



DARWIN INITIATIVE



APPLICATION FOR GRANT FOR ROUND 12 COMPETITION: STAGE 2

Please read the Guidance Notes before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Please do not cross-refer to information in separate documents except where invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate A4 sheet if necessary. Do not reduce the font size below 12pt or alter the paragraph spacing.

Submit by 19 January 2004

Ref (Defra only):

1. Name and address of organisation

Conservation Programmes, Zoological Society of London (ZSL), Regent's Park, London NW1 4RY, UK.

2. Project title (not exceeding 10 words)

Wildlife health monitoring and capacity-building for leopard conservation in Russia

3. Principals in project. Please provide a one page CV for each of these named individuals.

Details	Project leader	Other UK personnel (if working more than 50% of their time on project)	Main project partner or co-ordinator in host country
Surname	Christie	Chapron	Nadhezda
Forename(s)	Sarah	Guillaume	Bessanova
Post held	Programme Manager	Project Manager	Director of International Relations
Institution (if different to above)			Primorskaya State Academy of Agriculture
Department	Conservation Programmes	Conservation Programmes	Veterinary Teaching Hospital, Animal Husbandry and Veterinary Medicine Institute
Telephone			
Fax			
Email			

4. Describe briefly the aims, activities and achievements of your organisation. (Large institutions please note that this should describe your unit or department)

Aims

The overall mission of ZSL is to achieve and promote the worldwide conservation of animals and their habitats. Within this, ZSL's Conservation Programmes office aims to implement field activities and influence policy to bring direct and sustained conservation benefits to wild animals and their habitats, and undertakes field conservation action around the world in pursuit of these goals.

Activities

ZSL's field conservation activities are grouped into six programmes. The work proposed here falls under our "Carnivores & People" programme. Key tenets of our field conservation approach include underpinning conservation actions with strong science and working with local people and businesses to find solutions that benefit both wildlife and humans. In doing so, we are able to utilise the unique range of skills and experience found in our Institute of Zoology, our field conservation programme and our two zoos. Wildlife health and reintroduction are two of our major foci and we are also involved in long-term scientific research, e.g. in wildlife ecology and genetics, in order to provide sound foundations for associated conservation efforts.

Achievements

In eastern and southern Africa, ZSL's work in wildlife health and capacity-building with the African Union has succeeded in establishing a cordon sanitaire against rinderpest which is maintained by a veterinary monitoring programme targetting wild and domestic livestock. In Nepal we have provided training and seed funding to set up a system of self-supporting veterinary clinics around Chitwan National Park, enabling local farmers to keep high-yield, stall-fed milk cows and thus both increasing their income and reducing the grazing pressure on the park. Our sustained work in the ongoing reintroduction programmes for field crickets in the UK and gazelles in Saudi Arabia has been key to success in both cases, and we have also been involved in the long-running reintroduction of Arabian oryx in Saudi Arabia. In Sumatra, we have recently initiated the first ever radiotelemetry study of Sumatran tigers, a process that included a veterinary training workshop for local forestry, zoo and government officials at which Dr John Lewis was one of the trainers, working with Indonesian vets.

5. Has your organisation received funding under the Initiative before? If so, please give details.

The Conservation Programmes office of ZSL has received two Darwin Initiative grants to date; 1. Building capacity for conservation of a critically endangered flagship species in Kenya (Dr R Amin 2002). 2. The Steppe Forward programme; Training conservationists for Mongolia's future (Dr K Oddie 2003).

6. Please list the overseas partners that will be involved in the project and explain their role and responsibilities in the project. The extent of their involvement at all stages in the project should be detailed, including in project development. Please provide written evidence of this partnership.

- Primorskaya State Academy of Agriculture, Ussurisk, Russia. The Ussurisk Regional Veterinary Teaching Hospital is part of this university and has been a collaborator of WCS (see below) in the Russian Far East (RFE) since 2002. This partner will be the foundation of the animal health training & monitoring component of the project. It will be responsible for (1) advertising our teaching to their students, (2) managing the administrative aspects of the teaching, (3) providing facilities for teaching (rooms, boards), (4) receiving Diploma of Veterinary Medicine (DVM) theses from selected candidates. Initial meetings have already taken place and this partner will be involved during the whole project. We provide a letter from Nadezhda Bessonova, Director of International Relations, confirming their commitment to the partnership.
- Krai Veterinary Diagnostic Laboratory, Ussurisk: WCS collaborator in RFE since 2002. This partner will be a seed element in institutional capacity building. It will be responsible for (1) providing office and logistical support for the diagnostic lab, (2) recommending qualified staff to

start running the lab and assisting in recruiting further staff, (3) running the diagnostic lab and disseminating its results. Initial meetings have already taken place and this partner will be involved during the whole project. We provide a letter from the Director, Evgeny Slabee, confirming their commitment to the partnership.

- Wildlife Conservation Society (WCS) Russian Far East programme: established by Dale Miquelle and Howard Quigley in 1992 under the Hornocker Wildlife Institute, which merged with WCS in 2000. ZSL and WCS Russia have a long-standing relationship. WCS Russia will assist ZSL with project coordination, supervision, communications and administrative support in the Russian Far East as well as with the design of sampling strategy, data analysis and framing the leopard reintroduction strategy. ZSL and WCS have signed a memorandum of cooperation at an institutional level and a copy of this is provided.
- Moscow, Novosibirsk, Rostov and Seversk Zoos (Russia); Kharkiv and Nikolaev Zoos (Ukraine); Almaty Zoo (Kazakhstan): all members of Amur leopard European Endangered Species Programme (EEP), co-chaired by Sarah Christie of ZSL and Tanya Arzhanova of Moscow Zoo. These partners will be the foundation of the captive animal health training & monitoring component of the project. They will be responsible for (1) advertising our teaching to their staff and interns, (2) managing the administrative aspects of the teaching, (3) providing facilities for teaching, (4) providing access to captive leopards. Initial meetings have already taken place and these partners will be involved during the whole project. We provide a letter from Vladimir Spitsin, Director of Moscow Zoo and also Director of the Euro-Asian Regional Association of Zoos and Aquariums (EARAZA) in which all the listed zoos are members, confirming their commitment to the partnership.
- Utes Wildlife Rehabilitation Center, Lazo Raion, Khabarovsk Krai, Russia. The Director is Eduard Kruglov. The centre has worked with ZSL since 2001 and has already hosted one veterinary training workshop with WCS. They are happy to provide facilities and access to stock for further training as part of the proposed project.

7. What steps have been taken to (a) engage at all appropriate levels within the host country partner organisations to ensure full support for the project and its outcomes; and (b) ensure the benefits of the project continue despite staff changes in these organisations.

Initial meetings between WCS Russia and Directors and technical staff from the Veterinary Teaching Hospital and the Krai Veterinary Diagnostic Laboratory took place in September 2000, to discuss the need for this project. Since that time, funding has been obtained for a second meeting, which is scheduled to take place in the Russian Far East in the spring of 2004. Letters of support have been secured from all organizations, and our Russian colleagues are keen to collaborate in this project. 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, 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.

8. What other consultation or co-operation will take place or has taken place already with other stakeholders such as local communities. Please include any contact with the government of the host country not already provided.

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 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.

During a visit to Moscow in October 2003, ZSL's Sarah Christie discussed the proposed project with the Deputy Minister for Natural Resources (and Head of State Services for Environmental Protection) Kirill Yankov and with Gennady Kolonin, a member of Mr Yankov's staff with special responsibility for Amur leopards and tigers who chairs the International Amur Leopard Steering Committee (LSC). Both approved of the proposed work and Mr Yankov has provided a letter of support. The project will benefit from input through the LSC, which includes representatives from many relevant bodies such as local government, local conservation NGOs, scientific research institutes, deer farmers and hunting organisations, as well as international experts including the Chairs of the IUCN/SSC Cat Specialist Group. This committee has already extensively discussed necessary measures for Amur leopard conservation and has approved a set of recommendations which include the actions to be undertaken in the proposed project. Project team members Sarah Christie (ZSL), Dale Miquelle (WCS) and Tanya Arzhanova (Moscow Zoo/EARAZA) have been members of the LSC since its inception in 2001. ZSL has an excellent relationship with Moscow Zoo and with the other Russian and nearby zoos in the Amur leopard programme, based on five years' close cooperation in the management of the population (which is jointly coordinated by Sarah Christie and Tanya Arzhanova) and on several previous visits to relevant institutions for veterinary health assessments and dental treatments for Amur leopards and tigers.

A "Project Committee" will be established and will consist primarily of Guillaume Chapron (ZSL), Dale Miquelle (WCS), Sergi Kuleshov (Ussurisk Veterinary Teaching Hospital), Evgeny Slabee (Krai Regional Laboratory) and Tanya Arzhanova of Moscow Zoo and EARAZA. It will meet regularly to discuss project progress, monitoring and evaluation. Committee members will liaise closely with local stakeholders such as deer farm owners and representatives of hunting organisations, channelling their input into the project discussions and, where appropriate, inviting them to participate in meetings for information exchange at first hand. Visiting experts Sarah Christie (ZSL), John Lewis (ZSL) and Kathy Quigley (WCS) will work closely with the committee both in person when in the country and by email at other times.

PROJECT DETAILS

9. Define the purpose of the project in line with the logical framework.

The purpose of the project is to contribute to long-term biodiversity conservation in the Russian Far East by developing local capacity in wildlife health surveys and monitoring and, in the shorter term, to the conservation of the critically-endangered Amur leopard by conducting disease survey work on wild and captive leopard populations, on their prey in the wild, and on domestic animals suspected of passing diseases on to wild cat populations. There are only about 30 Amur leopards remaining in the wild and over 100 in the managed zoo programme. This wildlife health-based investigation is necessary as a first step towards the establishment, through reintroduction, of a new wild leopard population, which has been clearly identified as an urgent and necessary conservation action. A strategy for reintroduction will be a key output of the proposed project.

10. Is this a new initiative or a development of existing work (funded through any source)?

Lack of resources has prevented any attempts to obtain significant information on the disease status of the Amur leopard (and tiger) or their wild and domestic preybase in the RFE. However, opportunistic sampling and subsequent disease checks have been carried wherever possible in the course of WCS Russia's work, while for the captive leopard (and Amur tiger) population ZSL's consultant vet Dr John Lewis has opportunistically sampled leopards and tigers in European and Russian zoos. Some relevant antibodies have been detected, and both sets of results will be made available to the project.

11. How will the project assist the host country in its implementation of the Convention on Biological Diversity? Please make reference to the relevant article(s) of the CBD, thematic programmes and/or cross-cutting themes (see Annex C for list and worked example) and rank the relevance of the project to these by indicating percentages. Is any liaison proposed with the CBD national focal point in the host country? Further information about the CBD can be found on the Darwin website or CBD website.

The project will assist Russia in meeting its obligations under the Biodiversity Convention especially regarding the following articles:

- a. Article 5 (Co-operation); by having ZSL and Russian counterparts working together in achieving the project goals (100%).
- b. Article 6 (National Plans and Strategies); by further development of the existing Federal Strategy for Conservation of the Amur leopard and the associated Recommendations from the 2001 Amur Leopard Workshop. (80%)
- c. Article 7 (Identification and Monitoring); by identifying and monitoring infectious diseases in domestic and wild animals that can potentially spread in leopard and tiger populations (100%).
- d. Article 8 (In-situ Conservation); by designing control and/or prophylactic strategies against infectious diseases identified as a threat to leopard and tiger conservation and by inclusion of appropriate disease-related measures in the reintroduction strategy for the Amur leopard in its former in situ habitat (70%).
- e. Article 9 (Ex-situ Conservation); by assessing and monitoring the health of the captive Amur leopard population and strengthening its role as a source of support for Amur leopard conservation in the field (80%).
- f. Article 12 (Research and Training); by establishing an ongoing programme for wildlife health training, providing lectures to students at the local veterinary faculty, assessing the importance of infectious diseases in domestic and wild animals and developing control prophylactic strategies through population modelling (80%).
- g. Article 13 (Public Education and Awareness); by promoting the understanding of the importance of the conservation of carnivore biodiversity within the vet, farmer and hunter sectors (30%).
- h. Article 15 (Access to Genetic Resources); by facilitating the use of the genetic resource of the captive Amur leopard population to support biodiversity conservation (50%).
- i. Article 19 (Handling of biotechnology and distribution of its benefits); by having trained students handling biotechnology products such as drugs and vaccines (15%).

And the following themes/crosscutting issues:

- j. Forest Biodiversity; by ensuring the continuing existence of the two top predators in the forests of the Russian Far East (80%)
- k. Ecosystems approach; by contributing to an holistic view of biodiversity conservation through multi-specific health assessments, and by focusing on the long-term conservation of top predators, viable populations of which require landscape-scale conservation measures and hence functional ecosystems for long-term survival (70%)
- l. Indicators; by relying on carefully selected species and infectious diseases to provide a clear view of health status of domestic and wild animals in the area (70%).

Project team member Tanya Arzhanova of Moscow Zoo is our liaison point with Mr Sergei Tveritinov of the Department of International Environmental Cooperation in the Russian Ministry of Natural Resources, who is the primary CBD National Focal Point for the Russian Federation. A letter of support from Mr Tveritinov will be forwarded as soon as possible; he has been absent from his office recently.

12. How does the work meet a clearly identifiable biodiversity need or priority within the host country? Please indicate how this work will fit in with National Biodiversity Strategies or Environmental Action Plans if applicable.

The Amur leopard 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.

One of the threats highlighted at the 2001 workshop was the transmission of infectious diseases such as canine distemper and canine parvovirus to wild cat populations. In Africa, such transmission recently resulted in the loss of 1/3 of the Serengeti lion population. Preliminary surveys indicate that antibodies to canine distemper are present in wild leopard populations, which are known to prey opportunistically on cats and dogs and, more frequently, on wild animals that may have acquired the virus through contact with domestic animals. While actions to combat other threats are under way alongside awareness programmes and ecological monitoring of wild leopards, disease transmission has not yet been addressed due to lack of capacity.

The proposed project fits particularly well under the Russian Biodiversity Conservation National Strategy (RBCNS), one of whose objectives is the "conservation or restoration of natural biosystems." In particular, the RBCNS recognizes that the practical solution of biodiversity conservation issues should be based on several conceptual methods including the population and species approach. One of the major objectives of that approach is the "conservation/restoration of population numbers" to which the project will contribute by developing a reintroduction strategy for the Amur leopard. The proposed project meets technical requirements of the RBCNS by using ex-situ conservation techniques ("Keeping and breeding life forms in nurseries, zoos, botanical gardens, gene banks or farms") as well as in-situ conservation techniques ("Conservation of rare and endangered species"; Population and species protection in Protected Areas; Artificial restoration of natural populations; Restoration of lost populations"). In addition, the project's overall approach to wildlife health and leopard reintroduction is backed up by the RBCNS's emphasis on the fact that "In-situ preservation techniques should be given priority since only natural conditions provide for the full and sustainable life form species preservation" and that "Ex-situ species preservation should not be considered as an independent objective but rather as an integral element of species rehabilitation and reintroduction into wildlife programs coupled with efforts to restore wildlife habitats".

The RBCNS also aims to develop the scientific basis for the preservation and rehabilitation of rare and endangered species and unique communities. It stresses the need for international cooperation, whose major objective should include the maximum use of all forms of cooperation to attract foreign expertise and resources for Russian biodiversity preservation. We are not aware of any point in the RBCNS which may contradict our project objective which we believe clearly makes a lasting contribution to RBCNS implementation, at both policy and field levels.

13. If relevant, please explain how the work will contribute to sustainable livelihoods in the host country

Our project will contribute to sustainable livelihoods in the host country by:

- Enabling promotion of the Russian Far East as a hotspot for Russia's only tigers and leopards which has potential for the development of ecotourism
- Identifying diseases in domestic animals and commercially exploited wild animals (deer farms) therefore providing a clear picture of appropriate prophylactic actions to improve their productivity, for example to control possible zoonoses.
- Providing government and private veterinarians in the region with a high standard of training and a permanent wildlife health monitoring centre, both of which will be instrumental in improving farm animal veterinary practice in the area, and will also provide improved

14. What will be the impact of the work, and how will this be achieved? Please include details of how the project outputs will be disseminated and put into effect to achieve this impact.

The project will have a major impact on long-term biodiversity conservation in the Russian Far East through the development of local capacity in wildlife health surveys and monitoring, and will be instrumental in successfully conserving the critically-endangered Amur leopard.

We plan to achieve this impact by institutional capacity building, training, research and collaboration. Although a veterinary teaching hospital exists in Ussurisk near the ranges of both tigers and leopards, the curriculum does not address wildlife health issues and there are currently no Russian wildlife veterinarians in the entire province. Through the proposed survey of disease transmission between domestic and wild animals, we plan to establish a provincial Wildlife Health Monitoring Unit (WHMU) at the hospital and provide hands-on training for Russian veterinary students, veterinarians and wildlife management personnel over the three-year project period. A workshop involving appropriate Russian organizations will be held towards the end of the project period. This will discuss the wildlife health survey results and develop relevant management strategies; e.g. to minimise disease transmission risks to existing wild cat populations and to manage the disease transmission risk aspects of the establishment of a second wild leopard population through reintroduction of captive-bred animals.

Key project outputs will be 3 weeks of professional training provided to approximately 30-35 Russian veterinary students per year and 1 week of practical training for approximately 6 students per year; reports and papers published on health status of captive Amur leopards in Western and Russian zoos, of wild leopards in the RFE, of leopard prey species, of domestic cats and dogs in the Amur leopard range, and on threats of disease transmission to wild leopard populations; and strategies developed with Russian partners to monitor and limit wildlife disease transmission and for a possible Amur leopard reintroduction programme.

Dissemination of the project outputs to achieve the overall project impact will be through documentation of prevalence and incidence of potentially dangerous infectious diseases, establishment of the WHMU and increasing institutional capacity at regional veterinary training hospital and Krai Veterinary Diagnostic Laboratory in Ussurisk. 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.

15. How will the work leave a lasting legacy in the host country or region?

The project will leave a lasting legacy in the region by:

- Establishing a long-term wildlife health monitoring programme, managed by the WHMU which will be one of the project's key achievements
- Transferring valuable skills to an area poor in resources but rich in biodiversity, so that local counterparts are empowered to conserve biodiversity in the long term.
- Providing a model for future projects in terms of its holistic view of wildlife conservation through the consideration of the too often neglected field of wildlife health.
- Ensuring a safer future for Amur tigers and leopards by state of the art disease monitoring and control strategies so that any disease outbreak does not lead to population extinction.
- Setting the scene for future reintroduction of the world's most endangered big cat, thereby contributing to the preservation of a functional ecosystem through a viable predator guild and eventually making Primorski Krai a "Serengeti in the cold". Modern theory suggests that predators play a major role in shaping the structure and composition of ecosystems, as illustrated recently by the impact of wolf reintroduction in Yellowstone ecosystem.

16. What steps have been taken to identify and address potential problems in achieving impact or legacy?

The project framework has been designed to ensure we can anticipate potential problems in achieving long-term project impact or legacy objectives. Potential obstacles were identified and discussed during a workshop with key counterparts held in September. The meeting was coordinated and endorsed by the Academy's International Relations Department, and Veterinary faculty members from various disciplines were invited to participate.

- The Ussurisk Regional Veterinary Teaching Hospital, the Ussurisk Diagnostics Laboratory and WCS Russia are key counterparts and their past commitment makes them the most reliable partners for the project. Their experience, contacts and inestimable field knowledge will be instrumental in securing agreements from deer farmers, hunters and villagers for animal sampling and collaboration. They will also assist us in selecting the most promising candidates for training and the most appropriate sampling locations. All will be represented on the Project Committee (see box 8) which will provide a forum for discussing and resolving any problems that may arise.
- The project is grounded in the Federal Strategy for Conservation of the Amur leopard, and in past workshop conclusions that targeted a range of threats including infectious diseases and identified reintroduction as a desirable conservation action. There is therefore a broad agreement among all stakeholders, as represented on the Leopard Steering Committee, that the project's activities are appropriate for the conservation of Amur leopards and tigers and this will help to ensure collaboration.
- ZSL plans to maintain a long-term presence in the RFE through development of its partnership with WCS Russia. The two organisations will be well placed to work with the WHMU to ensure that the skills acquired by their staff continue to be disseminated and that sufficient resources continue to be available for the operation of the unit. Following the project, the unit will be in a position to provide useful services to groups and individuals responsible for wildlife and domestic animals on a commercial basis. ZSL and WCS will also encourage and assist unit staff to undertake independent funding applications to further develop their role and abilities.

17. How will the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?

The project will generate extensive opportunities for advertising:

- The WHMU can be named 'the Darwin Wildlife Health Centre' and a Darwin logo can be mounted on the building. This would leave a permanent reminder of Darwin's contribution to Russian Far East.
- The project vehicle will also carry the Darwin logo. The vehicle will be seen frequently while visiting villages and will also appear in publicity material.
- All materials generated by the project, including training materials, will credit the Darwin Initiative as the donor to the project. This type of material is in short supply in Russia, and any information is extremely popular.
- The final reports as well as the Amur leopard reintroduction strategies will show the Darwin logo in a prominent position on their cover, and will explicitly credit the Darwin Initiative.
- All scientific publications and reports arising from this work will credit the Darwin Initiative.
- All press releases will acknowledge the Darwin Initiative.
- All possible effort will be made to ensure that the Darwin Initiative is credited in any radio or TV coverage

18. Are you aware of any other individuals/organisations carrying out similar work? Are there completed or existing Darwin Initiative projects which are relevant to your work? Please give details, explaining the similarities and differences and how your work will be distinctive and innovative. Show how the outputs and outcomes of this work will be additional to any similar work, and what attempts have been/will be made to co-operate with such work for mutual benefits.

Similar work is being carried out in several other carnivore conservation projects worldwide. For example, research is being conducted on rabies in Ethiopian wolves by Dr Stuart Williams at Oxford University; on infectious diseases epidemiology in canids by Dr Stephan Funk at ZSL; on domestic dog health assessment and vaccination in the Serengeti by Dr Sarah Cleveland at ZSL; and on the impact of infectious diseases on African lions by Dr Pieter Kat in Okavango in Botswana, the latter with particular emphasis on Feline Immunodeficiency Virus and Feline Leukaemia Virus. All these studies focus on how infectious diseases can play an important role in affecting the viability of carnivore populations and on identifying the most successful strategies to control them.

Our proposed project is unique in that it will be the only work of this kind to focus on the Amur leopard (and tiger) or to operate in the Russian Far East. On an international scale, it is distinctive because it relies on high-quality training and capacity building to multiply overall efficiency and provide faster and better legacy at a reduced cost. It is innovative because it has a built-in theoretical component through population modelling, meaning that the proposed conservation strategies will be based on the best available scientific knowledge. Because of this component, the proposed project is an addition to, rather than a duplication of, existing work on the issue of diseases in carnivore conservation. The proposed project staff members have excellent relationships with the previously mentioned projects. They are experts belonging to the IUCN/SSC felid, canid and veterinary Specialist Groups, and/or members of professional wildlife veterinarian societies, ensuring that the project benefits from experience at other sites and that results are shared with the scientific community. In addition, population modelling aimed at designing conservation strategies will be "open-source", i.e. based on publicly available software, and will be released under the General Public Licence to ensure analysis reliability and public access to any project results that might be useful to work elsewhere.

19. Will the project include training and development? Please indicate who the trainees will be and criteria for selection. How many will be involved, and from which countries? How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length and dates (if known) of any training course. How will trainee outcomes be monitored after the end of the training?

One of the main components of the project is training. Trainees will be veterinary students, veterinarians and government and other wildlife management personnel. We plan to train approximately 110 Russian students through 3 weeks of professional training provided to approximately 35 Russian veterinary students per year and 1-2 weeks of practical training for approximately 6 of the most promising of these students per year. Intensive professional training will cover wildlife epidemiology, diseases dynamics (modelling and design of control strategies), knowledge of main wildlife infectious diseases (hosts, symptoms, dynamics patterns, treatment and control), crisis management, as well as human health and safety concerns for zoonoses. The project will distribute hard copies of training materials, and make them available to anyone interested on the internet. Professional and practical training will be given by Dr John Lewis, consultant vet to ZSL, and Dr Kathy Quigley, veterinarian for WCS Russia, whose outstanding experience in wildlife veterinary medicine will ensure trainees receive the most up to date knowledge. In addition, to illustrate practical aspects of the professional course, workshops will include remote darting and other capture systems, "hands-on" anaesthesia, clinical examination and health evaluation, bio-sampling techniques, problem animal relocation, human safety in the field, and humane euthanasia and necropsy techniques. Professional and to a lesser extent practical training will take place in Ussurisk (at the Veterinary Hospital and opportunistically in the field); practical training will take place at the Utes Centre in Khabarovsk (which holds tigers, bears and smaller stock); at the Moscow Zoo (one week course in the second year); and in selected other Russian zoos in association with the sampling of captive leopards in the first year.

Trainees will be selected in collaboration with the Ussurisk Veterinary Teaching Hospital and Veterinary Diagnostics Laboratory using resumes, application letters, and interviews. WCS Russia and these two local partners have already held short and introductory veterinary training workshops during 2002 and 2003 at which time some promising candidates for further training at the advanced levels the project will supply were identified. Trainee outcomes will be monitored by advising and following career paths after the end of training. The success of this training can be assessed by whether trainees attain their degrees at the end of the project and by their ability to obtain jobs or further training within the wildlife sector. Veterinary students will face an evaluation exam (multiple choice questions + synthesis dissertation). For WHMU staff who will be the first to benefit from this training, success will be assessed on their continuing commitment to contribute to WHMU excellence in assessing wildlife health. Steps will be taken to ensure that trainees include staff who can later become trainers themselves at the WHMU. Two of the most promising students will be offered the possibility to use and analyse data from health assessment of wildlife and of captive leopards to submit a DVM thesis for their graduation. Both professional training and supervision will be given by project staff member who has lecturing experience in ecology.

20. How are the benefits and/or work of the project expected to continue after the end of grant period? Please provide a clear exit strategy.

The analysis functions of Krai Veterinary Diagnostic Laboratory 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.

21. Provide a project implementation timetable that shows the key milestones in project activities.

Project implementation timetable		
Date	Financial year:	Key milestones
	Apr-Mar 2004/5	
	Apr-Mar 2005/6	
	Apr-Mar 2006/7	
May 2004	2004/5	Project office established through WCS Russia
June 2004	2004/5	Agreement reached with regional veterinary teaching hospital on terms for creation of WHMU
June 2004	2004/5	Project Committee established
August 2004	2004/5	Russian vet counterpart to work with Guillaume Chapron identified and engaged
August 2004	2004/5	Krai Veterinary Diagnostic Lab capable of conducting analyses of biological samples from leopards, prey species and domestic cats and dogs
July 2004	2004/5	1-2 students to take DVM identified
September 2004	2004/5	Arrangements for sampling from deer farms, hunting organisations and villages finalised
October 2004	2004/5	Sampling and associated student training carried out on Amur leopards held in former Soviet bloc zoos
December 2004-February 2005	2004/5	Capture session for wild leopards in SW Primorye
May 2005	2005/6	Wildlife Health Monitoring Unit operational
October 2005	2005/6	First set of training workshops completed in RFE
December 2005-February 2006	2005/6	Capture session for wild leopards in SW Primorye
September 2006	2006/7	Training workshop completed in Moscow Zoo
October 2006	2006/7	Second set of training workshops completed in RFE
March 2007	2006/7	All biological samples analysed and results available
May 2007	2006/7	Strategic planning workshop held
June 2007	2006/7	Strategies developed and distributed for appropriate follow-up actions

22. How will the most significant outputs contribute towards achieving the purpose of the project? (This should be summarised in the Log Frame as Indicators at Purpose level)

The project aims to have a major impact on long-term biodiversity conservation in the Russian Far East through the development of local capacity in wildlife health surveys and monitoring, and to be instrumental in successfully conserving the critically-endangered Amur leopard through disease-related contributions to conservation strategy design.

Key outputs to achieve this are:

1. improvements in the capacity of vets in the RFE to address wildlife health issues, in terms of both professional knowledge and practical experience;
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. establishment of the proposed Wildlife Health Monitoring Unit in Ussurisk;
4. production of a wildlife health monitoring strategy to monitor and limit disease transmission in the wild populations of leopards, tigers and their prey;
5. production of a disease risk management strategy for the proposed Amur leopard reintroduction programme

Outputs 1 and 3 above will contribute to achieving the project purpose by providing, in the long term, incountry capacity for wildlife health monitoring. Output 2 will contribute by providing the baseline data for an ongoing wildlife health monitoring programme and by generating the information necessary for the production of Outputs 4 and 5, which in turn will contribute by providing clear frameworks for disease risk management in conservation and reintroduction strategies, agreed by all stakeholders at the planned workshop and accessible to all stakeholders through the forum of the Leopard Steering Committee.

23. Set out the project's measurable outputs using the separate list of output measures

We have added an additional output (24) to the standard Darwin Initiative list; biological samples obtained. These will be stored for long-term reference as well as tested for this project. They will mostly be stored at the Wildlife Health Monitoring Unit, though some may come to the UK where they will be stored at ZSL.

PROJECT OUTPUTS		
Year/Month (starting April)	Standard Output Number (see standard output list)	Description (include numbers of people involved, publications produced, days/weeks etc)
September 2004	21	Facilities improved at Krai Veterinary Diagnostic Lab; lab capable of conducting analyses of biological samples
September 2004	7	Brochure promoting the project produced and circulated
October 2004	4A, 4B 24	Two week sampling and associated student training exercises with Amur leopards held in appropriate former Soviet bloc zoos completed. Approx 10 leopards to be sampled in approx 5 zoos. Approx 6 students to participate; one or two days each. Selection of leopards to be sampled will target those likely to be selected as breeding stock for reintroduction.
October 2004	4A, 4B	First session of professional training in Ussurisk completed; 3 weeks, approx 30-35 students.
October 2004	4A, 4B	First session of practical training in Khabarovsk completed; 1 week, approx 6 students.

March 2005	24	First season of sampling on wild leopards, prey species and domestic cats and dogs in RFE completed. Approx 200 samples collected; wild prey and hunting dogs from 10-15 hunters from at least 3 hunting organisations, domestic deer from 3-5 deer farms, domestic/feral cats and dogs from 5-10 villages, and up to 10 wild leopards from SW Primorye (we will not get a licence to catch more than 10 during the first year at least)
May 2004- May 2005	8	Total of 42 weeks spent on project work in the host country by UK project staff.
May 2005	21	Wildlife Health Monitoring Unit operational
September 2005	7	Training modules produced and printed for use at the veterinary
October 2005	4A, 4B	Second session of professional training in Ussurisk completed; 3 weeks, 30-35 students
October 2005	4A, 4B	Second session of practical training in Khabarovsk completed; 1 week, approx 6 students
May 2005- May 2006	8	Total of 41 weeks spent on project work in the host country by UK project staff.
March 2006	24	Second season of sampling on wild leopards, prey species and domestic cats and dogs in RFE completed. Approx 200 samples collected; wild prey and hunting dogs from 10-15 hunters from at least 3 hunting organisations, domestic deer from 3-5 deer farms, domestic/feral cats and dogs from 5-10 villages, and up to 10 wild leopards from SW Primorye (we will not get a licence to catch more than 10 during the first year at least)
September 2006	24	Sample collection from leopards held in European zoos completed (no visits necessary). Approx 20 leopard samples collected. Selection of leopards to be sampled will target those likely to be selected as breeding stock for reintroduction.
September 2006	4A, 4B	Training course in Moscow Zoo completed; 1 week, approx 6 students
October 2006	4A, 4B	Third session of professional training in Ussurisk completed; 3 weeks, 30-35 students
October 2006	4A, 4B	Third session of practical training in Khabarovsk completed; 1 week, approx 6 students
May 2006- May 2007	8	Total of 42 weeks spent on project work in the host country by UK project staff.

March 2007	24	Third season of sampling of wild leopards, prey species and domestic cats and dogs in RFE completed. Approx 200 samples collected; wild prey and hunting dogs from 10-15 hunters from at least 3 hunting organisations, domestic deer from 3-5 deer farms, domestic/feral cats and dogs from 5-10 villages, and up to 10 wild leopards from SW Primorye (we will not get a licence to catch more than 10 during the first year at least)
April 2007	24	All biological samples processed and results available. Samples securely stored for future reference.
April 2007	21	Wildlife Health Monitoring Unit fully operational including capacity for ongoing training and sustainable operation; business plan produced.
April 2007	21	Longterm wildlife health monitoring programme established.
April 2007	3	DVM dissertation(s) by 1-2 vet students completed
May 2007	14A	Strategic planning workshop held
June 2007	9	Report finalised and distributed to all stakeholders and interested parties
July 2007	9	Strategies to monitor and limit wildlife disease transmission, and for wildlife disease components of Amur leopard reintroduction, produced and distributed for appropriate follow-up actions
July 2007	11A 11B	Paper on reintroduction strategies for the Amur leopard submitted to appropriate journal
August 2007	11A 11B	Paper on population modelling aspects of project submitted to appropriate journal
Sept 2007	11A 11B	1-2 paper(s) based on information gathered on captive Amur leopard health within the EEP population in Europe and the former Soviet bloc submitted to appropriate journal(s).
Sept 2007	11A 11B	5-6 papers based on information gathered on wildlife health in the Russian Far East submitted to appropriate journals
2005-7	14B	We expect to present aspects of the work at at least two international conferences in 2005, 2006 and 2007; e.g. at the meetings of the European Association of Zoo and Wildlife Vets, the European Association of Zoos and Aquariums, the American Association of Zoo Veterinarians, the Wildlife Disease Association and the Wildlife Society.
Full time	15A, 15B, 18A, 18B, 19A, 19B	Because of the high profile nature of carnivores it is likely that there will be considerable media interest in the project. Media interest will be actively encouraged

		through press releases and the ZSL press office. Particular efforts will be made to encourage broadcasts within country. We plan to produce 5-10 press releases in Russia during the project, and aim for a minimum of four Russian radio and two Russian TV items. In the UK, provided that leopards are successfully captured for sampling (and telemetry) we will aim for at least one national TV and one national radio item. Rather than doing a UK press release, ZSL's press office would place the story as an exclusive in a Sunday supplement or wildlife magazine.
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MONITORING AND EVALUATION

24. Describe how the progress of the project, including towards delivery of outputs, will be monitored and evaluated in terms of achieving its overall purpose. This should be both during the lifetime of the project and at its conclusion. Please make reference to the indicators described in the Logical Framework.

Monitoring during the lifetime of the project will be overseen by the Project Committee (see box 8) in consultation with visiting experts Kathy Quigley, John Lewis and Sarah Christie. Project Committee meetings will take place at minimum six-monthly intervals. Monitoring will measure progress towards the indicators detailed in the logframe, as well as highlighting lessons and problems. Monitoring information will be available in the form of reports produced by ZSL which will detail progress towards all outputs shown in the log frame using the indicators listed, in mission reports from visiting experts, and training course and workshop reports. Two major reports, the interim report produced in 2005 and the final report produced in 2007, will evaluate the success of the project in achieving its objectives. These reports will be circulated widely to wildlife professionals and experts both within country and in UK conservation & research institutions. The feedback obtained from these reports will form the basis of an informal evaluation.

25. How will host country partners be involved in monitoring and evaluation of the project?

The Project Committee will include representatives of both the major host country partners (see box 8). The committee will meet regularly to discuss project progress and necessary adjustments. Relevant local stakeholders (eg deer farm owners, representatives of hunting cooperatives) will be invited to join committee meetings as appropriate. Meetings will be timed to coincide with visits of project staff Sarah Christie, Kathy Quigley and John Lewis whenever possible.

26. How will you ensure that the project achieves value for money?

The financial management of the project will be overseen by the finance department at ZSL. Reporting and auditing requirements will be agreed in line with the requirements of Darwin and ZSL. All capital equipment will be procured (whether in Russia or the West) after comparison of prices and technical specifications. The in-country partner's local experience will enable local expertise and traders to be used wherever possible. The project draws on existing expertise and knowledge in the UK through devoted staff permanently on site and from 12 years of involvement in the Russian Far East in carnivore conservation.

27. Reporting Requirements. All projects must submit six monthly reports (by 31 October each year) and annual reports (by 30 April each year). Please check the box for all reports that you will be submitting, dependent on the term of your project. You must ensure that you cover the full term of your project.

Report type	Period covered	Due date	REQUIRED?
Six month report	1 April 2004 – 30 September 2004	31 October 2004	Yes
Annual report	1 April 2004 – 31 March 2005	30 April 2005	Yes
Six month report	1 April 2005 – 30 September 2005	31 October 2005	Yes
Annual report	1 April 2005 – 31 March 2006	30 April 2006	Yes
Six month report	1 April 2006 – 30 September 2006	31 October 2006	Yes
Annual report	1 April 2006– 31 March 2007	30 April 2007	Yes
Six month report	1 April 2007 – 30 September 2007	31 October 2007	Yes
Final report	1 April 2004 – project end date	3 months after project completion	Yes

LOGICAL FRAMEWORK

28. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note. This should not have substantially changed from the Logical Framework submitted with your Stage 1 application. Please highlight any changes. *Minor changes are highlighted in yellow.*

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal:</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"> • 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>Purpose</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>Outputs</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</p> <p>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</p> <p>Project reports and scientific publications</p>	<p>Partner institutions collaborative and logistical problems overcome</p> <p>Necessary agreements reached with all parties</p> <p>Sampling effort successful</p> <p>Journal editor(s) interested</p>
<p>WHMU established in Ussurisk</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>