

DARWIN INITIATIVE FOR THE SURVIVAL OF SPECIES: APPLICATION FOR GRANT FOR ROUND 10 COMPETITION

Please read the accompanying Guidance Note before completing this form. Give a full answer to each section; applications will be considered on the basis of information submitted on this form. Applicants are asked not to use the form supplied to cross-refer to information in separate documents except where this is invited on the form. The space provided indicates the level of detail required but you may provide additional information on a separate sheet if necessary. Copies of this form are available on disk or by e-mail on request. You are asked also to complete the summary sheet. Although you may reproduce this sheet in a reasonable font, you should not expand it beyond an A4 sheet (leaving the allocated space for DEFRA comments to be made) as additional information will not be taken into account.

1. Name and address of organisation

University of Sheffield (Department of Animal and Plant Sciences), Alfred Denny Building, Sheffield S10 2TN

2. Principals in project

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	Wheeler		Lapshina
Forename(s)	Bryan David		Elena
Post held	Reader		Associate Professor; Head of Laboratory of Biogeocoenology,
Institution (if different to above)			Tomsk State University, Russia
Department	Animal and Plant Sciences		Research Institute of Biology and Biophysics
Telephone			
Fax			
Email			

Please provide a one page CV for each of these named individuals.

3. Project title (not exceeding 10 words)

Cross-border conservation strategies for Altai Mountain endemics (Russia, Mongolia, Kazakhstan)

4. Abstract of study (in no more than 750 characters)

The Altai mountains cover over 600,000 km² in central Asia, lying within the borders of 3 countries (Russia, Kazakhstan, Mongolia). The variety of habitats is characterised by extremely high biodiversity and forms an important centre of endemism in Eurasia, but to date there has been no strategic approach to conservation of the increasingly-threatened flora and fauna. Information on the distribution of rare and endemic plants from all 3 countries will be collated and enhanced with data from well-targeted field expeditions. The project will train scientists, students and local administration staff, and develop new cross-border approaches to and tools for the conservation of Altai biodiversity, in particular through identification of "hot spots" of biodiversity and preparation of species action plans, habitat management plans and GIS-based species distribution maps.

5. Timing. Give the proposed starting date and duration of the project.

April 2002 (3 years)

6. Describe briefly the aims, activities and achievements of your organisation. (Please note that this should describe your unit, institute or department within a university.)

Aims

The project will involve staff of the Biodiversity and Environment research grouping of the Department of Animal & Plant Sciences, University of Sheffield. A primary aim of this group is to advance understanding of basic, strategic and applied issues in the fields of biodiversity and conservation ecology, in particular by working with external agencies and conservation bodies to provide a firm scientific background with which to improve the conservation and sustainable use of different habitats. .

Activities

The Biodiversity and Environment research grouping includes the Wetland Research Group, headed by Dr Bryan Wheeler (see attached CV), and the Biodiversity & Macroecology Research Group by Prof. Kevin Gaston. Both groups conduct programmes of basic, strategic and applied research. Current activities include research projects in Britain, mainland Europe, the Middle East, southern Africa, and on islands of the southern ocean (Gough Island, Marion Island); research projects at local, regional and global scales; research projects that integrate perspectives from different fields (including ecology, conservation biology, systematics, economics); research projects that involve local communities, and heighten awareness of biodiversity issues; projects that have attracted significant media attention. Work has been conducted with a number of collaborating organisations and institutions in the UK and overseas, including the Avian Demography Unit (South Africa), British Trust for Ornithology, Centre of Ecology & Hydrology, Countryside Council for Wales, Environment Agency, English Nature, Scottish Natural Heritage, IUCN-The World Conservation Union, RSPB, and Wildfowl & Wetlands Trust. A number of postdoctoral researchers, PhD students (many from overseas) and research assistants have received training within the group.

Achievements

A primary focus of the Wetland Research Group has been to develop inventories of wetland habitats and species, to develop databases and other information retrieval systems to store and interpret these data, and to analyse causes of species and community distributions, both with regard to environmental conditions and biogeographical constraints, and including field and lab-based experimental studies. The group has specialised in applying the results of this 'pure' research to develop solutions to 'applied' problems of land-use, habitat management, conservation and restoration. The Group is highly regarded in the UK for providing impartial advice to government agencies, conservationists and industry on various aspects of conservation ecology and strategy, in particular with respect to EU-designated species and habitats. The group has published over 60 scientific papers, written or edited 9 books and published reports and over 70 major unpublished reports, with contributions to many more within collaborative projects. A recent innovation is the development of a computer database currently in use by statutory conservation authorities (English Nature, Countryside Council for Wales, Environment & Heritage Service), to hold primary survey data, habitat and management information and evaluate the resource and restoration requirements.

The work of the Biodiversity & Macroecology research group has made contributions to methods for determining the risk of extinction faced by species, the identification of priority areas for conservation, understanding of the determinants of rarity and patterns of species richness, and understanding of the implications of the spread of alien species. In the last three years, the BM group has published 4 books (3 monographs & 1 edited volume) and more than 50 papers in international journals. Invited contributions have been given at numerous workshops, meetings and conferences, and the work of the group has received attention from the media on a number of occasions.

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

The University of Sheffield has received funding for the following projects: **Round 5:** Bogs of Tomsk Province: inventory, assessment and Biodiversity Action Plan (involving the administrator/ecologist proposed for this project); **Round 6:** Conserving the Rare and Endemic Flora of Iran (involving the administrator/ecologist proposed for this project); **Round 7:** Conserving the Rare Flora of Central Argentina; **Round 7:** Invertebrate Diversity and Endemism at Gough Island (involving the two principal partners proposed for this project)

8. Which overseas institutions, if any, will be involved in the project? Please explain the responsibilities of these institutions.

Tomsk State University (Russia) will provide the main point of contact between the host countries and UK partners. The 6 scientists involved will be responsible for collating all the available data from the three participating countries, organising field work in the least investigated Altai regions, developing the databases and GIS distribution maps, undertaking critical analyses and compilation of the complete list of rare and endemic plant species for the whole Altai. They will liaise with colleagues in Mongolia and Kazakhstan and the relevant Russian institutes and authorities. In collaboration with UK scientists, they will prepare and guide all workshops and seminars, ensure web-site development and be responsible for the preparation of the books, reports and papers etc. The University will facilitate the participation of staff and students in the project, and make available the facilities of the research station in the Altai.

Hovd branch of Mongolian State University: Dr Oyunchimeg will be the main point of contact for the project in Mongolia and will work closely with colleagues in Tomsk. He will be responsible for liaison with local institutes and authorities to collate preliminary lists of rare and endemic species and habitat data on the Mongolian Altai, identify areas needing investigation and ensure that the project outputs meet the needs of the Mongolian authorities. The University will facilitate the participation of staff

and students in field surveys, training and seminars, and provide 2 guides for the field surveys.

Altai Botanical Gardens, (Leninogorsk, Kazakhstan): Dr Yu. Kotukhov will be the main point of contact for the project in Kazakhstan, and will have the same responsibilities with respect to Kazakhstan as Dr Ayunchemek in Mongolia.

PROJECT DETAILS

9. Define the purpose (main objective) of the project in line with the logical framework.

The main purpose of the project is to collect and collate (for the first time) information on the rare and endemic flora of the whole of the Altai Mountain region. The project will apply British expertise to investigate species distributions and develop appropriate database systems, to identify "hot spots" of biodiversity within the area on the basis of the analysis of existing and newly-gathered information on species distribution, and to investigate habitat controls on species distribution. Economic activities in the region (including land management regimes) will also be examined and their actual or potential influence on rare and endemic species of flora and fauna assessed. The information will be used to (i) identify species and areas under greatest threat, (ii) develop strategies to preserve the biodiversity in this trans-border region and (iii) formulate species and site-based habitat action plans that will optimise the existing network of protected areas through the organisation of new areas and improvement of management and overall performance of existing ones.

10. Is this a new project or the continuation of an existing one?

This is a new project

11. What is the evidence for a demand or need for the work? How is the project related to conservation priorities in the host country(ies)? How would the project assist the host country with its obligations under the Biodiversity Convention?

How was the work identified?

Representing the eastern part of the geologically-ancient Altai–Sayan mountain country, the Altai Mountain region lies in a biogeographically-complex area in the centre of Eurasia, and is an area of international importance – one of the largest and most important centres of biodiversity and endemism in the northern hemisphere. The varied habitats, which include montane and wetland habitats, support a globally-unique assemblage of rare and endemic species of plants and animals. The mountains span three states – Russia, Mongolia and Kazakhstan – but the absence of close co-operation between them has been a great obstacle to the inventory and assessment of biodiversity of the region as a whole, and there has been no strategic approach to conservation in the region. The area is coming under increasing anthropogenic pressure, with consequent damage to some of the most valuable habitats. The indigenous people pasture their cattle in the valleys; tree cutting and hunting are common. Other threats include construction of transcontinental pipelines and power lines, use of agricultural fertilisers and detergents, atmospheric pollution and rocket fall-out. Tourism is increasingly seen as an important aspect of future development in the region, catering for Russian and Kazakhstani tourists, who can no longer afford to take holidays abroad, as well as international 'green' tourism. These activities are largely unregulated, including within some of the protected areas ('zakazniks' and 'zapovedniks'), from where basic factual information on the biodiversity resource, including presence and distribution of endemic plants and animals, is also lacking. Given the significance of the region in terms of biodiversity, and the increasing pace of development, the state authorities in all three countries recognise the need for co-operation between scientists and ecological services in order to develop cross-border strategies with a firm scientific basis to ensure conservation as well as sustainable development in this unique region. The results of the project will be vital to the authorities in development of a tourism strategy for the region.

Scientists from Tomsk State University (TSU) have been involved in studies in the Altai Republic and Kazakhstan for over 100 years, and there is a large amount of information already available at TSU on the Altai flora (including >300,000 specimens in the herbarium). However, this information has never been collated trans-nationally, or used in an applied way for conservation purposes. The project scientists have a good grasp of the nature and extent of the information available, and have already identified the areas which have been poorly-investigated, on which it is proposed to target the field expeditions.

Protected areas have been created in each of the largest biogeographic divisions of the Altai without giving special consideration to the distribution and concentration of species. The data on total number of species and endemics in particular are rather inconsistent and are based on expert estimations by the separate specialists who have worked in different parts of the Altai. The present project will be the first research carried out to collate and analyse extensive primary data on the whole Altai region and to use this to develop cross-border conservation strategies. Whilst the project will focus on the Altai flora, it is recognised that the region also plays a key role in the conservation of rare fauna, for example, the snow leopard (*Unica unica*), a globally-endangered species. Therefore, preparation of the proposed habitat action plans will also include consideration of the needs of rare mammals and birds, for which distribution is already relatively well-known.

How is the project related to conservation priorities in the host country?

All three host countries regard the biodiversity of the Altai as a national asset, and therefore a priority area for which development of cross-border conservation strategies are required, as current protection measures are neither adequate nor effective. It is recognised as important that such strategies and actions have a firm scientific basis, and it is therefore seen as a high priority to gather information on species distribution, related habitats and threats to the resource. The present project was set up to help address the following priority areas for nature protection policy, which were identified by staff from the state

authorities, ecological services and scientists from the Altai Republic, Kazakhstan and Mongolia in discussions with the proposed project partners.

- Inventory of the biodiversity in the different regions and countries;
- Support and promotion of modern methods of collection, analysis and storage of information about biodiversity, including development of computer databases and development of GIS-maps;
- Study and analysis of the distribution of rare and endemic species and their habitats;
- Investigation of threats to the biodiversity of the region, and methods for sustainable development;
- Improvements to the conservation activities within and expansion of the existing network of protected areas.
- Training of experts in skills relevant to biodiversity and conservation;
- Usage of international experience on study and evaluation of information about biodiversity;
- Search for sources of financial and methodological help for improvement of effectiveness of biodiversity conservation;
- Inviting foreign specialists to the regions for teaching and training of local ecologists in practical actions for protecting and maintaining biodiversity;
- Organisation of activities for dissemination of knowledge about the local biodiversity and its importance among the local population within the territory of the Altai mountain country;
- Introducing the local people to the concepts of biodiversity and conservation, for the Altai region in particular, and the necessity for its preservation for future generations (by means of radio, TV, publications in press and special advertising).

How will the project assist the host country meet its obligations under the Biodiversity Convention?

The project is seen as being able to help the three host countries meet their CBD obligations in the following areas in particular:

- collection and analysis of extensive material on the endemics of the Altai Mountains – the first attempt at comprehensive, cross-border study of these species;
- enhancement/establishment of databases and reference collections on plant materials;
- training of local people in survey and identification of flora;
- training of local people in conservation and management techniques;
- collaboration with western scientists in the development of species and site/habitat action plans, in order to provide a basis and incentive for the local authorities to carry the project forward into appropriate concrete actions for the conservation and management of this internationally-important resource;
- identification of particularly valuable areas (“hot-spots”), and contribution to the development of national and regional networks of protected sites;
- contribution of information on rare species for Red Data Books;
- dissemination of information to the international scientific and conservation communities, as well as local people.

The outcome will be a major contribution towards the conservation of the extremely rare and endemic species of the Altai within the territory of three contiguous states. As such the project will assist Russia, Mongolia and Kazakhstan, in realising the following commitments to the Convention on Biological Diversity in particular:

Article 6, General Measures for Conservation and Sustainable use; **Article 8**, In-situ Conservation; **Article 7**, Identification and Monitoring; **Article 12**, Research and Training; **Article 13**, Public Education and Awareness

12. In what ways can this project be considered a Darwin project? How does the project relate to the Darwin principles? How would the project be advertised as a Darwin project and in what ways would the Darwin name and logo be used?

The Altai Mountain region is well known as a centre of biodiversity and endemism of global importance. About 100 plant species are known to be strict endemics, and some of these are particularly rare. Despite its remote location in the centre of the Eurasian continent, the region is coming under increasing anthropogenic pressures, including development in relation to tourism and transcontinental pipelines, with corresponding threats to flora and fauna. The local authorities are well aware of their national and international biodiversity commitments, and the need for action to establish cross-border as well as national conservation strategies for the region, but lack the funds to undertake the necessary work. In the spirit of international cooperation embodied both in the Convention on Biological Diversity and in the Darwin Initiative, this project will span the borders of the three countries embraced by the Altai Mountains, and will involve scientists and decision-makers from all three countries, and research expertise from the UK. Local institutes and authorities will provide substantial ‘in kind’ support in the form of facilities, staff and students to be trained, and access to available information on the area.

This project will provide technical assistance in conducting this research, will draw on proven British expertise in providing training in the relevant research techniques, will provide the materials to conduct that research (both for the duration of the project and beyond), and will generate the understanding required to develop species and site-based habitat action plans for the conservation of the flora, thereby assisting the safe-guarding of the biodiversity of the Altai into the future, all of which will constitute a lasting legacy. Project staff from the host countries receiving training will be well-placed to pass on their knowledge to other scientists, students and decision-makers. Funding in these remote areas for such activities is extremely limited, and becoming more so, given the extreme pressure on governmental resources to address other issues. Thus, this project will be conducted in a region that is poor in resources for biodiversity research but is rich in biodiversity. The project will also seek to encourage the partners to solicit on-going funding for the work and hence act as a catalyst for continued conservation-related work in the region.

The project will promote collaboration between the UK and other countries, and also help project participants to promote important partnerships within and between the host countries. The project will be a major piece of work in its own right, and

every effort will be made to ensure that the outputs are of high quality and scientific excellence. The results will be disseminated widely in the peer-reviewed scientific and popular press, and every opportunity will be taken to use the Darwin logo and acknowledge Darwin funding. Information about the project will be placed on the web sites of Tomsk and Sheffield Universities, with links to the dedicated DEFRA Darwin web site. A lecture will be given to the local scientific population and authorities at the start of the project to outline the purpose and objectives of the Darwin Initiative as well as the project and raise awareness of the Darwin Initiative within Russia, Kazakhstan and Mongolia. All equipment and books bought with project money will be identified with the Darwin logo, and the logo will be prominently displayed on the project vehicle.

13. Set out the proposed timetable for the work, including the programme's measurable outputs using the attached list of output measures.

PROJECT OUTPUTS		
Year/Month (starting April)	Output Number	Description (include numbers of people involved, numbers of publications printed or produced and days/weeks where applicable)
Year 1		
July 2002	15A / 15B 15C / 15D	1 national / local press release will be issued in the UK to announce the start of the project. A press release will also be issued in each of the 3 participating host countries. Project details will also be placed on the Tomsk and Sheffield University web sites.
July 2002	8	(UK staff in host country) (2 weeks)
July-Aug. 02	4A/4B 23	Fieldwork undertaken over 2 months. c.50 undergraduate students receive training (2 weeks) approx. £43,500 (Additional resources raised)
Year 2		
July 2003,	14A	Field workshop in Gorno-Altai, 6 days. (UK & local scientists; students from all host countries involved in the project, + other people working in the field of nature protection).
July-August 2003	4A/4B	c.50 undergraduate students from host countries (20 biologists and 30 geographers) will receive training during the project field work and also will gain field experience at permanent scientific station of Tomsk University in Mountain Altai. (2 weeks)
July 2003	8	(UK staff in host country) (3 weeks)
2004	6A / 6B 23	1 young researcher from Hovd University (Mongolia) trained at Tomsk Herbarium. (26 weeks) approx. £38,200 (Additional resources raised)
Year 3		
August 2004	14A	Field workshop in Leninogorsk (15 people, 4 days).
August 2004	8	(UK staff in host country) (2 weeks)
Dec 2004	(Additional output)	Classification of endemic Altai species on the basis of geographical distribution, habitat and age.
Nov. 2004	13A	3 herbarium collections of endemic species established (for Mongolian, Kazakhstan & Russian Altai)
Nov. 2004	13B	Enhancement of the plant collection from Mountain Altai in the Herbarium of Tomsk University
March 2005	(Additional output)	Publication of the illustrated scientific book "Endemics of the Altai" (in Russian and English) (1000 copies)
March 2005	(Additional output)	GIS electronic maps of species distributions handed over
March 2005	7	2 Videos, 10 information leaflets about rare Altai species, dedicated web site (presentation of results, including details of species, photos, distribution maps), photo collection of endemic species and typical habitats
March 2005	9	25 species action plans (c. 25% of Altai endemics) and 10 site management plans produced, for use by public authorities, local administrations and scientists.
2005	11A/11B	2 papers published in peer-reviewed journals; 4 papers submitted to peer-reviewed journals
2005	12A	3 databases will be handed-over (for Russia, Kazakhstan and Mongolian Altai)
2005	12B	The local databases will be amalgamated into one general database covering the whole area
Feb 2005	14A	Final Symposium in Tomsk at which findings will be presented and disseminated.
Feb 2005	8	(UK staff in host country) (1 week)
March 2005	15A/ 15B 15C / 15D	1 national / local press release issued in the UK and in each of the 3 participating host countries at the end of the project.
March 2005	1A	3 postgraduate students submit thesis for PhD qualification (two from Tomsk University, Russia and one from Hovd University, Mongolia)*
2004, 2005	2	3 students from Tomsk and Hovd Universities attain Masters qualification*
	23	£51,500 (Additional resources raised)

* Note that the host countries will provide funding for PhD and Masters students. The students will receive training and be involved in data gathering and processing (etc.) and will focus on different aspects of the project within their work.

Key Milestones	
Year/Month (starting April)	Description (include travel dates, drafts and other processes that support the delivery of outputs)
Year 1	
May/June 2002	Participating scientists hold discussions with local authorities in each country to initiate collation of information and ensure that the scope of the project is maximised.
July 02	Start-up meeting, workshop and field visit.
July – August 02	2 months field work, including workshops and student training.
Sept.02-June 03	Collation of information; setting up and population of databases with information gathered in the first year.
July / August 03	2 months field work, including student training. UK scientist present for 3/4 weeks
Winter 03/04	Visit of 4 scientists from host countries to UK (10 – 14 days)
Year 2	
Sept–Dec 03	Collation of information; population of databases; data analysis.
Oct. 2003	Training workshop in East Kazakhstan (see Section 15)
Nov. 2003	Training workshop in Gorno-Altai (see Section 15)
Jan 2004	Start of investigation of the relationships between rare and endemic species and their habitats, and development of principles and methods for the protection of rare and endemic species in the Altai.
Year 3	
Aug. 2004	Field workshop
Dec 2004	Databases and electronic maps completed
Winter 04/05	2 scientists from host countries spend 6 weeks in UK
Feb 2005	Final symposium in Tomsk
March 2005	Publication of the illustrated scientific book "Endemics of Altai" (in Russian and English)
March 2005	Scientific papers submitted
March 2005	2 Videos, 10 information leaflets about rare Altai species, web site, photo collection of endemic species and typical habitats completed
March 2005	3 databases handed-over (on regions of Russian, Kazakhstan and Mongolian Altai)
March 2005	GIS electronic maps of species distribution handed over
March 2005	3 species reference collections (herbaria) completed, and enhancements to the Tomsk herbarium finished
March 2005	Species action plans and habitat management plans finalised and handed over to relevant authorities

14. Do you know of any other individual/organisation carrying out similar work? Give the details of the work, explaining the similarities and differences.

There are no individuals or organisations conducting similar work in the Altai Mountains. The area is huge, and research work/conservation activities have not been co-ordinated between the three countries. (See also Section 11)

15. Will the project include training and development? Please indicate how many trainees will be involved, from which countries and what will be the criteria for selection. How will you measure the effectiveness of the training and will those trained then be able to train others? Where appropriate give the length of any training course.

Training Activity	Dates	Who will participate, how many will participate and for how long?
The British experience of preparation of biodiversity action plans and computer modelling techniques to assist in identification of biodiversity hotspots.	July 2002 (Tomsk)	UK specialists train scientists and students from the host countries (Russia, Kazakhstan, Mongolia) involved in the project, plus other people working in the sphere of nature protection. In total 30 people during 3-4 days.
Training in field survey, recording and sampling techniques, including plant identification (at permanent scientific station of Tomsk University in Altai Mountains)	July-August 2002; July-August 2003	c.50 undergraduate students from host countries (20 biologists and 30 geographers) will receive training during the project field work and gain field experience (4 weeks over 2 years)
Training in UK experience of conservation and management of protected species and areas. Acquaintance with a diversity of landscapes and different types of habitats	2003	4 scientists from host countries in UK during 2 weeks
Training in plant identification and herbarium techniques, working with existing plant sample collections from the Mongolian Altai, and enhancing the collection with new	2004	1 young researcher from Hovd University (Mongolia) will undergo on-the-job training in the Tomsk Herbarium, under the guidance of project scientists and Herbarium staff (26 weeks).

specimens collected by the project.		
Acquaintance with the British strategies for conservation and management of biodiversity and training in development of action plans and management plans for protected territories	Oct. 2003	Leninogorsk (East Kazakhstan). Staff of Environmental Committee and local authorities of East Kazakhstan, in total 10 people, 1 day. Training will be guided by project participants from Tomsk and Leninogorsk
Acquaintance with the British strategies for conservation and management of biodiversity and training in development of action plans and management plans for protected territories	Nov. 2003	Gorno-Altai (Russia). Staff of Environmental Committee and Local authorities of Republic of Mountain Altai (Russia), in total 15 people, 2 day. Training will be guided by project participants from Tomsk and Gorno-Altai.
Field workshop: continuance of above training, focusing in particular on using data/information gathered by the project to develop action plans	Aug. 2004	Project participants, students and young researchers from the host countries, UK experts and scientists; in total some 15 people, 4 days. Training will be guided by project participants from host countries.
Training in data analysis, interpretation, evaluation, presentation.	Winter 04/05	'On-the-job' training for 2 host country scientists (6 weeks)

Participants in the training activities will be scientists, registered students, and staff of local environmental committees / local authorities with responsibilities for implementing conservation legislation. Where numbers need to be limited, the local members of the project team will select participants, giving priority to those who will be best placed to pass on skills and information acquired. The participants of the project trained by British experts will disseminate their experience and guide the training among the local people and ecological services in the regions. The employees of ecological committees will use their knowledge to promote new actions for the improvement of protection and optimisation of the nature protection network in the regions.

The effectiveness of the training will be evaluated by the quality of the field work undertaken, the quality and scope of the reference collections and databases, the suitability of the data collected for analysis of biodiversity "hot spots", and the appropriateness of the chosen approaches to conservation of selected habitats. The effectiveness of training in preparation of species action plans and habitat management plans will be evident in the quality of those produced, and their subsequent implementation within the practical work of regional ecological committees. Evaluation of student training will be made by the Universities through the successful awarding of PhD/Masters degrees.

16. How will trainee outcomes/destinations be monitored after the end of the training?

It is intended that the strong links developed between the UK and the partners from Russia, Kazakhstan and Mongolia will be maintained after the end of the project, to provide on-going support and advice as necessary. In particular, the project participants will be encouraged increasingly to participate in the international conservation and scientific communities, and help will be given where possible in making applications for other sources of international funding for local projects. It is expected that participation in the project will considerably enhance the career development / employment prospects of trainees, and we expect to be kept informed of subsequent outcomes.

17. How is the work of the project expected to continue after the end of grant period? A clear exit strategy must be included.

The project will provide the background scientific knowledge to enable development of cross-border conservation strategies for the Altai mountain flora, an area of global conservation importance. Commitment to the proposed project is clearly demonstrated in the six letters of support provided by the authorities responsible for conservation and the local institutions in the host countries (Altai Republic, Kazakhstan and Mongolia). At the end of the project, the local authorities will be invited to formally ratify the species and habitat action plans, in order to demonstrate their commitment to implementing the work. By involving representatives from all of these, the project will stimulate lasting collaboration between scientists and those responsible for the development and implementation of conservation strategies, and increase the likelihood of the recommendations being put into practice. The plans developed will provide a programme of actions for the three governments, and stimulate new activities, such as designation of new protected areas around the biodiversity 'hot spots' identified by the project, which will help them to fulfil obligations under the Biodiversity Convention. The action plans will promote conservation of the most rare and vulnerable species of the Altai, and will be the first scientifically-based documents for the region on which measures for sustainable management and development can be formulated. It is expected that they will form the model for the development of further biodiversity action plans, both within the region, and elsewhere in the partner countries.

The preparation of herbarium reference collections, databases and GIS-based species distribution maps will provide lasting tools that can be easily augmented in the future, and will be available for use by scientists, local authorities and students. They are expected to promote the continuation of accumulation of information about the biodiversity of this huge and diverse region in a more focussed and collaborative way than previously possible. The project also seeks to provide a lasting legacy through training in scientific methods, as well as conservation practice and theory – skills that can be passed on to others, and will be transferable to other habitats and regions. All those involved in the project will have also gained invaluable experience in international collaboration, and the project will consolidate existing links as well as forging new partnerships. Partners will be given help in identifying potential sources of funding and in making applications, so enhancing their opportunities for the continuation of such work in their home countries. The results of the present project will be used to identify the need for and scope of future projects, and to stimulate support from international organisations, societies and funds.

Project participants from the host countries trained by the British experts will disseminate the experience and knowledge gained

and guide the training for the local population and representatives of ecological and nature conservation services in the regions. These people will then be better placed to promote the organisation of new actions for improvement of protection of biodiversity and optimisation of the network of protected territories in the regions. The results of these activities will be summarised in the annual state reports of ecological committees and presented on the Internet.

The involvement of undergraduate and post-graduate students wherever possible will increase awareness of biodiversity conservation amongst the younger generations of three countries, and promote the spirit of international co-operation. Preparation of 'publicity' materials, including videos, leaflets and the illustrated scientific book, will provide materials through which the global importance of the region can be promoted. The project will raise awareness in the local population of the problems of sustainable use of biological resources and preservation of the biodiversity of the Altai. The identification of biodiversity "hot spots" will help to restrict the activities of the local people in future to areas and resources where they are harmless. For example, the results of the project will be vital to the local authorities in the future design of large projects, including tourist developments and construction of transcontinental pipelines and power lines, to minimise damage to the biodiversity.

MONITORING AND EVALUATION

18. Describe how progress on the project would be monitored and evaluated in terms of achieving its aims and objectives, both during the lifetime of the project and at its conclusion. How would you ensure that it achieves value for money? What arrangements will be made for disseminating results? If applicable, how would you seek the views of clients/customers?

A Memorandum of Understanding will be prepared, to be signed by both parties, which will set out the project objectives and activities, and agree commitments and responsibilities on both sides. Communication by email will allow a continual dialogue between project participants, enabling efficient monitoring of the progress of the project, and evaluation against the defined objectives and milestones. Dr. Lapshina, the project co-ordinator at Tomsk State University, will be the main point of contact between the UK and the 3 host countries, and will be expected to provide regular reports on activities and progress in all three countries. Thus it should be possible to deal with any problems as they arise. Reciprocal visits will ensure careful planning and targeting of activities, and facilitate dialogue and work on project outputs as the project progresses.

The project will utilise and strengthen existing groups in the UK and host countries, using scientists who have worked together previously, and have already undertaken some work in the region to be investigated, meaning that the project will only require a very short lead-in time. Value for money will be ensured by involving specialists with complementary skills in the different aspects required for the project, who are willing to participate in the scientific work, undergo further training themselves and train others in appropriate skills, as well as liaising with local authority staff to ensure that maximum value is achieved in the project outputs. Participation by local students in the field and laboratory/herbarium studies will help to minimise costs, whilst maximising the training element of the project. Based on past experience, we have requested funding to buy a vehicle in the first year which can be used over the whole course of the project, as this is more cost-effective than hiring a vehicle (with driver), and will remain as part of the project legacy. Transport for local administration staff and students involved in training and fieldwork will be provided as 'in kind' contribution. Where possible, staff will capitalise on other work going on to maximise cost-effectiveness of available funding - e.g. in undertaking joint expeditions, or in extending visits to other institutions/meetings funded from other sources in order to undertake work on our projects.

Leverage of funding to supplement the Darwin grant has been assured from both the UK and host country institutions, and more sponsorship will be sought as the project progresses (see Sections 22 and 23). In addition, all of the project participants will be fully committed to the success of the project, and willing to put in more time than expected.

Dissemination of results will be via many avenues, including publications, seminars, workshops and web pages, in Russian and English. The project was formulated in consultation with the local authorities in the 3 host countries, and they will be involved throughout, thereby ensuring that their views can be incorporated. 'Satisfaction' will hopefully be demonstrated in willingness to ratify the species and habitat action plans, and interest by scientists, conservationists and local people in the other outputs.

Logical framework. Please enter the details of your project onto the matrix using the note at Annex B of the Guidance Note.

Project summary	Measurable indicators	Means of verification	Important assumptions
<p>Goal</p> <p><i>To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention</i></p>		<p>Ratification of species and habitat action plans by Russian, Kazakhstan and Mongolian authorities and commitment to their implementation; joint reports and peer-reviewed publications; preparation and on-going use of databases and herbaria</p>	<p>On-going co-operation of local institutions and authorities in Russia, Mongolia and Kazakhstan; continued employment and dedication of project scientists in UK and host countries.</p>
<p>Purpose</p> <p>To bring together for the first time information from Russia, Kazakhstan and Mongolia on the distribution and habitats of the rare and endemic flora of the whole of the Altai region, and identify threats to their preservation, in order to develop strategic, cross-border approaches to biodiversity conservation.</p>	<p>Population of 3 databases and GIS maps with existing records plus new records from field expeditions to poorly-investigated areas; identification of biodiversity 'hot spots', controls on species distributions and threats to conservation.</p>	<p>Provision of information on distribution and habitats of rare and endemic species; training of scientists, students and local authority staff; recommendations for improvements in existing conservation activities and for new actions and protected areas in the biodiversity 'hotspots' identified.</p>	<p>On-going co-operation and support of local institutions and authorities in Russia, Mongolia and Kazakhstan; continued employment and commitment of project staff; continued safe access to the Altai Mountain region.</p>
<p>Outputs</p> <p>Trained scientists, students, local authority staff; scientific book on Altai endemics; journal papers; herbarium and photographic collections; web site; reports; databases; GIS maps; species and habitat action plans</p>	<p>Successful training, adherence to milestones and delivery of outputs on time.</p>	<p>Peer-reviewed publications; databases; collected specimens and habitat data; progress and final reports to Darwin Initiative, PhD and Masters degrees awarded</p>	<p>On-going co-operation and support of local institutions and authorities in Russia, Mongolia and Kazakhstan; continued employment and commitment of project staff in UK and host countries, time allocations appropriate.</p>
<p>Activities</p> <p>Training in the UK, Russia, Mongolia and Kazakhstan; collation of existing information and filling gaps through fieldwork; compilation of databases, GIS maps; reporting, publications</p>	<p>Scientists, students and staff receiving training as planned; fieldwork undertaken, preparation of electronic and written outputs; monitoring of progress; milestones adhered to; reciprocal UK/Russia visits</p>	<p>Audited statements; progress and final reports to Darwin Initiative; regularity of communications; reciprocal visits made; workshops and seminars held</p>	<p>On-going support from the Darwin Initiative, UK and host-country institutions; maintenance of local infrastructure (including communications); co-operation/collaboration from the local authorities; equitable weather conditions permitting field work; favourable rates/fees for money exchange and transfer.</p>