

# **AMUR LEOPARD & WILDLIFE HEALTH PROJECT**

## **SECOND ANNUAL PROGRESS REPORT**

**April 1<sup>st</sup>, 2006 – March 31<sup>st</sup>, 2007**

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**Zoological Society of London**

in collaboration with

**Primorskaya State Academy of Agriculture**

funded by

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



## Abbreviations and Acronyms

<b>ALCG</b>	Amur Leopard Conservation Group
<b>ALTA</b>	Amur Leopard and Tiger Alliance
<b>ALWHP</b>	Darwin Initiative ZSL-Amur Leopard & Wildlife Health Project
<b>CoC</b>	Contract of Cooperation
<b>CP</b>	ZSL Conservation Programme
<b>EAZA</b>	European Association of Zoo and Aquaria
<b>FAO</b>	Food and Agricultural Organization
<b>IBS</b>	Institute of Biology and Soils
<b>IFAW</b>	International Fund for Animal Welfare
<b>IZW</b>	Institute for Zoo- and Wildlife Research
<b>IZWG</b>	International Zoo Veterinary Group
<b>LSNR</b>	Lazovsky State Nature Reserve
<b>NGO</b>	Non-Government Organization
<b>Phoenix</b>	Phoenix Fund
<b>PSAA</b>	Primorskaya State Academy of Agriculture
<b>RFE</b>	Russian Far East
<b>RVC</b>	Royal Veterinary College
<b>SC</b>	Steering Committee
<b>Utios</b>	Utios Wildlife Rehabilitation Centre
<b>WCS Russia</b>	Wildlife Conservation Society, Representative Office in Russia
<b>WHMU</b>	Wildlife Health Monitoring Unit
<b>WHO</b>	World Health Organization
<b>WVI</b>	Wildlife Vets International
<b>Zapovednik</b>	State Nature Reserve
<b>ZSL</b>	Zoological Society of London

## *Darwin Initiative Annual Report*

### Darwin Project Information

Project Ref Number	13 – 034
Project Title	Wildlife health monitoring and capacity-building for leopard conservation in Russia (Amur Leopard & Wildlife Health Project)
Country(ies)	Russia
UK Contract Holder Institution	Sarah Christie, Programme Manager – Carnivores & People Programme, Zoological Society of London
UK Partner Institution(s)	Faculty of Veterinary Science and National Centre for Zoonosis Research, University of Liverpool
Host country Partner Institution(s)	Primorskaya State Academy of Agriculture, Ussuriysk, Primorski Krai  Wildlife Conservation Society, Representative Office in Russia, Vladivostok  Moscow Zoo  Novosibirsk Zoo  Lazovsky State Nature Reserve, Laso rayon, Primorski Krai  Tigris, Vladivostok and The Netherlands  Phoenix Fund, Vladivostok  Institute of Biology and Soils, Far Eastern Branch of the Russian Academy of Science, Vladivostok  Utios Wildlife Rehabilitation Centre, near Khabarovsk, Khabarovski Krai  International Fund for Animal Welfare, Russian Office, Moscow
Darwin Grant Value	£ 177,000.00
Start/End dates of Project	January 1 <sup>st</sup> , 2006 – December 31 <sup>st</sup> , 2007
Reporting period (1 Apr 200x to 31 Mar 200y) and annual report number (1,2,3..)	1 April 2006 to 31 March 2007  Annual Report No.2
Project Leader Name	Dr Claudia Schoene
Project website	<a href="http://www.zsl.org/field-conservation/carnivores-and-people">www.zsl.org/field-conservation/carnivores-and-people</a> <a href="http://www.amur-leopard.org">www.amur-leopard.org</a>
Author(s), date	Claudia Schoene & Lada V. Ziliakova, 31 May 2007

### 1. Project Background

The Amur leopard (*Panthera pardus orientalis*) is the world's most endangered cat, with as few as 30 individuals now surviving in the southern Primorye province of the Russian Far East. In 2001, a workshop of Russian and international experts, including representatives of ZSL, WCS and Moscow Zoo, used the 1999 Federal Strategy for Conservation of the Amur leopard as the basis for a collaborative conservation strategy targeting a range of threats including infectious diseases and identifying reintroduction as a desirable conservation action.

Project partner WCS Russia has been working in the region for 12 years and has established good working relationships with deer farms (e.g. Gaivoron) and hunting organisations (e.g. Neshinskoe and Southern Valley), both of which will be key for obtaining the necessary wild and domestic animal samples. Starting in 2000, WCS Russia has also held four veterinary training workshops, both in the Russian Far East and in the United States, focusing on training

tiger protection personnel. The workshops included lectures, intensive "hands-on" veterinary training, sessions on handling problem animals, and a "Wildlife and Handling Course." During this process, an additional need was identified for provision of training for local veterinarians in the areas of wildlife health and related issues.

Our team of wildlife veterinarians will assist in teaching wildlife health and the role of disease in wild populations to both veterinary faculty and students of the Primorskaya State Academy of Agriculture (PSAA), creating an ongoing network of Russian veterinarians throughout the region who are knowledgeable and skilled in wildlife health issues. Long-term benefits will be ensured by incorporation of wildlife health into the veterinary teaching curriculum to provide continuing education opportunities for Russian veterinarians.

Dissemination of the project outputs to achieve the overall project impact will be through documentation of the presence of potentially dangerous infectious diseases, establishment of a Wildlife Health Monitoring Unit WHMU and increasing institutional capacity at the regional veterinary training hospital of the PSAA in Ussuriysk. Input into strategies for reintroduction of Amur leopards will be through the International Amur Leopard Steering Committee and the European Endangered Species Programme (EEP) for the Amur Leopard.

The Amur Leopard & Wildlife Health Project (ALWHP) is based in Ussuriysk (Figure 1).

## **2. Project Partnerships**

### Primorskaya State Academy of Agriculture (PSAA)

The ALWHP office is based in the same city as the PSAA. and has been firmly established now in Ussuriysk. The collaboration with the PSAA is frequent and has developed over the last year to become one of mutual support for the achievement of the overall goal of creating an ongoing network of Russian veterinarians throughout the region who are knowledgeable and skilled in wildlife health issues.

The PSAA provided the lecture faculties during the Veterinary Training workshop in April 2006 as well as taking responsibility for part of the overall organization of the workshop.

A major joint project between PSAA and ZSL-ALWHP is the restoration of the veterinary diagnostic laboratory of the Academy. This laboratory will become the Wildlife Health Monitoring Unit (WMHU) for the ALWHP. It will eventually become the commercially run veterinary diagnostic laboratory for the PSAA. Restoration work began in October 2006 and will be continued in spring 2007, as soon as weather conditions permit.

This collaboration during the reporting period has supported the PSAA in building capacity to meet CBD requirements especially relating to articles 5, 12, 13 & 19.

### Wildlife Conservation Society – Representative branch in Russia (WCS Russia)

The good and easy collaboration with the head office of ALTA partner WCS Russia has been extended to its Siberian Tiger Project in Terney. The STP project manager, Dr John Goodrich, generally contacts Claudia Schoene for veterinary advice on any wild animal (e.g. tiger, bear) rescued. At the same time advice is offered by the STP to the ALWHP regarding aspects of wildlife monitoring and obtaining samples from wild animals.

### Moscow Zoo

Since the start of the ALWHP Moscow Zoo, which is a member of ALTA, has served as stop-over place for Claudia Schoene on her way to and from Europe to the Asian project site. Furthermore, during these brief stays various administrative and logistical issues, such as the obtaining of CITES permits for the exportation of samples collected in the scope of the ALWHP and the organisation of the zoo workshop, are discussed. Here, Ms Tanya Arzhanova, Head of the Dept. of International Cooperation, always gives valuable advice.

# Приморский край



Figure 1: Map of Primorski Krai showing the cities of Ussuriysk and Vladivostok, the Lazovsky State Nature Reserve and the current Amur leopard range.

## Novosibirsk Zoo

Contact has been established between the ALWHP and Novosibirsk Zoo at the beginning of 2007. So far, this contact has been focusing on the organization of the Zoo workshop in June 2007.

## Lazovsky State Nature Reserve (LSNR)

The collaboration with the LSNR has been steadily growing over the reporting period. In Spring 2006 Dr Galina Salkina, a wildlife biologist with the LSNR, contacted Claudia Schoene and asked for advice on a number of tiger skeletons she had prepared at the Reserve's head quarter in Laso (town). Galina had been collecting these skeletons, most of which originated from problem tigers, over a number of years (Figure 2). She had made a number of interesting observations on tiger bone pathology and was now searching additional information from a veterinary pathologist. Through Dr John Lewis Galina was brought into contact with Dr Mark Stidworthy, the wildlife pathologist for the International Zoo Veterinary Group (IZVG). In the meantime Mark has provided ample useful advice to Galina. Under Mark's guidance she is now working on the completion of an article on tiger bone pathology in a peer reviewed English journal.



Figure 2: Tiger skeletons at LSNR collected and prepared by Dr Galina Salkina.

During their visit for the first ALWHP Steering Committee meeting in October 2006 (see 3.1.8.), Ms Sarah Christie and Dr John Lewis, WVI / veterinary consultant for the ALWHP, also visited the Reserve and established personal contact with Dr Alexander A. Laptev, the Director of the Reserve, as well as with Dr Galina Salkina, and American wildlife biologist, Dr Linda Kerley. Linda has in the meantime completed the training of Claudia Schoene's Labrador Tim as a "sniffer dog" for leopard scat (Figure 3).



Figure 3: Left: Tim during "sniffer dog" training in Laso with Linda Kerley. Right: In his "work outfit" in Nadezhdenskii rayon searching for Amur leopard scat.

The LSNR has been selected as the most likely site for re-introduction of a second Amur leopard population into the wild by the Amur Leopard Conservation Group (ALCP – see 3.1.11.). The Reserve and the areas surrounding it will be one of the two major sampling sites for the ALWHP. With support from the ALWHP contact has also been established now between the PSAA and LSNR.

### Tigris

Tigris is a Dutch NGO funded and run by Michiel Hötte and is a member of ALTA. Michiel is also working for ZSL and spends part of his time in the RFE, while for the rest of the year he is fundraising in The Netherlands. Michiel is the coordinator for ALTA and raises funds for various aspects of leopard conservation, most of which go to ALTA partner Phoenix. During the reporting period Michiel and Claudia have been working together on a number of documents and website updates and / or commented on respective documents drafted by the other. In September 2006 Michiel and Claudia jointly organized the visit of Ms Ekaterina Newman, the Director of the Russian branch of the British-Russian NGO AMUR, to the RFE. AMUR is providing both Michiel's and Claudia's salaries at present.

### Phoenix Fund (Phoenix)

Phoenix is a Russian Conservation NGO based in Vladivostok and a member of ALTA. Its Director Sergei Bereznuk and his four members of staff support and run a number of education, compensation-of-livestock-losses, fire-fighting and anti-poaching projects in Primorski Krai. Phoenix therefore also has contact to a number of commercial deer farms. Preliminary discussions have been held between Phoenix and the ALWHP to establish contact with a selected number of those farms in order to organize the collection of samples from deer during routine de-antling procedures. Furthermore, Mrs Irina Goodrich, Projects Coordinator of Phoenix, is routinely doing all relevant English / Russian translations for the ALWHP.

### Institute of Biology and Soils (ISB)

The main contact person at the IBS is Dr Alexei Kostyria. Dr Kostyria also works for WCS Russia and is the official and overall responsible scientist for the Amur leopard captures in Nadezhdenskii and Xasanskii rayon. Claudia Schoene is the official veterinarian on the actual capture permit and hence a member of the same capture team. A second contact is Ms Olga Uphyrkina, a geneticist with the IBS. She has repeatedly contacted Claudia Schoene and Dr John Lewis, to ask for veterinary support and advice. Olga is undertaking genetic studies on small carnivore species in the current Amur leopard range.

### Utios Wildlife Rehabilitation Centre (Utios)

In April 2006, the one-week practical session of the veterinary workshop took place at Utios. Eduard Kruglow, the owner of the Centre, kindly provided accommodation for the participants of the veterinary workshop. Furthermore, under the guidance of experienced wildlife veterinarians, the workshop participants performed necessary health checks on a number of wild animals kept at Utios. At the same time they had thus the chance to gain first and hands-on experience in wildlife immobilization. Since this first meeting in April 2006, Eduard now contacts Claudia Schoene for additional veterinary advice in case of sickness or injury of any of his rescued animals. Ms Sarah Christie furthermore provided a letter of support for the Centre as part of the necessary application procedure for the extension of its licence through the Russian government.

### International Fund for Animal Welfare – Russian Office (IFAW)

In March 2007 ALTA partner IFAW Moscow contacted Claudia Schoene and asked her to act as veterinary consultant on their behalf. The contact had been established through Ms Tanya Arzhanova from Moscow Zoo. Claudia Schoene then visited private premises near Razdolnoe (about 25 km south-west of Ussuriysk) where four young tiger cubs were kept. All animals had

been rescued by 'Inspection Tiger', a Russian government organization responsible for the resolution of conflict-tiger situations. The four animals were kept at the private premises of the head of the Inspection Tiger branch in the area. On the second visit, during which the animals were immobilized and treated by two veterinarians from a small animal clinic in Vladivostok (Alex Clinic), Claudia Schoene was accompanied by Professor Lada V. Ziliakova, her veterinary counterpart from the PSAA (Figure 4). Lada knew one of the responsible veterinarians still from her time when both of them were veterinary students. This assured a collaborative atmosphere despite the presence of a foreign veterinarian sent as an observer from the organization providing the funding for the upkeep of the rescued tigers (IFAW). It is planned to invite both veterinarians from Alex Clinic to the next veterinary workshop scheduled for October 2007. After each visit Claudia Schoene provided a report to IFAW on the welfare of the four tiger cubs.



Figure 4: Evaluating the health and welfare of four rescued tiger cubs in Razdolnoe as consulting vet for IFAW. Right: Professor Lada V. Ziliakova, Mr Oleg Grinenko, Dr Elena Tolokonnikova (Alex Clinic – Vladivostok) and Dr Claudia Schoene (from left to right).

#### Faculty of Veterinary Science and National Centre for Zoonosis Research, University of Liverpool (Liverpool)

Contact has been established with Professor Malcolm Bennett from Liverpool through Dr John Lewis. Malcolm has kindly assigned two students of his BSc in Conservation Medicine to perform an academic disease risk assessment in order to identify diseases of importance in prey species which can have a major impact on the long term health and survival of their predators, e.g. Amur leopards. Furthermore, a post graduate student with a background in veterinary epidemiology and statistics will help establish the minimum sample sizes in the different animal population required for the detection of each of these diseases with a 95% confidence interval. The results of these studies will form an integral part of our sampling strategy as well as being submitted for a joint publication in a peer reviewed journal.

#### Institute for Zoo- and Wildlife Research (IZW)

Contact has been established with Dr Katarina Jewgenow, Head - Research Group on Reproductive Biology and Deputy Director of IZW, through Ms Sarah Christie. Due to the fact that Claudia Schoene is German and lives in Berlin, she has been visiting the IZW at several occasions now (apart from knowing it from her times as a student of veterinary medicine in Berlin) since the start of the ALWHP. During one of these visits Claudia had the chance to be present during the sterilization of a female Amur leopard from Tierpark Berlin, as well as during the subsequent oocyte collection from the extracted ovaries. The collaboration with IZW is ongoing and Katarina as well as her colleague Dr Frank Göritz will accompany Dr John Lewis, Ms Sarah Christie, Ms Tanya Arzhanova, five (post)graduate students of veterinary medicine from the PSAA and myself to a zoo workshop in early June, where they will perform oocyte collection on suitable Amur leopards at Moscow Zoo and provide the Russian veterinary students with an unique opportunity to learn about such work.

## CBD Focal Point

Currently, the project has not yet established contact with the CBD focal point, which is situated in Moscow. Once the ALWHP's sampling strategies have been finalized and approved by our collaborating partners, this contact will be established without further delay, with assistance from Tanya Arzhanova in Moscow zoo.

### **3. Project progress**

Due to a death in the family Claudia Schoene had to return home to Germany in the middle of October 2006. She only returned to the RFE in the middle of February 2007. This lengthy period of absence is partly responsible for certain delays in the project progress.

#### **3.1 Progress in carrying out project activities**

##### **Project Output 1: Improvements in the capacity of vets in the RFE to address wildlife health issues, in terms of both professional knowledge and practical experience**

###### **3.1.1. First session of professional training in Ussuriysk and Khabarovsk completed**

In April 2006 the first major task for the new ALWHP was the organization of the 2<sup>nd</sup> workshop in "Veterinarian Training in Wildlife Health and Tiger-Human Conflict Resolution Training" for the next generation of wildlife health professionals in RFE. This was done in close collaboration with WCS Russia and the PSAA. Main funding was provided by the Trust for Mutual Understanding to WCS Russia with a smaller part of the costs covered by the Darwin Grant. Seven experts from five different countries provided a weeks lectures at the PSAA: Dr Douglas Armstrong (Omaha Zoo / USA), Professor Neil Duncan (University of Pretoria / RSA), Professor Bruce Gummow (University of Pretoria / RSA), Dr John Lewis (WVI / UK), Dr Kathy Quigley (DVM / USA), Dr Claudia Schoene (ALWHP / Germany), and Sergei Zubsov (Inspection Tiger / Russian Federation). Lecture topics included wildlife diseases, immobilization, epidemiology, pathology and tiger-human conflict resolution. Up to 50 participants attended the various lectures (Figure 5). In addition to a selected number of students from the PSAA a number of state veterinarians as well as other Russian (veterinary) experts dealing with various wildlife-related issues had been invited to this theoretical part of the workshop. The lecture session was followed by a second week of hands-on training for the fifteen best participants. This practical training, for example in wildlife immobilization, took place at Utios (Figure 5). A detailed report of the workshop is attached in Annex 3.



Figure 5: Participants of the 2<sup>nd</sup> Workshop in "Veterinarian Training in Wildlife Health and Tiger-Human Conflict Resolution Training" in April 2006. Left: during lectures at the PSAA. Right: During hands-on training in Utios with Dr John Lewis demonstrating the intubation of a wild boar to a group of the participants.

### 3.1.2. Russian vet counterpart to work with Claudia Schoene identified and engaged

Soon after the completion of the veterinary workshop (3.1.1.) a veterinary counterpart was identified. Professor Lada Vladimirovna Ziliakova (Figure 3) is the Head of the Department for Epizootology at the PSAA. Lada participated at the workshop and also speaks English. She is furthermore responsible for the scientific and legal supervision of the laboratory restoration. She is instrumental in solving a number of logistical requirements for the ALWHP's day-to-day work, such as supplying veterinary and laboratory equipment or advising on where best to purchase it. She furthermore has numerous contacts within the veterinary profession, especially also to a number of district veterinarians all over Primorski Krai. The fact that she and her husband also are business people (owning several pet shops in Ussuriysk) means as well that she has a special kind of drive, hands-on attitude and enthusiasm to get things done.

### 3.1.3. 1 - 2 students to take DVM identified and written training modules for Wildlife disease course curriculum completed

The veterinary workshop in April 2006 offered the first opportunity to evaluate some of the PSAA veterinary students and their commitment to pursue a career as a wildlife health professional. Three female students were identified by PSAA and ALWHP during the workshop and through their subsequent enthusiasm for wildlife disease issues in general and the ALWHP in particular. Ekaterina Kartamusch (4<sup>th</sup>-year), Elena Smischuk (5<sup>th</sup> Year), and Olesya Ovcharenko (4<sup>th</sup>-year) have now also been chosen as participants of the zoo workshop in early June. Elena and Mikail Goncharuk, a veterinarian and postgraduate student at PSAA, both also applied for a "Student Conference on Conservation Science" (SCCS) Internship Programme Grant with Cambridge University for March 2007. Both their applications have sadly not been successful this time. In future we will focus on applications for the MSc in Wild Animal Health, jointly offered by RVC and ZSL, as well as for the new MSc in Conservation Science jointly offered by Imperial College, Royal Botanic Gardens (Kew), Durrell Wildlife Conservation Trust (Jersey) and ZSL. Additional funding for the attendance of these courses by promising students from the PSAA will also be sought from the Darwin Fellowship Programme.

As outlined in the first annual report the PSAA is currently establishing a Diploma Course in Wildlife Health. The application for the establishment of such a new course as part of the curriculum has to be done at country level and therefore through responsible authorities in Moscow. Since this is a lengthy and complicated process now further headway has been made to date as far as the actual establishment of the course at the PSAA is concerned.

In April 2006 discussions started between PSAA and ALWHP on the production of training modules and the possible input of the ALWHP into the wildlife disease lecture curriculum at PSAA. Following these preliminary meetings Claudia Schoene submitted a proposal regarding the possible input of the ALWHP into the PSAA's curriculum on Wildlife diseases, at the end of the same month. Due to the extremely busy schedule of the responsible lecturer and Claudia Schoene's absence during the last few months of 2006 discussions could not be continued further on this subject.

Discussions have been reopened at the beginning of 2007. It is expected that a detailed wildlife disease curriculum will be jointly elaborated by PSAA and ALWHP until the end of July 2007 to be available for the autumn term of this year.

### **Project Output 2: Completion of assessments of health status for leopards, their prey, and domestic livestock and cats and dogs, and subsequent assessment of health risks to wild leopards**

#### 3.1.4. Capture session for wild Amur leopards in south-west Primorski Krai

The first capture session for wild Amur leopards started on October 18<sup>th</sup>, 2006. Due to reasons outlined above (3.) Claudia Schoene was sadly not able to attend. During the course of three weeks the team captured two adult male Amur leopards and three tigers (*Panthera tigris altaica*). Aliquots of the samples collected from these animals have been made available to ZSL and are currently stored in a liquid nitrogen container at the ALWHP's office. The next capture session is planned for April / May 2007.

### 3.1.5. Arrangements for sampling from deer farms, hunting organizations and villages finalised

After her return to RFE in mid-February 2007 Claudia Schoene drafted a proposal for a sampling strategy at Lazovsky State Nature Reserve (Figure 1). The proposal has received input and comments from Dr John Goodrich (WCS Russia), Dr John Lewis (WVI), Dr Mark Stidworthy (wildlife pathologist / IZVG), Dr Alexander Meslinkov (Director of Research - LSNR), Dr Galina Salkina LSNR) and Dr Linda Kerley (LSNR) (Figure 6). It covers sampling efforts in and around LSNR from Amur leopard prey species, livestock, and dogs & cats, as well as the collection of samples through hunting organizations and additional information received from hospital records.

Again, the issuing of a number of necessary permits is time-consuming. But first sampling efforts will start in late June of 2007. A copy of the proposed sampling strategy is attached in Annex 2.

A similar sampling strategy will be elaborated with the help of Phoenix and WCS Russia for the area in and around the current Amur leopard range (Figure 1) in June and July 2007.



Figure 6: Left: Linda Kerley (left) and Galina Salkina (right) standing in front of the entrance sign to Lazovsky State Nature Reserve (Zapovednik). Right: Painting in the entrance hall to the Zapovednik's head quarter and ecological museum.

### Project Output 3: Establishment of the proposed Wildlife Health Monitoring Unit in Ussuriysk

#### 3.1.6. Agreement reached with veterinary teaching hospital on terms for creation of WHMU

Soon it became clear that a collaboration with the veterinary teaching and diagnostic laboratory in Ussuriysk would not be possible under the terms and conditions first discussed. Two main reasons were that (1) no information could be obtained on what specific kinds of tests this regional reference laboratory was capable of performing. It was simply stated that "all" disease analyses could be done, and (2) we were informed that it would not be possible for us to visit, let alone use the laboratory facilities. The only people having access to the facilities being the laboratory employees. We were offered to hand in all samples we would like to get analysed and to come back for the results a number of days later.

That obviously meant that this laboratory was not feasible for our purposes, since it would also not be possible to use it as a teaching laboratory for the veterinary students of PSAA as intended and required under the Darwin proposal.

The Darwin Secretariat was informed about this new situation, which also meant a major set back as far as the timely achievement of this and the following project output (3.1.7.) are concerned.

### 3.1.7. Veterinary Diagnostic Lab capable of conducting analyses of biological samples from leopards, prey species and domestic cats and dogs

A solution to this sudden setback was quickly found, though. In joint discussions between the PSAA, Ms Sarah Christie, Dr John Lewis and Claudia Schoene it was decided to restore the currently empty, former veterinary laboratory of the PSAA, situated about 10 km north of Ussuriysk on the original premises of the Veterinary Faculty (Figure 7) and to make it into the planned WHMU. This meant as well a major shift of budget expenditure, which is reflected in the project expenditure for the reporting period (Table 3) and was discussed with the Darwin Secretariat.

Work on the roof was completed in October 2006. As soon as the weather permits restoration will be continued in spring of 2007, beginning with the erection of a fence around the whole premises, the fitting of new windows and doors as well as the reconnection of water, electricity and heating. Restoration should be completed in autumn of 2007.

In the meantime, samples already collected are stored in liquid nitrogen until they can be processed. Furthermore, the balcony at the ALWHP office will be transformed into a mini lab where minor laboratory analyses, such as basic haematology and the running of some serum test kits, will be performed until the WHMU will be fully functional.



Figure 7: The former veterinary laboratory of the PSAA, which will be transformed into the new WHMU. Right: Professor Lada V. Ziliakova, veterinary counterpart of Claudia Schoene.

**Project Output 4: Production of a wildlife health monitoring strategy to monitor and limit disease transmission in the wild populations of leopards, tigers and their prey**

**Project Output 5: Production of a disease risk management strategy for the proposed Amur leopard reintroduction programme**

Both project outputs depend on the baseline data provided by Output 2.

## Overall

### 3.1.8. Project Committee established

A Steering Committee (SC) for the ALWHP was established in July 2006 and invitations were sent out for a first and constitutional Steering Committee Meeting on October 17<sup>th</sup>, 2006. Participants of the 1<sup>st</sup> SC meeting were: Professor A.A. Dyomin, Rector PSAA; Professor Nadezhda P. Bessonova, Head of the International Relations and Foreign Languages Department, PSAA; Ms Sarah Christie, ZSL; Dr John Lewis, WVI; Dr Dale Miquelle, WCS Russia; and Dr Claudia Schoene, ZSL. Apologies were received from Ms Tanya Arzhanova, Moscow Zoo. Visitors to the SC meeting were Michiel Hötte and Dr Ron Tilson from the University of Minnesota, USA. During this SC meeting a “Contract of Cooperation” (CoC) was

signed between the PSAA, (Professor A.A. Dyomin) and the ZSL Conservation Programme (Dr Glyn Davies, Head of CP, who had signed two originals in London that were brought by Ms Sarah Christie). Claudia Schoene informed the members of the SC about the progress of the ALWHP since its establishment in RFE. This project was evaluated by the SC members and recommendations made for future activities until the next SC meeting. A preliminary date for this meeting was set for October 2007. A copy of the CoC and of the minutes from the SC meeting are attached in Annex 5 and 6, respectively.

### 3.1.9. Brochure promoting the project produced and circulated

A first brochure promoting the ALWHP was produced in January 2007. This English version has since then been circulated by e-mail to various conservation organizations, possible funding agencies and interested people worldwide (Figure 8). This circulation is still ongoing. A Russian translation of the leaflet has been produced. Once the layout for this version has been completed, it will be distributed by e-mail and by hard copy to conservation agencies and the public in RFE. A copy of the English version of the brochure is attached in Annex.



Figure 8: Front and back page of the English version of the 1<sup>st</sup> ALWHP Information leaflet.

Furthermore, a poster has been produced promoting the ALWHP (Figure 9). This poster was exhibited at the EAZA conference in Madrid, Spain, at the beginning of October 2006, as well as at the Darwin Lecture on December 5<sup>th</sup>, 2006, at the Lewis Media Centre, Millbank Tower, London. A summary of the information given on the poster will be published in the proceedings of the 2006 EAZA meeting.

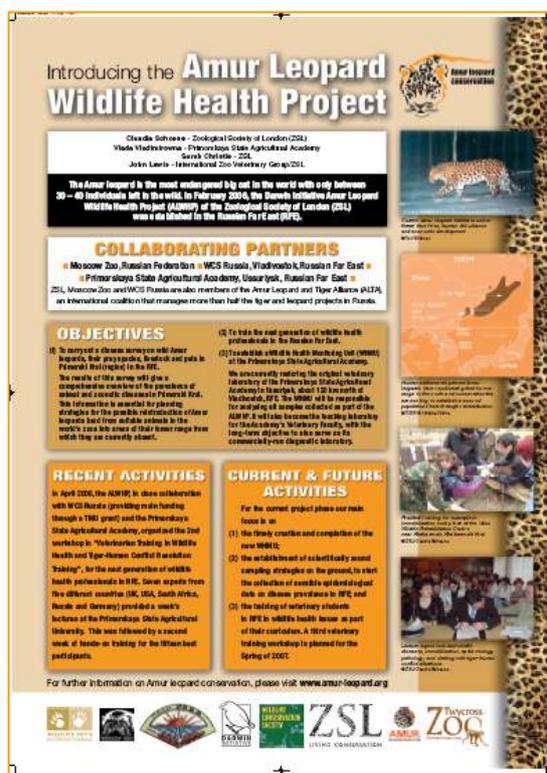


Figure 9: The first poster promoting the aims and objectives of the Darwin Initiative ZSL-Amur Leopard & Wildlife Health Project.

### 3.1.10. Purchase equipment

Various equipment has been purchased for the project. The ALWHP's office (Figure 10) has been equipped with a security system, relevant office furniture, a telephone / fax / scanner, a photocopier, DSL connection, various large maps of Primorski Krai and necessary stationery.

Furthermore, a project vehicle (Figure 11) has been purchased in August 2006. Even though this was thoroughly checked and maintained by a recommended garage in Vladivostok before putting it to official use for the ALWHP, a serious problem was soon encountered. On the second long journey with the car from Ussuriysk to Laso (town) the ventilator came off and destroyed the radiator. This led to a series of faulty repairs and subsequent ongoing problems with the radiator and head gasket. Eventually, the garage of the PSAA came to the rescue and the car is reliably back on the road at the moment. The vehicle will therefore eventually receive large Darwin Initiative and ZSL stickers on both front doors.

Additional equipment was purchased with funding provided by WVI and the Twycross Zoo Conservation Fund. Both grants were for £ 3,000.00 and covered the costs for a microscope, a 36 l liquid nitrogen container, a dry shipper, a field centrifuge, a hand centrifuge, various sampling equipment and part of the freight costs for the transport of this equipment from Germany to RFE. Additional sampling equipment, especially various serum test kits, has been purchased with money from the Darwin Grant.



Figure 10: Left: A flat in one of Chrustchow's buildings in Ulitsa (Street) Komsomolskaya is now home of the ALWHP office. Right: The balcony (and kitchen window) of the ALWHP office, soon to be turned into a mini lab.



Figure 11: The ALWHP vehicle – an Isuzu Bighorn from 1995.

### 3.1.11. Amur Leopard Conservation Group (ALCG)

This group was formed over several months in the summer of 2006. It represents all national and international groups, NGOs, and research institution working towards the overall goal of Amur leopard conservation in RFE.

The group produced a document listing all above projects, thus also the ALWHP, and their current and future activities related to Amur leopard conservation, including budgets available.

This document was presented to the regional authorities responsible for nature conservation in Primorski Krai and received positive feedback from them. Efforts of the group are ongoing in order to establish firm political support for Amur leopard conservation.

## 3.2 Progress towards Project Outputs

### 3.2.1. Progress

Progress has been made towards all project outputs. The Amur Leopard & Wildlife Health Project is by now well established and known in the project area and beyond. Multiple contacts have been made with all important stakeholders.

The fact that the first veterinary workshop under the scope of the ALWHP had to be organized directly at the beginning of the project meant a major boost towards the achievement of Project Output 1 early on.

The fact that a collaboration with the Regional Veterinary Diagnostic Laboratory turned out not to be possible has though caused substantial delay in the achievement of Project Output 2 & 3, exacerbated by the fact of the project manager's prolonged absence at the end of 2006.

The first few months in 2007 have however been used to partly make up for the delay and establish alternatives, such as the construction of a mini lab on the balcony of the ALWHP office. This will allow for basic sample analysis while the speedy restoration of the veterinary laboratory into the new WHMU is underway.

The second wild Amur leopard sampling session took place in April and May 2007 and hence falls in the next reporting period of the Darwin Grant. Sampling of Amur leopards' prey and other species will begin from late June onwards in two locations, i.e. the current Amur leopard range and Lazovsky State Nature Reserve. A second sampling session will follow in both locations in autumn. The capture of wild Amur leopards will then be continued as well. Two more sampling sessions of all relevant species will follow in 2008.

This should assure the achievements of Project Outputs 2 & 3 and consequently also of Project Output 4 & 5 in the envisaged time frame of the Darwin Grant.

### 3.2.2. Output: measurable indicators and important assumptions

#### Project Output 1

**Indicator:** Approximately 110 students trained over three years through a total of 15 weeks of training workshops. Each student will receive 3 – 5 weeks of training.

During the first veterinary workshop organized under the scope of the ALWHP a maximum of 50 students participated during the lecture session. There will be two more workshops under the time frame of the Darwin Grant. With similar attendance by the students this indicator still represents an adequate measurement towards the achievement of Project Output 1. Additional training will be provided to an even greater number of students once the wildlife disease curriculum jointly developed by PSAA and ALWHP has been made an integral part of the students curriculum.

**Assumption:** Partner institutions collaborative and logistical problems overcome.

As outlined in detail under 2. and 3.1.1. this assumption still holds true.

## **Project Output 2**

**Indicator 1:** Approximately 600 samples (from approx 6 species) collected and processed.

This indicator might have to be readjusted over time. Its long term viability is also dependent on how easily the relevant capture permits can be obtained and on capture success. As far as samples from farmed deer are concerned it should be no problem to obtain sufficient numbers. Experience will tell if this indicator may be a bit too ambitious.

**Indicator 2:** Prevalence and incidence of approximately 15 diseases documented.

Following experiences to date as well as the restriction on the budget for sampling expenditure, and the sample sizes and time required to determine prevalence and incidence of one disease alone, this indicator seems in hindsight fairly ambitious.

The sampling effort planned for 2007 and 2008 under the ALWHP will allow for the general detection of the presence of certain diseases in the selected populations. The establishment and documentation of prevalence and incidence of any such disease will then have to be established in a second sampling effort.

**Assumption 1:** Necessary agreement reached with all parties.

As outlined in detail under 3.1.4. + 5. this assumption still holds true.

**Assumption 2:** Sampling effort successful.

**Assumption 3:** Journal editor(s) interested.

Both assumption have not been tested yet and therefore will remain unchanged for the time being.

## **Project Output 3**

**Indicator & assumption:** All staff and equipment in place and fully functional by Year 3.

As outlined in detail under 3.2.1. both, indicator and assumption still hold true.

## **Project Output 4 & 5**

**Indicator:** Two strategies formulated and distributed by the end of Year 3.

As outlined in detail under 3.2.1. this indicator is still adequate.

**Assumption:** Local authorities and other stakeholders supportive of leopard conservation

As outlined under 3.1.11. this assumption still holds true.

### 3.3 Standard Output Measures

**Table 1 Project Standard Output Measures**

Code No.	Description	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	TOTAL
Established codes						
4a, 4b	First session of professional training in Ussuriysk completed; 1 week, 50 students		4a, 4b, 7, 24			4a, 4b, 7, 24
4a, 4b	First session of practical training in Khabarovsk completed, 1 week, 15 students					
7	Brochure promoting the project produced and circulated					
24	First session of sampling wild Amur leopards completed					
New Project specific measures	Restoration of PSAA former veterinary laboratory into the new WHMU		21			21

**Table 2 Publications**

Type * (eg journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (eg contact address, website)	Cost £ (if applicable)
Poster	Introducing the Amur Leopard Wildlife Health Project Claudia Schoene, Lada V. Ziliakova, Sarah Christie, John Lewis 2006	ZSL-CP	Project website	n/a
Contribution to Conference Proceedings	Same as above	EAZA	In press	in press
Darwin Newsletter article	Introducing the Amur Leopard Wildlife Health Project Claudia Schoene & Lada Vladimirowna Ziliakova	Darwin Initiative	Darwin website	in preparation

### **3.4 Progress towards the project purpose and outcomes**

**Project Purpose:** **Biodiversity conservation in the RFE enhanced by developing local capacity to conduct wildlife health surveys and monitoring and by assessing the health status of the Amur leopards, their prey, and of domestic animals suspected of passing diseases on to wild cat populations as the basis for improved strategies for long term wildlife health monitoring and management, and disease risk management in Amur leopard reintroduction.**

As outlined under 3.1 the largest progress towards the Project Purpose has been made under Project Output 1. Activities under Project Output 2 & 3 are well under way and their accomplishment will automatically ensure the accomplishments of Project Output 4 & 5 (see 3.1).

Since the purpose level assumptions (Annex 2) are to a large extent identical to the output level assumptions they also still hold true, as explained for the latter under 3.2.

The indicators 1 and 3 are adequate and measurable (Annex 2). The second indicator, though – “Evidence of improved wildlife health monitoring in Russian vets by Year 3” – seems slightly vague and is not easily measurable / quantifiable (Annex 2):

No measurable evaluation of the wildlife health monitoring activity of Russian vets has been undertaken at the outset of the study or before, hence no measurable difference can be detected at the end of the three-year period. This indicator should therefore be changed or quantified.

One way to do so would be to do a baseline survey on monitoring activity, i.e. reports on wildlife health done and available, at the district veterinary level in the region (Krai). The established average number of reports could then form the baseline against which an impact of the project can be measured. The desired impact could then be defined, for example as “number of wildlife health monitoring reports at district veterinary level in Primorski Krai increased by 30% at the end of Year 3”. A respective suggestion will be made to the Darwin Secretariat.

### **3.5 Progress towards impact on biodiversity, sustainable use or equitable sharing of biodiversity benefits**

Ideally, the long term impact of the ALWHP should contribute to the generic DI a) a change in state of biodiversity, species, population, or habitat loss reduced.

The realization of Project Outputs 4 will contribute to the long term survival of the current wildlife population in RFE, with a focus on Amur leopards and tigers and their prey species.

The realization of Project Output 5 will contribute to the successful re-introduction of a second Amur leopard population into the wild.

Since both animals are flagship species their survival and re-introduction will furthermore contribute to the long term preservation of their habitat.

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

Success or failure of the project is measured by comparing the results achieved against the indicators set for each project output and the project purpose. Indicators are based on previous (scientific) knowledge and / or on common sense. They must furthermore lend themselves to measure differences in a ‘before and after’ scenario, be that qualitatively or quantitatively. Also for qualitative indicators measurable criteria have to be determined defining different levels of quality (as outlined under 3.4).

The main lesson learned this year concerns the veterinary diagnostic laboratory. This is the only institution with which we did not establish personal contact ourselves before drawing up the Darwin proposal, but took other group’s word for its feasibility and commitment to the

intended collaboration. We have therefore learned that personal contact with each prospective partner is needed.

One should furthermore have in mind a number of scenarios that could happen / go wrong and how to react in each case. This should also find a mention in the submitted proposal including its budget.

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

The first review evaluated the annual report covering the months of February and March 2006. As was remarked under the heading “partnership” of the first evaluation the relationship between Phoenix and ALWP has been elaborated on in more detail in this second annual report. The reaction of the project partners to the generally positive evaluation was positive in that it encouraged us to continue our collaboration on the path chosen.

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

As discussed under Project Output 3 – 3.1.6 + 3.1.7. the major change to the project design was caused by the fact that no working collaboration could be established with the Regional Veterinary Diagnostic Laboratory in Ussuriysk.

Otherwise, no further significant project-related difficulties were encountered during this reporting period.

Therefore, the ALWHP does not face any particular risks at the current state.

## **7. Sustainability**

During this reporting period numerous contacts have been established by the ALWHP project manager with the majority of conservation organisations in the area. The Amur Leopard Wildlife Health Project has furthermore been promoted to the British and German Embassy in Moscow through various personal visits and continuous updates via e-mail by the project manager.

To a certain extent the project is now also being promoted by members of other conservation organizations, so that people actively seek contact with the ALWHP. A further promotion happens through the students and lecturers of the Faculty of Veterinary Medicine of the PSAA as well as through the participants of the veterinary workshop in April 2006.

The analysis functions of the Wildlife Health Monitoring Unit will be set up to be commercially viable and a business plan will be produced for the WHMU. The activities of WHMU beyond the project period will be linked to on-going activities of ZSL, WCS Russia and other international conservation organizations in the RFE and to appropriate international agencies overseas (e.g. FAO, WHO). Continuation of project benefits regarding Amur leopard conservation is highly significant: the wildlife and captive leopard health assessment will form one of the foundations of the strategy for reintroduction of Amur leopards in their former range. In addition, the project will contribute to the proposed Amur leopard reintroduction through provision of local capacity for ongoing monitoring of the health status of local wildlife and released leopards.

## **8. Dissemination**

Dissemination of information about the ALWHP project has mainly been done through the conduction of the veterinary workshop in April, and the subsequent spreading of respective information by the participants.

Information is furthermore spread by the veterinary students of the PSAA and other conservationists to which contact has been established.

A third means of spreading information is through the information brochure and through displaying a copy of the first ALWHP poster at the PSAA.

Through the establishment of the WHMU that will eventually become a commercially-viable veterinary diagnostic laboratory run by the PSAA the continuation of the dissemination of the ALWHP's project purpose and outputs is ensured also after the end of the actual project.

**9. Project Expenditure**

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


**10. 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 ECTF and the Darwin Secretariat to publish the content of this section](#)

In October and November 2006 the first capture session for wild Amur leopards took place in Nadezhdenskii rayon in south-west Primorski Krai, with funding support from ZSL's Darwin Initiative grant and technical advice from Darwin project vets Claudia Schoene and John Lewis.. During a three-week capture period the team under the guidance of WCS captured two male Amur leopards and three tigers. Samples from all of these animals were collected and aliquots of all these samples have been made available to the ALWHP.

## Annex 1 Report of progress and achievements against Logical Framework for Financial Year: 2006/07

Project summary	Measurable Indicators	Progress and Achievements April 2006 - March 2007	Actions required/planned for next period
<p><b>Goal:</b> <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> <p><i>The conservation of biological diversity,</i></p> <p><i>The sustainable use of its components, and</i></p> <p><i>The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</i></p>		<p>At the current stage of the project not yet applicable</p>	<p>(do not fill not applicable)</p>
<p>Purpose Biodiversity conservation in the RFE enhanced by developing local capacity to conduct wildlife health surveys and monitoring and by assessing the health status of Amur leopards, of their prey, and of domestic animals suspected of passing diseases on to wild cat populations as the basis for improved strategies for long-term wildlife health monitoring and management, and disease risk management in Amur leopard reintroduction.</p>	<p>Wildlife health and disease status of leopards, prey and domestic animals assessed by Year 3</p> <p>Evidence of improved wildlife health monitoring in Russian vets by Year 3</p> <p>Strategies developed by end of Year 3 for long-term wildlife health monitoring and management, and for possible leopard reintroduction programme</p>	<p>Great progress towards output 1 due to conduction of the first veterinary training workshop in April 2006.</p> <p>Slower progress towards output 2 and 3 due to the lengthy absence of the project manager (2) and the need to create a new WHMU during the 3-year project phase (3).</p>	<p>Major sampling efforts on all relevant species in spring and autumn 2007</p> <p>Finish restoration of WHMU aqs a functional veterinary diagnostic laboratory in autumn 2007</p>
<p>Output 1. Capacity of vets in the RFE to address wildlife health issues increased</p>	<p>Approx 110 students trained over three years through a total of 15 weeks of training workshops. Each student will receive 3-5 weeks of training.</p>	<p>About 50 students trained in theoretical part of the workshop and 15 during the hands-on training week</p> <p>This Indicator is appropriate.</p>	
<p>Activity 1.1. First veterinary training workshop conducted in April 2006</p>		<p>Conduct Zoo workshop in June 2007</p> <p>Conduct second veterinary training workshop in October 2007</p> <p>Develop joint curriculum for lectures in wildlife Diseases with PSAA beginning in autumn term 2007</p>	

Output 2. Health status assessed of leopards, their prey, domestic cats and dogs, and of health threats to wild leopards.	Approx 600 samples (from approx 6 species) collected and processed Prevalence and incidence of approx 15 diseases documented	Samples from two wild Amur leopards and three wild Amur tigers available for the ALWHP Indicator 1 seems overambitious. Indicator 2 also seems to ambitious. Instead of prevalence and incidence only the <u>presence</u> of disease can be established under the three-year Darwin Grant
Activity 2.1. First sample session on wild Amur leopards and tigers completed in October 2006		Start sampling prey species, livestock and pets in late June 2007 in and around Lazovsky State Nature Reserve Start sampling deer on deer farm in the current Amur leopard range in July 2007 Second sampling sessions on wild Amur leopards and tigers in October 2007
Output 3. WHMU established in Ussuriysk	All staff and equipment in place and fully functional in Year 3	The roof of the vet lab / new WHMU has been restored in October 2006 This indicator is appropriate
Activity 3.1. Restoration of veterinary laboratory started in October 2006		Restoration will continue throughout 2007 and the WHMU should be finished and operational in autumn of this year
Output 4. Strategies developed to monitor and limit disease transmission and for possible release programme	2 strategies formulated and distributed by the end of Year 3	Progress depending on progress towards output 2 & 3 This indicator is appropriate
Activity 4.1. Progress depending on progress towards output 2 & 3		Continue progress towards output 2 & 3

## Annex 2 Project's full current logframe

Project summary	Measurable indicators	Means of verification	Important assumptions
<p><b>Goal:</b></p> <p>To draw on expertise relevant to biodiversity from within the United Kingdom to work with local partners in countries rich in biodiversity but poor in resources to achieve</p> <ul style="list-style-type: none"> <li>• the conservation of biological diversity,</li> <li>• the sustainable use of its components, and</li> <li>• the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources</li> </ul>			
<p><b>Purpose</b></p> <p>Biodiversity conservation in the RFE enhanced by developing local capacity to conduct wildlife health surveys and monitoring and by assessing the health status of Amur leopards, of their prey, and of domestic animals suspected of passing diseases on to wild cat populations as the basis for improved strategies for long-term wildlife health monitoring and management, and disease risk management in Amur leopard reintroduction.</p>	<p>Wildlife health and disease status of leopards, prey and domestic animals assessed by Year 3</p> <p>Evidence of improved wildlife health monitoring in Russian vets by Year 3</p> <p>Strategies developed by end of Year 3 for long-term wildlife health monitoring and management, and for possible leopard reintroduction programme</p>	<p>ZSL and partner organisation reports</p> <p>Wildlife health monitoring reports</p> <p>Disease transmission limitation strategy and leopard reintroduction strategy</p>	<p>Sampling effort successful</p> <p>Sampling effort successful</p> <p>Local authorities collaborative and supportive of leopard conservation</p> <p>Broad consensus can be reached among all stakeholders on appropriate next steps.</p>

<p><b>Outputs</b></p> <p>Capacity of vets in the RFE to address wildlife health issues increased</p> <p>Health status assessed of leopards, their prey, domestic cats and dogs, and of health threats to wild leopards.</p>	<p>Approx 110 students trained over three years through a total of 15 weeks of training workshops. Each student will receive 3-5 weeks of training.</p> <p>Approx 600 samples (from approx 6 species) collected and processed Prevalence and incidence of approx 15 diseases documented</p>	<p>Training workshop reports (including evaluations by participants)</p> <p>Reports on analyses conducted in RFE and overseas Project reports and scientific publications</p>	<p>Partner institutions collaborative and logistical problems overcome</p> <p>Necessary agreements reached with all parties Sampling effort successful Journal editor(s) interested</p>
<p>WHMU established in Ussuriysk</p>	<p>All staff and equipment in place and unit fully functional by Year 3</p>		
<p>Strategies developed to monitor and limit disease transmission and for possible reintroduction programme.</p>	<p>2 strategies formulated and distributed by the end of Year 3</p>	<p>Strategy documents in English and Russian versions</p>	<p>Local authorities and other stakeholders supportive of leopard conservation</p>

### **Annex 3**

Report on the Wildlife Veterinary Workshop in the Russian Far East, April 10<sup>th</sup> – 21<sup>st</sup> 2006

### **Annex 4**

Amur Leopard & Wildlife Health Project Proposed sampling strategy for Lazovsky State Nature Reserve

### **Annex 5**

Contract of Cooperation

### **Annex 6**

Minutes of the First Amur Leopard Wildlife Health Project – Steering Committee Meeting

### ***Checklist for submission***

	Check
<b>Is the report less than 5MB?</b> If so, please email to <a href="mailto:Darwin-Projects@ectf-ed.org.uk">Darwin-Projects@ectf-ed.org.uk</a> putting the project number in the Subject line.	
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<b>Do you have hard copies of material you want to submit with the report?</b> If so, please make this clear in the covering email and ensure all material is marked with the project number.	
Have you completed the Project Expenditure table?	
Do not include claim forms or communications for Defra with this report.	