



## Darwin Initiative Annual Report



Department  
for Environment  
Food & Rural Affairs

**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**

### Darwin Project Information

Project Reference	19-007
Project Title	Developing capacity for <i>in situ</i> conservation in Iraq
Host Country/ies	Iraq
Contract Holder Institution	Royal Botanic Garden Edinburgh
Partner institutions	Nature Iraq, BirdLife International
Darwin Grant Value	£299,403
Start/end dates of project	1 April 2012-31 March 2015
Reporting period (eg Apr 2013 – Mar 2014) and number (eg Annual Report 1, 2, 3)	April – 2013 – March 2014 Annual Report 2
Project Leader name	Anthony Miller
Project website	<a href="http://www.iraqdarwin.org">www.iraqdarwin.org</a>
Report author(s) and date	Sophie Neale, Amr Al Farhan, Richard Porter, Baxan Jamal, Bwar Khalid, Tony Miller

## 1. Project Rationale

Iraq is facing major threats to its biodiversity following years of unstable government, breakdown in traditional land management, and more recently rapid development. Almost 30 years of scientific isolation has resulted in severely limited in-country capacity to deal with these threats. At present the only organisation in Iraq actively engaged in conservation work is Nature Iraq (NI). NI has adopted the Key Biodiversity Areas (KBA) approach for the identification of biodiversity rich regions. Since 2005 Birdlife International has been supporting this work, conducting surveys and running training courses in collaboration with NI. More recently the Centre for Middle Eastern Plants (CMEP, part of the Royal Botanic Gardens Edinburgh) has also been working with NI to develop botanical training in Iraq. These activities have involved NI staff as well as students and personnel from major Iraqi organisations with an interest in the environment, including the major Universities and Ministries in both Iraq and the Kurdish Autonomous Region (KAR).

The birds of the region are relatively well known (*Birds of the Middle East* and *Birds of Iraq* have been published) and progress in identifying KBAs based on bird data has been good with draft site descriptions published online. However, plants are relatively poorly known and there is a lack of appropriate identification tools. *Flora of Iraq* and *Flora Iranica*, the two floras covering the region, are almost complete. However, it has been found on recent training courses that they are linguistically and technically almost totally inaccessible to Iraqi professionals and students. Conservation work in Iraq cannot wait for the completion of these Floras or their conversion into more user-friendly formats.

To address the lack of plant data available to inform conservation planning in Iraq and to build capacity for surveying and managing biodiversity-rich areas, the project partners have together identified three overlapping and complementary areas of work:

1. Collection of botanical data to build capacity for conservation

2. Capacity building in Protected Area Management
3. Training in foundation skills in botany, ornithology and conservation

The focus of these areas of work is Pirmagroon Mountain, a mountain massif in Kurdistan, which is readily accessible from Sulaimani, meets KBA criteria, and has an eco-camp established by NI which can be used as a base for field based survey, training and educational programs.



Map of Pirmagroon Mountain, Kurdistan Autonomous Region, Iraq

## 2. Project Partnerships

This project would not have been possible were it not for the strong relationship between Nature Iraq, BirdLife International and the Royal Botanic Garden Edinburgh (RBGE) through the Centre for Middle Eastern Plants (CMEP). BirdLife International and then CMEP have been working with NI for several years to develop the KBA program and to increase capacity at NI for this purpose. This link was established through NI Founder Dr Azzam Alwash and NI Conservation Project Manager Anna Bachman, who was appointed NI Project Lead for the Darwin Initiative. Nature Iraq now also has a new CEO Ammar Zakri. Anna been replaced as Project Lead by Amr Al Faham.

CMEP UK Project Manager Dr Sophie Neale has now returned from maternity leave. Amr Al Faham visited the UK early in September to meet Sophie and discuss and plan the project in person. Ammar Zakri and Araz Hamarash (Finance Director) also visited RBGE during a UK trip in November to discuss the project. Other communication between project partners has been frequent and open. All project leads and staff are in regular email and phone contact, with virtual meetings via Skype used frequently. Tony Miller has visited Kurdistan three times and Sophie Neale twice in the past year. During these visits, many formal and informal discussions were held regarding the past, present and future progress of the program.

This has been a period of great change for Nature Iraq. The organisation has nearly completed its long term national KBA survey and assessment programme and are now focusing more on community based education and livelihood based programmes. They have less field based biodiversity scientists. Many of their long term core staff have left or changed roles. Staff changes have included many of the original Darwin Project team (Nabeel Hassan, Shoxan Babarasul and Anna Bachmann). This has clearly impacted the project both in terms of staff continuity and baseline skills. It has also proved difficult to recruit suitable replacements and new botanical staff for Nature Iraq. In general Iraqis prefer government based jobs because of the higher salaries and the potential for further education funding. For this reason we see the development of conservation skilled staff and other capacity needs to be directed more widely to the ministries and universities. NI has a long record of delivering training to staff from a variety of institutes and links between NI and these organisations should be maintained and cultivated. The online course is proving extremely successful in this regard and we have built a good relationship with the University of Sulaimani in large part due to the input of Dr Saman Ahmad.

We have been unable to recruit a fulltime botanist to the project. Instead we have been working in the field with individuals from a variety of different institutions to deliver broad botanical training. Most significant is Awara Hamakhan who works at the Ministry of Higher Education. Awara is unable to join the project team full time but has accompanied us on most fieldtrips, has been involved in delivering training to the online course students and is independently carrying out fieldwork. He has secured a place on RBGE's MSc in the Biodiversity and Taxonomy of Plants. This is subject to his obtaining evidence of a sufficient level of English language and may need to defer his place for a year as a result.

We have been able to recruit a replacement for Shoxan Babarasul. Baxan Jamal started work for the project in December 2013. She has been an excellent addition to the core team.

Project partner BirdLife International consultant Richard Porter has formed an important part of the project team. He is also in regular email and telephone contact with all partners, and also with the wider bird conservation community across the Middle East. He has been particularly active in the education and PR sectors, and his experience has been an invaluable source of information on project management and organisation. Unfortunately Nature Iraq has taken the decision to withdraw their matched funding of Richard Porter in his role as bird Conservation Advisor for the organisation. This means that for the final year of the project Richard will be unlikely to visit Iraq this will mean a lesser input on the bird aspects, especially training, education and public awareness, as well as data collection and collation on other faunal groups. Nevertheless, he continues to provide support and advice to a strong bird team under the leadership of Mudhafar Salim and the wider project team.

The University of Sulaimani continues to host to the online courses in biodiversity conservation. Direct communication with the University is maintained through Saman Ahmad, who is a lecturer at the University as well as being employed by NI as a botanical advisor. We have also had meetings with the Dean of the Faculty of Agriculture to review the first year of the course. During the online course, direct communication with students has been maintained through email and an online discussion forum.

All the major project partners have MoU's in place, signed at the start of the project. However, as Richard Porters role within NI changes and as we move into the final year of the project we will be reviewing these and the project planning meetings in Sulaimani in May 2014.

### **Other project partners and associations / links**

- **Botanical Foundation on Kurdistan** led by Dr Sarbagh Salih. We continue to maintain good links with the Foundation particularly through CMEPs involvement with the Sulaimani Botanic Garden SBG (Funded by the Sulaimani Governorate and the Ministry of Agriculture) Former DI Community Project Officer Shoxan Babarasul now works for the Sulaimani Governorate and is working closely with us on this project.
- **Dr Sally Chalmers at Queen Margaret University, Edinburgh.** We have continued our relationship with the QMU PR Department runs undergraduate course in International Public Relations. This year students have been focusing projects on Piramagroon mountain, environmental education and raising the profile of national parks.
- **RBGE MSc student Felicity Anderson.** Felicity received a distinction for her dissertation on Piramagroon Mountain. She carried out a project surveying and vegetation analysis of oak woodland on Piramagroon mountain in the Kurdish Region of Iraq, considering the effects of grazing and woodland management supervised by Dr Chris Ellis and Dr Alan Forrest
- **Scottish Careerwise.** Careerwise is a work placement scheme for Women in Science, Technology, Engineering and Maths. CMEP are currently offering a number of summer work placements funded by the scheme. One of these will be working on the identification guides for the Darwin project another will be working with us to developing materials for global online teaching of the photographic techniques developed by the DI project. The application deadline is the end of March and if we find suitable candidates they will work on the project for 2 months in the summer of 2014.
- **WADI** – A German NGO Wadi based in Sulaimani. Its work focuses on promoting human rights and supporting democratic reconstruction. We are in discussion about developing an environmental education trails at Zewe a village on Piramagroon. This will make use of much of the material and expertise gained through the project.
- **Iraq Government ministries.** Project partners have been making and maintaining contact with a number of Ministries. The Ministry of the **Environment** via the provision of staff training. The Ministry of **Education** continue to support the education activities in Piramagroon. Contact has been developed with the Ministry of **Agriculture** nursery's through work with the SBG through this we have obtained access to native tree seedlings which can be used in the outreach programme. The **Directorate of Antiquities** has become involved in activities around traditional land use. The **Forest Police** have become involved via training.

### 3. Project Progress

#### 3.1 Progress in carrying out project activities

##### 1. Output: Botanical data for conservation collected, analysed and available in Iraq.

##### ***1.1 Provisional identification of Iraqi IPAs (Milestone IPA workshop yr 1, Milestone report on GIS analysis of endemics and near endemics yr2, Milestone report and papers on Iraq's IPAs published / submitted yr 2 and 3)***

A provisional checklist of Iraq's endemic and near endemic plants has been produced by the project. A GIS analysis of georeferenced data points from c. 1200 historic endemic and near endemic herbarium specimens has been undertaken to identify records of endemics and near endemics found in the KBA network identified by NI in Iraq. Using this approach 186 novel records have been incorporated into NI's KBA dataset. Nature Iraq's KBA assessments are due for publication in 2014. Draft accounts (without this historic endemic data) are available on the NI website (<http://www.natureiraq.org/key-biodiversity-areas.html>). This analysis has also identified a number of KBA sites which have not been surveyed for plants but are of interest based on this historic data and are now prioritised for surveying.

In addition to the national KBA assessments papers are currently being prepared for submission to peer review journals on 'Piramagroon Mountain an Iraq IPA' and 'Botanical surveying in a digital age - new field survey techniques tested in an Iraqi IPA'

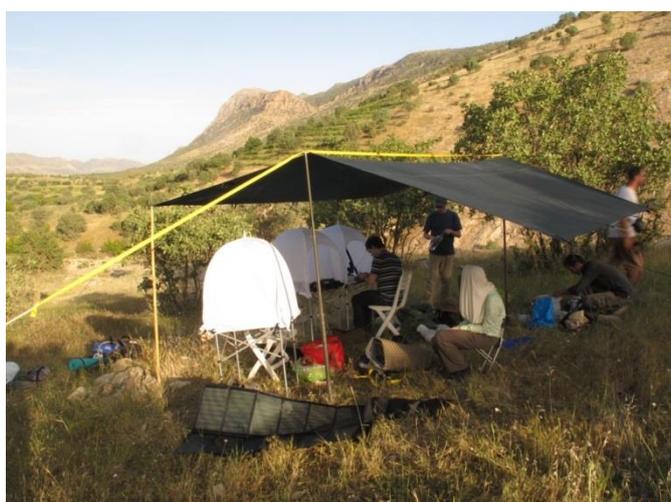
##### ***1.2 Provisional Red Listing of Iraqi endemic and near endemic plants (Milestone annual progress report, Milestone UK visit by NI staff member yr1 yr 2, Milestone Red Listing report published yr3)***

We have continued to build up data on plant distributions and threat following the first year Red listing workshop as well as updating the checklist of endemics and near endemics. However, the Red Listing itself has been delayed due to a lack of Iraqi botanists working full time on the project (see section 2). As

a result there has been no visit to the UK by botanical team members this year. Nevertheless, we plan to address this via intensive red list workshops in the final year of the project with Dr Saman Ahmed and Awara Hamakhan in Sulaimani and the UK.

**1.3 Plant based data for Piramagroon IPA generated (Milestone field work complete yr 1 and yr2, Milestone checklist yr2, Milestone progress report plant profile and key development yr 1, yr2, Milestone project report yr 3)**

The second year of fieldwork has been successfully completed. UK botanists made 2 major fieldtrips to Kurdistan, equivalent to 11 weeks in the field. Over 800 photographic plant profiles were recorded. Awara Hamakhan is now fully competent in the techniques and continues to visit the field to fill in gaps in the profiles. A draft checklist has been completed as is available in appendix 4. 529 taxa are now known from the area an increase on the 295 known previously. We estimate that as we complete the identification process this total will increase to around 650 species. A multi access key is being developed and characters scored for all species this will form the basis for the interactive plant identification guide (see section 3 output 2.1). Some of the techniques being developed during the Darwin Project were presented by Tony Miller at the 8<sup>th</sup> Plant Life of South West Asia conference in July 2013. 'Have digital cameras made the collection of herbarium specimens redundant?'. Project work has also been mentioned in presentations to the Royal Geographic Society, the Qatar Natural History Society and St Andrews Botanic Garden.



Photographic profiling fieldwork on Piramagroon Mountain - above. Students from the online course learning the technique at the NI ecocamp- right.



Additional botanical data has been generated through Felicity Anderson's MSc project. Felicity abstract is included in appendix 4. We hope to extend this to a multidisciplinary study of the effect of coppicing on biodiversity and its implications for management. However, this is unlikely to happen during the lifetime of the DI project.

## **Output 2 Capacity built for PA management**

### **i/ Materials for use by resource managers**

**2.1 Development and testing of interactive electronic tools (Milestone version 1 produced and field tested yr 2, Milestone version 2 produced and field tested yr3, Milestone online publication of versions yr 2 and yr3)**

Progress is being made on developing and testing photographic keys to the plants with character scoring and databasing underway. Sample image based keys have been field tested using spiny composites as a test group. There has also been good progress in developing the bird mobile app. Initial bird data has been prepared as a prototype mobile app which will be field tested in May 2014. No tools are ready for online publication in their first iteration but will be available on the project website early in 2015.

A provisional checklist of the Butterflies and Dragonflies of Piramagroon and its environs has been prepared and a database of photographs started as a resource for PA management. The database has been housed with both Nature Iraq and the RBGE and we hope it will be the basis for an additional mobile app once the bird app is complete. These groups, important environmental indicators, are little studied in Iraq and the NI/Darwin programme has made a very useful contribution to regional and global knowledge of their distribution. A paper is currently being produced by Richard Porter on new records of Dragonfly. This will be co-authored by Jean-Pierre Boudot and David Chelmick. An article will also be available on the project website. Unfortunately this work will not be able to be continued as a consequence of the absence of co-funding for Richard Porter.

Screen shots of the bird id app and the spiny comp key and the dragonfly checklist are provided in appendix 4.

## ***2.2 Development of manual of traditional land management practices near Piramagroon (Milestone field interviews yr 1 and yr2, Milestone manual published yr2)***

Bwar Khalid has continued to conduct interviews in villages around Piramagroon. He has also generated spatial data on geology, soil, archaeology, minefields, villages, and schools. A survey and coarse scale mapping of coppicing density has been completed across the Mountain. This will be followed up with tree density mapping this spring / summer. Some of the results of this are shown in appendix 4.

In depth interviews will be continued in Zewe village on Piramagroon Mountain to provide more detailed case studies for the manual. The manual is therefore not yet ready for publication and will be produced in the third year of the project. Bwar will be visiting the UK to work on writing up the results of his work in Sept 2014.

## ***2.3 Preliminary Red List Iraq's birds (Milestone annual progress report yr1, yr2, Milestone UK visit by NI staff member yr1 yr 2, Milestone Red Listing report published yr3)***

Following from the Sharjah conference in February 2013 (attended by Mudhafar Salim of NI and Richard Porter BirdLife International) on 'Biodiversity Conservation in the Arabian Peninsula' a regional Red List of Breeding birds has been completed. This has enabled us to draft both a global and regional IUCN bird Red List for Iraq and Piramagroon. Red list completed in country.

The Red list with global and regional assessments is included in appendix 4 (and can be downloaded from the project website).

## **Output 2 Capacity built for PA management**

### **ii/ Develop community level awareness of conservation locally in Piramagroon**

## ***2.4 Development of community level awareness through outreach in schools programme (Milestone Teachers workshop yr 1, Milestone materials for use in schools developed yr1 and yr2, dissemination workshop yr3)***

Baxan Jamal started work on the project in December 2013 replacing Shoxan Babarasul. Since then supported by the rest of the team she has successfully delivered a number of education activities to around 160 students in 5 schools around Piramagroon Mountain. These activities have varied from building bird feeders to finding out about trees and plant identification. One of the activity sheets produced as supporting material for the leaf identification is included in appendix 4.



Photographs from recent schools workshops making bird feeders.

### **Output 3. Iraqis trained in botany, ornithology and general conservation**

#### ***3.1 Development of courses and e-learning modules (Milestone course outline yr1, Milestone complete modules developed and online yr1, Milestone course review report yr 2 and yr 3)***

The first cohort of students finished the online course in September 2013, 36 students successfully completed the course. It is now running for a second time with 26 students actively participating. 44 students from the University completed a selection test. 15 of these students are participating in the course as well as 7 from other institutes including NI, Blue Horizon and the American University of Sulaimani. The final module will be completed at the end of May. A number of students from the course will then be offered the opportunity to undertake practical field training in the summer. In October after the first course all students received a day of field training (see 3.2). After the second course we will be offering fewer students places on a longer field training course. A summary of the feedback from the first year of the course is included in appendix 4.

The course has been developed and improved from the first year. In response to requests from the university and students and in order to include more basic data on Iraq's biodiversity we have restructured it. It now includes more specific information on Iraq's biodiversity with new sections Iraqi fish, bird, plant and mammal biodiversity. This has been done with additional expert assistance from Dr Brian Coad National Museum of Natural Sciences, Ottawa (Author of the Fish of Iraq) and Hana Raza Nature Iraq's mammal expert. There has also been significant amount of work to make the course more user friendly and interactive.

#### ***3.2 Annual training course in Iraq & delivery of ongoing learning and assessment (Milestone training courses yr1, yr2, yr3, Milestone end of course report yr1, yr2, yr3)***

A four-day training course on bird identification, survey techniques and conservation principles (notably Red List assessment and criteria for determining Key Biodiversity Areas) was run by Mudhafar Salim and Richard Porter in October 2013. It was held at the Nature Iraq eco-camp at Piramagroon and comprised both lectures and field work.



Mudhafar Salim lecturing on the bird training course – left. Mudhafar and Richard Porter with some of the trainees at the ecocamp – right.

Eleven people attended, including five officials from the Forest Police, three from NGO's and two university graduates (one of these from the on-line biodiversity course) and one independent. Their level of expertise is now such that they can participate in surveys and also help instruct others. The course was received extremely positively with the Forest police extremely keen to send more staff for training next year.

In addition, a days' field course was run at the eco-camp for 26 Sulaimani university students from the online course. This focused on botany, birds and habitat conservation, notably of the oak woodland on the lower slopes of Piramagroon run by Richard Porter, Tony Miller, Sophie Neale, Bwar Khalid and Awara Hamakhan.



Bwar Khalid (left) talking about land use to students from the online course and Awara Hamakhan (right) demonstrating photographic techniques.

Three other individuals from ministries have received informal practical field training over the last year ranging from 2 days to several weeks.

#### **4.1 Other activities: Project website launched and periodically updated**

The project website will be online at [www.iraqdarwin.org](http://www.iraqdarwin.org) in May 2013

#### **4.2 Other activities: Kick off meeting and annual steering group meeting**

An annual project steering meeting was held at the start of the second year. This included all the project team and led by the principles. In response to the reviewers comments on the first annual report we will be hold a broader steering group meeting towards the start of the final year including representatives from the Botanical Foundation of Kurdistan, Ministry's and other local groups.

## 3.2 Progress towards project outputs

### 1. Botanical data for conservation collected, analysed, and available in Iraq

**Measurable Indicator - Provisional Iraqi IPAs identified**

**Measurable Indicator - Provisional red list assessments for Iraq's endemic plants**

**Measurable Indicator - Identification tools developed and IPA survey and assessment complete for at least one IPA.**

The project is making good progress towards this output. This year has involved a large amount of novel data collection on Pirmagroon Mountain as well as a considerable data analysis of historic distribution data of endemics and near endemic taxa. The national KBA programme is a long standing project of Nature Iraq and the Iraqi Ministry of Environment (IMoE) run with support from the Italian Ministry of Environment, Land & Sea (IMEELS). The review of IPA's as part of the Iraqi National KBA assessment process and the incorporation of historic data into these assessments represents a significant step forward in integrating botanical data to conservation planning in Iraq.

The measureable indicators listed in the original framework are still appropriate and will all be complete by the end of the project.

The assumption that access to area of interest for survey work is maintained holds true.

### 2. Capacity built for PA management

#### i/ Materials for use by resource managers

**Measurable Indicator - Interactive identification guides to Pirmagroon developed for birds, plants and selected other taxonomic groups**

**Measurable Indicator - Manual of traditional land management practices**

**Measurable Indicator - Preliminary red list of Iraq's Birds**

The team is making good progress generating the large volume of baseline data required for identification guides and in creating and testing prototypes as outlined in section 3.1 2.1. As well as for the manual of traditional land management as outlined in section 3.1 2.1.

The measureable indicators listed in the original framework are still appropriate and will all be complete by the end of the project. The Bird Red list is now completed with the addition of Global and Regional assessments.

#### ii/ Develop community level awareness of conservation locally in Pirmagroon

**Measurable Indicator - Outreach programme developed, active and using materials produced by the project.**

The outreach programme continues to make excellent progress working in local schools and delivering a range of environment based activities. We are looking at increasing the impact and sustainability of this work by developing the activities into a series of activity sheets which is available online. These sheets are being designed as a toolkit for teachers with easy to follow instructions allowing them to independently deliver these activities in schools. We are arranging meetings with the Ministry of Education to discuss the project and look at the potential for integrating environmental education with the national curriculum.

The assumption that communities would be willing to engage also still holds true with the teachers and children providing positive feedback and keen to continue to work with the project.

### 3. Iraqis trained in botany, ornithology and general conservation

**Measurable Indicator - e-learning modules developed and operational for foundation skills in botany, ornithology and conservation**

- 30 Iraqis complete foundation skills course in botany
- 30 Iraqis complete foundation skills course in ornithology
- 30 Iraqis complete foundation skills course in conservation

**Measurable Indicator** - 15 Iraqis complete advanced courses and practical field training in birds, botany and conservation Y2 and Y3

**Measurable Indicator** - NI staff co-supporting training

The online course is operational and coming towards the end of its second run. It has exceeded expectations in terms of the number of students participating. Students have primarily been from the University of Sulaimani but have also included others from American University of Sulaimani, Barzan and NGO's. We are in discussion with the University about long term hosting and running of the course and continue to explore ways to extend its reach more widely to other institutes in Iraq.

The course is reaching both Iraqi students, many of whom will go onto fill positions in University's and Ministries. There are also a number of participants who have benefited from the course who are already working in conservation in Iraq.

### 3.3 Progress towards the project Purpose/Outcome

The project is making good progress towards meeting its purpose. Significant achievements have been made against all indicators.

The purpose level assumptions are for the most part still true. We have already discussed the issues around staffing and continuity in section 2. This has obvious impacts in terms of staff ability to deliver botanical training. We are addressing this by expanding our scope to increase training opportunities for conservation professionals in ministries and universities.

### 3.4 Goal/ Impact: achievement of positive impact on biodiversity and poverty alleviation

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:** Iraq is better able to assess and evaluate priority areas for conservation and monitor and manage a proposed Iraqi protected area network.

#### Indicator

3 years after the project the tools and techniques developed here are being applied to survey and monitor areas across Iraq.

The survey techniques being developed on this project are new and represent a major step forward in botanical survey work. They have the potential to make survey and monitoring faster, more accessible and the data easier to repurpose for a variety of outputs. The photographic profiles taken on this project are specimen based character based records and we are looking at the incorporation of these into the traditional taxonomic process. The use of these photographic techniques is also proving to be a valuable teaching tool much more so that the collection and processing of herbarium specimens.

This combined with the availability of easy to use widely available electronic guides will hugely increase the ability of Iraqis to survey and monitor biodiversity.

There is already evidence of these techniques being adopted in Iraq with Dr Saman Ahmed using photographic profiles within in his PhD thesis. The technique is also being recognised more widely with Iraq profiles having been used to illustrate the technique in a new checklist of Afghanistan (Vascular Plants of Afghanistan: An Augmented Checklist Siegmar-Walter Breckle, Ian Hedge, and M. Daud Rafiqpoor).

The Darwin project team has been invited to visit the proposed Sakran National park area in May 2014 to carry out some survey work as well as to demonstrate some of the schools outreach activities and discuss collaboration.

#### **4. Project support to the Conventions (CBD, CMS and/or CITES)**

The project contributes mostly to CBD articles 7, 8, 12 and 13 as well as targets 1, 2 and 5 of the GSPC.

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

The project partners have been collaborating with the NGO WADI to develop a proposal to create an outdoor environmental education centre at Zewe village on Piramagroon. This village and its picnic site is a very popular place of visitors. If successful this would be a direct spin off from the Darwin project and would make use of many of the materials created by it. An objective of the project is to model ways of sustainable community led livelihood generation within a proposed national park.

#### **6. Monitoring, evaluation and lessons**

Project progress is measured by the setting of annual milestones. Many of these milestones require annual reporting on progress, as documented here. Ongoing monitoring and evaluation of the project is by annual project meetings and frequent discussion amongst team.

Baseline data on the knowledge of the online students is gathered via the course pretest. Evaluation of the effectiveness of the online course will be measured by reposing questions asked in pretest at the end of the course and comparing these results.

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

The first year review has been discussed with the project partners. Whilst no response was required the reviewer had made a number of comments which have been extremely useful and which we are acting upon. Many comments are addressed in the text about but additional areas of action include:

- Press coverage – There was television coverage of the online course in the first year of the project. But there has been no coverage this year (with the exception of online articles written by the project team). We will be making a greater effort in the final year to increase coverage. This will be easier as more of the final project outputs are delivered providing a platform for coverage.
- Steering committee & Ministry of the Environment– see section 3.1 (4.2)
- IPA workshop 1<sup>st</sup> year – as a result of staff changes and geographic issues the IPA workshop was held via a number of skype with NI's KBA team effectively reviewing and revising IPAs and discussing incorporation of historic data to these assessments.
- Fieldwork schedule – the reviewer asked about this schedule. I believe that this was a misreading of the project milestones. With baseline fieldwork milestones in year 1 and 2.
- Monitoring and evaluation of online students (see 6)

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

All covered elsewhere.

#### **9. Sustainability**

The series of tools produced by the project will provide a sustainable output which can be used for in-situ conservation beyond the lifetime of the project. The increased capacity biodiversity students and professionals will enable these to be used effectively. The breadth of people trained by the project means that there is a good knowledge of the project in many organisations in Iraq.

Nature Iraq were invited to participate in an 'Environment Day' organised by students at the University of Sulaimani in April 2013. They used this as an opportunity to publicise the DI project and the work of NI. The University remains an important partner, they are keen to continue to develop collaborations and we

hope to agree a sustainable strategy for the long term running of the online course in the next few months.

Also discussed in section 3.2 are our efforts to increase the impact and legacy of the education activities.

The discussion in section 3.4 illustrates that there is a growing interest in the techniques and tools developed by the project. Cultivating this interest and disseminating and publicising the results of the project widely in the final year will be important in increasing the impact of the project.

## 10. Darwin Identity

The Darwin logo has been used on all material produced by the project. It is recognised as a distinct project at Nature Iraq but provides support to other programmes such as the KBA assessment.

## 11. Project Expenditure

**Table 1 project expenditure during the reporting period (1 April 2013 – 31 March 2014)**

Project spend since last annual report	2013/14 Grant (£)	2013/14 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)			00	
Consultancy costs			6.6-	
Overhead Costs			00	
Travel and subsistence			-3.877	
Operating Costs			-9.69	Reduce slightly as a result of reduced UK visits by NI staff
Capital items (see below)			4.477	
Others (see below)			-176	Reduced as a result of no longer requiring additional insurance premiums for travel.
<b>TOTAL</b>			<b>-2.34</b>	

## 12. 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 the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

In this section you have the chance to let us know about outstanding achievements of your project over the year that you consider worth highlighting to the Darwin Secretariat. This could relate to achievements already mentioned in this report, on which you would like to expand further, or achievements that were in addition to the ones planned and deserve particular attention e.g. in terms of best practice. We may use material from this section for various promotion and dissemination purposes, including for example, publication in the Defra Annual Report, Darwin promotion material, or on the Darwin website. As we will not always be able to ask projects on an individual basis for their consent to publish the content of this section, please note the above agreement clause.

## Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2013-2014

Project summary	Measurable Indicators	Progress and Achievements April 2013 - March 2014	Actions required/planned for next period
<p><b>Goal/Impact</b></p> <p><i>Goal: 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>⇒ The conservation of biological diversity,            ⇒ The sustainable use of its components, and            The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</p>		<p>The project is on track to significantly enhance the ability of Iraq citizens to identify, conserve and sustainably use their natural resources, in line with the requirements of international conventions.</p>	
<p><b>Purpose/Outcome</b> Building capacity for in-situ conservation in Iraq</p>	<p>Plant data available to inform conservation planning nationally and specific tools and methods modelled locally for exemplar IPA(s)</p> <p>Partners capacity for plant and bird conservation increased through training and extensive joint working.</p> <p>Extensive training in foundation skills (plants, birds and conservation) delivered to individuals from a range of Iraqi institutions.</p> <p>Outreach and environmental education programme developed in communities local to Piramagroon.</p>	<p>Significant new plant data collected and historic distribution information made accessible to conservation planning via NI's national KBA assessments.</p> <p>Extensive joint working achieved in organisation and fieldwork. Wider collaborations being developed.</p> <p>Successful online course running for second year. Advanced training and practical training delivered to 39 Iraqi's</p> <p>Outreach programme continues to test environmental activities in schools around Piramagroon</p>	<p>Publication of scientific papers. Continued field -testing of identification guides. And publication of final versions on project website. Expanding and testing field survey techniques to new IPA - Sakran.</p> <p>Continue development of the DI team in Iraq.</p> <p>The online course will run for a third time in 2014/15. Ongoing discussions for long term hosting of the course. Field training course for birds to be run May 2014. Multidisciplinary field course for online students summer 2014. Increase informal botanical field training of individuals from Ministries / Universities during field testing of guides.</p> <p>Continued programme of education activities and development of the teachers toolkit.</p>
<p><b>Output 1.</b> Botanical data for conservation collected, analysed, and available in Iraq</p>	<p>Provisional Iraqi IPAs identified</p>	<p>The project is making good progress towards this output. All indicators will be achieved by the completion of the project.</p>	

	Provisional red list assessments for Iraq's endemic plants  Identification tools developed and IPA survey and assessment complete for at least one IPA	
Activity 1.1 Provisional identification of Iraqi IPAs		Iraqi IPA assessments complete and incorporated into national KBA assessments together with additional historic records on endemic and near endemic taxa generated by the DI project.
Activity 1.2 Provisional red listing of Iraqi endemic and near endemic plants		Data on distribution and threat being collated. Red listing to be completed in 2014.
Activity 1.3 Plant based data for PIRAMAGROON IPA generated		Field data generated. Scientific paper on PIRAMAGROON IPA to be submitted 2014/15. Field ID image based tools tested. Testing and some gap filling to continue 2014/15.
<b>Output 2.</b> Capacity built for PA management	Interactive identification guides to PIRAMAGROON developed for birds, plants and selected other taxonomic groups  Manual of traditional land management practices  Preliminary red list of Iraq's Birds  Outreach programme developed, active and using materials produced by the project.	The team is making good progress generating the large volume of baseline data required for identification guides and in creating and testing prototypes. Data collection for the manual of traditional land use almost complete.  The Bird Red list is now completed with the addition of Global and Regional assessments.  The measurable indicators still appropriate and will all be complete by the end of the project.
Activity 2.1. Development and testing of interactive electronic tools		Testing begun on prototype bird app.  Interactive guide to plants to be completed in 2014/15 and field tested. Bird and butterfly / dragonfly apps to be completed and available online 2014/15.  Plant character scoring and database development for interactive guide in progress. Image based species profiles tested in the field.
Activity 2.2. Development of manual of traditional land management practices near PIRAMAGROON		Data collection nearing completion.
Activity 2.3. Preliminary Red List Iraq's birds		Regional and global assessments added to Red List

Activity 2.4. Development of community level awareness through outreach in schools programme	Outreach programme continues to test and deliver a range of activities. These to be developed into accessible toolkit and made available on project website.	
<b>Output 3.</b> Iraqis trained in botany, ornithology and general conservation	e-learning modules developed and operational for foundation skills in botany, ornithology and conservation <ul style="list-style-type: none"> <li>• 30 Iraqis complete foundation skills course in botany</li> <li>• 30 Iraqis complete foundation skills course in ornithology</li> <li>• 30 Iraqis complete foundation skills course in conservation</li> </ul> 15 Iraqis complete advanced courses and practical field training in birds, botany and conservation Y2 and Y3  NI staff co-supporting training	Online course and other practical training courses progressing well and as expected although they are attracting higher numbers of participants than anticipated.
3.1 Development of training courses and e-learning modules	Updated six module Certificate in Biodiversity & Conservation online course running with 23 participants - 15 University students, and 7 from other institutes.	
3.2 Annual training course in Iraq & delivery of ongoing learning and assessment	11 participants on advanced bird field training. 32 online students in field training. And 3 received informal practical field training.  Iraqi project staff co-supporting and leading practical training.	

## Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p><b>Goal:</b> Effective contribution in support of the implementation of the objectives of the Convention on Biological Diversity (CBD), the Convention on Trade in Endangered Species (CITES), and the Convention on the Conservation of Migratory Species (CMS), as well as related targets set by countries rich in biodiversity but constrained in resources.</p>			
<p><b>Sub-Goal:</b> Iraq is better able to assess and evaluate priority areas for conservation and monitor and manage a proposed Iraqi protected area network.</p>	<p>3 years after the project the tools and techniques developed here are being applied to survey and monitor areas across Iraq.</p>	<p>NI reports and publications</p>	
<p><b>Purpose:</b> Building capacity for in-situ conservation in Iraq</p>	<p>Plant data available to inform conservation planning nationally and specific tools and methods modelled locally for exemplar IPA(s)</p> <p>Partners capacity for plant and bird conservation increased through training and extensive joint working.</p> <p>Extensive training in foundation skills (plants, birds and conservation) delivered to individuals from a range of Iraqi institutions.</p> <p>Outreach and environmental education programme developed in communities local to Piraamagroon.</p>	<p>IPA reports, scientific papers and information available on project website</p> <p>NI staff delivering training and supporting trainees on e-learning course. Internal reports</p> <p>Course reports</p> <p>Outreach materials and program reports</p>	<p>Funding continues for Nature Iraq's KBA programme. Security situation in Iraq is maintained</p> <p>Those trained under the DI project go on to be engaged in conservation in Iraq. Good uptake of training courses.</p> <p>Willingness of communities to engage.</p>
<p><b>Outputs</b> (add or delete rows as necessary)</p> <p>1. Botanical data for conservation collected, analysed, and available in Iraq</p>	<p>Provisional Iraqi IPAs identified</p> <p>Provisional red list assessments for Iraq's endemic plants</p> <p>Identification tools developed and IPA survey and assessment complete for at least one IPA.</p>	<p>Report and scientific papers on Iraq's IPAs</p> <p>Red listing completed and available</p> <p>Identification tools available electronically and in hard copy</p> <p>Reports and scientific papers on IPA survey</p>	<p>Access to areas of interest for survey work maintained.</p>

<p>2. Capacity built for PA management</p> <p>i/ Materials for use by resource managers</p> <p>ii/ Develop community level awareness of conservation locally in Piramagroon</p>	<p>Interactive identification guides to Piramagroon developed for birds, plants and selected other taxonomic groups</p> <p>Manual of traditional land management practices</p> <p>Preliminary red list of Iraq's Birds</p> <p>Outreach programme developed, active and using materials produced by the project.</p>	<p>Guides available on project website</p> <p>Manual published</p> <p>Red listing completed and available</p> <p>Project reports and programme feedback</p>	<p>Willingness of community to participate</p>
<p>3. Iraqis trained in botany, ornithology and general conservation</p>	<p>e-learning modules developed and operational for foundation skills in botany, ornithology and conservation</p> <ul style="list-style-type: none"> <li>• 30 Iraqis complete foundation skills course in botany</li> <li>• 30 Iraqis complete foundation skills course in ornithology</li> <li>• 30 Iraqis complete foundation skills course in conservation</li> </ul> <p>15 Iraqis complete advanced courses and practical field training in birds, botany and conservation Y2 and Y3</p> <p>NI staff co-supporting training</p>	<p>Website, coursework, course reports and feedback</p> <p>Course reports and feedback</p> <p>Evidence of NI trainers passing on skills by teaching during workshops and supporting trainees online.</p>	<p>Trainees continue to be employed in the conservation field.</p>

## Annex 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 reporting period	Total planned during the project
Established codes								
4A	Number of undergraduate students to receive training	32	16			48		30
4B	Number of training weeks to be provided	11	30			41		70
6A	Number of people to receive other forms of training/education	2	14			16		3
6B	Number of training weeks to be provided	1	1			1		3 years
7	Number of training materials to be produced for use in host country	1	0			1		3
8	Number of weeks to be spent by UK project staff on project work in the host country	5	13			18		30
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	0	0			0		1
11A	Number of papers to be published in peer reviewed journals	0	0			0	0	4
11B	Number of papers to be submitted to peer reviewed journals	0	0			0	0	4
12B	Number of computer-based databases to be enhanced and handed over to host country	0	2			2	0	1
13B	Number of species reference collections to be enhanced and handed over to host country	0	2			2	0	1
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	0	0			0	0	1
14B	Number of conferences/seminars/workshops at which findings from Darwin project work will be	0	4			4	0	2

	presented/disseminated							
15A	Number of national press releases in host country	0	1			0	3	3
15B	Number of local press releases in host country	0	0			0	2	2
15C	Number of national press releases in UK	2	1			2	3	3
17A	Number of dissemination networks to be established	0	0			0	1	1
18A	Number of national TV programs/features in host country	1	0			1	1	1
19A	Number of national radio interviews/features in host country	0	0			0	1	1
19B	Number of national radio interviews/features in UK	0	0			0	1	1

**Table 2 Publications**

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
	Bird Red List	-	Project website	None
Online article	Dragons, rare goats, owls and night owls, Richard Porter, 2013	-	<a href="http://britishbirds.co.uk/news-and-comment/dragons-rare-goats-owls-and-night-owls">http://britishbirds.co.uk/news-and-comment/dragons-rare-goats-owls-and-night-owls</a>  <a href="http://www.cmep.org.uk/dragons-rare-goats-owls-and-night-owls/">http://www.cmep.org.uk/dragons-rare-goats-owls-and-night-owls/</a>	None
Online article	Updates from the Darwin Project, Nature Iraq, 2014	-	<a href="http://www.natureiraq.org/1/post/2014/03/updates-from-the-darwin-project1.html">http://www.natureiraq.org/1/post/2014/03/updates-from-the-darwin-project1.html</a>	None