing them differentiation in the marketplace and higher profits. Such a system has the potential to be self-sustaining, with conservation costs

offset for participating fishers who earn more, leading to more fishers wanting to participate, further enhancing biodiversity conservation.

Similar initiatives have been developed with highly organized, industrial fisheries (e.g. Marine Stewardship Council). Our project innovates upon this model by designing a local, bottom-up system with small-scale fisheries.

This post-project builds upon this progress and lessons learned. It will provide fishers with the training, equipment, and expert oversight necessary to fish sustainably and will provide those fishers a clear path to a marketplace that acknowledges their efforts and that is willing to pay a premium for sustainably fished products - a premium that is returned directly to fishers to improve their livelihoods and support their continued efforts to fish responsibly.

The project is focused in Peru on the Pacific coast of South America. Project activities are focused on the small-scale fishing port of San Jose in northern Peru and potentially connecting to buyers or restaurants in the northern Peru city of Chiclayo, as well as in the capitol, Lima.

2. Project Partnerships

As planned, the lead in-country partner for this project is the marine research NGO **Pro Delphinus** (PD). PD facilitates contacts with government agencies and other partners and leads coordination and implementation of all project activities in Peru, including acquiring equipment, project logistics, research, training and outreach. Further partner organisations include: (1) **Pescadores Amigos de la Naturaleza** (PAN) which is the fisher cooperative in San Jose who form the core group implementing vessel monitoring and product tracking; (2) **EcoPesca** which has facilitated linkages with fish buyers throughout Year 1; and (3) **Shellcatch** whose camera technology form the backbone of the project's remote monitoring component and whose experience with product tracking and market development has been valuable in assessing project needs in San Jose. We also continue to liaise with **San Jose Municipality** to keep them apprised of the ongoing work and progress with the fishers in San Jose and with **Universidad Cientifica del Sur** (UCS) toward completion of the undergraduate thesis projects. These partnerships are documented in more detail in subsequent sections of this report.

Our relationship with project partners is maintained through periods of in-country field work and by an email circulation list, e-mails and telephone. Formal meetings with partners are held during periods of in-country fieldwork when project staff are present.

Additional Unforeseen Collaboration: In project Year 1 we have also developed linkages with other institutions that have allowed us to expand upon project activities. These collaborations include: (1) **NOAA-Pacific Islands Fisheries Science Center** with whom we are working to further develop and test net illumination as a bycatch mitigation solution; (2) the project collaborated with and supported the **International Sea Turtle Society** annual Symposium and Workshop on **Collaborative Fisheries Research**, March 2016 (Annex 12); (3) **Flywire Cameras** to test their portable HD video/GPS technology as another potential fishery monitoring solution (4) **Ecuador Mundo Ecologico** who the project has been supporting in their test of net illumination in Ecuadoran net fisheries (5) the Peruvian industrial purse-seine company **TASA** with whom the project collaborates to train fishing crews in marine fauna bycatch conservation and handling; (6) **Stanford University** through the collaborative research of PhD candidate Julia Mason (see section 7); and (7) the **HF radio base-station in San Jose** to assist in communicating with fishermen and exchanging information and catch and bycatch.

3. Project Progress

3.1 Progress in carrying out project activities

At this mid-project stage we are making strong progress towards stated purposes and outcomes. It is too early to assess the full impact of the project as we have yet to implement the full vessel-to-market system. Important impacts on biodiversity that will influence the sustainable use of biodiversity benefits are at the core of the project.

Output 1. Pilot catch-to-market monitoring system established

1.1 Port assessment trips (COMPLETED)

The first port visit was completed in September 2015 and was attended by PD, Shellcatch, PAN and EcoPesca personnel. Planning difficulties delayed this initial trip from the proposed timeline. The purpose of the first visit was to develop a first technical assessment of the San Jose port infrastructure, the infrastructure and dynamics of the local fish market and linkages to the Lima market (Annex 7 & Annex 11).

A second assessment trip was completed in February 2016 and included PD, Shellcatch and PAN personnel. The purpose of this trip was to continue with camera system installations and to continue work with PAN members in using the camera technology and in preparation for product sales to end-users (Annex 7 & Annex 11).

1.2 Identify and train in-port personnel (COMPLETED)

As scheduled, 6 key in-port personnel have been identified and their training is underway, and will continue in pace with the installation of the monitoring and traceability technologies. Training activities occurred during the port assessment trips but also through email and telephone.

Project Coordinator: Eliana Alfaro

Biologist, Technical Support: Sergio Pingo

Biologist, Technical Support; Astrid Jimenez

Biologist, Technical Support: Rayza Jimenez

Biologist, Technical Support: David Saramiento

Logistics support: Flor del Pilar Fiestas

1.3 Determine port and network system needs (COMPLETED)

Began, as scheduled, with development of a port assessment and evaluation in May 2015 (Annex 10). Continued in September 2015 and February 2016 during partner port visits detailed in item 1.1. Repeat, regular communications and port visits in Year 1 by ProDelphinus staff with PAN fishers have also allowed for rigorous testing of system components and dialogue to improve its functioning (e.g. assess camera placement, image quality).

1.4 Acquire, install & test monitoring systems (COMPLETED)

As scheduled, equipment was acquired, installed and tested as part of the September 2015 and February 2016 port assessment trips. Additional installations and testing were completed during a December 2015 technical visit to San Jose by Shellcatch and PD personnel, and additional installations and testing by PD personnel in Jan/Feb 2016. Full system testing of the 5 fishing vessels with camera systems continued in March 2016, a collaboration of PAN, PD and Shellcatch (Annex 7).

1.5 Test traceability monitoring (full system test) (PLANNED)

A full system test should proceed as planned in Q1-Q2 of project Year 2. This test was dependent upon completion of equipment installation (Item 1.4) that was completed in February 2016, system testing began in March 2016 and that continues.

1.6 Catch to market system operational (PLANNED)

Can proceed as scheduled following full system test and trial purchases.

1.7 Users trained in system operation (UNDERWAY)

Participating fishers and port personnel have been trained, as scheduled, in camera system operation (e.g. camera use, charging, data download/upload). Training in port to market monitoring is pending (Annex 4, Annex 7).

1.8 Project reporting to partners, stakeholders, funders, government (UNDERWAY)

During Year 1, PD and partners had 9 meetings with Peru government offices in which project progress was discussed – this includes meetings with the Ministry of Environment (MINAM) and the Ministry of Production (PRODUCE, FONDEPES, SANIPES). We have also presented on project progress to fishers and local government officials during workshops and meetings in seven fishing ports (Annex 11).

1.9 Student thesis projects assessing project impacts (UNDERWAY)

One Universidad Cientifica del Sur undergraduate student has been identified, ahead of schedule, Andrea Pasara, and a search for a second student is underway. Ms. Pasara is proceeding with her undergraduate thesis project with an anticipated completion dates of June 2016. One University of Exeter MSC student was also selected, David Bartholomew, with an anticipated thesis completion date of August 2016 (Annex 6).

Output 2: Fishers organized and participating in sustainable fishing

2.1 Engage fishers to participate (UNDERWAY)

As scheduled, PD has held 10 workshops in San Jose to promote project participation and another 22 workshops in 6 surrounding ports. Five vessels are actively participating in the project and another 4 vessels have noted their readiness to participate in the initial phase of the project (including being equipped with monitoring systems).

2.2 ProDelphinus and student staff identified and trained (COMPLETED)

Six ProDelphinus staff have been trained as scheduled in project goals and methods and are fully engaged in implementation of project activities. Universidad Cientifica student participation will proceed as scheduled as the monitoring and traceability systems become active. Trained staff are: Nico Acuña, Francisco Cordova, Clara Ortiz, Elizabeth Campbell, Adriana Gonzalez, Alonso del Solar.

2.3 Fisher self-reporting on catch and bycatch (UNDERWAY)

Ahead of schedule, 16 gillnet vessels from San Jose are currently monitoring their fishing effort and/or bycatch with 98 trip reports provide in Year 1 (Annex 8).

2.4 Acquire/fabricate mitigation & monitoring technologies (COMPLETED)

As scheduled, bycatch mitigation technologies (e.g. lights, pingers) have been acquired and supplied to 12 small-scale gillnet fishing vessels, including those 5 PAN vessels (20 fishers) that are participating in the project.

2.5 Develop monitoring protocols and monitoring forms (COMPLETED)

Self-reporting and onboard observer forms to monitor fishery catch and bycatch have been completed as scheduled. A Shellcatch camera system guidance document was also prepared. Additional forms (paper & online) are planned to enhance product traceability monitoring (Annex 8).

2.6 Onboard observer monitoring (UNDERWAY)

Onboard observer monitoring is underway as scheduled by ProDelphinus trained biologists. Six fishing trips have been observed in Year 1. The strong collaboration between PD and fishers in San Jose has produced additional conservation research opportunities – specifically, satellite tracking of 6 critically endangered leatherback turtles captured by fishing vessels from San Jose. (Annex 9).

2.7 Assessment & reporting on fisher participation, fishery impacts (UNDERWAY)

PD has undertaken preliminary assessments of catch and bycatch data to assess effectiveness of net illumination and acoustic alarms. Through reviews of observer effort and fisher self-reporting forms the project also tracks trends in catch and bycatch (Annex 9).

2.8 Liaise with local & regional government on project progress (UNDERWAY)

A meeting at the San Jose Municipality was held in October 2015 and follow-up interactions continue as scheduled.

Output 3: End-users engaged and participating through fish purchases

3.1 Project introduction workshops with owners, chefs, buyers (UNDERWAY)

Six meetings have been held with groups of restaurant owners, chefs and buyers since the start of the project and have demonstrated broad acceptance of the project concept (Annex 7,

Annex 11). Project introductions have been made to 20+ restaurant owners and chefs including many of the most well-known and influential in Peru, including Gaston Acurio, Maido, Nanka, Cristian Bravo Restobar, La Balanza, KuMar, La Verdad de la Milanesa, ONO Sushi Bar, Fiesta restaurants, Inkaterra Hotels and Restaurants, and also includes the TOTTUS supermarket chain.

At least 2 end-users have indicated willingness to participate in the project. These two end-users are a national supermarket chain and the Gaston Acurio consortium of 9 restaurants. We continue additional discussions with these and other end-users to expand awareness of project and identify additional potential participants.

3.2 Chef-Fisher interchange workshops (UNDERWAY)

Planning for this project activity is currently underway. This progress is delayed from the original proposal. We determined it would be more effective to conduct these events once the monitoring system was active and at least one successful full system test completed.

3.3 Identify owners, chefs, market participants (UNDERWAY)

As a result of the project introductions (Item 3.1), TOTTUS, Grupo Acurio, La Mar, and Maido, among others, have indicated they are prepared to receive products once the system is in place (Annex 7). We have identified Grupo Acurio and Fiestas restaurants as probable choices for the first tests of product delivery.

3.4 Development of awareness raising materials for end users (UNDERWAY)

A project themed series of 6 materials (e.g. cards, pamphlets) has been designed and printed (Annex 4). An illustrated video, featuring original music by Brian Jacobs, was also produced and released in September 2015 (video hyperlink).

3.5 Monthly orders placed by buyers (PLANNED)

3.6 Project video production (COMPLETED)

Two project videos have been prepared, one detailed in Item 3.4 and a second video highlighting the fishers in San Jose and the remote camera systems. (video hyperlink)

3.7 Consumer smartphone application update (PLANNED)

The link to the video in Item 3.4 was added to the Boveda app and additional updates will be prepared as the full monitoring and purchase system becomes active.

3.2 Progress towards project outputs

We are now half way through the project and have made substantial progress on most project activities. With the vessel monitoring systems now in place and a strong group of potential buyers contacted and interested in the project, the beginning of Year 2 should see additional strong progress leading to full project testing and implementation.

Output 1:	**Establishment of the first pilot ocean-to-market monitoring system in one small-scale fishing port in Peru allowing for monitoring of fisher compliance with sustainable fishing norms and for fish products to be differentiated and tracked to buyers.**			Comments (if necessary)
	Baseline	Change recorded by 2016	Source of evidence	
Indicator 1.1	Two in-port staff identified by Q2 of Year 1 and fully trained in system procedures operating independently by Q4 of Year 1.	6 in-port staff identified and trained by Q4.	Section 3.1, item 1.2	
Indicator 1.2	At least 4 of key stakeholder groups	Two scoping trips completed	Section 3.1, Item 1.1	

	(fishers, SJ representatives, system developers, conservation researchers) participate in a scoping trip where monitoring and tracking system needs are identified.	(Sep 2015, Feb 2016), attended by 4 stakeholder groups – PD, PAN, EcoPesca, Shellcatch.	Annex 7 Annex 11	
Indicator 1.3	100% of necessary equipment and technologies (hardware and software components) will be acquired, installed and tested by Q4 of Year 1.	All necessary equipment acquired, installed and tested as scheduled.	Section 3.1, Item 1.4 Annex 7	
Indicator 1.4	By Q4 of Year 1 the system components (at-sea and in port) are operating successfully and in tandem with two test deliveries to end-users completed.	System components operating successfully. Sample deliveries pending.	Section 3.1, Item 1.4 Annex 7 Annex 9	Sample deliveries scheduled for Q1-Q2 of Year 2.
Indicator 1.5	Beginning Q1 of Year 2 begin receiving at least one monthly standing order from end users for fulfilment by the network's fishers.	Planned.		
Indicator 1.6	Six training sessions held with system users with additional sessions occurring regularly in Year 2 as necessary.	Two training sessions held by Shellcatch with PD and PAN. Additional training by PD with PAN.	Section 3.1, Item1.7 Annex 4 Annex 7	
Indicator 1.7	Two annual reports prepared and provided to stakeholders, one guidance document prepared with advice, recommendations and flowchart on system components and setup (for future project scaling or use by other fisheries).	This report is the first of 2 annual reports.	Section 3.1, Item 2.5 Annex 4 Annex 8	
Indicator 1.8	One Master's Thesis (UoE) and two undergraduate theses (UCS) completed assessing the project and its impacts on the fishery and bycatch.	Two of three thesis projects underway.	Section 3.1, Item 1.9 Annex 6	
Output 2:	**Fishers organized and participating in sustainable fishing. Fishers in the network will benefit from training and technology transfer to reduce their bycatch of threatened and endangered species and will benefit from access to the product tracking system and availability of buyers.**			Comments (if necessary)
Indicator 2.1	Through engagement and awareness raising	Five vessels active as of Year	Sections 3.1, Item 2.1	

	activities, participation in the fisher network in the port of San Jose will be doubled to 10 vessels (~70 fishers, 10 vessel owners) by the end of Year 1 with these vessels employing the recommended sustainable fishing practices and equipping their vessels to participate in the vessel to market monitoring system.	1, Q4. An additional 4 vessels have expressed interest in joining the network. 12 fishing vessels in San Jose have been provided bycatch mitigation equipment.		
Indicator 2.2	2 students and 1 ProDelphinus project coordinator identified and trained in project goals, methods and protocols.	1 PD coordinator identified, 1 of 2 students identified.	Section 3.1, Items 1.2, 1.9	Eliana Alfaro, coordinator. Andrea Pasara, student.
Indicator 2.3	Mitigation technologies and strategies will be identified and implemented consistently by fishermen in the network to reduce the bycatch of marine mammals and sea turtles. We estimate a decline in small cetacean catch rates of approximately 40% and decreased sea turtle mortality of 30%.	Mitigation technologies have been identified and implemented. Bycatch rates are assessed through trip reports and data analyses. Fishers trained in animal safe handling and release procedures.	Section 3.1, Item 2.6 Annex 7 Annex 9	Bycatch rate reductions are estimates based upon previous research testing these methods in similar fisheries in Peru.
Indicator 2.4	Self-reporting and independent onboard observer monitoring will be initiated with participating fishing vessels beginning in Year 1 and continuing throughout the project to allow for monitoring and quantification of fishing effort and bycatch rates. (approx. 48 self-reported trips over 2 years, per vessel; approx. 480 total reports). At least 75% participating fishermen submitting self-report forms per month regarding their catch and bycatch.	98 trip reports in Year 1. 16 total vessels self-reporting catch and bycatch. 100% of the 5 participating vessels are submitting monthly reporting forms.	Section 3.1, Item 2.3 Annex 8	
Indicator 2.5	24 workshops held with fishers over 2 years to promote participation in	32 workshops held in Year 1 in 7 ports,	Section 3.1, Item 2.1 Annex 7	

	the project.	including 10 in San Jose.		
Indicator 2.6	100% of necessary equipment is obtained, imported into Peru or fabricated domestically.	5 main vessels equipped with camera and mitigation gear.	Section 3.1, Items 1.4, 2.4 Annex 7	
Indicator 2.7	A minimum of three reporting forms with guidance documents prepared covering fisher self-reporting, product tracking and product commerce.	3 fishing and 1 camera guidance forms completed. Product and commerce forms pending.	Section 3.1, Item 2.5 Annex 4	Tracking and commerce forms will be completed following with product purchase tests.
Indicator 2.8	12 onboard observer trips completed as an independent assessment of fishery catch and bycatch and to augment fisher self-reporting forms.	6 observer trips completed from July-December 2015.	Section 3.1, Item 2.6 Annex 9	
Indicator 2.9	2 annual reports prepared summarizing fisher participation in the project and fishery impacts (catch and bycatch levels and characteristics).	This report is the first of 2 annual reports.	Section 3.1, Item 2.5	
Indicator 2.10	6 meetings with local and regional government officials to promote the project.	9 meetings held in Year 1.	Section 3.1, Items 1.8, 2.8 Annex 7 Annex 11	
Output 3:	**End-users engaged and participating through fish purchases. End users (restaurants, distributors, markets) will have more direct communication and access to fishers allowing for a predictable supply of sustainably caught products and allowing for differentiation of their product or service in the marketplace.**			Comments (if necessary)
Indicator 3.1	Through engagement and awareness raising activities throughout Year 1, 5 restaurants, 1 supermarket chain, and 1 distributor will begin buying products from the fisher network by the beginning of Year 2.	Planned. By end of Year 1, three end-users have expressed interest in purchasing through the network.	Section 3.1, Item 3.3 Annex 7	
Indicator 3.2	16 workshops held over 2 years to promote growing participation in the project by end-users (e.g. markets, distributors, restaurants).	6 meetings held in Year 1.	Section 3.1, Item 3.1 Annex 11	This activity will accelerate in Y2 with full system implementation.
Indicator 3.3	3 interchange events held with at least 15 participants to promote raised awareness among stakeholders of the tasks and challenges faced by each, and to promote	Planned.	Section 3.1, Item 3.2	Planning for this activity is underway, events anticipated for Q1-Q3 of Year 2.

	opportunities for additional, unforeseen collaborations.			
Indicator 3.4	A minimum of 30 end-users identified who are interested in receiving more information on the project and for possible participation in the product tracking system (to make purchases through the system).	There is broad interest in the project expressed by end-users, including the 20+ contacted in Year 1.	Section 3.1, Item 3.1	Year 2 outreach can further build interest, especially following successful trial purchases.
Indicator 3.5	8 education materials designed in a variety of formats and 2 press releases prepared.	7 educational materials produced. 2 press releases prepared.	Annex 4 Annex 5	Press coverage net illumination research has been extensive (50+ follow-up stories, >13 nations).
Indicator 3.6	In project Year 2 the monitoring system shifts to full implementation with regular, reliable monthly deliveries (one delivery per month for first quarter, and 2 per month minimum for remainder of year).	Planned.		
Indicator 3.7	1 video produced about the project and the BoVeda smartphone application updated to include information for consumers and end-users about the project.	Two project videos produced. One linked to in BoVeda app.	Video hyperlinks: San Jose video Pez cacheton	Additional app updates scheduled for Year 2 with project implementation.

3.3 Progress towards the project Outcome

Outcome:	An integrated model system promoting marine biodiversity conservation, small-scale fishery sustainability and a traceable marketplace for sustainably fished products that distributes conservation costs and promotes fisher empowerment and poverty alleviation.			Comments (if necessary)
	Baseline	Change by 2016	Source of evidence	
Indicator 1 Measurable declines in bycatch and/or mortality rates of protected marine fauna resulting from the implementation of mitigation measures by participating fishermen. We estimate a decline in small cetacean catch rates of	TBD	Approx. 30-40% declines in bycatch from baseline, pre-mitigation rates.	Section 3.1, Items 1.8, 2.3, 2.4, 2.6, 2.8.	Using observer and camera system data PD and thesis students will assess catch and bycatch rates (e.g. Annex 9).

approximately 40% and decreased sea turtle mortality of 30%.				
Indicator 2 A functioning pilot marketplace tracking system in one fishing port allowing for differentiation and reliable, regular deliveries of sustainably fished products to Lima markets.	No system available.	System installation and testing completed by March 2016.	Section 3.1, Items 1.3, 1.4, 1.6, 3.1, 3.4.	Sample deliveries scheduled for Q1-Q2 of Year 2 to be followed by scheduled deliveries. Additional end-user outreach and identification to continue.
Indicator 3 A doubling to ten fishing vessel (70 fishermen, 10 owners) participating in the fisher network – using sustainable fishing methods and providing their fish for sale through the tracking system.	5 vessels originally agreeing to participate in the network.	4 additional vessels have expressed interest in participating. 12 total vessels using bycatch mitigation tech provided by the project. 16 total vessels self-reporting on catch and/or bycatch.	Section 3.1, Items 2.1, 2.3, 2.4.	
Indicator 4 Increased profitability for participating fishers by 25% in this poor fishing community through participation in the product tracking system (registered buyers, product traceability, predictable order quantities).	Current pre-system values as recorded by participating fishermen.	This project component has yet to be implemented. Sale prices will be monitored and compared to San Jose market pre-system prices.		Estimates of increased profitability based upon past experience in similar Shellcatch projects in Chile and Mexico.

3.4 Monitoring of assumptions

Our outcome and output level assumptions listed below remain true, with no significant changes experienced during project Year 1. The current, ongoing El Niño Southern Oscillation (ENSO) raised concerns regarding the potential for economic disruptions but fishing effort in San Jose has been consistent throughout the event.

In 2015, Peru established additional regulations affecting the catch and trade of some species of sharks. These regulations caused some consternation among fishermen including those participating with the project. However, due to the strong, long-term collaboration of PD with this community and these fishermen, they have remained committed to the project.

Project outcome & output assumptions

1. Project partners and stakeholders, especially fishermen, retain commitment to sustainable fishing practices and the use, management and maintenance of the tracking system and willingness to purchase through the network.
2. Retention of key staff and/or ability to appoint replacements.
3. There are no major economic disruptions (anthropogenic or natural) affecting the fisheries and stakeholder capacity to prioritise need for resource management.
4. Techniques and/or technologies can be identified and implemented to reduce negative interactions of the fishery with protected marine fauna.

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

As detailed in our bid, the anticipated impact of this project will be that the marine biodiversity of Peru is preserved through a system that more equitably distributes conservation costs, alleviates poverty in coastal communities and promotes fishery and species sustainability. At this project stage we have positively impacted biodiversity through the collaborations with fishers in San Jose and their implementation of bycatch mitigation strategies and technologies (Indicators 2.1, 2.3 to 2.10). These practices are expected to reduce bycatch of threatened and endangered species, thus promoting fishery sustainability and biodiversity conservation.

Project Year 2 will initiate the focus on linking these positive biodiversity impacts with poverty alleviation and fisher empowerment in the San Jose community. This entails the implementation of the full vessel-to-market system (Indicators 1.4, 1.5, 3.1 to 3.3, 3.5 to 3.7). With this system in place, fishers should see an increase in profitability (through more direct linkages to end-users) and strong acknowledgement of their conservation efforts in the marketplace.

4. Contribution to SDGs

Project activities contribute toward 3 of the Millennium Development Goals in Peru:

1. Environmental sustainability (Vessel-to-market monitoring will ensure sustainable fishing with positive biodiversity implications).
2. Poverty alleviation (income to poor households).

Partnership for development (through innovative cross-sectoral learning and collaboration).

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

The project has interacted with CITES and CMS focal points and treaty sponsored meetings via the host country. These interactions were:

- CMS meeting on loggerhead turtle single species action plan, Lima, Peru, March 2016. Attended by ProDelphinus.
- ProDelphinus staff have led or participated in preparation of 3 documents submitted to the ACAP-Seabird Bycatch Working Group (SBWG) Meeting, La Serena, Chile, May 2016 and PD staff Jeffrey Mangel and Joanna Alfaro are members of the SBWG.
    - SBWG7 Doc 12: Toolbox template for mitigation advice in artisanal and small-scale fisheries.
    - SBWG7 Inf 9: Gillnet bycatch of ACAP species and ongoing mitigation development.
    - SBWG Inf 13: Intentional captures of the waved albatross *Phoebastria irrorata* by small-scale offshore fishermen at Salaverry port, Peru.
- ProDelphinus provides project information to Peru government treaty focal points toward fulfilling national reporting responsibilities under ACAP (seabirds) and IAC (sea turtles).

- ProDelphinus staff assisted with coordination of the April 2016 CITES meeting regarding elasmobranches, Lima, Peru.
- ProDelphinus president Joanna Alfaro is a member of the Ministry of Environment (MINAM) inter-ministry roundtable on emblematic marine species conservation and attended its 2 meetings in 2015-2016.
- ProDelphinus staff Joanna Alfaro attended two CBD meeting (Nov 2015, Jan 2016) and presented technical information toward identification of new marine sites of importance to the convention.

6. Project support to poverty alleviation

This project is designed to establish a stable system that promotes fishery sustainability and satisfies a growing market for sustainably fished products. The indirect outcome of this system – but one essential to its stability – is increased profitably and recognition for fishermen who can then voluntarily maintain higher standards of sustainability for their fishery.

The expected beneficiaries of this work will be the participating fishermen in San Jose, their families and the participating vessel owners. Buyers and end-users can also benefit by promoting products that appeal to a growing market in Peru for sustainably fished products. If the system can be established successfully, with all parties benefiting, this should help promote its long-term sustainability.

The project has not as yet had noticeable poverty alleviation achievements because, as described in Section 3.5, the vessel-to-market component of the project occurs in Year 2. This will be the opportunity to track transactions and assess increased profitability.

7. Project support to Gender equity issues

This project has been more directly focused on biodiversity and poverty alleviation aspects rather than gender equity issues. There has, however, been an emergent opportunity through a collaboration with Stanford University PhD student Julia Mason to further explore the potential economic benefits of this project and the role of women in the community, particularly as it relates to employment and family economics and decision-making (Annex 13).

8. Monitoring and evaluation

As articulated in this report and in the main bid, the progress of the project against key milestones and indicators is appraised by a Steering Group made up of partner organisations that meets approximately bi-annually. There is also regular communication among project partners, facilitated by the field presence of the key Darwin Staff. The key indicators show the progress of the project as catalysed by the launch of several ongoing initiatives. These include port assessments, equipment purchase, fabrication and installation, development of education and training materials, holding of meetings, talks and training workshops, at-sea monitoring of the San Jose fishery and preparation of end-users for participating in the project. The majority of these are clearly articulated and time stamped and have moved beyond the planning stages to varying levels of implementation.

9. Lessons learnt

The bedrock of this project has been the strong relationships among the partners, particularly of ProDelphinus with PAN and the fishers of San Jose. This relationship predates this project but developed in part from our Darwin SAFI main project. These partnerships reinforce the need for strong, long-term collaborations to make projects such as this possible.

Year 1 has also been a learning experience implementing the advanced camera systems in the San Jose fishery. While we were fully aware going into the project of the challenges this represented, it remains a complicated endeavour. The simple dynamics of the operation of the

fishery in San Jose required a number of work-arounds be established with the camera systems to allow for the monitoring to function effectively.

The lesson learned has been to not place complete reliance in any one technology. In our case, the camera systems are functioning effectively, and we have been able to adapt the monitoring to the realities of the fishing port. But this may not always be the case. As a result, we are also testing alternate camera systems (Annex 7) – this could potentially benefit our project, but also a comparison of systems could benefit future projects in Peru or elsewhere.

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

Not applicable

11. Other comments on progress not covered elsewhere

There have been no major enhancements or refinements to the project, nor any significant difficulties encountered. We do not foresee any major additional risks.

12. Sustainability and legacy

As detailed above, the project has made considerable inroads to creating a profile in-country. There is strong buy-in from partners for the project, demonstrated by the number of project activities we have been able to get off the ground and carry forward. Efforts to promote the project in-country have come in the form of the numerous meetings, talks and workshops held with fishermen at multiple fishing ports and with local and national level government officials and end-users (e.g. restaurants, fish markets, chefs). There is particularly strong interest expressed by the Peru government in the potential of relatively low-cost camera systems and their applications in small-scale fisheries like that in San Jose. Project related activities have also been covered through local and national print and radio coverage. There is certainly evident interest in end-users for the sustainable fisheries model the project is establishing and in Year 2 this could grow as the project becomes fully active.

Also noteworthy for the project profile, the 36th Annual International Sea Turtle Symposium (ISTS) was held in Lima, Peru in March 2016 (link). Most of the fishermen in the PAN network were able to attend the meeting. The work of PAN toward sustainable fisheries and bycatch mitigation was recognized by the Sea Turtle Society when they were presented with a President's Award (Annex 7). PAN fishermen were also able to participate in the Collaborative Fisheries Research meeting as well as other workshops and the main meeting. The ISTS meeting was also attended by project partners PD, EcoPesca and UCS and served as an excellent venue to promote this project.

At this, the project mid-point, our planned exit strategy remains unchanged. The goal of the project is to establish the structure of the vessel-to-market system and establish initial linkages to buyers. Following project completion, in-country partners will continue to work with the PAN network and advise on fishery bycatch monitoring. PD and EcoPesca will also be in a position to further promote the project beyond those sustained linkages established in Year 2.

There will also be considerable legacy aspects to this project including greatly enhanced levels of training of local staff and project participants, and training and educational materials.

13. Darwin Identity

The support of the Darwin Initiative has been recognized on the 5 project educational materials with the use of the Darwin logo, and acknowledged on 6 publications, 2 press releases, and 5 conference papers presented in Year 1. The Darwin Initiative is acknowledged as the core, primary funder of this project at meetings with stakeholders. The project had an active web presence, with over 5,000 followers receiving weekly postings on the Pro Delphinus Facebook page. All of these outreach resources have served as opportunities to raise awareness of the

Darwin Initiative, which has growing recognition, particularly among government offices and NGOs.

14. Project Expenditure

Please expand and complete Table 1.

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)			0	
Consultancy costs	0	0	0	
Overhead Costs			0	
Travel and subsistence			0	
Operating Costs			0	
Capital items (see below)			0	
Others (see below)			0	
TOTAL				

Highlight any agreed changes to the budget and **fully** explain any variation in expenditure where this is +/- 10% of the budget. Have these changes been discussed with and approved by Darwin?

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
Impact The marine biodiversity of Peru is preserved through a system that more equitably distributes conservation costs, alleviates poverty in coastal communities and promotes fishery and species sustainability.		Steps have been taken to achieve a more sustainable use of marine resources in Peru. Bycatch mitigation tools have been given to fishers in different ports of Peru and 5 vessels have participated in the Vessel-to-Market monitoring project.	
Outcome An integrated model system promoting marine biodiversity conservation, small-scale fishery sustainability and a traceable marketplace for sustainably fished products that distributes conservation costs and promotes fisher empowerment and poverty alleviation.	-Mitigation resulting in declines of marine fauna bycatch/mortality, reliable delivery of sustainably fished products to Lima markets, increase in fisher participation in project and profitability.	Mitigation tools to reduce bycatch have been given to fishermen, vessel monitoring system has been implemented.	- Increase in vessel participation - Vessel monitoring and product tracking system trial successfully completed. - Reduction of bycatch incidence
Output 1. Establishment of the first pilot ocean-to-market monitoring system in one small-scale fishing port in Peru allowing for monitoring of fisher compliance with sustainable fishing norms and for fish products to be differentiated and tracked to buyers.	-Staff identified, equipment purchased and installed operating successfully, training sessions.	ProDelphinus staff and fishers have been identified and trained. Equipment and software has been purchased and installed in 5 vessels of San Jose port.	
Activity 1.1 Project personnel to conduct a site visit to begin coordination with project participants and assess vessel and port infrastructure toward designing the tracking system.		Completed	
Activity 1.2, Identify personnel that will operate tracking system locally, and liaise with project partners (fishers, PD, end-users).		Completed	
Activity 1.3 Prepare a detailed assessment of port & tracking network system needs that will be addressed in establishing the system.		Completed	

Activity 1.4 Necessary equipment and technologies will be acquired, installed and tested.		Completed
Activity 1.5 Upon completion of installation and testing of individual project components, a full system test will be conducting to ensure the traceability monitoring is operating as a coordinated system.		Planned
Activity 1.6 System setup is scheduled for Year 1. Upon completion of system setup, the tracking system will become operational in Year 2 with fishermen participating, transport of fish to market and linkages to buyers.		Planned Can proceed as scheduled following full system test and trial purchases
Activity 1.7 Upon completion of system setup, users (fishers, transporters, buyers) will be trained in system and component operation. This training will occur repeatedly throughout the project to allow for training of new entrants.		Underway. Current participants have been trained, training workshops will continue for new entrants.
Activity 1.8 Regular, scheduled reporting of project activities and progress will be provided to partners, stakeholders, funders and local and national government agencies.		Underway
Activity 1.9 One UoE based Masters student and two UCS based undergraduates will conduct research projects to assess the project and its impacts on the fishery and bycatch.		Underway. UoE MSc student has been identified and is completing his thesis will be completed by August 2016. One of two UCS undergraduate students identified with anticipated thesis completion date of June 2016.
Output 2. Fishers organized and participating in sustainable fishing. Fishers in the network will benefit from training and technology transfer to reduce their bycatch of threatened and endangered species and will benefit from access to the product tracking system and availability of buyers.	-An increase in vessels, project coordinator and student trained, mitigation techniques are being used, workshops and meetings are held.	Students and project coordinators have been identified and trained, as well as the 20 fishers that already participate in the project. Workshops have been held in San Jose port, and 6 other Peruvian.
Activity 2.1. Through repeated workshops fishers in San Jose and other ports along the coast will be informed about the project and bycatch mitigation and be encouraged to participate in the project.		Underway A total of 32 workshops have been held along the Peruvian coast, in 7 ports ports (San Jose, Salaverry, Tambo de Mora, Mancora, Callo, Ilo). 10 of these workshops were held in San Jose port.
Activity 2.2. Field coordinators from ProDelphinus and Universidad Cientifica staff will be identified and trained in project goals, methods and protocols.		Completed 6 in-port and 6 ProDelphinus staff identified and trained. One UCS student trained and search for second student underway.

Activity 2.3 Fishers who agree to participate in the project will be required to self-report on their catch and bycatch. This will allow the project to monitor the effectiveness of the sustainable fishery practices and technologies employed.		Underway 20 fishermen from 5 vessels have participated in monitored trips. 98 fishing trips monitored and reported in Year 1. 16 vessels from San Jose also use mitigation tools and self-report their fishing-trips.
Activity 2.4 Necessary bycatch mitigation equipment &technology is obtained, imported into Peru or fabricated domestically.		Completed LED lights, pingers and line cutters have been purchased and delivered to ports of Peru, including San Jose.
Activity 2.5 Development of fishery monitoring protocols and forms for use by fishers and observers.		Completed Protocols and data sheets have been designed and given to fishers. Trained observers and fishermen have returned datasheets that are entered and managed by ProDelphinus in a fishery monitoring database.
Activity 2.6 A subset of fishing trips by project participant vessels will be monitored by trained onboard observers at intervals throughout the project to provide detailed assessments of catch and bycatch and to complement and compare with information collected by participating fishers through self-reporting.		Underway 6 trips have been supervised by ProDelphinus staff.
Activity 2.7 Annual summary reports will be prepared and provided to project participants, stakeholders, funders and government offices assessing fisher participation, fishery impacts (i.e. catch and bycatch).		Completed
Activity 2.8 Regular meetings will be held with local and regional government officials to detail the goals and objectives of the project, to report on project progress and to highlight the potential for the initiative to be implemented more broadly.		Underway 9 meetings were held with local and regional governmental organizations, including the Ministerio de Ambiente (Ministry of Environment), Ministerio de Produccion (PRODUCE, FONDEPES, SANIPES).
Output 3. End-users engaged and participating through fish purchases. **End users (restaurants, distributors, markets) will have more direct communication and access to fishers allowing for a predictable supply of sustainably caught products and allowing for differentiation of their product or service in the marketplace.**	-Restaurants and supermarkets contacted, workshops are held,	Underway Meetings have been held with end-users to present project: Tottus supermarkets, Gaston Acurio Restaurants group, Inkaterra hotels and restaurants, etc.
Activity 3.1 Workshops will be held at regular intervals through the duration of the project with restaurant owners, chefs and fish buyers and		Underway 6 workshops have been held with possible end-user markets. We have contacted

distributors in Lima, Peru to raise awareness of the project and promote buy-in and participation.	Tottus, a nation-wide supermarket, Gaston-Acurio Restaurants, Inkaterra hotels and restaurants as well as individual restaurant owners (Bravo Restobar, La Balanza restaurant, KuMar restaurant, La Verdad de la Milanesa, ONO Sushi Bar).
Activity 3.2 Multiple interchange events will be scheduled to bring restaurant owners, chefs and fish buyers to ports to introduce them to fishers involved in the project, raise awareness of the challenges and pressures fishers face and to encourage the development of new, deeper partnerships and relationships between project participants.	Underway
Activity 3.3 Workshops and interchange events (Activities 3.1 & 3.2) will provide the opportunities to identify those interested in participating in the project and subsequently provided more detailed information on the project and its components.	Underway
Activity 3.4 Multiple awareness materials in various formats (print, t-shirts, web, press release, etc.) will be designed and produced for use in workshops and interchange events and also to raise awareness among consumers at participating restaurants of the project and its participants.	Underway Field Identification guides were printed and given to fishers from 7 ports on the following subjects: Marine mammals, Sea turtles, Rays and Mobulids. A presentation card was also designed for the BoVeda App to give to restaurants and interested public.
Activity 3.5 With the initiation of the operational tracking system in Q1 of Year 2, monthly orders will begin to be placed by buyers for fulfilment by the fisher network.	Planned
Activity 3.6 A video will be produced promoting the project concept and highlighting the participants (fishers, restaurants, etc.) for use at meetings and workshops and in other media content (internet, smartphone apps).	Completed
Activity 3.7 The ProDelphinus smartphone application 'BoVeda' will be updated to include information about the project for consumers and end-users.	Planned

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
Impact: The marine biodiversity of Peru is preserved through a system that more equitably distributes conservation costs, alleviates poverty in coastal communities and promotes fishery and species sustainability.			
Outcome: An integrated model system promoting marine biodiversity conservation, small-scale fishery sustainability and a traceable marketplace for sustainably fished products that distributes conservation costs and promotes fisher empowerment and poverty alleviation.	• Measurable declines in bycatch and/or mortality rates of protected marine fauna resulting from the implementation of mitigation measures by participating fishermen. • A functioning pilot marketplace tracking system in one fishing port allowing for sustainably fished products to Lima markets. • A doubling to ten fishing vessel (70 fishermen, 10 owners) participating in the fisher network • Increased profitability for participating fishers by 25% in this poor fishing community through participation in the product tracking system	• Data collection by fishermen and trained observers on fishery catch and bycatch (catch quantities, bycatch rates, mortality rates) allowing for analysis and reporting on effectiveness of sustainability practices. • Organizational documents and reporting forms allowing for assessment of participation in fisher network and use of sustainable fishery technologies. • Data collecting and analysis of tracking system components allowing for assessment of its functionality. • Data collection on fish product tracking and sales record to assess effectiveness of the system	• A1 Project partners and stakeholders, especially fishermen, retain commitment to sustainable fishing practices and the use of the tracking system. • A2 Retention of key staff and/or ability to appoint replacements. • A3 There are no major economic disruptions affecting the fisheries and stakeholder capacity to prioritise need for resource management. • A4 Techniques and/or technologies can be identified and implemented to reduce negative interactions of the fishery with protected marine fauna.
Outputs: **1**. Establishment of the first pilot ocean-to-market monitoring system in one small-scale fishing port in Peru allowing for monitoring of fisher compliance with sustainable fishing norms and for fish products to be differentiated and tracked to buyers.	1a. In-port staff identified. 1b. Key stakeholder groups participate in a scoping trip. 1c. 100% of necessary equipment and technologies will be acquired, installed and tested. 1d. System components (at-sea and in port) are operating successfully and in tandem with two test deliveries to end-users completed. 1e. Beginning Q1 of Year 2 begin receiving at least one monthly standing	1a Press releases 1b Workshop reports, interim field reports, Darwin project website and blog. 1c Annual report by end of years 1 and 2. 1d Project resources 1e Promotion materials developed by buyers highlighting their participation in the project. 1f National or International conference and meeting presentations on the project.	A1 Project partners and stakeholders, especially fishermen, retain commitment to sustainable fishing practices and the use, management and maintenance of the tracking system and willingness to purchase through the network. A2 Retention of key staff and/or ability to appoint replacements. A3 There are no major economic disruptions (anthropogenic or natural) affecting the fisheries and stakeholder capacity to prioritise need for resource

	order from end users. 1f. Training sessions held with system users. 1g. Two annual reports prepared and provided to stakeholders. 1h. One Master's Thesis (UoE) and two undergraduate theses (UCS) completed.		management.
2. Fishers organized and participating in sustainable fishing. Fishers in the network will benefit from training and technology transfer to reduce their bycatch of threatened and endangered species and will benefit from access to the product tracking system and availability of buyers.	2a Through engagement and awareness raising activities, participation in the fisher network in the port of San Jose will be doubled to 10 vessels (~70 fishers, 10 vessel owners) by the end of Year 1 with these vessels employing the recommended sustainable fishing practices and equipping their vessels to participate in the vessel to market monitoring system. 2b 2 students and 1 ProDelphinus project coordinator identified and trained in project goals, methods and protocols. 2c Mitigation technologies and strategies will be identified and implemented consistently by fishermen in the network to reduce the bycatch of marine mammals and sea turtles. Existing technologies can be We estimate a decline in small cetacean catch rates of approximately 40% and decreased sea turtle mortality of 30%. 2d Self-reporting and independent onboard observer monitoring will be initiated with participating fishing vessels beginning in Year 1 and continuing throughout the project to allow for monitoring and quantification of fishing effort and bycatch rates. (approx. 48 self-reported trips over 2 years, per vessel; approx. 480 total	2a Press releases 2b Workshop reports, interim field reports, Darwin project website and blog. 2c Annual report by end of years 1 and 2. 2d Project resources 2e Promotion materials developed by buyers highlighting their participation in the project. 2f National or International conference and meeting presentations on the project.	A1 Project partners and stakeholders, especially fishermen, retain commitment to sustainable fishing practices and the use, management and maintenance of the tracking system and willingness to purchase through the network. A2 Retention of key staff and/or ability to appoint replacements. A3 There are no major economic disruptions (anthropogenic or natural) affecting the fisheries and stakeholder capacity to prioritise need for resource management.

	reports). At least 75% participating fishermen submitting self-report forms per month regarding their catch and bycatch. 2e 24 workshops held with fishers over 2 years to promote participation in the project. 2f 100% of necessary equipment is obtained, imported into Peru or fabricated domestically. 2g A minimum of three reporting forms with guidance documents prepared covering fisher self-reporting, product tracking and product commerce. 2h 12 onboard observer trips completed as an independent assessment of fishery catch and bycatch and to augment fisher self-reporting forms. 2i 2 annual reports prepared summarizing fisher participation in the project and fishery impacts (catch and bycatch levels and characteristics). 2j 6 meetings with local and regional government officials to promote the project.		
3. End-users engaged and participating through fish purchases. End users (restaurants, distributors, markets) will have more direct communication and access to fishers allowing for a predictable supply of sustainably caught products and allowing for differentiation of their product or service in the marketplace.	3a Through engagement and awareness raising activities throughout Year 1, 5 restaurants, 1 supermarket chain, and 1 distributor will begin buying products from the fisher network by the beginning of Year 2. 3b 16 workshops held over 2 years to promote growing participation in the project by end-users (e.g. markets, distributors, restaurants). 3c 3 interchange events held with at least 15 participants to promote raised awareness among stakeholders of the	3a Press releases 3b Workshop reports, interim field reports, Darwin project website and blog. 3c Annual report by end of years 1 and 2. 3d Project resources 3e Promotion materials developed by buyers highlighting their participation in the project. 3f National or International conference and meeting presentations on the project.	A1 Project partners and stakeholders, especially fishermen, retain commitment to sustainable fishing practices and the use, management and maintenance of the tracking system and willingness to purchase through the network. A2 Retention of key staff and/or ability to appoint replacements. A3 There are no major economic disruptions (anthropogenic or natural) affecting the fisheries and stakeholder capacity to prioritise need for resource

	tasks and challenges faced by each, and to promote opportunities for additional, unforeseen collaborations. 3d A minimum of 30 end-users identified who are interested in receiving more information on the project and for possible participation in the product tracking system 3e 8 education materials designed in a variety of formats and 2 press releases prepared. 3f In project Year 2 the monitoring system shifts to full implementation with regular, reliable monthly deliveries 3g 1 video produced about the project and the BoVeda smartphone application update.		management.

Activities

1.1 Project personnel to conduct a site visit to begin coordination with project participants.
1.2 Identify personnel that will operate tracking system locally, and liaise with project partners (fishers, PD, end-users).
1.3 Prepare a detailed assessment of port & tracking network system to address in establishing the system.
1.4 Necessary equipment and technologies will be acquired, installed and tested.
1.5 A full system test will be conducted to ensure the traceability monitoring is operating as a coordinated system.
1.6 Tracking system will become operational in Year 2 with fishermen participating, transport of fish to market and linkages to buyers.
1.7 Users (fishers, transporters, buyers) will be trained in system and component operation.
1.8 Regular, scheduled reporting of project activities and progress will be provided to partners, stakeholders, etc.
1.9 One UoE based Masters student and two UCS based undergraduates will conduct research projects on project.

2.1 Through repeated workshops fishers in San Jose and other ports along the coast will be informed about the project and bycatch mitigation.
2.2 Field coordinators from PD and UCS staff will be identified and trained in project goals, methods and protocols.
2.3 Fishers who agree to participate in the project will be required to self-report on their catch and bycatch.
2.4 Necessary bycatch mitigation equipment &technology is obtained, imported into Peru or fabricated domestically.
2.5 Development of fishery monitoring protocols and forms for use by fishers and observers.
2.6 A subset of fishing trips by project participant vessels will be monitored by trained onboard observers at intervals throughout the project.
2.7 Annual summary reports will be prepared and provided to project participants, stakeholders, etc.
2.8 Regular meetings will be held with local and regional government officials to detail goals, project progress and highlight the potential for the initiative to be implemented more broadly.

3.1 Workshops will be held at regular intervals through the duration of the project with end-users (restaurant owners, chefs).

3.2 Multiple interchange events will be scheduled to bring restaurant owners, chefs and fish buyers to ports to introduce them to fishers involved in the project and to encourage the development of new, deeper partnerships and relationships between project participants.
3.3 Workshops and interchange events will provide the opportunities to identify those interested in participating in the project and subsequently provided more detailed information on the project and its components.
3.4 Multiple awareness materials in various formats will be designed and produced for use in workshops and interchange events.
3.5 Monthly orders will begin to be placed by buyers for fulfilment by the fisher network.
3.6 A video will be produced promoting the project concept and highlighting the participants (fishers, restaurants, etc.) for use at meetings and workshops.
3.7 The ProDelphinus smartphone application 'BoVeda' will be updated to include information about the project for consumers and end-users.

Annex 3 Standard Measures

Please note, standard measures were not included as part of the project application form and, as a result, target values were not established. We have included measures of all activities that apply and included target values for those items for which we established a target value elsewhere in our proposal. For all other items for which a target value was not established we have entered 'na'.

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Total planned during the project
2	Number of people to attain Masters qualification (MSc, MPhil etc)	Male	UK	0	1
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)	1 Female	Peru	0	2
4A	Number of undergraduate students to receive training	1 Female	Peru	1	2
4B	Number of training weeks to be provided			48	Na
4C	Number of postgraduate students to receive training	Male	UK	1	1
4D	Number of training weeks to be provided			12	Na
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	1M, 4F	Peru	5	Na
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	391M, 44F	426 Peru 3 Chile 3 Ecuador 3 Colombia	435	Na
6B	Number of training weeks to be provided			10	Na
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country			7	Na
8	Number of weeks to be spent by UK project staff on project work in the host country			62	Na

11A	Number of papers to be published in peer reviewed journals			6	Na
12B	Number of computer based databases to be **enhanced** and handed over to host country			2	Na
14A	Number of conferences/seminars/ workshops to be **organised** to present/disseminate findings			2	Na
14B	Number of conferences/seminars/ workshops **attended** at which findings from Darwin project work will be presented/ disseminated.			5	Na
15A	Number of national press releases in host country(ies)			3	Na
15C	Number of national press releases in UK			2	Na
15D	Number of local press releases in UK			2	Na
17A	Number of dissemination networks to be **established**			1	Na
19A	Number of national radio interviews/features in host county(ies)			1	Na
19C	Number of local radio interviews/features in host country(ies)			1	Na
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)			£17,200	Na
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work			£116,624	Na

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)
What barcode sequencing	Journal	Ximena Velez-Zuazo, Joanna	Female	Peru	Fisheries Research	Publishers website

reveals about the shark fishery in Peru.		Alfaro-Shigueto, Jeffrey Mangel, Riccardo Papaa, Ingi Agnarssone. 2015				
Unveiling an Important Humboldt Penguin (Spheniscus humboldti) Breeding Colony in Perú and the Need for Its Protection Against the Potential Impact of Guano Harvest	Journal	Carlos B. Zavalaga and Joanna Alfaro-Shigueto	Male	Peru	Waterbirds	Publishers website
Reducing green turtle bycatch in small-scale fisheries using illuminated gillnets: The cost of saving a sea turtle	Journal	Natalia Ortiz, Jeffrey C. Mangel, John Wang, Joanna Alfaro-Shigueto, Sergio Pingo, Astrid Jimenez, Tania Suarez, Yonat Swimmer, Felipe Carvalho, Brendan J. Godley	Female	Peru	Marine Ecology Progress Series	Publishers website
The intentional harvest of waved albatrosses Phoebastria irrorata by small-scale offshore fishermen from Salaverry port, Peru.	Journal	Alfaro-Shigueto, J, Mangel, J., Valenzuela, K., Arias-Schereiber, M. 2016.	Female	Peru	Pan-American Journal of Aquatic Sciences,	Publishers website
Hematologic, Morphometric and Biochemical Analytes of the clinically healthy Green Sea Turtle (Chelonia mydas) in Peru.	Journal – *In press*	Suarez-Yana,T., Montes, D., Zuñiga, R., Mangel, J.C., Alfaro-Shigueto, J.	Female	Peru	Chelonian Conservation Biology	Publishers website
Diagnóstico sobre el estado	Book	Elizabeth Campbell and	Female	Peru	WWF, Lima, Peru	link

de conservación de delfines de río y manatíes amazónicos. Chapter 12 in: Diversidad biológica del sudeste de la Amazonía Peruana: avances en la investigación.		Joanna Alfaro-Shigueto				