



Darwin Initiative Main Project Half Year Report (due 31 October 2015)

Project Ref No	19-003
Project Title	A sustainable future for Chinese giant salamanders
Country(ies)	China
Lead Organisation	Institute of Zoology, Zoological Society of London
Collaborator(s)	Kunming Institute of Zoology (KIZ), Shaanxi Normal University (SNU), Guiyang University (GU), Chengdu Institute of Biology (CIB), Hunan Fisheries Science Research Institute (HFSRI), Yangtze River Fisheries Research Institute (YRFRI), Guangxi Teachers Education University (GTEU), Guangxi Natural History Museum (GNHM), Yunnan Science & Technology Centre (YSTC), Tongren University (TU) and Fanjingshan National Nature Reserve (FNNR).
Project Leader	Andrew Cunningham
Report date and number (e.g., HYR3)	October 19 th 2015, HYR 4
Project website/Twitter/Blog/Instagram etc	www.chinesegiantsalamanders.org ; www.facebook.com/chinesegiantsalamanders.org ; http://www.zsl.org/conservation/regions/asia/chinese-giant-salamander-conservation
Funder (DFID/Defra)	Defra

1. Outline progress over the last 6 months (April – Sept) against the agreed baseline timetable for the project (if your project has started less than 6 months ago, please report on the period since start up to end September).

Project management, monitoring and development activities

- 1) A Memorandum of Understanding (MoU) was signed with Fanjingshan National Nature Reserve, Guizhou – a key site for future *in situ* and *ex situ* conservation of the Chinese giant salamander (CGS). Close collaboration was also developed with another important CGS reserve – Guangdong Liannan Chinese giant salamander provincial nature reserve, Guangdong.
- 2) EDGE fellows Yan Fang, Zhou Feng and Chen Shu attended a two-week intensive conservation leadership training course at ZSL, run by the EDGE of existence programme (London, September 2015), obtaining extensive skills on communication, project & people management, fund-raising, scientific writing and leadership development. These leadership skills will help them to develop and lead future conservation projects in China.
- 3) One scientific paper directly resulting from this project was published, as below:
Tapley, B., Okada, S., Redbond, J., Turvey, S.T., Chen, S., Lü, J., Wei, G., Wu, M., Pan, Y., Niu, K. & Cunningham, A.A, 2015. Failure to detect the Chinese giant salamander (*Andrias davidianus*) in Fanjingshan National Nature Reserve, Guizhou Province, China. *Salamandra* 51 (2): 206 -208.
- 4) The Darwin Initiative grant was used to leverage further monies for CGS conservation. FNNR provided to cover the 2015 annual transect survey for CGS in this reserve, and a UK private donor provided to support CGS EDGE fellows' training & capacity building.

Evidence-base on CGS distribution, population status, ecology & conservation

requirements strengthened and disseminated

- 1) Three more field teams were trained by ZSL staff in using the standardised survey protocols developed at the 2013 International CGS Conservation Field Training Workshop (i.e. visual encounter surveys, trapping surveys, villager questionnaire surveys and farm surveys). CGS national surveys in 2015 were conducted and completed in Guangxi, Guangdong, Fujian, Henan, Yunnan, Shaanxi and Gansu Provinces, allowing a more comprehensive understanding of the status and threats of the CGS for the future evidence-based conservation planning.
- 2) Repeated annual surveys at selected river transects in FNNR has allowed collection of continuous data over time to facilitate long-term *in situ* CGS protection and monitoring in this UNESCO World Biosphere Reserve. Also, two FNNR staff and four local university students participated in the surveys and were trained in methods and skills to conduct site-based CGS monitoring in this reserve.

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

- 1) Genetic samples of wild & farmed CGS were collected from Guangxi, Guangdong, Fujian, Henan, Yunnan, Shaanxi and Gansu Provinces during the 2015 national survey, greatly enhancing the genetic database at KIZ. Mitochondrial DNA (gene COI) of samples has been amplified and sequenced successfully (on-going). EDGE Fellow Yan Fang (based at KIZ) has received additional training in genetic data analyses by a ZSL geneticist.
- 2) A manuscript on CGS genetics has been submitted to a peer-review journal, as below:
Yan, F., Yuan, Z.Y., Huang, S., Fu, Y., Papenfuss, T.J., Murphy, R.W., Cunningham, A.A., Zhang, Y.P. and Che, J. Genetic admixture in the endangered Chinese giant salamander mediated by intensive and extensive translocation. *Molecular Ecology* submitted

✚ Disease threats to farmed and wild CGS identified and mitigation strategies developed

- 1) Farms were visited and skin and cloacal swabs from living animals were collected across 7 provinces for the investigation of selected amphibian pathogens (i.e. *Mycobacterium* spp., ranaviruses, *Batrachochytrium dendrobatidis* and *Batrachochytrium salamandrivorans*, spp.).
- 2) Farms in Shaanxi Province with disease outbreaks in 2015 were visited and CGS that had died on farms were sampled to undertake further diagnostic work at SNNU to understand what infectious diseases are present in farms for future biosecurity control.

✚ Build upon existing CGS farming protocols & infrastructure to develop *ex situ* protocols for conservation

- 1) An MoU was signed with FNNR, the key components of which include establishing a CGS conservation breeding and education centre and conducting strict pre & post-release monitoring.
- 2) Tongren University, Guizhou Province is planning to develop a science centre to investigate the best design, conditions and practices for CGS conservation breeding (e.g. biosecurity controls, quarantine and husbandry), in collaboration with ZSL as their technical advisor.

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

- 1) Facilitated by ZSL, long-running CEPA campaigns were conducted by Yunnan Science and Technology Centre and Guangxi Natural History Museum throughout 2015 to publicise CGS conservation needs in Yunnan and Guangxi Provinces.
- 2) Collaborating with ZSL as the advisor, FNNR has budgeted to establish a CGS education centre in Jiangkou, Guizhou and also to incorporate the current Darwin project's CEPA outputs in their ecotourism planning. Project staff Shu Chen and Ben Tapley evaluated the current environmental exhibitions in this park, produced a preliminary design for the tourist education centre & CGS eco trails and discussed the CGS tourism planning with both the FNNR administration and the park tourism executor in June 2015. Also, pilot questionnaire

surveys were conducted with local villagers and tourists separately (n=30) to investigate peoples' perceptions of, and willingness for, CGS eco-tourism in FNNR.

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

- 1) Outputs of this project were presented by three EDGE Fellows to ZSL staff, UK organisations and potential donors through a public event organised by the EDGE programme at London Zoo, September 2015.
- 2) The PI presented some of the results of this project at an international conference: Ranavirus and the Chinese giant salamander farming industry. Third International Symposium on Ranaviruses, Gainesville, Florida, U.S.A., May 30th – June 1st 2015.

2a. Give details of any notable problems or unexpected developments/lessons learnt that the project has encountered over the last 6 months. Explain what impact these could have on the project and whether the changes will affect the budget and timetable of project activities.

Construction of the pilot CGS *ex situ* conservation breeding facility and initiation of the CGS release programme have been delayed due to the relocation of the Shaanxi Wild Animal Rescue and Research Centre (SWARRC) to a new site. However, an MoU was signed with FNNR and partnership was established with key stakeholders in Guizhou Province to take this forward into the future.

2b. Have any of these issues been discussed with LTS International and if so, have changes been made to the original agreement?

The delay to the construction of the conservation breeding centre was highlighted in the first, second and third annual reports for this project. This is a part of the project for which DI money has not been budgeted.

Also, the project asked for, and was agreed by, Darwin for 1-year no cost extension due to the expansion of CGS surveys from the regional to the national scale and problems getting these completed caused by adverse weather and an earthquake.

Discussed with LTS: **Yes/No**

Formal change request submitted: **Yes/No**

Received confirmation of change acceptance **Yes/No**

3a. Do you currently expect to have any significant (e.g., more than £5,000) underspend in your budget for this year?

Yes No Estimated underspend: £

3b. If yes, then you need to consider your project budget needs carefully as it is unlikely that any requests to carry forward funds will be approved this year. Please remember that any funds agreed for this financial year are only available to the project in this financial year.

If you anticipate a significant underspend because of justifiable changes within the project and would like to talk to someone about the options available this year, please indicate below when you think you might be in a position to do this and what the reasons might be:

4. Are there any other issues you wish to raise relating to the project or to Darwin's management, monitoring, or financial procedures?

This project has asked for 1-year no cost extension, and thus the final project report will be submitted to Darwin in April 2016.

If you were asked to provide a response to this year's annual report review with your next half year report, please attach your response to this document.

Please note: Any planned modifications to your project schedule/workplan can be discussed in this report but **should also be raised with LTS International through a Change Request.**

Please send your **completed report by email** to Eilidh Young at Darwin-Projects@ltsi.co.uk . The report should be between 2-3 pages maximum. **Please state your project reference number in the header of your email message e.g., Subject: 20-035 Darwin Half Year Report**