

# ***Darwin Initiative for the Survival of Species***

## ***Annual Report***

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

Project title	<i>Aztecs and Axolotls: Integrating Conservation and Tourism at Xochimilco, Mexico</i>
Country(ies)	<i>Mexico, UK</i>
Contractor	<i>Durrell Institute of Conservation and Ecology, Dept. of Anthropology, University of Kent</i>
Project Reference No.	<i>162/11/018</i>
Grant Value	<i>£96 332</i>
Start/Finishing dates	<i>1<sup>st</sup> May 2002 – 31<sup>st</sup> April 2005</i>
Reporting period	<i>1<sup>st</sup> May 2002 – 31<sup>st</sup> April 2003</i>

### **2. Project Background**

The Mexican axolotl - an icon of Aztec heritage - is nearly extinct in its last habitat - the remnant canals of the once extensive Lake Xochimilco, in the south of Mexico City. This area suffers from unsustainable development pressure, pollution, poverty and unemployment, yet is a popular recreation destination for both local people and international tourists. The project seeks to increase the protection of this wetland and safeguard the wild axolotl population.

### **3. Project Objectives**

To assist Mexico in the development of a sustainable programme to conserve the axolotl and other endemic fauna and flora of Xochimilco through the promotion of nature tourism using the axolotl as a flagship species. The following outputs were included in the logical framework.

- a) Axolotl/Xochimilco ecology data;
- b) Mexicans trained: MSc Tourism & Conservation (1); amphibian ecology (8); conservation education assessment and community appraisal (8);
- c) Trajineros (boatmen) trained as nature guides (12); unemployed artisans trained-souvenir production (4);
- d) Species/ Habitat Action Plan;
- e) Conservation education programme.

The objectives/planned outputs have not been substantially modified over the last year. The progress on these over the past year is set out below.

#### **4. Progress**

The project idea came about following Dr. Graue's approach to Dr. Griffiths at DICE in 2000. Following a fact-finding trip sponsored by the Declining Amphibian Population Task Force (DAPTF), the project idea was developed amongst UAM and DICE staff with interests in population biology, tourism and conservation, and conservation education. A Darwin Initiative proposal was submitted in 2001. This report covers the first year of Darwin Initiative funding.

Despite the fact that the project was held up by a delay in receiving formal approval and funding, progress over the first year has been excellent and is on schedule. On the Mexican side the number of students trained is substantially larger than planned, and a significant expansion has been stimulated by the Darwin project input (see additional outputs – below).

Dr. Griffiths, Dr. Newing and Dr. Bride (all from DICE) visited Xochimilco in June 2002, presented the project to UAM staff and selected the "Darwin Fellow" (Alejandro Mendez) who came to DICE in September 2002 to undertake a MSc in Tourism and Conservation. He has now completed the taught component of this programme and is currently at Xochimilco starting his fieldwork (survey-based research on the potential for the development of nature guiding – he is being supervised by Dr. Bride). During this initial visit, liaison meetings were also held with representatives from the Mexican agencies charged with implementing the Biodiversity Convention (CONABIO/SEMINART).

The workshops on Conservation Education Assessment/Community Appraisal and Amphibian Biology/Conservation Techniques took place as planned (although the latter was delayed until January because of the late start to the project). They were both highly successful, and involved more participants than anticipated.

Dr. Bride conducted the Conservation Education Assessment/Community Appraisal workshop (20-22 June 2002). The workshop was advertised at UAM, with undergraduate participants selected on a first-come first-served basis, and with additional participants from Mexico's main zoo (Chapultepec Zoo) and the Indiana University Axolotl Colony. The workshop used a series of small-group and team-based techniques to produce a framework strategy for the subsequent activities of the "investigator" team. The training involved 17 students instead of the 8 planned for in the funding application. Following the workshop, in August a team of five students was selected on the basis of CVs and statements of interest. The team members have each been working 2 days a week on information and data gathering activities, accumulating a substantial amount of information relating to Xochimilco on: law and norms (federal and local); traditions, culture and history; land use and agrarian conflicts; geopolitical and environmental landscape boundaries; socio-economic data; flora and fauna; tourism; soil and water contamination. They also conducted their own workshop under the tutorage of UAM staff and Dr. Bride to design a questionnaire survey of tourism-related businesses in - visitors to - the Xochimilco district. This questionnaire survey instrument has been applied and the data are being processed to inform the MSc survey work. Investigators are presently attached to the MSc students (Alejandro Mendez; Jeanne McKay – see additional activities), helping them with their fieldwork. They have also taken considerable initiative in making links with local community organisations (see additional outputs below).

Dr. Griffiths oversaw the Amphibian Biology/Conservation Techniques workshop (20-24 January). Twenty-eight people received training, instead of the 8 planned in the funding proposal.

The planned fact sheet publication was drafted, but its production was delayed following a request by the Mexican partners (they wish to have it produced after the nature-tour project elements and the interpretive materials at CIBAC have been developed). The possibility of sharing its production with Chapultepec Zoo (which has an axolotl colony and ~5 million visitors/yr) was initially explored, but decided against at this stage because the Mexican partners want the fact sheet to focus on CIBAC and Xochimilco).

The production of the guide brochure was similarly postponed because it was thought that it would most usefully follow the trajineros training workshop (and benefit from input from the trajineros themselves).

The website is being produced by Dr. Bride (in English). The Mexican partner will then comment upon and add to it. It will then be translated into Spanish, and will be published at the end of the summer.

The trajineros and souvenir production workshops are being designed and planned by both partners, with the investigator team assisting. The trajineros workshop will take place in September, the souvenir workshop, in December (run by the Darwin Fellow and Dr. Bride).

#### ***Additional outputs:***

A DICE MSc Conservation Biology student, Jeanne McKay, has elected to conduct her MSc dissertation research at Xochimilco (a cost-benefit analysis of captive rearing of axolotls for sustainable use and conservation). She has been sent on her MSc dissertation allowance and will be hosted by UAM. This research will be very useful to the project, and constitutes an additional financial input to the project (~£1000).

Perhaps most significantly, the project helped precipitate a seminar entitled "Lacustrine Conservation in Xochimilco", hosted by the Xochimilco district council, and involving UAM Darwin project partner staff and the investigator students, representatives of Union of Fishermen of Xochimilco, and representatives of the Asociación Nacional de Empresas Comercializadoras de Productores del Campo (ANEC) and the Rural Administration. The seminar explored the problems of:

1. - erosion of the earth of the "chinampas" and bad quality of the water.
2. - the garbage pollution.
3. - the drainage system.
4. - enforcement by the riverside police.
5. - the use of fishing techniques that harm nativespecies.
6. - the introduced carp and tilapia fish species.
7. - polluted vegetables produced on the chinampas.
8. - bird attacks on crops grown on the "chinampas"
9. - the public mistrust of attempts to address these problems..
10. - the prohibition of fishing in the Xochimilco system.

The seminar produced a range of recommendations/areas to explore, and the UAM project partners describe the seminar as having effectively and publicly 'connected' the Darwin project with the local community.

The primary activities during next reporting period (6 months until November 2003) will be:

1. internal project review (June);

2. completion of the Darwin Fellow's MSc dissertation (September);
3. completion of the initial project website (end of summer);
4. design, planning and execution of the souvenir design and production workshop (September);
5. design and planning of the trajineros nature guide training workshop.

## 5. Partnerships

The partnership with UAM has worked smoothly.

The project has brought in a new partner, the Indiana University Axolotl Colony, which produces tens of thousands of axolotl embryos each year for research purposes, and which has taken an active role in improving the captive breeding facility at CIBAC, as well as sharing their expertise in outreach school-based education using axolotls.

## 6. Impact and Sustainability

In addition to the highly successful workshops and the seminar on the lacustrine conservation of Xochimilco, our UAM partner reports considerable interest in the forthcoming souvenir workshop and the idea of nature guide training amongst the trajineros – it is expected that the workshops planned for this and next year will be substantially over-subscribed. They will also be used to publicise the project in the local and national press.

The project has already gained considerable momentum in Xochimilco. Exit strategies for the UK partners will be developed over the next two years.

## 7. Post-Project Follow up Activities (max 300 words)

n/a

## 8. Outputs, Outcomes and Dissemination

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

Code No.	Quantity	Description
2	1	Mexican student presently undertaking MSc in Tourism and Conservation
4A	17 (8-planned)	Conservation Education and Community Appraisal Workshop
4A	24 (8-planned)	Amphibian Ecology and Conservation Techniques Workshop
4A	5	Training of investigator team in questionnaire design and application
4B	2	Conservation Education and Community Appraisal + Amphibian Ecology and Conservation Techniques workshops
8	5	Initial visit (3 staff) + two workshops (1 staff member each)
12	2	Investigator team has established an information

		database at CIBAC + a survey database has been established at DICE
20	£200	Set of journals donated by the British Herpetological Society
23	~£7,500	Inputs to new captive breeding unit + participation of Indiana Axolotl Colony + sponsorship of DICE student Jeanne McKay's MSc dissertation project.

Only the fact sheet and guide brochure have been delayed. This is because it has been agreed that their production would be premature.

**Table 2: Publications**

Type * (e.g. journal paper, book, manual, CD)	Detail (e.g. title, authors, journal, year, pages)	Publishers (name, city)	Available from (e.g. contact address, email address, website)	Cost £
article	Anfibios en riesgo de extinción Jan. 2003 (pp.2-3) ISSN1405-177X	Organo Informativo de la Universidad Autonoma Metropolitan	Universidad Autonoma Metropolitan	none

The seminar entitled "Lacustrine Conservation in Xochimilco", hosted by the Xochimilco local authority served to publicize and disseminate the project objectives.

A media publicity exercise will accompany the forthcoming training workshops.

## 9. Project Expenditure

**Table 3: Project expenditure during the reporting period**

Item	Budget	Expenditure
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- There was an underspend in certain categories as a result of the delayed start to the project. The difference will be carried over into the current financial year, as agreed by DEFRA.

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

Regular email contact has been maintained throughout the year and the investigator team has been required to submit regular reports of its activities. Both workshops included a terminal evaluation questionnaire (and both received excellent assessments from participants). A project review will be held at the end of the summer in the UK and there will be a review seminar during the period of the next workshop in Mexico (September).

## **11. Author(s)/ Date**

Dr. Richard Griffiths – project director

Dr. Ian Bride – project officer