



Darwin Initiative 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 about 10 pages in length, excluding annexes

Submission deadline 30 April 2011

Darwin Project Information

Project Ref Number	18-009
Project Title	Saving the Madagascar Pochard: the world's most endangered duck
Country(ies)	Madagascar
UK Contract Holder Institution	Durrell Wildlife Conservation Trust
Host country Partner Institution(s)	Durrell – Madagascar, Asity Madagascar and Le Ministère de L'Environnement et Forêts (Government of Madagascar).
Other Partner Institution(s)	The Wildfowl & Wetlands Trust, The Peregrine Fund,
Darwin Grant Value	£282, 441
Start/End dates of Project	1 st April 2010-31 st March 2013
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 st April 2010-31 st March 2011 Annual Report number1
Project Leader Name	H Glyn Young
Project website	
Author(s) and main contributors, date	H Glyn Young (Durrell), P Cranswick (WWT), L Woolaver (Durrell Madagascar) and L-A Rene de Roland (TPF). 30 th April 2011

1. Project Background



The Madagascar Pochard (*Aythya innotata*), the most threatened duck and possibly most threatened bird in the world, was believed extinct for 15 years until rediscovered in 2006. Historically best known from the extensive wetlands around Lake Alaotra, today around 20 birds exist in the wild in two small lakes, in north-western Madagascar near Bemanevika; the species is classified as Critically Endangered by IUCN. Birds breed in a tiny area of one of the lake's shorelines, and although more than 10 nests were found in 2007 and 2008, no ducklings survived in 2008. Observations in 2009 revealed a skewed sex ratio, with just 6–8 females. The lake now has temporary statutory protection with the aim of completing full protected area status by the end of 2012.

Given the imminent risk of extinction, the project partners undertook emergency action in October 2009. Three clutches of eggs were extracted from the wild and 24 ducklings are being reared by Durrell and WWT aviculturalists in a temporary holding facility at the Ampijoroa Field Station, Ankarafantsika National Park. All ducks are doing well under expert care. The emergency activity in 2009 has enabled us to prove the viability of several aspects of our methodology. Our plans for extraction have been shown to be successful, and sufficient to overcome logistical and practical difficulties of working, and applying UK rearing practices, in this part of Madagascar. It has also greatly increased the chances that birds will be available for a conservation-breeding programme beginning in 2011, even if the species becomes extinct in the wild in the meantime.

The long-term aim of this project is to establish a viable population of Madagascar Pochard in the wild, through a conservation-breeding and release programme to restore the species in its former range. The purpose of this project is to ensure the immediate survival of the species, initiate the breeding programme through development of a purpose built Pochard Conservation Breeding Centre near the regional town of Antsohihy and facilitate participation of the local community in conservation actions at the breeding lakes.



Female (left) and male Madagascar Pochard *Aythya innotata* at Bemanevika 2010. Photo by Iñaki Relanzon <http://www.photosfera.com/>

2. Project Partnerships

This project has three local and three international partners and has collaborated through signed MoUs since 2009.

The three host country partners are: Durrell Wildlife Conservation Trust Madagascar (Durrell Madagascar), Asity Madagascar (a BirdLife Affiliate) and le Ministère de L'Environnement et des Forêts (for the Government of Madagascar). All three organizations have offices in Antananarivo. Asity Madagascar is responsible for awareness programmes (CEPA) and will undertake this work principally in the area of the existing wild pochard population but eventually in the vicinity of the captive population, selected potential release sites and nationally through the media. Durrell Madagascar provides full logistical support and all locally-employed project staff and temporary technicians are employed through this partner.

There are two further, international, partners: The Peregrine Fund (TPF) and the Wildfowl & Wetlands Trust (WWT). TPF, who rediscovered the pochard during fieldwork in the area, are responsible for site protection at the Bemanevika lakes including the development of plans for full national site recognition. TPF are represented in Madagascar through their in-country office and full-time local staff; however, the Project also maintains contact with USA based personnel. TPF scientists undertake monthly systematic pochard counts at the four lakes at the Bemanevika site and undertake directed research projects on pochard ecology. WWT provide essential expertise in management of wild and captive wildfowl populations and methodologies for emergency extraction of birds from the wild. WWT are undertaking the design and planning of the breeding centre and have raised extensive funds (c. £150,000) for this part of the project from several donors (e.g. Mitsubishi Corporation Fund for Europe and Africa).

The Project partnership has been very effective and well received. Durrell Madagascar organise monthly meetings between in-country partners (Durrell Madagascar, TPF and Asity Madagascar) in Antananarivo. Regular meetings are held with government and elected officials at national, regional and local level.

Other collaborations during this Project year have been in research and veterinary support:

WWT received funding on behalf of the Project (£60,000 from BBC Wildlife) to initiate a long-term research programme to investigate fully the ecology of the pochard and to identify suitable release sites for captive-bred birds. This programme will be jointly supervised by WWT and Durrell, include local and international researchers and enable Madagascar students to complete post-graduate qualifications including at least one PhD. Recruitment for a Senior Research Officer to undertake research for the Madagascar Pochard recovery programme began in January 2011 and the successful candidate was chosen in March.

Professor Mike Bruford, Cardiff University, will undertake genetic studies aimed to determine relationships of the captive population.

Durrell has supported Tsanta Fiderana Rakotonanahary, a veterinary student from Université d'Antananarivo, Faculté De Médecine, in veterinary studies of the captive pochard and Chelonian populations. Tsanta's doctoral thesis is assessing the efficacy of vaccinating the captive pochards linked with a programme of ring-vaccinations of domestic poultry in villages around the Ampijoroa facility. In 2011 Tsanta was funded to attend the 12 week DESMAN (Durrell Endangered Species Management Graduate Certificate) course run in conjunction with University of Kent at Durrell in Jersey (<http://www.durrell.org/Training/Courses/>) from February 2011. Tsanta's DESMAN project is *Wildfowl diseases surveillance in the North-West Region of Madagascar (Sofia Region)* and she will undertake a period of internship on the Durrell (Jersey) Veterinary Department before her return to Madagascar.

3. Project progress

There have been delays in the progress of significant parts of the original Year 1 plan. When birds were extracted from the wild at Bemanevika in 2009, assurances were made to local and regional authorities that the captive population would remain in the Region of Sofia. However, following serious threats to Project personnel from armed bandits in December 2009, the Project was moved to Durrell Madagascar's Chelonian Breeding Centre at the Ampijoroa Station, Ankarafantsika NP, Boeny Region. This move was made following advice from the British Consulate in Madagascar and with the full support of National and Regional authorities including the gendarmerie. Progress of the Project is considered dependent on the captive flock returning to Sofia and to date the procedure to identify a suitable site for the Pochard Conservation Breeding Centre has proven slower than predicted. A site, at Anjingo on the road east of Antsohihy (see Annex 3), has been identified and lengthy negotiations to develop this site (land ownership will be retained by the government and the Project will become the leaseholder) are now complete. Site supervision and contractors are now being sought. A house in Antsohihy has now been rented to provide Project staff with an office and this site will be developed to provide early stage rearing for captive and wild-produced pochard eggs (see below).

As birds have not yet returned to Sofia the Project felt that, while fully supported by National Government, it was unwise to seek approval for further extraction (planned for August-November 2010) and the planned collection of eggs was transferred to Year 2 and a request to transfer £39,264 was approved by Darwin Initiative.

3.1 Progress in carrying out project activities

1. Establish Project management team and planning structure

The partners have established a management structure based from Durrell in Jersey and WWT in UK and managed locally by Durrell Madagascar. A core of six UK-based personnel communicate regularly and link with Durrell Madagascar through e-mail, Skype and telephone. Durrell and WWT Project teams have met annually at WWT, Slimbridge and during field time in Madagascar. Durrell Madagascar organise monthly meetings with TPF and Asity Madagascar in Antananarivo whenever possible and regularly meet with local, regional and national government representatives. Monthly reports are circulated throughout the Project and all partners (see below).

2. Research prioritisation and development of collaborative studies

Research priorities have been identified and include both the ecology of the Madagascar Pochard itself and husbandry related to the captive-breeding programme. Sam The Seing (TPF) completed his DEA thesis (equivalent of Master's Degree) *Etude bio-écologique et évaluation quantitative de la population de Fuligule de Madagascar Aythya innotata dans le complexe lacustre de Bemanevika, Bealanana*. Research into the wild population particularly that which will direct the reintroduction of captive-bred birds in the future, will be overseen directly by WWT and Durrell through the appointment of a WWT Senior Research Officer who will start work in Madagascar in June 2011.

Analyse genetic diversity of captive founders and recommend pairings

Blood samples have been collected from all 23 birds (three clutches) that reached maturity in 2009/2010. These samples have undergone lengthy delays in receiving permits but are now in Jersey and will be analysed at University of Cardiff. This delay does not influence management practices yet and will become most important after the population begins breeding (potentially from 2011) and after further birds are extracted from the wild population.

Hold Recovery Plan workshop, action plan published and circulated

This has been delayed and will be undertaken after the WWT-directed research programme is underway.

3. Build captive-breeding facility

While completely funded outside of the Darwin funds (see above), building work has been delayed through the lengthy process of site identification and legal and administrative processes. The plans for the Pochard Conservation Breeding Centre (PCBC) have been modified following identification of a suitable site at Anjingo. The site, on the recently re-paved road from Antsohiy to Bealanana, is an area of open land close to a significant river with year-round flow that is also adjacent to a well paved road and far enough from local villages to reduce disease risk from poultry (see Annex 3). The land is publicly owned and will be managed under an agreement with the national government and with co-operation of regional and local authorities. There is no infrastructure in place and besides significant building required (perimeter fencing, ponds and buildings) water must be pumped from the river and waste water suitably managed. Alternative technology including solar pumps will be sourced in Madagascar. Some materials will be sent from the UK (butyl pond linings etc.) but all other materials will be sourced locally and contractors hired from the region. A construction manager to oversee all build will be employed locally and the position was advertised in local newspapers in March.

To avoid the necessity to build very specialised buildings for egg incubation and duckling rearing and in view of power and clean water needs these areas of management will be undertaken in a house/office in Antsohihy. A suitable building was identified in February and will be rented directly from the landlord who is agreeable to the building being modified where necessary. Perimeter fencing and ponds will be constructed in June. This house will provide office space for Project personnel and limited accommodation for visitors as well as holding incubation and rearing facilities. It is expected that with eggs coming directly from the wild or the PCBC and fledged birds moving to the PCBC at c. 15 weeks old the house will only host birds for six months in any year.

Recruit avicultural and support staff

Junior staff such as avicultural assistants and site gardiens etc. are not specifically employed by the Project yet as these are best sourced close to the Anjingo and Antsohihy facilities in part to reduce transport and accommodation costs but also to engender local support. These roles are currently undertaken at Ampijoroa by staff of the Chelonian Breeding Centre. Felix Razafindrajaio (Durrell Madagascar) has become Project Supervisor and Floriot Randrianarimangason was employed (through Durrell Madagascar) as manager of the captive population in May 2010. Floriot undertook training at Durrell in Jersey and WWT at Slimbridge (UK) in mid-2010. Veterinary cover (through expenses and institutional support) at Ampijoroa has been maintained by trainee veterinarian Tsanta Fiderana Rakotonanahary and it is hoped that Tsanta will continue to be involved following graduation. Rasolofinirina Andrianarivony (Nary) was employed in February as Project driver (a dedicated vehicle was purchased through private funding in late 2010).

The Project has also employed a full-time Environmental Education Office, Jacques-Live Rajaonarison, through Asity-Madagascar. Jacques-Live will be based at Bealanana in order to work initially in the region of the wild duck population. The Peregrine Fund have maintained a presence at the lakes near the village of Bemanevika and Project funds have supported their team in order to maintain site security and to assist visitors. Jacques-Live will be based at the TPF office in Bealanana.

4. Collect eggs from wild birds and establish breeding pairs in captivity

Following delays in the construction of the PCBC and the temporary housing of the captive population outside of Sofia, collection of further eggs has been postponed and will be undertaken in Year 2.

5. Develop local partner's capacity for CEPA training and establish CEPA training in Bemanevika area

A full-time dedicated Project Environmental Education Officer was employed through Asity Madagascar in January 2011. Jacques-Live Rajaonarison will be based at Bealanana and work in the villages and towns in the Bemanevika/Bealanana area to start with. Jacques-Live developed a draft work plan which will be completed after he has had more contact with the local people at the site. Jacques-Live has also begun to design a series of posters for distribution throughout local official offices and schools etc. Posters will be in French (see Appendix 3) for offices etc but will be produced in Malagasy for schools and other sites. Equipment including a laptop computer, printer, projector and other materials were bought for this programme.

6. Protection of Bemanevika site

TPF have succeeded in getting the site, Bemanevika Protected Area, established as a Nouvelles Aires Protégés (NAP: New Protected Area) a significant feat in current political conditions. A Management Plan of the NAP was developed in collaboration with the local communities and The Environmental and Social Safeguard Plan (ESSP) was finalized. This latter document outlined the principle mitigating measures such as wildfire prevention and management, ecotourism development, reforestation activities, apiaries and the environmental

education programme. A Business Plan document was finalized. During the lengthy process of developing a NAP, the site is given the status of 'Temporary Protected Area' giving it the full legal protection of a NAP but with a time limit (end of 2012). On completion (in 2012) the NAP will then be declared a permanent Protected Area.

NAP boundary markers were designed with panels within local communities following a meeting in June 2010. A local committee for wildfire prevention was established and functioning: each village has their own local fire prevention agents who were equipped with uniforms provided by The Peregrine Fund. A reforestation plan was established in collaboration with the local forest officer and TPF built nurseries at four localities around the NAP.

The Ecotourism Development Plan for Bemanevika was begun and is still on-going. A two-month field study was done by a DEA degree student from the Geography Department at the Université D'Antananarivo. This study collected basic information in order to assist the preparation of the ecotourism plan which must be finalized by July 2011.

A beekeeping development and management action plan was established. TPF created two beekeeping groups from the two local community associations around the Bemanevika Protected Area. Two stages of training were provided during November and December 2010 to the local communities, on the integration of traditional and modern apiculture systems at Bemanevika village.

7. Establish national awareness programme through local media and publicity materials

The Madagascar Pochard has been reported in local media but national coverage has been deliberately muted while the captive birds are not in Sofia. There will be official launches to the Project when the birds are moved to completed PCBC facilities later in 2011.

3.2 Progress towards Project Outputs

1. Project effectively managed and coordinated

Project is well managed by core team from partners both overseas and locally. Meetings are held monthly in Antananarivo and annually in UK. Co-ordination on the ground is overseen mostly by Lance Woolaver and Felix Razafindrajao in partnership with Lily-Arison Rene de Roland (TPF) and Vony Raminoarisoa (Asity Madagascar). As the captive facilities are established it is possible that a more specific co-ordinator might be required.

2. Key conservation needs for Madagascar Pochard identified

A full-time in-country research project to determine ecology of the Madagascar Pochard will begin in June 2011 with the arrival in Madagascar of the WWT-funded research officer, identification of local post-graduate candidates and development of a workplan.

3. Conservation-breeding programme and Malagasy capacity for aviculture established

With land lease arrangements in place, work on the PCBC facilities in Antsohihy and Anjingo will begin in June or July 2011 with birds moving to these sites before the end of the year. The Malagasy avicultural and veterinary staff base already under development with the birds at Ampijoroa will be further enhanced with local recruitment and training.

4. Malagasy capacity for environmental CEPA of Madagascar Pochard established

The recruitment by the Project of Jacques-Live Rajaonarison and development of a workplan by Asity Madagascar will be fully developing a Malagasy environmental CEPA for the pochard in the region of the wild population, and will be extended when re-introduction sites are identified.

5. Long-term protection of Bemanevika secured

TPF have achieved the interim goal of having the Bemanevika Protected Area recognised by the Government of Madagascar. The site is currently a Nouvelles Aires Protégés with

Temporary Status. The site is given the status of 'Temporary Protected Area' giving it the full legal protection of a NAP but with a time limit (end of 2012). On completion (in 2012) the NAP will then be declared a permanent Protected Area.

3.3 Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Number planned for this reporting period	Total planned from application
3	Qualification	1						
4B	No. of training weeks	7						
6A	No. of people receiving training	1						
6B	No. weeks training	18						
8	No. weeks UK staff in host country	44						
15C	No. UK press	1						
15D	No. UK local press	1						
16A	No. newsletters	11						
19A	Radio in host country	1						
19B	Radio in UK	2						
23	Resources raised from other sources	Car @ £25,000						

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Manual	Madagascar Pochard Conservation Population Health Protocols. 2011. Lopez, Sanderson, Joiner et al.	Durrell Wildlife Conservation Trust	Durrell www.durrell.org/	N/A
Webpage	IUCN Species of the day 24/4/2010	IUCN	www.iucnredlist.org/sotdfiles/aythya-innotata.pdf	N/A
Article	Back from the brink. 2010. Jeggo, Whitford & Young.	EAZA News	EAZA www.eaza.net	N/A
Article	Fuligule de Madagascar. 2010. Aviornis, Young & Lewis.	AVIORNIS France	Aviornis, France www.aviornis.fr	N/A

Article	Find us, keep us. 2011. Jarrett.	WWT . Waterlife.	WWT www.wwt.org.uk/	N/A
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3.4 Progress towards the project purpose and outcomes

Despite some unavoidable delays with undertaking activities originally planned for Year 1, the project has progressed well.

3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits

Protection of the site at Bemanevika and establishment of a Nouvelles Aires Protégés by TPF in partnership with the Project has had a remarkable impact on biodiversity protection in this area of Madagascar. Besides the pochard, this site holds several identified endangered and highly localised bird, mammal, reptile and amphibian species. Further biological assessment of this area of rare north-western High Plateau forest will undoubtedly yield even more plants, animals and habitat types of significance. TPF and Asity Madagascar will develop community based programmes of co-operation and environmental education that will ensure understanding and protection of the NAP and local resources.

4. Monitoring, evaluation and lessons

Direct monitoring of this project is difficult due to remoteness of the locations of the wild pochard population and, less dramatically, all existing and planned captive facilities. To date monitoring from outside of the Project has come from visitors to the sites from non-Project personnel from partners, and through the views of government officials, local people and tourists.

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

6. Other comments on progress not covered elsewhere

7. Sustainability

The Madagascar Pochard has been identified as one of the rarest vertebrates in the world and this duck has a very high profile (see the books *Facing Extinction* and *Atlas of Rare Birds* that were published in 2010). Significant amounts of funding have been received from outside of the Darwin Initiative grant and conservation work for the bird and the Bemanevika Protected Area will continue. The pochard has become a *cause célèbre* locally and this public mood will be utilised to further ensure support.

8. Dissemination

Monthly reports have been produced throughout project 18-009 and are sent each month to all members of Project team, including all personnel who have worked with the captive duck population in Madagascar, and valued supporters such as Mauritian Wildlife Foundation. These reports are e-mailed to nine Madagascar addresses within local, regional and national government. There have been regular updates on the captive population at <http://www.wwt.org.uk/our-work/wetland-wildlife/madagascar-pochard/wwt-team-pochard-blog> and at <http://blog.durrell.org/> The Project website has been drafted and will go live by June 2011 when the Project logo will be launched.

9. Project Expenditure

Table 3 Project expenditure during the reporting period (Defra Financial Year 1 April 2010 to 31 March 2011)

Item	Budget (after accepted carry-over to Y2 with original figures in brackets)	Expenditure	Variance
Rent, rates, heating, overheads etc			
Office costs (eg postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment (specify)			
Others (specify)			
Salaries (specify by individual)			
TOTAL			

10. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum). This section may be used for publicity purposes

I agree for LTS and the Darwin Secretariat to publish the content of this section

It is not often that one gets a second chance in conservation. The Madagascar Pochard *Aythya innotata* had become so rare that in 2004 it was thought to have gone extinct and been lost forever. However, in 2006, a tiny population was discovered near the village of Bemanevika high in the mountains of Madagascar's central plateau. Having disappeared elsewhere through the combined effects of habitat loss and competition from introduced fish in the lakes it inhabited, this remote location offered the only remaining haven for the species.

A partnership of Durrell Wildlife Conservation Trust, the Wildfowl and Wetlands Trust, The Peregrine Fund, whose scientists rediscovered the duck, have joined forces with Durrell Madagascar, Asity Madagascar and the Government of Madagascar to ensure the species' survival. With the remaining population containing only 20 ducks at a single location, it was imperative to act quickly as any environmental disturbance could wipe out the last remaining population.

In November 2009, a joint expedition set out to start a conservation breeding programme for the species and establish a safety-net population. With minimal disturbance to the adult ducks, the team were able to remove three clutches of eggs from nests and have been able to rear the 23 ducklings that hatched.

This dramatic mission was a vital first step and Darwin Initiative support will allow the Project to establish a breeding programme that can be fully staffed by both trained Malagasy technicians and overseas specialists at a centre built especially for this bird and identify suitable locations to reintroduce ducks in the future. Project partner, The Peregrine Fund, have worked to establish a Protected Area at the forest site of the remaining wild population which will safeguard the ducks and other rare wildlife in this area of little-studied montane forest in the north-west of the Island's central plateau.

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2010/011

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
<p>Goal: <i>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but constrained in resources to achieve</i></p> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>			(do not fill not applicable)
<p>Purpose To avert imminent extinction of the Madagascar Pochard through recovery planning and capacity building for a conservation breeding programme, site protection and public engagement</p>	<ul style="list-style-type: none"> • Analyse genetic diversity of captive founders and recommend pairings • Key limiting factors at site identified <p>Species recovery plan endorsed by Government by Y3</p>		
<p>Output 1. Project effectively managed and coordinated</p>			
<p>Activity 1.1. Establish Project management team and planning structure</p>		<p>Management structure established, based from Durrell in Jersey and WWT in UK. Managed in host country by Durrell Madagascar in communication with Durrell and WWT through e-mail, Skype and telephone. Durrell and WWT meet annually at WWT, Durrell Madagascar organise monthly meetings with TPF and Asity Madagascar in Antananarivo. Monthly reports are circulated throughout the Project and all partners (see below).</p>	
<p>Output 2. Key conservation needs for Madagascar Pochard identified</p>			
<p>Activity 2.1. Research prioritisation and development of collaborative studies</p>		<p>Research priorities have been identified and include both ecology of the Madagascar Pochard and husbandry related to the captive-breeding programme. Research into the wild population particularly that which will direct the reintroduction of captive-bred birds in the future, will be overseen directly by WWT and Durrell through the appointment of a WWT Senior Research Officer who will start work in Madagascar in June 2011. The planned research programme will liaise directly with the programme of TPF in the area.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
Activity 2.2. Analyse genetic diversity of captive founders and recommend pairings		Blood samples have been collected from all 23 birds that reached maturity. Samples have undergone lengthy delays in receiving permits but are now in Jersey and will be analysed at University of Cardiff. Delay does not influence management practices and will become most important after the population begins breeding (potentially from 2011) and after further birds are extracted from the wild population.	
Activity 2.3. Hold Recovery Plan workshop, action plan published and circulated		This has been delayed and will be undertaken after the WWT-directed research programme is underway.	
Output 3. Conservation-breeding programme and Malagasy capacity for aviculture established			
Activity 3.1. Build captive-breeding facility		<p>Building work has been delayed through the lengthy site identification and legal and administrative processes. Plans for the Pochard Conservation Breeding Centre (PCBC) have been modified following identification of a suitable site at Anjingo. This site is an area of open land close to a river with year-round flow. Land is publicly owned and will be managed under an agreement with the national government with co-operation of regional and local authorities. A construction manager to oversee all build will be employed locally and the position was advertised in local newspapers in March.</p> <p>Specialised buildings for egg incubation and duckling rearing will be at a house/office in Antsohihy. A suitable building was identified in February. Perimeter fencing and ponds will be constructed in June. This house will provide office space for Project personnel and limited accommodation for visitors as well as holding incubation and rearing facilities.</p>	
Activity 3.2. Recruit avicultural and support staff		Felix Razafindrajaio (Durrell Madagascar) has become Project Supervisor and Floriot Randrianarimangason was employed (through Durrell Madagascar) as manager of the captive population in May 2010. Junior staff such as avicultural assistants and site gardiens etc. not specifically employed by the Project yet as these are best sourced close to the Anjingo and Antsohihy facilities when birds move. Veterinary cover (through expenses and institutional support) at Ampijoroa has been maintained by trainee veterinarian Tsanta Fiderana Rakotonanahary. Rasolofinirina Andrianarivony (Nary) was employed in February as Project driver.	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
Activity 3.3. Collect eggs from wild birds and establish breeding pairs in captivity		Following delays in the construction of the PCBC and the temporary housing of the captive population outside of Sofia, collection of further eggs has been postponed and will be undertaken in Year 2.	
Output 4. Malagasy capacity for environmental CEPA of Madagascar Pochard established			
Activity 4.1. Develop local partner's capacity for CEPA training and establish CEPA training in Bemanevika area		Project Environmental Education Officer, Jacques-Live Rajaonarison, was employed through Asity Madagascar in January 2011 and will be based at Bealanana to work in villages and towns in the Bemanevika/Bealanana area. Draft work plan will be completed after he has had more contact with the local people at the site. A series of posters for distribution throughout local official offices and schools etc are in design. Posters will be in French for offices etc but will be produced in Malagasy for schools and other sites. Equipment including a laptop computer, printer, projector and other materials were bought for this programme.	
Output 5. Long-term protection of Bemanevika secured			
Activity 5.1. Maintain protection of Bemanevika site		The Peregrine Fund team have maintained their camp at the Bemanevika site and undertaken protection of the forest and wetlands while working closely with local villages and National Government in establishing full statutory protection for the site.	
Activity 5.2. Establish statutory protection for site		<p>TPF have succeeded in getting the site, Bemanevika Protected Area, established as a Nouvelles Aires Protégés: a significant feat in current political conditions. A Management Plan was developed in collaboration with the local communities and The Environmental and Social Safeguard Plan (ESSP) was finalized. A Business Plan document was finalized. During the lengthy process of developing a NAP, the site is given the status of 'Temporary Protected Area' giving it the full legal protection of a NAP but with a time limit (end of 2012). On completion (in 2012) the NAP will then be declared a permanent Protected Area.</p> <p>NAP boundary markers were designed with panels within local communities following a meeting in June 2010. A local committee for wildfire prevention was established and functioning: each village has their own local fire prevention agents who were equipped with uniforms provided by The Peregrine Fund. A reforestation plan was established in collaboration with the local forest officer and TPF built nurseries at four localities around the NAP.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2010 - March 2011	Actions required/planned for next period
		<p>The Ecotourism Development Plan for Bemanevika was begun and is still on-going. A two-month field study was done by a DEA degree student from the Geography Department at the Université D'Antananarivo. This study collected basic information in order to assist the preparation of the ecotourism plan which must be finalized by July 2011.</p>	
<p>Output 6. Local community and national audiences support conservation of the species.</p>			
<p>Activity 6.1. Establish national awareness programme through local media and publicity materials.</p>		<p>Madagascar Pochard reported in local media but national coverage deliberately muted while the captive birds are not in Sofia. There will be official launches to the Project when the birds are moved to completed PCBC facilities later in 2011.</p>	
<p>Activity 6.2. Assess communities and undertake questionnaire surveys in Bemanevika area.</p>		<p>Not yet undertaken as CEPA work not established in region.</p>	

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
Goal: 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.			
Sub-Goal: Extinction of Madagascar Pochard averted, and its long-term future secured in the wild. The conservation of the Pochard is used to promote wetland restoration through community involvement and human livelihood support	<ul style="list-style-type: none"> • Madagascar Pochard IUCN status downgraded from CR to EN within 10 years • Existing and one new population self-sustaining in the wild within the species' historic range within 25 years • Resident community engaged in conservation activities, and environmental awareness increased by project completion 	<ul style="list-style-type: none"> • IUCN Red List • Population monitoring reports • Reports on awareness campaigns. Numbers of nationals employed by the project 	
Purpose To avert imminent extinction of the Madagascar Pochard through recovery planning and capacity building for a conservation breeding programme, site protection and public engagement.	<ul style="list-style-type: none"> • Conservation breeding programme established in-country • Species' current habitat at Bemanevika officially protected. • Community outreach programme established • Species recovery plan developed with all stakeholders 	<ul style="list-style-type: none"> • Conservation breeding programme assessed against <i>IUCN Technical Guidelines on the Management of Ex Situ Populations for Conservation</i> • Site included in Government official list of protected areas • Regular field reports produced. • Species recovery plan endorsed by Government of Madagascar 	<ul style="list-style-type: none"> • Current level of Government support for conservation continues • Stochastic events do not lead to extinction of the wild population before <i>ex-situ</i> population is established • Political stability in Madagascar allows project to be completed
Outputs 1. Project effectively managed and coordinated	<ul style="list-style-type: none"> • Annual reports and finance claims delivered on time and in budget 	<ul style="list-style-type: none"> • Annual reports and finance claims to Darwin 	
2. Key conservation needs for Madagascar Pochard identified	<ul style="list-style-type: none"> • Analyse genetic diversity of captive founders and recommend pairings • Key limiting factors at site identified • Species recovery plan endorsed by Government by Y3 	<ul style="list-style-type: none"> • Species recovery plan published, and widely circulated in-country and abroad • One scientific publication 	

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3. Conservation-breeding programme and Malagasy capacity for aviculture established	<ul style="list-style-type: none"> • Captive breeding population producing around 20 birds Y1 • Three Malagasy staff trained in aviculture, and endangered species management • Preliminary assessment of wetlands as sites for release of captive-bred birds 	<ul style="list-style-type: none"> • Updates posted in project website • Studbook created • Reports on breeding success and survival of birds in captivity • Annual avicultural assessment reports for all staff • Husbandry guidelines produced • Two scientific papers published 	<ul style="list-style-type: none"> • Fecundity of birds not affected by inbreeding depression • Political support is national stability are maintained
4. Malagasy capacity for environmental CEPA of Madagascar Pochard established	<ul style="list-style-type: none"> • Minimum of 20 school teachers and local groups and NGOs trained in environmental CEPA • Ten Malagasy project staff trained in environmental CEPA. 	<ul style="list-style-type: none"> • Training reports produced. • Ten CEPA certificates awarded. 	
5. Long-term protection of Bemanevika secured	<ul style="list-style-type: none"> • Site included within the new Protected Areas framework by Y3 • Site support group in place Y2 	<ul style="list-style-type: none"> • Necessary documentation produced to justify declaration of site as protected area • Site management plan produced 	<ul style="list-style-type: none"> • Assignment of protected area status compatible with the long-term survival of the Pochard and other key species in the site
6. Local community and national audiences support conservation of the species.	<ul style="list-style-type: none"> • Rapid assessment of social, cultural and economic situation of communities undertaken • At least 80% of schoolchildren aware and supportive of conservation activities around the target species by Y3 • Legal status of local communities to manage Bemanevika established 	<ul style="list-style-type: none"> • Project start and end questionnaire surveys • Awareness and education material produced in Malagasy for communities and schools • Training reports produced. 	

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<p>Activities (details in workplan)</p> <ul style="list-style-type: none"> 1.1 Establish Project management team and planning structure 2.1 Research prioritisation and development of collaborative studies 2.2 Analyse genetic diversity of captive founders and recommend pairings 2.3 Hold Recovery Plan workshop, action plan published and circulated 3.1 Build captive-breeding facility 3.2 Recruit avicultural and support staff 3.3 Collect eggs from wild birds and establish breeding pairs in captivity 4.1 Develop local partner's capacity for CEPA training and establish CEPA training in Bemanevika area 5.1 Maintain protection of Bemanevika site 5.2 Establish statutory protection for site 6.1 Establish national awareness programme through local media and publicity materials. 6.2 Assess communities and undertake questionnaire surveys in Bemanevika area. 			
<p>Monitoring activities:</p> <ul style="list-style-type: none"> Indicator 1: Project leaders to track and report progress against measurable indicators and institutional workplans to ensure timely delivery of project outputs Indicator 2: Constant monitoring of key demographic rates in captive population as part of adaptive management of the captive breeding programme Indicator 3. Repeat appraisals to monitor staff skill development and knowledge generation of CEPA techniques Indicator 4. Evaluation of change in community awareness of the pochard and conservation intervention through repeated questionnaires. 			

Checklist for submission

	Check
Is the report less than 5MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	✓
Is your report more than 5MB? If so, please advise Darwin-Projects@ltsi.co.uk that the report will be send by post on CD, putting the project number in the Subject line.	
Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	✓
Do you have hard copies of material you want to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you involved your partners in preparation of the report and named the main contributors	✓
Have you completed the Project Expenditure table fully?	✓
Do not include claim forms or other communications with this report.	