



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 2013

1. Darwin Project Information

Project Reference	19-003
Project Title	A sustainable future for Chinese giant salamanders
Host Country/ies	China
UK contract holder institution	Institute of Zoology, Zoological Society of London
Host country partner institutions	Kunming Institute of Zoology (KIZ), Shaanxi Normal University (SNU), Guiyang University (GU)
Other partner institutions	N/A
Darwin Grant Value	£300,374
Start/end dates of project	1 July 2012 – 30 June 2015
Reporting period (eg Apr 2012 – Mar 2013) and number (eg Annual Report 1, 2, 3)	August 2012 – Mar 2013 Annual Report 1
Project Leader name	Andrew Cunningham
Project website	www.chinesegiantsalamander.org
Report authors, main contributors and date	Andrew Cunningham, Shu Chen April 25 th 2013

2. Project Background

The world's largest amphibian, the Critically Endangered Chinese giant salamander (CGS; *Andrias davidianus* - Cryptobranchidae), is highly evolutionarily distinct. The CGS lineage has evolved independently for 170 million years and includes just two other surviving species (*Andrias japonicus* and *Cryptobranchus alleganiensis*). However, this incredible species is being extirpated from the wild whilst CGS farming is a fast-developing industry. Occupying a range that encompasses mountain tributaries of the Pearl, Yellow and Yangtze Rivers across 17 provinces in China, the CGS has experienced a severe range-wide decline in the wild since the 1960s. The recent and rapidly-growing farming industry precipitated unprecedented and unregulated harvesting of wild CGS since the late 1980s to meet demand from a developing domestic market for CGS meat and other products. Recent catastrophic disease outbreaks on farms, apparently mainly due to ranavirus infection, have compounded this problem because farms are restocked with wild-caught animals. It is also possible that pathogens spread from farmed to wild salamanders (and other amphibians) via untreated farm effluent and government-endorsed conservation initiatives releasing farmed CGS of unknown origin without disease/genetic screening. The CGS is also threatened by habitat destruction, fragmentation and degradation, environmental contaminants and, as it is found at high altitudes (up to 1,500 metres), this species is potentially vulnerable to climate change. Dynamic conservation action is thus urgently required to ensure this species' continued survival in the wild within its native range in China.

3. Project Partnerships

This project is led by Professor Andrew Cunningham, Institute of Zoology ZSL, in collaboration with a group of organisations in China, each with a specific and equally important role to play. MoUs have been signed between ZSL and each institute. The Kunming Institute of Zoology is conducting CGS population genetics (led by Dr. Jing Che), to provide scientific guidance for future *ex situ* conservation breeding and re-introduction programmes; Guiyang University is conducting field surveys (led by Professor Gang Wei) to better understand the current distribution and abundance of this species in the wild; Shaanxi Normal University is investigating disease threats to the CGS both in the wild and from the large and growing CGS farming industry (led by Professor Minyao Wu). ZSL manages the overall project; providing direction and expert guidance; overseeing project capacity building; conducting and managing Communication, Education and Public Awareness activities, and creating tailored training programmes with our Chinese partner organisations for in-country conservation scientists who are implementing the CGS work (hereafter EDGE Fellows; please see www.edgeofexistence.org) and relevant project staff.

A Chinese Project Coordinator, Shu Chen, based at KIZ, has been recruited to manage project activities in China, including facilitating in-country collaborations between partners. Progress is monitored and evaluated day-to-day by the Project Coordinator and is regularly reported to the Project Leader, Andrew Cunningham, who takes overall responsibility for tracking project execution against the Measurable Indicators and thus monitoring progress towards the timely delivery of the project outputs. In addition, the Project Leader and key partner organisation representatives have established a Project Steering Group (PSG). Regular communications/meetings of the PSG take place electronically (email), and physical meetings also occurred in Project Year 1 in Kunming, China. The PSG provides supervision to EDGE Fellows and assesses project performance, allowing in-country skills/capacity development to be monitored and any training issues/needs to be identified.

Project relationships in China will continue to be cultivated and developed among relevant government bodies (e.g. Fisheries Management Bureau, Environment Bureau), the CGS farming community, protected area managers, and wider stakeholder circles. Links to relevant government agencies are essential to this project's long-term impact and viability as all project outcomes must be endorsed by the Chinese government. Professor Wu (SNNU) has developed contacts with key government representatives from the Division of International Organizations & Conventions in the Department of International Cooperation at the Ministry of Environmental Protection (China's CBD liaison) and the Endangered Species Import and Export Management Office of the People's Republic of China at the State Forestry Administration (China's CITES liaison). He is also a Scientific Advisor to the Ministry of Agriculture's Fisheries Management Bureau of Shaanxi Province, establishing contacts and links to CGS farms and governments and facilitating the development of a sustainable CGS farming industry in Shaanxi. As a high-ranking Academician of the Chinese Academy of Sciences, Professor Ya-ping Zhang at KIZ is extremely well connected politically and Professor Gang Wei is closely working with the Guizhou provincial governmental bodies. Collaboration with the Yunnan Science Centre also has been recently established to co-lead Communication, Education and Public-Awareness raising (CEPA) campaigns towards the wider public. As the UK lead institution, ZSL is an international hub of excellence in the conservation of amphibians, and hosts world-class researchers and conservationists contributing considerable expertise to this project.

In the meantime, through building capacity among the public, government and conservationists, we anticipate that this project eventually will have a lasting impact on China's ability to respond to the amphibian extinction crisis and implement CBD/CITES objectives nationally. Crucially, this project highlights amphibians as symbols of healthy freshwater ecosystems in conjunction with the United Nations Decade of Education for Sustainable Development, and builds capacity to address the emerging problems of climate change and infectious disease spread. This project utilises British expertise and international networks to support collaborative implementation of the CBD (Articles 5-19)¹ by Chinese government agencies and institutions; the development of key Conservation Action Plan recommendations and works to implement the CBD in the context of both threatened species and inland water ecosystems.

¹ **Specific CBD issues:** Article 5 (Cooperation); Article 6 (General measures for conservation and sustainable use); Article 7 (Identification and monitoring); Article 8 (*In-situ* conservation); Article 9 (*Ex-situ* conservation); Article 10 (Sustainable use of components of biological diversity); Article 11 (Incentive measures); Article 12 (Research and training); Article 13 (Public education and awareness); Article 14 (Impact assessment and minimising adverse impacts); Article 15 (Access to genetic resources); Article 16 (Access to the transfer of technology); Article 17 (Exchange of information); Article 18 (Technical and scientific cooperation); Article 19 (Handling of biotechnology and distribution of its benefits); taking an integrated ecosystem approach wherever appropriate.

4. Project Progress

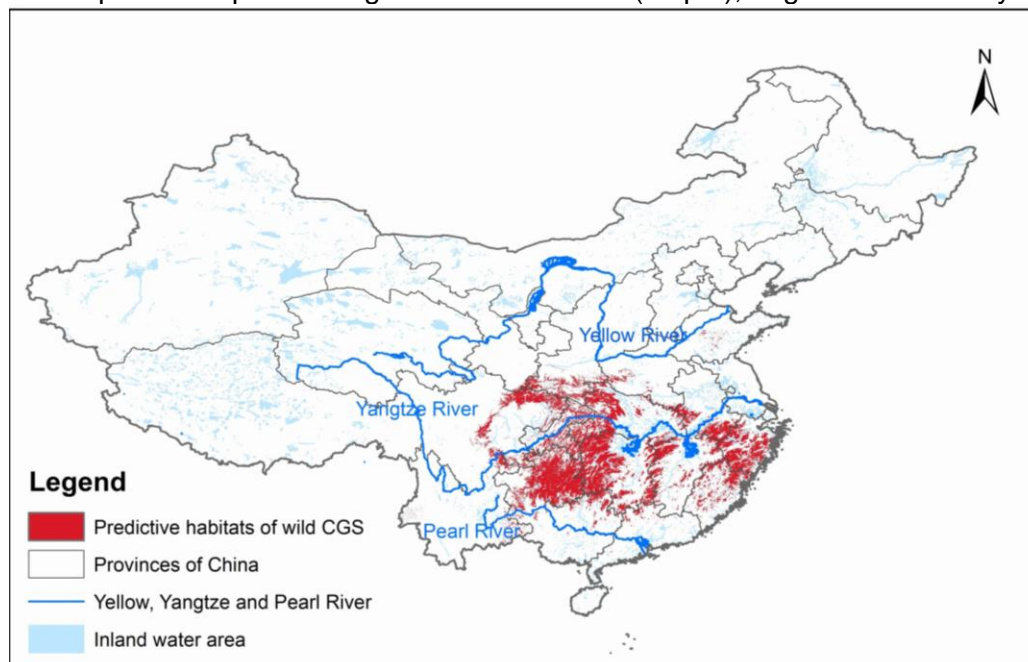
4.1 Progress in carrying out project activities

Output 0 Project management, monitoring and reporting activities

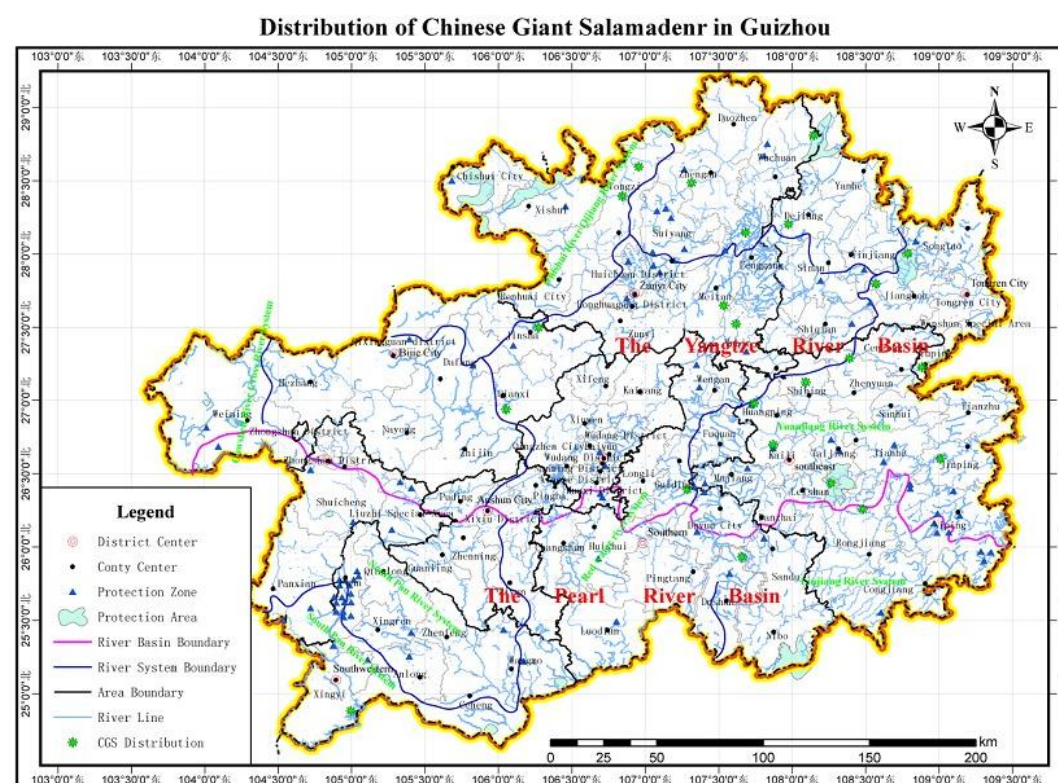
- ◆ One Project Coordinator and one EDGE fellow from each of the three partner institutes in China were recruited, and MoUs between project partners were established to identify respective roles and responsibilities.
- ◆ A Project Steering Group (PSG) was established to provide guidance, monitoring and oversight of this wide-ranging project. The PSG comprises Professor Andrew Cunningham (IoZ), Professor Wu (SNNU), Professor Wei (GU) and Dr. Che (KIZ). Dr. Che is delegated to the PSG by Professor Ya-ping Zhang, as his seniority and work schedule precludes him from having time for day-to-day project responsibilities (but does provide opportunities for the project outcomes to influence government policy). The first Project Steering Group meeting was held at the KIZ in January 2013 to evaluate institutional project outputs in Year 1 and make specific research plans for Year 2.
- ◆ The 1st annual workshop of the project partner institutions was held for one week, 23-26th January 2013, bringing together 15 scientists. This meeting, which was hosted by the Kunming Institute of Zoology, provided an opportunity for all the project staff from across China to get to know each other, review the work progress and to discuss future directions and work plans for the project. It also ensured that all project staff are aware of their respective roles and responsibilities and how these fit into the holistic approach of this ambitious project. Finally, this meeting helped to promote an integrated, collaborative approach by all project partners, since there is a culture of individualism and protectionism amongst scientists and scientific institutions in China (a brief report on this workshop was published on the KIZ's website: http://english.kiz.cas.cn/ns/es/201301/t20130130_98688.html).
- ◆ Skills audits were conducted for each of the project EDGE Fellows to identify needs and develop institutional work plans for Project Year 2. All Fellows expressed a desire to learn how to better communicate with stakeholders, to develop an understanding of the methods used to survey and monitor wild populations of the CGS and to engage the public in conservation efforts (refer to the supporting material "Chinese giant salamander project skills audit").
- ◆ Close liaison was developed with Guizhou Provincial Environment Bureau and a grant proposal entitled "A sustainable future for Chinese giant salamander in Guizhou Province" (for £1,343,000), jointly written with Guiyang University, was submitted to the Guizhou Environment Bureau, in response to the provincial "Biodiversity conservation strategies and action plans". Guiyang University also submitted two proposals entitled "Building evidence-base on wild Chinese giant salamander population distribution and habitat requirements in Guizhou Province" (for £33,000) and "Study on giant salamanders in caves and on the ground in Guizhou Province" (for £56,000) to Guizhou Science and Technology Bureau and the National Natural Science Fund, respectively. In addition, KIZ agreed to pay higher salary costs for a post-doctoral researcher (rather than a student) in return for the budgeted salary costs for the EDGE Fellow in genetics, Yan Fang, being spent on consumables. This will hugely increase the productivity of this aspect of the project.

Output 1 Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened and disseminated

- ◆ A Predictive Habitat Model of wild CGS across China was developed based on published ecological parameters of this species. The potential range/suitable habitats for wild CGS are shown in red colour on Map 1. Also, an Historical Wild CGS Distribution Map for the CGS in Guizhou Province was developed, based on the published literature and unpublished provincial government records (Map 2), to guide field survey site selection.



Map 1 Predictive suitable habitats of wild CGS across China



Map 2 Historical distribution of wild CGS in Guizhou Province

- ◆ Data (total area, forest coverage, average annual temperature, annual precipitation, latitude, longitude, elevation) of 76 counties in Guizhou Province was compiled to facilitate wild CGS survey & monitoring and potential protected area designation. CGS field survey techniques were piloted in Dushan County of Duyun and Fanjingshan National Nature Reserve in Jiangkou County, Guizhou Province.

Output 2 Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species

- ♦ Genetic samples were collected to conduct conservation genetic research at KIZ, including field genetics samples from wild and captive CGS and samples from CGS specimens in the National History Nature Museum in Paris, France and in the provincial museum of Qinghai Province, China.
- ♦ Twenty seven microsatellites were developed at KIZ (ongoing) and lab work (ongoing) on mitochondrial Cytb and D-loop sequencing of collected samples were conducted. The haplotypes of CGS from Sichuan and Guangxi Provinces were determined.

Output 3 Disease threats to farmed and wild CGS identified and mitigation strategies developed

- ♦ An amphibian disease diagnostics laboratory was established in SNNU and disease diagnostic and screening protocols for both wild and captive CGS were developed.
- ♦ Twenty disease outbreaks on farms were visited and samples were taken for diagnostic investigations. An additional 16 CGS samples from 3 farms were collected to test for selected pathogens of interest (ranavirus and *Batrachochytrium dendrobatidis*); and 20 dead CGS from farms were collected to investigate the cause of death, including the use of histopathological, microbiological and molecular investigations. *Mycobacterium marinum* and *Mycobacterium ulcerans* infections were discovered as a cause of death in farmed CGS for the first time.
- ♦ Fish cell lines were developed for virus isolation studies.

Output 4 Build upon existing CGS farming protocols & infrastructure to develop ex situ protocols for conservation

- ♦ A farm questionnaire was developed with a view to finding out to what extent wild CGS are still taken into farms, as well as to investigate the scale of the farming industry and the extent of CGS trading amongst farms;
- ♦ Professor Wu was invited to become the leader of an expert committee group to engage in the provincial certification assessment of CGS farms, facilitating the development of sustainable farming.

Output 5 Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level

- ♦ A CGS and freshwater ecosystem CEPA training and planning workshop was held in Kunming, China in January 2013. The Project Coordinator, EDGE Fellows, PSG and staff from the Yunnan Science Centre were trained in CEPA campaign organisation and implementation by Sarah Thomas, Head of CEPA at the Zoological Society of London and by Carly Waterman, Co-ordinator of the EDGE Project, also at ZSL. Through this training workshop, collaboration with the Yunnan Science Centre was established in order to co-arrange an educational display about the project and to conduct a public CEPA campaign.
- ♦ A questionnaire has been developed to collect baseline data on the conservation awareness of the public (both rural and urban) in China in relation to the CGS in order to support the planning of specific CEPA strategy. A project logo and materials (e.g. badges, key rings, T-shirts and caps) have been designed and produced to promote the CGS conservation CEPA campaign.



Project logo

Output 6 Development of a global network that seeks to conserve giant salamanders nationally & internationally

- ◆ A scientific presentation was given at the EcoHealth international conference, Kunming, 15th -18th October 2012, which strengthened the profile, understanding and networking of the CGS conservation nationally and internationally. The CGS Darwin Initiative project was also presented at the regional meetings of the Climate Change Adaptation in Mekong Regions, 24th – 25th September 2012, Nong Khai Province, Thailand and 4th - 5th December 2012, Kunming, and links and collaborations were built to multiple national academic institutes and NGOs. In Shaanxi Province, presentations on CGS disease and breeding were given by project partner Professor Wu Minyao in Baoji, 15th -18th November, 2012, to the Provincial Fisheries Bureau and at the annual provincial conference of fishery industry management to encourage the adoption of sustainable CGS farming techniques.
- ◆ Meetings with government ministries including Guizhou Environment Bureau (GEB), Yunnan Environment Bureau (YEB) and Shaanxi Province Fisheries Management Bureau, on the purpose of establishing a CGS conservation network, facilitating in-country conservation capacity building and developing potential post-project funding. A new collaboration was also established with the Chengdu Institute of Biology (CIB) on amphibian disease and conservation research.
- ◆ Construction of a bilingual (English and Chinese) project website at www.chinesegiantsalamander.org (ongoing).

The above project activities and outputs were conducted in the manner and time planned.

4.2 Progress towards project outputs

To conclude, during the Project Year 1 (July 2012 to April 2013), the project was set up with its management, monitoring and reporting mechanisms clarified and the roles and responsibilities of each institute identified. Field, genetic and disease research groups were established and laboratory work was initiated on CGS population genetics and phylogeography and on disease threats, based on collected wild and captive CGS samples (on going). An education and awareness-raising strategy was developed and a CEPA training workshop was held to disseminate necessary skills to the EDGE Fellows and PSG members. National networks have been also established with governmental bodies, academics and NGOs in Guizhou, Shaanxi and Yunnan Province to better conserve the CGS across its range. Most milestones under the Project Outputs were achieved whilst several activities were delayed because it took longer to start this project than originally envisioned (it officially started in mid-August), primarily due to the time taken to recruit an in-country Project Coordinator. Because of this, and because CGS are inactive during the winter months, the field training workshop with all EDGE Fellows, the development of a standardised field survey questionnaire and of field survey & monitoring protocols, and the first CEPA campaign were postponed to May 2013. Also, construction of the pilot CGS *ex situ* conservation breeding facility has been delayed to at least 2013 due to the relocation of the Shaanxi Wild Animal Rescue and Research Centre (SWARRC) to a new site. However, governmental bodies, both in Shaanxi and Guizhou Provinces, have expressed strong interest and motivation to build such a facility (and to provide additional funding to allow the construction of a larger-than-planned facility in each province) during the lifetime of the project. Also, the Guizhou Environment Bureau has proposed that this Darwin initiative project be used as a model for their new initiative of developing a Provincial Biodiversity Conservation Strategy and Action Plan.

It is anticipated that all outcomes of this project will be realised by its close (i.e. July 2015) and that post-project sustainability will be achieved. Output indicators are measured by the Project Leader and the Project Coordinator monthly to monitor the project progress of each in-country partner and to ensure all activities are carried out and research goals achieved in the time planned. The important output assumptions still hold true and no major changes are required.

4.3 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								
1A	Number of people to submit thesis for PhD qualification (in host country)							
1B	Number of people to attain PhD qualification (in host country)							
2	Number of people to attain Masters qualification (MSc, MPhil etc)							
3	Number of people to attain other qualifications (ie. Not outputs 1 or 2 above)							
4A	Number of undergraduate students to receive training						0	5
4B	Number of training weeks to be provided						0	20
4C	Number of postgraduate students to receive training	8					3	5
4D	Number of training weeks to be provided	17					9	20
5	Number of people to receive at least one year of training (which does not fall into categories 1-4 above)	4					1	3
6A	Number of people to receive other forms of education/training (which does not fall into categories 1-5 above)	13					10	30
6B	Number of training weeks to be provided	13					10	46
7	Number of (ie different types - not volume - of material produced) training materials to be produced for use by host country	3					2	7
8	Number of weeks to be spent by UK project staff on project work in the host country	11					10	50
9	Number of species/habitat management plans (or action plans) to be produced for Governments, public authorities, or other implementing agencies in the host country	0					0	2
10	Number of individual field guides/manuals to be produced to assist work related to species identification, classification and recording	0					1	1

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
11A	Number of papers to be published in peer reviewed journals	0					0	3
11B	Number of papers to be submitted to peer reviewed journals	0					0	2
12A	Number of computer based databases to be established and handed over to host country	0					0	2
12B	Number of computer based databases to be enhanced and handed over to host country	1					1	1
13A	Number of species reference collections to be established and handed over to host country(ies)							
13B	Number of species reference collections to be enhanced and handed over to host country(ies)							
14A	Number of conferences/seminars/workshops to be organised to present/disseminate findings	2					2	15
14B	Number of conferences/seminars/workshops attended at which findings from Darwin project work will be presented/ disseminated.	4					2	8
15A	Number of national press releases in host country(ies)	0					1	6
15B	Number of local press releases in host country(ies)	0					2	9
15C	Number of national press releases in UK	0					0	2
15D	Number of local press releases in UK							
16A	Number of newsletters to be produced	0					1	6
16B	Estimated circulation of each newsletter in the host country(ies)	0					5,000	>25,000
16C	Estimated circulation of each newsletter in the UK	0					5,000	90,000
17A	Number of dissemination networks to be established	3					1	4
17B	Number of dissemination networks to be enhanced/ extended	0					0	1
18A	Number of national TV programmes/features in host country(ies)	0					0	3
18B	Number of national TV programmes/features in UK	0					0	1

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
18C	Number of local TV programmes/features in host country(ies)	0					1	4
18D	Number of local TV programmes/features in UK							
19A	Number of national radio interviews/features in host county(ies)	0					1	3
19B	Number of national radio interviews/features in UK	0					0	1
19C	Number of local radio interviews/features in host country(ies)	0					1	5
19D	Number of local radio interviews/features in UK							
20	Estimated value (£'s) of physical assets to be handed over to host country(ies)	1,300						42,494
21	Number of permanent educational/training/research facilities or organisations to be established and then continued after Darwin funding has ceased	0					0	3
22	Number of permanent field plots to be established during the project and continued after Darwin funding has ceased	0					1	3
23	Value of resources raised from other sources (ie in addition to Darwin funding) for project work	£15,940						£325,434
New - Project specific measures								

Table 2 Publications

Type (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £
Conference Abstract	Cunningham, A., Feng, Z., Meredith, H., Wei, G., Liu, X. & Wu, M. (2012) Conservation threats and opportunities of the Chinese giant salamander farming industry. Sustaining Ecosystems, Supporting Health. The 4 th Biennial Conference of International Association for Ecology & Health 15–18 October 2012, Kunming, P.R. China. P. 51.	International Association for Ecology & Health, New York	International Association for Ecology & Health, c/o EcoHealth Alliance 460 West 34th Street, 17th Floor New York, NY 10001, U.S.A.	N/A

4.4 Progress towards the project purpose and outcomes

In this first year of the project, the in-country research capacity of CGS conservation genetics and disease diagnosis & screening were strengthened and formal collaborations and links were established among project partners to promote a strategic conservation plan for the CGS. The CGS conservation profile and the importance of freshwater ecosystems were highlighted through scientific presentations given at regional and international conferences & workshops. Networks with Chinese government organisations, universities and NGOs were developed for CGS conservation in particular and general freshwater ecosystem protection and management in general.

The purpose level assumptions hold true that Project Partners in China keep effective communication & collaboration and this project gains support from the Chinese government authorities. The suggested indicators remain adequate for measuring the purpose-level outcomes.

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

This project aims to develop & implement a national conservation strategy in China to safeguard wild CGS across its natural range in the drainage basins of the Yellow, Yangtze & Pearl Rivers. This will largely benefit the regional biodiversity through the protection of wild CGS habitats and will build in-country research capacity to strengthen the effective conservation of other amphibians and freshwater ecosystems. Especially, 30% of China's amphibians are threatened and 23% are Data Deficient and, with global concern over freshwater ecosystems and availability reaching crisis point, China must urgently address the protection of its freshwater resources. In Project Year1, the GEB has shown interest in adopting our CGS conservation project as a model for the Guizhou Biodiversity Conservation Strategy and Action Plan. The latter is supported by National and Provincial government funds, to study and build evidence-bases for biodiversity conservation. (Further to an invitation from GEB, a funding proposal was submitted.) In addition, Professor Wu has built close connections with the Provincial FMB and CGS breeding farms in Shaanxi Province, and he has been invited to be the leader of an expert committee to engage in the provincial certification and assessment of CGS trading. A sustainable future for CGS farming can be envisioned if the highest levels of the Chinese government are engaged to genuinely apply and strengthen biosecurity protocols on farms and enhance links between the farming community and the protection of wild CGS populations/their freshwater ecosystems. This will ultimately have long-term benefits for freshwater biodiversity, promote conservation strategies for other species and safeguard rural livelihoods. A complementary CEPA strategy was developed to raise conservation awareness of CGS and freshwater biodiversity and to facilitate conservation management at the local, national and international levels. Collaboration established with the Yunnan Science Centre, with the potential to develop additional links with other provincial Science Centres, will help to disseminate the importance of CGS, amphibians and freshwater ecosystem conservation to the wider public.

5. Monitoring, evaluation and lessons

The Project Leader takes overall responsibility for tracking project execution against the Measurable Indicators and thus monitoring progress towards the timely delivery of the six project Outputs and the project Purpose. Specifically, the process of monitoring and evaluation is a team effort under the day-to-day management of the Project Coordinator and a monthly progress report is submitted to the Project Leader to consolidate tracking of performance. Simultaneously, the EDGE Fellows are under the supervision of the PSG to monitor the progress against the institutional workplans, timetables and budgets. Regular communications/meetings of the PSG, organised both electronically and physically, ensure that the progress of the project is regularly reviewed and evaluated. To measure project achievements, skills audits and expert assessment was conducted for the EDGE Fellows and in-country supervisors, and these will be repeated regularly to ensure skills gaps are identified and addressed. This provides performance appraisals to monitor skills/capacity development

and identify any further training issues/needs. In addition, regular updates of the project website will enable all stakeholders to follow project progress and access reports, protocols, training documents and scientific publications. There is no change made to the M&E plan this year.

During this first year of the project, physical project review meetings and the PSG meetings were found effective in strengthening the collaborations of project partners, with responsibilities clearly identified, progress shared and evaluated and follow-up workplans discussed. In subsequent project years, additional face-to-face meetings/workshops (e.g. regular group Skype meetings) will be organised, liaised by the Project Coordinator, to ensure direct idea exchanging among project partners and timely monitoring of project progress against Measurable Indicators. In addition, follow-up skill audits will be carried out to track the improvement and monitor & evaluate the effectiveness of the training programmes.

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

NA

7. Other comments on progress not covered elsewhere

Disease diagnostic and screening protocols were refined and two visits of Professor Andrew Cunningham were arranged to SNNU to ensure disease diagnostic laboratory work is being carried out to international standards. The CGS genetics database at KIZ was improved through the provision of additional samples and analyses using additional markers. There were no significant difficulties or particular risks facing the project this year. The construction of the pilot CGS *ex situ* conservation breeding facility at SWARRC was unfortunately delayed as SWARRC was relocated to a new site. An alternative suitable location is now being sought and additional fund-raising might be required for the construction of this facility. However, optimistically, governmental bodies in both Shaanxi and Guizhou Province have expressed strong motivation to support such a facility during the lifetime of the project, and a funding proposal to build this facility in Guizhou (rather than Shaanxi as originally planned) has already been submitted at the invitation of the GEB.

8. Sustainability

Through this project, conservation capacity in China among project partners/stakeholders is being improved, particularly in amphibian and wider freshwater ecosystem conservation. Capacity for project planning is also being strengthened, which will benefit the development of future Chinese collaborative conservation partnerships and enhance the long-term contribution of ZSL and other overseas conservation NGOs to vital conservation issues in China.

In this first year of the project, at first, the in-country Project Coordinator was recruited by ZSL and EDGE Fellows were recruited in association with each of the Chinese partner institutions. The training of these recruits as prospective conservation leaders was begun. By the end of the project, these staff will be trained to lead biodiversity research and conservation programmes in China, having professional knowledge and skills in a range of conservation research aspects, such as field surveys, conservation genetics, wildlife disease, CEPA and the ability to provide knowledge/skills transfer via cascade training. Capacity building will also target project staff, key partners and students in collaborating institutions to sustain institutional capacity. Second, disease protocols have been developed to enable the diagnosis and study of disease threats from CGS farms. The integration of this disease component will help to enable a sustainable CGS farming industry, particularly if/when farms recognise economic advantages of effective biosecurity measures and disease mitigation, informing the farming business strategy in terms of “best-practice” and reducing the demand for wild CGS. Third, Professor Wu now works directly with the Shaanxi Fisheries Management Bureau, and is in an excellent position to help ensure improvements in the CGS farming industry to the benefit of CGS conservation. Also, it is anticipated that our flagship conservation breeding centre will foster the development of a long-term government-endorsed conservation breeding and release programme for the CGS. Fourth, our bilingual project website and our protocol for a CGS CEPA strategy (incorporating freshwater ecosystem conservation) will help to disseminate our project results and enhance

the project impacts. Finally, this project has engaged with multiple academic institutions and governmental bodies in China, and we anticipate that post-project funding will be raised to support follow-up CGS conservation actions and research.

9. Dissemination

During our CEPA training workshop, an excellent collaboration was developed with the Yunnan Science Centre and we anticipate that this will develop into links with a network of Provincial Science Centres across China, enabling the dissemination of project information and results to a wide public audience. In addition, scientific presentations were given at: 1. the 2012 biennial EcoHealth international conference; 2. the annual provincial conference of fishery industry management in Shaanxi Province and, 3. a meeting of educators at the Yunnan Science Centre, to strengthen the CGS profile locally, nationally and internationally. This project was also introduced at two regional meetings of the Climate Change Adaptation in the Mekong Region and connections were made with multiple national academic institutes and NGOs. In addition, meetings with government ministries including GEB, YEB and FMB were organised to disseminate project purpose & findings and to garner future support, both politically and financially.

10. Project Expenditure

Table 3 project expenditure during the reporting period (1 April 2012 – 31 March 2013)

Item	Budget (please indicate which document you refer to if other than your project application or annual grant offer letter)	Expenditure	Variance/ Comments
Staff costs specified by individual			
Project Co-ordinator (Chen Shu)			It took longer (August 2012) to recruit the Project Coordinator. The salary budget for July 2012 was therefore used to augment the monies for the project operating costs.
EDGE Fellow (Lv Jing-Cai)			
EDGE Fellow (Zhou Feng)			
EDGE Fellow (Yan Fang)			KIZ agreed to pay higher salary costs for a post-doctoral researcher (rather than a student) in return for the budgeted salary costs being spent on consumables. This will hugely increase the productivity of this aspect of the project.
Wu Minyao (SNNU)			
Andrew Cunningham (IoZ)			
EDGE coordinator (ZSL)			

Item	Budget (please indicate which document you refer to if other than your project application or annual grant offer letter)	Expenditure	Variance/ Comments
Overhead costs			
Travel and subsistence			
Operating costs			This includes an additional £X originally budgeted for Yan Fang's salary and £X for Chen Shu's salary (see comment above)
Capital items/equipment (specify)			
Others: Consultancy			
Others (please specify) Project website			
TOTAL			

11. 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 (please leave this line in to indicate your agreement to use any material you provide here)

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2012-2013

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	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> <ul style="list-style-type: none"> ⇒ 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>A CGS conservation proposal, in response to the Guizhou Biodiversity Conservation Strategy and Action Plan, submitted to GEB to be a model for amphibian species & regional biodiversity conservation; connection built with the Provincial Fisheries Bureau and CGS breeding farms in Shaanxi Province to underpin and develop a sustainable farming industry; a complementary CEPA strategy developed to raise the profile of CGS and the importance of freshwater ecosystems.</p>	
<p>Purpose Building the evidence-base & capacity to underpin, promote & conduct a strategic conservation plan for the CGS.</p>	<p>First robust dataset of population distribution, relative abundance and threat distribution across key range areas & genetic connectivity • Improved in-country resources & capacity for addressing both in situ & ex situ conservation concerns, including: monitoring protocols; population genetics database & biobanked material; disease diagnostic protocols; conservation breeding protocols; CEPA strategy and 2 campaigns; & the establishment of an effective national & international network to support & promote the sub-goal.</p>	<p>Disease diagnostic protocols and CEPA strategy developed; In-country research capacity of field surveys, conservation genetics and disease strengthened; Conservation profile of CGS highlighted at regional and international conferences & workshops; Networks with the Chinese governments enhanced. Assumptions: Effective communication among project partners; continued supports from the Chinese government authorities.</p>	<p>Survey & monitoring protocols developed; Population distribution & relative abundance surveys in Guizhou; Genetics database strengthened; Disease threats identified from wild and farmed CGS; Conservation breeding protocols developed; CEPA campaigns; National & international network enhanced.</p>
<p>Output 1. Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened & disseminated.</p>	<p>Scientifically robust baseline data for CGS occurrence/abundance in range-wide study regions collated, analysed & reported • Predictive Habitat Model developed, that factors-in Climate Change, to delimit a suitable remaining range area for CGS to inform future conservation breeding release efforts & establish potential locations of remnant populations • Questionnaire-based survey protocols developed & utilised to collect local informant data on current / historical range • Standardised field survey programme developed & utilised • 1 CGS survey & monitoring EDGE Fellow trained.</p>	<p>Predictive Habitat Model developed to identify suitable habitats for wild CGS across China; Historical range of wild CGS in Guizhou mapped and environmental information collected for all counties; One CGS survey & monitoring EDGE Fellow recruited and trained at GU. Indicators are adequate and appropriate to measure the progress towards the Output.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
Activity 1.1. Conduct training visits to Guizhou/Shaanxi Provinces with three EDGE Fellows		Field permission obtained to Fan Jing Shan Protected Area, Guizhou; Visits of amphibian experts from UK and Japan to China coordinated; To conduct field training visits to Guizhou and Shaanxi in May 2013 with EDGE Fellows and Steering Group Members; To develop standardised protocols of questionnaire-based survey, field survey and long-term monitoring protocol and strategy at the training workshop	
Activity 1.2. Develop predictive habitat model		Country-level predictive habitat model developed based on published ecological parameters; Historical wild CGS distribution map in Guizhou produced and environmental data compiled for 76 counties; to develop Guizhou-level predictive model	
Activity 1.3. Conduct long-term monitoring at selected field site		Field sites piloted in Dushan County, Guizhou; to conduct field surveys following standardised protocol	
Activity 1.4. Train and supervise EDGE Fellow focusing on long-term monitoring of wild CGS in Guizhou at GU		One EDGE Fellow recruited at GU; to train the EDGE Fellow in survey & monitoring skills; To conduct skills audit & expert assessment in the next period; To train in Conservation Skills & Techniques at the 2013 EDGE training course	
Output 2. Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species.	CGS Genetics Group established to coordinate collection, analysis, storage, databasing & dissemination of genetic information to facilitate conservation management and sustainable production of wild CGS • Field collection of CGS genetic samples across known range • Microsatellites developed & databased to enable the analysis of genetic samples • Genetic analysis of samples, investigating phylogeography, & identifying distinct evolutionary units & possible evidence for cryptic species • Biobanking of genetic information • Integration of CGS genetic data into longer-term range-wide conservation management • 1 CGS conservation genetics EDGE Fellow trained.	Microsatellites developed at KIZ, and lab work conducted on CGS genetic samples collected from different provinces to understand genetic structure of both wild and farmed CGS; One CGS conservation genetics EDGE Fellow recruited and trained at KIZ. Indicators are adequate and appropriate to measure the progress towards the Output.	
Activity 2.1. Collect genetics samples from wild and captive CGS and CGS specimen		Field genetics samples collected from Sichuan and Guangxi Provinces; Genetic samples of specimen collected from France and Qinghai Province; To collect field genetic samples from Guizhou and Shaanxi	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
Activity 2.2. Develop microsatellites and associated protocols for analysis of CGS genetics		Development of 27 microsatellites (ongoing) at KIZ; To develop more and select high-quality microsatellites; To develop protocol for genetic screening of releasing animals	
Activity 2.3. Analyse genetic samples collected at KIZ		Lab work conducted on mitochondrial Cytb and D-loop sequencing of genetic samples at KIZ; To analyse new collected samples and improve CGS genetics database at KIZ	
Activity 2.4. Train and supervise EDGE Fellow focusing on CGS conservation genetics at KIZ		One EDGE Fellow recruited and trained at KIZ in skills of genetics and phylogeography study on CGS; To conduct skills audit & expert assessment in the next period; To train in Conservation Skills & Techniques at the 2013 EDGE training course	
Output 3. Disease threats to farmed and wild CGS identified and mitigation strategies developed.	Develop CGS disease diagnostic & research capacity within China • Identify major disease threats to wild and farmed CGS & investigate routes of transfer between the two • Raise awareness of disease / biosecurity / quarantine issues among farms & captive breeding centres, including treatment of waste water from farms • Develop protocols to determine health and infection status of animals destined for release • Develop disease mitigation measures & treatments for captive/farmed CGS • CGS farming becomes self-sustainable and no longer relies on regular inputs of wild-caught animals • 1 CGS disease diagnostics & surveillance EDGE Fellow trained.	The CGS diagnostic laboratory established at SNNU with disease diagnostic protocols developed; Farms in Shaanxi with disease outbreaks visited and samples taken for Ranavirus, BD and Mycobacterium investigation; One CGS disease diagnostics & surveillance EDGE Fellow recruited and trained at SNNU. Indicators are adequate and appropriate to measure the progress towards the Output.	
Activity 3.1. Collect field samples from wild and captive CGS		Total 36 CGS field samples collected from captive farms in Shaanxi province for diagnostic investigations; To collect samples of wild CGS to understand disease risk between wild and farmed CGS	
Activity 3.2. Complete the establishment of a disease diagnostic laboratory at SNU		The disease diagnostic laboratory established in SNNU; To get Beadbeater homogeniser scientific equipment from IoZ	
Activity 3.3. Develop disease diagnostics and screening protocols for wild and farmed CGS and analyse samples		Disease diagnostic and screening protocols developed for both wild and captive CGS; Samples analysed on Ranavirus, Bd and Mycobacterium infection; Mycobacterium cultured; To culture ranavirus, conduct continued lab work and develop protocol for disease screening of releasing captive CGS	
Activity 3.4. Train and supervise EDGE Fellow focusing on CGS disease diagnostics and mitigation strategies at SNNU		One EDGE Fellow recruited and trained at IoZ, ZSL and SNNU in skills of CGS disease diagnostics and mitigation strategies; To conduct skills audit & expert assessment in the next period; To train in Conservation Skills & Techniques at the	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
		2013 EDGE training course	
<p>Output 4. Build upon existing CGS farming protocols & infrastructure to develop <i>ex situ</i> protocols for conservation.</p>	<p>Develop protocols for CGS conservation breeding through cooperation with farms & a targeted CGS Conservation Breeding Workshop • Develop plan for first captive population of CGS for conservation breeding & create appropriate facility at the Shaanxi Wild Animal Rescue and Research Centre • Government-endorsed conservation breeding and release programme for CGS, removing any requirement for the release of commercially farmed CGS as a conservation measure.</p>	<p>Questionnaire-based protocol developed to understand existing CGS farming industry; Close connections built between Professor Wu at SNNU and FMB in Shaanxi and between Professor Wei at GU and GEB in Guizhou to gain potentially political and financial supports to develop the CGS conservation breeding facility</p> <p>Indicators are adequate and appropriate to measure the progress towards the Output.</p>	
<p>Activity 4.1. Develop questionnaire-based protocols to understand the captive farming industry</p>		<p>A farm questionnaire proposed to find out to what extent wild CGS are still taken into farms, scale of farms, management, disease status and the trading chain among farms; to conduct questionnaire surveys in Shaanxi and Guizhou Province towards farms in different regions and at different scales</p>	
<p>Activity 4.2. Construct, populate and develop pilot CGS <i>ex situ</i> conservation breeding facility</p>		<p>Networks built with FMB in Shaanxi and GEB in Guizhou; Professor Wu invited being the leader of expert committee group to engage in the provincial certification assessment of CGS trading; To build the 1st CGS <i>ex situ</i> conservation breeding centre in Shaanxi or Guizhou province and initiate CGS conservation breeding at the pilot facility</p>	
<p>Output 5. Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level.</p>	<p>CEPA training and planning workshop including a variety of stakeholders to set future directions to raise the profile of CGS & facilitate its conservation • Public campaigns conducted in 2 key project target areas (Shaanxi and Guizhou) highlighting importance & conservation requirements of CGS • 20,000 appropriate CEPA materials produced & distributed at local community meetings & schools in target areas • Train EDGE Fellows and supervisors in CEPA and project coordination • 9 local, 6 national & 2 international newspaper articles; 9 local, 6 national & 2 international radio & TV interviews; Project blog and social networking sites established • 6 internet articles on partner websites.</p>	<p>CEPA training and planning workshop held in Kunming, January 2013 to train participants in CEPA planning and implementation skills; CEPA strategy and material developed and collaboration with Yunnan Science Centre established.</p> <p>Indicators are adequate and appropriate to measure the progress towards the Output.</p>	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
Activity 5.1. Conduct CGS and freshwater ecosystem CEPA training and planning workshop		CEPA workshop held in Kunming, China, 25th to 27th January, 2013	
Activity 5.2. Develop and circulate long-term CGS and freshwater ecosystem CEPA strategy		Initial CEPA strategies towards governments, local communities and the public discussed and developed; To improve and refine existing strategy	
Activity 5.3. Train EDGE Fellows in CEPA campaign organisation and implementation		EDGE Fellows, Project Coordinator, PSG members and staff from Yunnan Science Centre trained in CEPA campaign organisation and implementation such as design of appropriate CEPA materials and CEPA towards different audiences; To conduct cascade training towards school teachers in Guizhou and Shaanxi to maximise conservation impacts	
Activity 5.4. Produce appropriate project CEPA materials;		Project logo and badges designed for CEPA campaigns; Questionnaire proposed to collect baseline data on conservation awareness of CGS in China (both rural and urban); To design and produce posters, booklets, CGS cartoons, etc. for CEPA campaign	
Activity 5.5. Plan and conduct overall awareness strategy (media/social marketing).		Collaboration established with the Yunnan Science & Technology Museum to conduct awareness-raising campaign towards the public; To co-arrange an educational display with Yunnan Science Centre about the project	
Output 6. Development of a global network that seeks to conserve giant salamanders nationally & internationally.	Link up international network of protected areas & CGS/cyptbranchid experts • Project staff to take part in CIG, JGSS & CHS meetings • Engage with the highest levels of government & advocacy to garner support for the conservation of the CGS as an iconic species and a key component of the maintenance of healthy, functioning watersheds • Meetings with MoEP, MoA, FMBs & other relevant ministries to discuss CGS policy imperatives.	Regional and international conferences & workshop attended to disseminate this project and initial findings; Meetings with governments in Guizhou, Shaanxi and Yunnan provinces to garner support for CGS conservation. Indicators are adequate and appropriate to measure the progress towards the Output.	
Activity 6.1. Meetings with relevant government ministries and stakeholders;		Meetings with GEB, YEB and Shaanxi FMB on the purpose of establishing network, facilitating in-country conservation capacity building and developing potential post-project funding; To meet with other relevant ministries to discuss CGS policy imperatives	
Activity 6.2. Build and maintain project website		Bilingual (English and Chinese) project website constructed; To maintain project website	

Project summary	Measurable Indicators	Progress and Achievements April 2012 - March 2013	Actions required/planned for next period
Activity 6.3. Different project partners attend relevant national and international conferences to disseminate project purpose, findings and achievements (including CHS, EcoHealth, Society for Conservation Biology; JGSS; CIG)		Scientific presentations given at the EcoHealth international conference and the annual provincial conference of fishery industry management in Shaanxi Province; CGS project introduced at two regional meetings of the Climate Change Adaptation in Mekong Regions and networks built to multiple national academic institutes and NGOs	

Annex 2 Project's full current logframe

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>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.</p>			
<p>Sub-Goal: Improving scientific understanding & in-country capacity to strengthen the conservation framework for CGS.</p>	<p>Progress on developing & implementing a national conservation strategy in China, supported by the MoEP, MoA, FMB & the farming industry, to safeguard wild CGS in key locations across the range in the drainage basins of the Yellow, Yangtze & Pearl Rivers.</p>	<p>MoEP reports to CBD and reports to CITES • China National Biodiversity Strategy monitoring reports.</p>	
<p>Purpose Building the evidence-base & capacity to underpin, promote & conduct a strategic conservation plan for the CGS.</p>	<p>First robust dataset of population distribution, relative abundance and threat distribution across key range areas & genetic connectivity • Improved in-country resources & capacity for addressing both in situ & ex situ conservation concerns, including: monitoring protocols; population genetics database & biobanked material; disease diagnostic protocols; conservation breeding protocols; CEPA strategy and 2 campaigns; & the establishment of an effective national & international network to support & promote the sub-goal.</p>	<p>Conservation Action Plan (National/Provincial) • Evaluated training schemes in monitoring, disease diagnostics, population genetics analysis, database construction, & conservation breeding • Scientific literature in Chinese/English • MoEP reports to CBD • China National Biodiversity Strategy monitoring reports • Project progress reports.</p>	<p>Effective collaboration & communication between all project partners • Chinese government authorities continue to support project.</p>
<p>Outputs 1. Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened & disseminated.</p>	<p>Scientifically robust baseline data for CGS occurrence/abundance in range-wide study regions collated, analysed & reported • Predictive Habitat Model developed, that factors-in Climate Change, to delimit a suitable remaining range area for CGS to inform future conservation breeding release efforts & establish potential locations of remnant populations • Questionnaire-based survey protocols developed & utilised to collect local informant data on current / historical range • Standardised field survey programme developed & utilised • 1 CGS survey & monitoring EDGE Fellow trained.</p>	<p>Full review of existing data produced • Revised range map produced • Standardised long-term monitoring protocols formalised & distributed • Interview protocols document • reports and published papers showing results of field work • Centralised information portal developed for dissemination of project progress & findings • Post-project skills audit & expert assessment.</p>	<p>Chinese government (specifically the Province-level FMB representatives) continue to provide permits for field research</p>

Project summary	Measurable Indicators	Means of verification	Important Assumptions
2. Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species.	CGS Genetics Group established to coordinate collection, analysis, storage, databasing & dissemination of genetic information to facilitate conservation management and sustainable production of wild CGS • Field collection of CGS genetic samples across known range • Microsatellites developed & databased to enable the analysis of genetic samples • Genetic analysis of samples, investigating phylogeography, & identifying distinct evolutionary units & possible evidence for cryptic species • Biobanking of genetic information • Integration of CGS genetic data into longer-term range-wide conservation management • 1 CGS conservation genetics EDGE Fellow trained.	CGS genetic group established & coordination/remit agreed • CGS genetics database expands • Protocols for developing microsatellites produced • Scientific literature in Chinese/English • Moratorium on current government-endorsed release programme & protocol for genetic screening of any animals released to supplement wild population • Biobank established • Post-project skills audit & expert assessment.	Sufficient samples can be collected from wild animals, allowing for possible presence of released salamanders from a different sub-population • MoEP, MoA and FMB accept project recommendations.
3. Disease threats to farmed and wild CGS identified and mitigation strategies developed.	Develop CGS disease diagnostic & research capacity within China • Identify major disease threats to wild and farmed CGS & investigate routes of transfer between the two • Raise awareness of disease / biosecurity / quarantine issues among farms & captive breeding centres, including treatment of waste water from farms • Develop protocols to determine health and infection status of animals destined for release • Develop disease mitigation measures & treatments for captive/farmed CGS • CGS farming becomes self-sustainable and no longer relies on regular inputs of wild-caught animals • 1 CGS disease diagnostics & surveillance EDGE Fellow trained.	First CGS disease diagnostic laboratory & training centre established, training post-doctoral students • CGS disease diagnostic protocols developed and important disease threats identified • Protocols for disease screening of CGS developed and implemented prior to release • CGS disease information and mitigation document developed & circulated to government & CGS stakeholders (including CGS farmers) • Anonymous surveys of farms indicate that wild-caught CGS are no longer required by the farming industry • Post-project skills audit & expert assessment.	Access to sample farmed and wild CGS granted • Farmers willing to adopt disease mitigation protocols • MoEP, MoA and FMB accept project recommendations.
4. Build upon existing CGS farming protocols & infrastructure to develop <i>ex situ</i> protocols for conservation.	Develop protocols for CGS conservation breeding through cooperation with farms & a targeted CGS Conservation Breeding Workshop • Develop plan for first captive population of CGS for conservation breeding & create appropriate facility at the Shaanxi Wild Animal Rescue and Research Centre • Government-endorsed conservation breeding and release programme for CGS, removing any requirement for the release of commercially farmed CGS as a conservation measure.	Conservation breeding workshop report • Conservation breeding protocols developed • Conservation breeding training manual developed • First CGS conservation breeding facility and population established • Strategy document developed for establishment of further conservation breeding populations based on CGS Genetics Group recommendations • Disease-free & genetically managed CGS available for release into the wild.	Government permission granted to establish conservation breeding population(s) of CGS.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>5. Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level.</p>	<p>CEPA training and planning workshop including a variety of stakeholders to set future directions to raise the profile of CGS & facilitate its conservation • Public campaigns conducted in 2 key project target areas (Shaanxi and Guizhou) highlighting importance & conservation requirements of CGS • 20,000 appropriate CEPA materials produced & distributed at local community meetings & schools in target areas • Train EDGE Fellows and supervisors in CEPA and project coordination • 9 local, 6 national & 2 international newspaper articles; 9 local, 6 national & 2 international radio & TV interviews; Project blog and social networking sites established • 6 internet articles on partner websites.</p>	<p>Project annual reports • Pictures, footage & report from CEPA workshop • Project coordinator CEPA training report • Footage & reports of 2 CEPA campaigns (including school presentations, fairs, art displays, theatre, public CGS educational encounters) • Radio & TV transcripts/recordings, newspaper & internet articles, scientific papers • Project partner websites & hit-count • Short film cut from project footage at end of Year 3.</p>	<p>Target areas are receptive to CEPA campaign activities • Campaigns are appropriately pitched to influence attitudes / behaviour of target audience • Media willing to publicise information about CGS threats & conservation.</p>
<p>6. Development of a global network that seeks to conserve giant salamanders nationally & internationally.</p>	<p>Link up international network of protected areas & CGS/cyptobranchid experts • Project staff to take part in CIG, JGSS & CHS meetings • Engage with the highest levels of government & advocacy to garner support for the conservation of the CGS as an iconic species and a key component of the maintenance of healthy, functioning watersheds • Meetings with MoEP, MoA, FMBs & other relevant ministries to discuss CGS policy imperatives.</p>	<p>Project website for dissemination of CGS information, project progress & findings, releasing a biannual online newsletter • Reports & presentations to CIG, JGSS & CHS • Reports of meetings with government bodies.</p>	<p>Ongoing support from international colleagues and Chinese government.</p>

Activities (details in workplan)

0. Project management, monitoring and reporting activities

0.1 Recruitment of Project Coordinator; **0.2** Project Steering Group established / delivering ongoing guidance; **0.3** Recruitment of EDGE Fellows; **0.4** Establishment of MOU(s) / agreements between project partners as appropriate; **0.5** Hold meetings with key government partners in Beijing (MoEP/FMB/MoA); **0.6** Project half year reports submitted to Darwin Initiative; **0.7** Project annual reports submitted to Darwin Initiative; **0.8** Project final report submitted to Darwin Initiative; **0.9** Annual group project review meetings in China; **0.10** Final project workshop on CGS and freshwater ecosystem conservation in China for all relevant stakeholders (both Chinese and international) in China; **0.11** Additional project fundraising and continued development of post-project sustainability strategy.

1. Evidence-base on CGS distribution, population status, ecology & conservation requirements strengthened and disseminated

1.1 Conduct training visits to Anhui/Qing'hai/Shaanxi/Guangxi Provinces with three EDGE Fellows; **1.2** Develop standardised questionnaire-based survey protocol; **1.3** Develop standardised field survey protocol; **1.4** Develop predictive habitat model; **1.5** Develop long-term monitoring protocol and strategy; **1.6** Conduct long-term monitoring at selected field site; **1.7** Train and supervise EDGE Fellow focusing on long-term monitoring of wild CGS in Guizhou/Guangxi at GU/SCIEA.

2. Range-wide population genetics & phylogeography of CGS resolved to safeguard maximum genetic diversity of this species

2.1 Collect field genetics samples from wild and captive CGS; **2.2** Develop microsatellites and associated protocols for analysis of CGS genetics; **2.3** Develop protocol for genetic screening of any captive CGS released to supplement wild populations; **2.4** Manage and improve CGS genetics database at KIZ; **2.5** Analyse genetic samples collected throughout project at KIZ; **2.6** Biobanking of genetic samples at KIZ; **2.7** Train and supervise EDGE Fellow focusing on CGS conservation genetics at KIZ.

3. Disease threats to farmed and wild CGS identified and mitigation strategies developed

3.1 Collect field samples from wild and captive CGS; **3.2** Complete the establishment of a disease diagnostic laboratory at SNU; **3.3** Develop disease diagnostics and screening protocols for wild and farmed CGS and analyse samples; **3.4** Develop protocol for disease screening of any captive CGS released to supplement wild populations; **3.5** Train and supervise EDGE Fellow focusing on CGS disease diagnostics and mitigation strategies at SNU.

4. Build upon existing CGS farming protocols & infrastructure to develop ex situ protocols for conservation

4.1 Construct, populate and develop pilot CGS *ex situ* conservation breeding facility at SWARRC; **4.2** Develop CGS conservation breeding protocols; **4.3** Initiate CGS conservation breeding at pilot facility; **4.4** Develop government-endorsed conservation breeding and release programme.

5. Education & awareness-raising activities to promote the status & conservation needs of CGS across its range at local, national & international level

5.1 Conduct CGS and freshwater ecosystem CEPA training and planning workshop; **5.2** Develop and circulate long-term CGS and freshwater ecosystem CEPA strategy; **5.3** Train 3 EDGE Fellows in CEPA campaign organisation and implementation; **5.4** Produce appropriate project CEPA materials; **5.5** Conduct public CEPA campaigns; **5.6** Plan and conduct overall awareness strategy (media/social marketing).

6. Development of a global network that seeks to conserve giant salamanders nationally & internationally

6.1 Meetings with relevant government ministries and stakeholders; **6.2** Build and maintain project website; **6.3** Different project partners attend relevant national and international conferences to disseminate project purpose, findings and achievements (including CHS, EcoHealth, Society for Conservation Biology; JGSS; CIG); **6.4** Final Darwin Initiative project strategy workshop on promotion of CGS and freshwater ecosystem conservation in China.

Annex 3 Onwards – supplementary material (optional but encouraged as evidence of project achievement)

This may include outputs of the project, but need not necessarily include all project documentation. For example, the abstract of a conference would be adequate, as would be a summary of a thesis rather than the full document. If we feel that reviewing the full document would be useful, we will contact you again to ask for it to be submitted.

It is important, however, that you include enough evidence of project achievement to allow reassurance that the project is continuing to work towards its objectives. Evidence can be provided in many formats (photos, copies of presentations/press releases/press cuttings, publications, minutes of meetings, reports, questionnaires, reports etc) and you should ensure you include some of these materials to support the annual report text.

Annex 3:1 - Chinese giant salamander project staff skills audit

Annex 3:2 - Chinese Giant Salamander Farm Questionnaire, January 2013.

Annex 3:3 - CGS Public Questionnaire, January 2013

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 discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, 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.	