

# **Darwin Initiative**

## **Annual Report**

### **1. Darwin Project Information**

Project Ref. Number	<i>EIDPo6/11-018</i>
Project Title	<i>Flying the flagship: delivering the axolotl action plan at Xochimilco, Mexico</i>
Country(ies)	<i>Mexico, UK</i>
UK Contractor	<i>Durrell Institute of Conservation and Ecology</i>
Partner Organisation(s)	<i>Universidad Autonoma Metropolitana, Unidad Xochimilco (UAM), Mexico. Centro de Investigaciones Biologicas y Acuicolas de Cuernavaca (CIBAC) <u>Universidad Nacional Autónoma de México (UNAM), Instituto de Biología</u>  <i>Comision Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO - the National Commission for the Knowledge and Use of Biodiversity), Mexico.</i></i>
Darwin Grant Value	<i>£47,590</i>
Start/End dates	<i>HYR 1</i>
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	<i>1/4/05 – 31/3/06 Extension project annual report 1</i>
Project website	<i><a href="http://www.kent.ac.uk/anthropology/dice/research/axolotl.html">http://www.kent.ac.uk/anthropology/dice/research/axolotl.html</a></i>
Author(s), date	<i>10/05/06</i>

### **2. Project Background**

This project is an extension of project 162/11/018 “Aztecs and Axolotls: Integrating Conservation and Tourism at Xochimilco, Mexico” Its main outputs were: Cadre of students and conservation workers trained in (i) amphibian biology and conservation and (ii) conservation education assessment and community appraisal; Cadre of boatmen trained in nature guiding; Cadre of artisans trained in eco-regional souvenir production; UAM staff member trained to MSc level in Tourism and Conservation; Production of Axolotl Species and Habitat Action Plan; Establishment of a partnership of key organisations and stakeholders (Axolotl Research Group, Xochimilco/ Grupo de Investigación del Ajolote en Xochimilco - GIA-X).

### **3. Project Purpose and Outputs**

This post-project is concerned with the delivery of key elements of the Axolotl Species/Habitat Action Plan, notably:

1. Research to address threats to the axolotl and other endemic fauna of Xochimilco – co-ordinated via the Axolotl Research Group (Grupo de Investigación del Ajolote en Xochimilco - GIA-X).
2. An informed review and reassessment by CONABIO of the status of the species within the national NOM-ECOL 059-94 listing, CITES Appendices, and IUCN Red List (currently 'vulnerable').
3. The further development of capacity within the remero guild to deliver the training package and the staged transfer of the nature guide training package from UAM/CIBAC to the remero guild.

Neither these outputs nor the proposed operational plan were significantly modified over the year (only that the remero training workshop scheduled for September 2005 took place in November 2005, and that scheduled for January 2006 will now take place in June 2006 due to availability of facilities and staff).

#### 4. Progress

##### Progress leading up to start of reporting period

See reports from previous project: 162/11/018 "Aztecs and Axolotls: Integrating Conservation and Tourism at Xochimilco, Mexico"

##### Progress during reporting period

The primary timetable elements for the year were all met:

July 2005: Appointment of Darwin Initiative Axolotl Research Group Fellow (UNAM - under the supervision of Dr Zambrano);

July 2005: Initiation of student training axolotl-related research;

November 2005: 'Workshop 1: training the trainers'.

The targets for these elements have been met and in some cases surpassed (see below). A considerable amount of in-situ and ex-situ scientific research is now underway, and has been brought together under the umbrella of GIA-X.

The Darwin Initiative Axolotl Research Group Fellow (Elsa Valiente Riveros), who is studying the effects of carp and Tilapia distributions on the *Ambystoma mexicanum* population in Xochimilco, has finished her field work and much of her data analysis and is now writing up her dissertation.

Four other researchers (instead of the designated 2) have been awarded stipends:

Sandra Evangelina Martínez Rentería - interactions between the axolotl and exotic species *Cyprinus carpio* and *Oreochromis niloticus* under laboratory controlled conditions;

Marín Martínez Alma Itzel - the behaviour of *Ambystoma mexicanum* in selecting plants for egg laying under laboratory conditions;

Victoria Contreras - the distribution of axolotls in the channel system of Xochimilco;

Bustamante Castellanos Eduardo Martín - the fish resource *Oreochromis niloticus* in Xochimilco.

Some of the early findings from this research were presented at the Shallow Lakes Meeting, Belgium July 2005, and at the II Congreso de la Sociedad Mexicana de Limnología, October 2005. The data are being integrated to provide a population analysis based on matrix models to understand the situation of the axolotl in Xochimilco channels and the probability of its survival/extinction over the next 20 years.

There has also been close collaboration between Dr. Zambrano's team and the Laboratorio de Zooplankton in FES Iztacala (UNAM), which is studying predation by juvenile axolotls on zooplankton. Another study sharing its results is a genetic analysis of the *Ambystoma* genus by Gabriela Parra at the Instituto de Biología, UNAM. At the same time UAM-X is undertaking axolotl related research – notably that relating to water quality.

The first research meeting of GIA-X took place on 29<sup>th</sup> November 2005 (during the UK project team visit for the Training the Trainers – remero nature guiding workshop). Forty three participants, including representatives from DICE, UNAM, UAM-X, Chapultepec Zoo, CONABIO, the Instituto Nacional de Ecología, and the IUCN/SSC Declining Amphibian Populations Task force (DAPTF), listened to summaries of 24 research projects and agreed on a protocol for membership and operation of GIA-X.

One important development was that Dr. Zambrano has been appointed as DAPTF's first Working Group Chair in Mexico. Another is that Jeanne McKay, international coordinator for the IUCN/SSC Declining Amphibian Populations Task force (DAPTF), working with the Darwin Initiative project staff, the National Commission for the Knowledge and Use of Biodiversity (CONABIO) and representatives from the Global Amphibian Assessment (GAA) has updated the information on *Ambystoma mexicanum* for the GAA and subsequently a recommendation was made for its IUCN Red List status to be changed from 'Vulnerable' to 'Critically Endangered' (in review).

The project co-ordinator at UAM-X, Alejandro Meléndez, has continued to provide management of the CIBAC-based elements of the project and guided and mentored the UAM-X Investigator team. The major component they worked on in the first year of the extension project was the training workshop 1: 'Training the Trainers', which took place at CIBAC during the last two weeks of November 2005. Once again remeros worked with UAM-X/CIBAC staff and project team members to develop and facilitate the workshop, with the schedule, contents and materials being refined on the basis of previous experience. The demand for places on this workshop exceeded capacity. Many who signed up expressed a desire to own interpretation panels, having already seen the effect on visitors and earnings. This workshop was even more successful than the last, graduating 23 out of 27 remeros who began it, with all but one 'dropout' being due to sickness or overriding personal reasons. This is more than twice the number of trainees (10) envisaged in the project proposal. Once again anonymous feedback was very encouraging, with the average scores on a 5 point scale being 4.7 for overall quality, 4.4 for content.

As well as graduating another cohort of remeros with a positive attitude towards guiding and conservation, enabling further improvements to the training package, and a consolidation and enlargement of the cohort of remeros being trained as facilitators, this workshop also precipitated an attempt by one leading remero to establish a non-political organisation representing the interests of remeros across all the embarcaderos united around the subject of tourism and conservation. He is also employing the axolotl as its symbol to represent the regeneration of the hearts and minds of the Xochimilcas. Workshop participants have been monitored to assess the outcomes of their training and the data suggest that they are enjoying a very significant boost to their income (a 22-65% increase where some guiding is provided). In addition, remeros from one central embarcadero (Caltongo) have taken the initiative of setting up display tanks of axolotls in a building adjacent to a stopping point and are working with the project to produce interpretation boards to accompany them. Preparations are also now underway for the fourth workshop in June 2006, to be led by remero facilitators supported by project team members.

Recognition that the value of guide-training is spreading quickly is the fact that the Director of the Xochimilco Archaeological Museum (who attended the last workshop) is devising a training workshop for historical town trails combining walking and boating. She is also setting up an axolotl display at the museum – which will be supported by matched funding from the North of England Zoological Society (Chester Zoo) and branded with the Darwin Initiative. Similarly, Xochimilco's Director of Tourism has offered to support future guide training workshops, including the established package and new initiatives catalysed by the project. Also under development is a code of conduct for remeros and visitors, which will be finalised at a mini-workshop during the June training visit.

Another additional project activity was the participation of the Mexican project team in one of Xochimilco's main annual fiestas "The Day of the Beautiful Flowers". The project ran an educational stall promoting the project and the axolotl as a flagship species, and hosted an estimated 1200 adults and children visitors over the day.

No major difficulties have been encountered during the year.

#### **Timetable for the next reporting period.**

The next guide-training workshop (to be run by the trained remeros and supported by project team members from UK and Mexico) will take place from June 5-15<sup>th</sup>. The final guide-training workshop supported by Darwin Initiative funds, which is to be run by the remeros supported by Mexican project team members, has been scheduled for September 2006. Thereafter is likely that the Xochimilco Tourism Directorship will support a further two such workshops.

During the June guide-training workshop, visiting UK team members will meet with GIA-X researchers and a GIA-X review meeting will take place. In January 2007 there will be a final team visit to Mexico to participate in a large GIA-X symposium at which completed and on-going research will be reported and future needs and directions identified.

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

N/A.

## 6. Partnerships

There has been regular email and telephone contact with project partners. A new partnership has been forged with the Director of the Xochimilco Archaeological Museum, which promises to provide additional momentum to the project process (see above). In addition, during the forthcoming visit a meeting is planned to take place with a representative from The Conservation Learning Network, a programme established by The Mexican Fund for Nature Conservation.

## 7. Impact and Sustainability

The interest and actions generated by the project (see above) evidence the growing influence that it is having within the community. The extension project in itself forms an exit strategy, and we are confident that this DI project will provide a lasting legacy.

## 8. Outputs, Outcomes and Dissemination

- Explain differences in actual outputs against those agreed in the initial 'Project Implementation Timetable' and the 'Project Outputs Schedule', i.e. what outputs were not or only partly achieved? Were additional outputs achieved?

See above for additional outputs.

- Provide details of dissemination activities in the host country during the year, including information on target audiences. Will dissemination activities be continued by the host country when the project finishes, and how will this be funded and implemented?

**Table 1. Project Outputs (According to Standard Output Measures)**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
4A	students trained in participatory workshop delivery and support;	3xUAM				
4B	2 week workshop	1				
4A	students trained in ecological methods as part of University dissertation project	4 x UNAM				
4B	4 weeks per student.	4 x UNAM				
6A	remeros trained as trainers	4				
6B	2 week workshop	1				
6A	remeros trained as nature guides	23				
6B	2 week workshop	1				
7	Set of interpretation panels for each trainee	23				
7	Information pack for each trainee	23				
8	Training workshops	6 weeks				

14A	Workshops/seminars	2
14B	Conferences	2
15B	New project press release	1
15D	New project press release	1

- In Table 2, provide full details of all publications and material produced over the last year that can be publicly accessed, e.g. title, name of publisher, contact details, cost. Details will be recorded on the Darwin Monitoring Website Publications Database. Mark (\*) all publications and other material that you have included with this report.

**Table 2: Publications**

Type *	Detail	Publishers	Available from	Cost £
(e.g. journals, manual, CDs)	(title, author, year)	(name, city)	(e.g. contact address, website)	

## 9. Project Expenditure

- Please expand and complete Table 3.

**Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April to 31 March)**

Item	Budget (please indicate which document you refer to if other than your project schedule)	Expenditure	Balance
Rent, rates, heating, overheads etc			
Office costs (e.g. postage, telephone, stationery)			
Travel and subsistence			
Printing			
Conferences, seminars, etc			
Capital items/equipment			
Others			

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Salaries (specify)

Dr I G Bride

Collaborators Costs

TOTAL

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- Highlight any recently agreed changes to the budget and explain any variation in expenditure where this is +/- 10% of the budget.

## **10. Monitoring, Evaluation and Lessons**

The guide training workshop received very good feedback both directly (via evaluation questionnaires – see above) and indirectly (via informal post-project discussions). Project team have had regular contact via email and telephone to discuss and evaluate progress.

## **11. OPTIONAL: Outstanding achievements of your project during the reporting period (300-400 words maximum)**

The first research meeting of the Axolotl Research Group (Grupo de Investigación del Ajolote en Xochimilco - GIA-X) which was established by the previous project attracted 43 participants, including representatives from DICE, UNAM, UAM-X, Chapultepec Zoo, CONABIO, the Instituto Nacional de Ecología, and the IUCN/SSC Declining Amphibian Populations Task force (DAPTF). They listened to summaries of 24 research projects and agreed a protocol for the organisation.

The training workshop 1: 'Training the Trainers' was even more successful than the last, training 4 remero facilitators and graduating 23 remeros (more than twice the 10 envisaged in the extension document). It also precipitated an attempt to establish a non-political organisation representing the interests of remeros across all the embarcaderos united around the subject of tourism and conservation. In addition, remeros from one central embarcadero have since set up display tanks of axolotls and are working with the project to produce interpretation boards to accompany them.

The Director of the Xochimilco Archaeological Museum (who attended the previous workshop) is devising a training workshop for historical town trails combining walking and boating. She is also setting up an axolotl display at the museum – which will be supported by matched funding from Chester Zoo and branded with Darwin Initiative. Meanwhile, Xochimilco's Director of Tourism has also offered to support future guide training workshops.

The International coordinator for the IUCN/SSC Declining Amphibian Populations Task force (DAPTF), working with the Darwin Initiative project staff, the National Commission for the Knowledge and Use of Biodiversity (CONABIO) and representatives from the Global Amphibian Assessment (GAA) has updated the information on *Ambystoma mexicanum* for the GAA and a recommendation is under review for its IUCN Red List status to be changed from 'Vulnerable' to 'Critically Endangered'.

■ **I agree for ECTF and the Darwin Secretariat to publish the content of this section**

Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2005/2006

Project summary	Measurable Indicators	Progress and Achievements April 2005-Mar 2006	Actions required/planned for next period
<p><b>Goal:</b> To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> <li>• The conservation of biological diversity,</li> <li>• The sustainable use of its components, and</li> <li>• The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b> <i>(insert original project purpose statement)</i></p> <p>Delivery of priority elements within the axolotl S/HAP that emerged from the original project</p>	<p><i>(insert original purpose level indicators)</i></p> <ol style="list-style-type: none"> <li>1. Research on impacts of threats completed;</li> <li>2. Effective protection for the axolotl and its habitat under national and international legal instruments;</li> <li>3. Transfer of ownership of nature guiding programme to remero guild</li> </ol>	<p><i>(report impacts and achievements resulting from the project against purpose indicators – if any)</i></p> <ol style="list-style-type: none"> <li>1. There is now a substantial and growing body of scientific information on the axolotl and the impacts of threats on the species;</li> <li>2. CONABIO is using the research emerging from the project to inform decision making – this research has catalysed the reconsideration of the IUCN Red Listing of the axolotl;</li> <li>3. Remeros were trained during and co-ran a nature guiding programme in Nov. 2005 – they will be running the next one in June 2006 with project team support</li> </ol>	<p><i>(report any lessons learned resulting from the project &amp; highlight key actions planning for next period)</i></p> <ol style="list-style-type: none"> <li>1. The axolotl research group will be holding a major meeting in January 2007 to report completed, and ongoing research, and plan future research.</li> <li>2. Team members will be meeting with CONABIO to discuss the ramifications of a Red List upgrading.</li> <li>3. The next remero guide training workshop will take place in September and be supported by the UAM-X project team members only.</li> </ol>

<b>Outputs</b>			
<p><i>(insert original outputs – one per line)</i></p> <ol style="list-style-type: none"> <li>1. Scientific research</li> <li>2. Legislative framework</li> <li>3. Nature guide training</li> </ol>	<p><i>(insert original output level indicators)</i></p> <ol style="list-style-type: none"> <li>1. Scientific publications on impacts of threats;</li> <li>2. Reformulated legislative instruments in place;</li> <li>3. Remero nature guide training package.</li> </ol>	<p><i>(report completed activities and outcomes that contribute toward outputs and indicators)</i></p> <ol style="list-style-type: none"> <li>1. Scientific publications are in process;</li> <li>2. IUCN Red List upgrading under consideration;</li> <li>3. The training package exists and continues to be developed in the context of the next two workshops</li> </ol>	<p><i>(report any lessons learned resulting from the project &amp; highlight key actions planning for next period)</i></p> <ol style="list-style-type: none"> <li>1. Editors accept papers for publication;</li> <li>2. Further collaboration between stakeholders on effecting the legislation;</li> <li>3. Remeros continue to participate in producing and delivering the package.</li> </ol>

*Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output and purpose levels.*