Darwin Initiative for the Survival of Species

Project: 162 / 11 / 025

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

Annual Report (Year 2)

April 2004

CONTENTS:

1. Darwin Project Information

Project Ref. Number	162 / 11 / 025
Project Title	Cross-border conservation strategies for Altai Mountain Endemics (Russia, Mongolia, Kazakhstan)
Country(ies)	UK, Russia, Mongolia, Kazakhstan
UK Contractor	University of Sheffield
Partner Organisation(s)	Tomsk State University (Russia); Hovd branch of Mongolian State University; Altai Botanical Gardens (Leninogorsk, Kazakhstan)
Darwin Grant Value	£180,780
Start/End dates	01.04.2002 – 31.09.2005
Reporting period (1 Apr 200x to 31 Mar 200y) and report number (1,2,3..)	01.04.2003 – 31.03.2004 (2)
Project website	http://www.ecos.tsu.ru/altai
Author(s), date	Dr. A. Pyak, Dr. A. Zverev, Dr. A. Ebel, Dr N. Semenova, Dr. S.C. Shaw, (with contributions from others). April 2004

2. Project Background

The project aims to investigate the spatial distribution of endemic species and to develop a strategy for their protection in the Altai Mountains – one of the centres of biodiversity in Eurasia. The study area covers contiguous parts of three states – Russia, Mongolia and Kazakhstan.

3. Project Purpose and Outputs

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 spatial 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 impact on rare and endemic species of flora and fauna will be assessed. The information will be used to (1) identify species and areas under greatest threat, (2) develop strategies to preserve the biodiversity in this cross-border region and (3) 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.

With the agreement of the Darwin Secretariat, there was a change in the proposed field survey schedule. The world epidemic of SARS resulted in the unexpected temporary restrictions on road border-crossings between Russia and Mongolia in summer 2003. It was therefore necessary to cancel the previously planned 1-month field survey in Mongolia and substitute with expeditions to other parts of the study area (i.e. Western part of Russian Altai). This was discussed with the Secretariat, and we were given permission to move the Mongolian survey to the next year (Year 3) and to extend the total project life for 6 months. The revised timetable (see Annex 3) and budgets were agreed with colleagues in Tomsk.

We have decided to investigate setting up a twinning scheme between schools in Tomsk and Sheffield, which would form an additional output from the project. Initial reactions have been encouraging, and we hope to take this forward during a visit of UK staff to Tomsk in May 2004.

4. Progress

This is the second reporting period for the project. Brief history of the first year of the project: start-up meeting and workshop (Tomsk), field meeting/seminar in the Altai Mountains were held; 3 field expeditions (East Kazakhstan, Central and Southeast Altai, Western Tuva) were undertaken; c. 60 undergraduate and postgraduate students (Tomsk State University and Tomsk State Pedagogical University) were trained; project participants attended the international conference "Nature and People" in Pitlochry (Scotland) and regional conference "Problems of Botany of South Siberia and Mongolia" in Barnaul (Russia); 5 publications by participants of the project were published; compilation of dataset on Altai endemics and population of database were started.

A summary of progress against the key milestones for this year is provided below, and progress against the outputs identified in the logical framework is summarised in Annex 2. Details of actual outputs are given in Section 8, and Table 1.

Key milestones for Year 2 (April 2003– March 2004):

Sept-Dec Collation of information; population of databases with information gathered in the first year completed.

a) The preliminary list of endemic species has been updated – this now stands at 106 species and 3 sub-species. The recorded localities within the three countries of about 60 percent of the species have now been identified from herbarium specimens, field surveys samples and other information. About 35–40 new records have been made from the field expeditions.

b) A complete inventory of herbarium samples of Altai endemic species in the Herbarium of the Central Siberian Botanical Gardens (Novosibirsk) and most of the collection of the Tuva–Mongolia Department in the Herbarium of Tomsk State University has been carried out. During this work all available samples of endemic species were examined, their correct taxonomic position specified, and herbarium labels for their entry into the database have been written out. The examination of herbarium specimens held at Hovd University has also been completed, and the same work at Mongolian Institute of Botany partly carried out.

c) The population of the computer database (using MS Excel) has been continued, and almost all the data collected over the past two years has now been entered.

d) Collection of information about protected areas in the Altai region (Russia, Kazakhstan and Mongolia) has been continued.

e) Work on preparation of electronic maps showing distribution of endemic species and locations of large, currently-protected areas in the three countries has been started. The maps for Russian Altai have been nearly completed, and now include more than 700 endemic species localities.

f) Review and analysis of the information on existing smaller-area protected territories and preparation of the separate layer of a GIS-map with this information is underway.

g) Work on collection of information for both the Russian and Mongolian Altai regarding human population distribution and density, and distribution and intensity of different types of human activities (e.g. hunting, tourism, agriculture, forestry and recreation) has been started.

h) Dr. Yu.Kotuhov continued collation of information on endemic species distributed in the Kazakhstan Altai, including observation on the biology and ecology of five species (*Sibiraea laviegata, Allium ledebourianum, Oxytropis sulphurea, Rhodiola algida, Euphorbia macrorhiza*).

i) Dr. D. Oyunchimeg finished the revision of samples of Herbarium collection in Hovd University. In December 2003 she visited for one month the Herbarium of the Botanical Institute of the Mongolian Academy of Science in Ulan-Bator to make an inventory of the existing information on spatial distribution of Western Mongolian endemic species.

August 2 month's field work, including student training, completed

- Expedition to East Kazakhstan in May 2003 (15 days); Participants: A. Pyak, A. Ebel, Yu. Kotukhov (Leninogorsk), postgraduate and undergraduate students;

- Expedition to Western Altai in May/June 2003 (20 days); Participants: A. Pyak, A. Zverev, A. Ebel, postgraduate and undergraduate students;
- Expedition to Western Altai in August 2003 (15 days); Participants: A. Pyak, A. Ebel, A. Kupriyanov (Kemerovo), postgraduate students;
- Expedition to Central and South-East Altai (A. Zverev) in August 2003 (25 days) with geography students and staff from University of Bochum (Germany). The opportunity was taken to present information about the project, and to contribute to botanical training and discussions of general conservation issues of the area, including raising awareness of the threats and problems faced by the endemic species of the Altai.
- Some 50 undergraduate students (biologists and geographers) from Tomsk State University (2 groups) undertook training (2 weeks) at the Tomsk State University Altai Mountain Research Station in July, 2003 (supervised by Dr. Pavel S. Borodavko from TSU and Dr. Natalia M. Semenova from TSU);
- A total of three postgraduate students (two botanists and one geographer) and eight undergraduate students involved in the project from host countries received long-term field experience and training during the project field surveys.
- Three TSU students in particular have been more closely involved in project-related work:

  Botogoz Dosmailova (student of fifth grade of Land Use Department) will defend in June degree work on the theme "Protected territories of Altai Republic: condition and prospects of development".

  G. Kurzhumova and A. Shtykova (from Altai Republic) are preparing course work on the Altai ("Protection of natural environmental values and preservation of sacred places of the indigenous population in the Altai" and "A review of zoning of Altai with the purposes of land use and protection of nature" respectively).

Nov.2003. Training workshops in East Kazakhstan and Gorno-Altaisk

- Training workshop in Ust-Kamenogorsk (Kazakhstan), November 18-19; 13 participants plus employees and students of the East Kazakhstan State University, and staff of committees of ecology, NPO "Eco-Altai", and of Katon-Karagai State National Park.
- Training workshop in Gorno-Altaisk (Republic Altai, Russia), November 25-26; 10 participants plus employees and students of the Gorno-Altaisky State University, and employees of the Ecology Committee of Republic Altai.

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.

The creation of vast protected territories in the Altai was done in circumstances of poor knowledge of the terrain and without consideration of the spatial distribution of rare and endangered plant species. Their main purpose was the preservation of landscape diversity, environmental protection functions of large mountain territories and also the regulation of hunting for large mammals. For this reason, the zoning of large protected territories according to the distribution of rare species is one of the lines of development to be followed in considering the requirements for protection of endemic species in the Altai.

There are also more than 100 small protected areas in the Altai Republic with the status of “Monuments of Nature”, but at present it is thought that they do not function sufficiently effectively, particularly with regard to rare and endemic species. We therefore plan to investigate the coincidence of these areas with the ‘hot spots’ of rare and endemic species that we are able to identify, in order that this information can also be used in the preparation of the strategy for the preservation of Altai endemics.

Of particular importance for the choice of methods of conservation of rare species in the Altai is an estimation of the degree of real threats to their distribution, particularly in relation to the intensity of economic activity in the region. The assessment of intensity of human activity in this connection is being approached as follows:

a. Analysis of population distribution (spatial distribution of settlements, typology of inhabited localities, zones of influence in the adjacent landscapes);

b. Study of existing system of cattle breeding/grazing (number of livestock, distribution of cattle, land-use intensity in different areas);

c. Review of recreation and tourist activities (e.g. accommodation and status of places of rest, most popular tourist routes and activities);

d. Estimation of the structure of land resources of the region (e.g. balance of land types and dynamics, compilation of land use map and land patterns).

March 2004. UK scientist present for 3–4 weeks

Visit of UK participant to Tomsk for three weeks, March 2004. Presentation and training in new methods of developing electronic maps and spatial analysis using GIS software. Preparation of GIS layers for the Altai region, including digital elevation model, habitats, geology, annual rainfall, summer temperature, protected areas, species locations. An environmental seminar was held at a local school – see dissemination activities.

Additional activities

Liaison with local authorities and Regional Ecological Committees.

Building on Year 1 key milestones, participating scientists have held discussions with representatives from the following local, regional and national authorities:

a) Great Hural (National Mongolian Parliament, Ulaan-Bator), Dr. Nyamdavaa – member of the Hural and President of Hovd State University (Hovd, Mongolia);

b) El-Kurultai (Regional Parliament) and Committee on Science and Education of the Altai Republic (Chairman of Committee – Vasili A. Tyudenev), Gorno-Altaisk, Altai Republic, Russia, continued;

c) Administration of the Kosh-Agach Region of the Altai Republic (Head of Administration Aulkhan Djatkambaev), continued;

d) Head management office of Natural Resources of Republic Altai (Deputy of the Chief – Vassily K. Mamyshev). This was a very important contact, as similar territorial bodies in the Russian Federation are involved in land use management in the regions (use of raw minerals, water and wood resources), defining policy for economic development of territories and take the lead in the sphere of natural environment protection.

Contacts and cooperation have continued with the work group and coordinator of the international WWF project "Maintenance of long-term preservation of biodiversity of the Altai-Sayan ecological region"; Andrei N. Kupriyanov (director of the Kuzbass Branch of Central Siberian Botanical Gardens of Russian Academy of Science (Kemerovo, Russia)).

Revisions to project/programme

- The world epidemic of SARS made it impossible to undertake field survey in Mongolia in summer 2003. That time was spent on an expedition to another part of Altai Mountains and the trip to Mongolia is planned for June 2004.
- As a consequence, the project timetable has been revised (see Annex 3), and the end-date put back to September 2005.
- Re-examination of the budget and revisions to the budget profile have enabled us to schedule in two extra visits to the host countries – these are planned for May and June 2004.
- Enquiries have been made in Tomsk and UK (Sheffield / Peak District) regarding the possibilities for setting up a school twinning scheme. Initial reactions have been positive, and this aspect will be pursued further in May 2004 during a visit to Tomsk.

Work plan for the reporting period April 2004 – March 2005

Date	Activity
May 2004	Visit of UK staff to Tomsk, in particular to discuss data analysis and

	development of our understanding of the determinants of species rarity and distribution patterns. Also to initiate a twinning scheme between Tomsk & UK schools if possible.
June 2004	Visit of UK staff to Mongolia – participation in workshop in Hovd and partly in field survey. We are delighted that the Countryside Council for Wales has provided funding for their upland habitat specialist to contribute to this workshop and expedition.
June 2004	Field expedition to Mongolian Altai (1 month)
Sept. 2004	Participants of the project will present a report on the project at the scientific conference "Problems of conservation of plant cover diversity of Inner Asia", Ulan-Ude (Republic Buryatia).
Winter 04/05	Visit to Moscow and St Petersburg to collate any additional information from herbarium collections.
Winter 04/05	2 scientists from host countries spend 6 weeks in UK
March 2005	Classification of endemic Altai species on the basis of geographical distribution, habitat and age.
March 2005	3 postgraduate students submit thesis for PhD qualification (two from Tomsk University, Russia and one from Hovd University, Mongolia)
2004, 2005	3 students from Tomsk and Hovd Universities attain Masters qualification

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

- The response to the review of our first annual report was discussed with and prepared in conjunction with collaborators in Tomsk, and submitted to ECTF. For the most part this involved providing clarification and elaboration of various aspects of the project, but did not necessitate specific actions to be taken.

- We have made contact with some additional local groups (see Section 6). *(We have been unable so far to make contact with Keith Svensson (suggested contact for an NZAID project), as the mail was returned, and are still waiting for a response from UNDP and WWF in Mongolia.)*

- Re-profiling of the project programme and budgets have allowed us to schedule in two additional visits of UK staff to host countries, which will help to increase contact between UK and host country participants, and allow UK staff to meet local 'stake holders'.

6. Partnerships

During this reporting period e-mail contact has been maintained between UK and host country partners, although this has suffered from problems due to poor internet connections in Tomsk (see below). Colleagues in Tomsk have maintained contacts with Kazakhstan and Mongolian participants. Arnold B Nagy (UK) visited Tomsk for three weeks in March 2004 (see Section 4), which, in particular, provided useful impetus for work on the GIS part of the project.

Force majeur weather problems (lightning strike) in May 2003 resulted in the malfunction of the general Tomsk University computer network and local network in particular. E-mail communication between partners of the project was therefore severely hampered over many months, with Tomsk colleagues having to use "hotmail" accounts from various different locations. WEB-site development and access have also therefore been restricted. This, coupled with the fieldwork activities of different people at different times over the summer, made it very difficult to maintain any continuity of correspondence, although contact has been maintained to the extent possible within these constraints. The broken equipment has recently been replaced and a new local network has been set up, and day-to-day communications have much improved.

- Other contacts have been made as follows:

Professor A.N. Kupriyanov (WWF co-ordinator on biodiversity of Altai-Sayan eco-region)

NPO "Eco-Altai" (Ust-Kamenogorsk, Kazakhstan), the director of which, E. M. Yurchenkov, is directly connected with the "International Snow Leopard Trust".

TOO “Ecosystem” (Ust-Kamenogorsk, Kazakhstan)

Employees of Botany Department of Mongolian National University (Prof. T. Jamsran, Dr. D. Suran), who are working in particular in the Altai (e.g. within the framework of the project "Geographical and ecological assessment of Mongolian Altai").

Dr. G. Nyamdavaa, a representative of the central authorities of Mongolia.

I. Smelyansky (Siberian Ecological Centre), Editor of “Siberian Ecological Bulletin” (http://ecoclub.nsu.ru)

We also plan to make contact with:

- People in Kazakhstan who are working with the German organisation NABU on a project concerned with development in the Altai biosphere zone.
- Participants of a research project, started in 2002, between the Hovd State University (Mongolia), and the Ernst-Moritz-Arndt-University of Greifswald, Germany. This project is looking at the dependence of abiotic and biotic components, and potentials for pasture use and grazing capacity for the semi-desert and mountain ecosystems in the Great Lake Basin and the adjacent Altai mountains in Western Mongolia. We hope to meet up with people from this project in 2004 to discuss sharing of data and information.
- UNDP-Mongolia are planning to start a project “Preservation of the Altai-Sayan Ecoregion” in June 2004, and we have made contact to request more information about this.

7. Impact and Sustainability

Efforts to promote the project this year have exceeded expectations, and include press release, additions to the web-site, eight presentations at conferences, two posters, and nine publications (see Section 8). Students who participated in the fieldwork made several presentations to the TSU Botanical Department Students Study Group. In addition, discussions have been held with local authorities in all three countries, and contact made with participants in other conservation projects (see Sections 4 and 6). Project scientists from Tomsk and UK discussed biodiversity and environmental issues with local school children at a seminar in Tomsk.

Participating project scientists have held discussions with various local authorities and Regional Ecological Committees (see timetable/milestones), and these bodies expressed an interest in collaboration with the researchers working on biodiversity conservation of the Altai Mountains, as well as an interest in practically applying the expected results of the project.

All of these activities have helped to promote the project and raise interest in and awareness of biodiversity issues in general, and in the Altai in particular, with a wide audience, including school pupils and teachers, students (including some from Germany), a wide range of scientists and local ‘stake holders’.

Other aspects of the ‘exit strategy’ are in hand (see Annex 2 for summary of progress and plans), including preparation of herbarium reference collections, databases and GIS-based species distribution maps; training; preparation of ‘publicity’ materials and dissemination of information.

8. Outputs, Outcomes and Dissemination

The revised project timetable of outputs and key milestones is given in Annex 3. As noted above, the main reason for the change was the SARS outbreak, which meant postponing the planned expedition to Mongolia, and extending the final deadline of the project by 6 months. This has affected the timing of the outputs and milestones, but not their achievement.

Outputs are reported in Table 1 and in Annex 2. Additional outputs achieved are indicated in Table 1. In particular, these included attendance by project participants at 4 conferences in the host countries, with 9 papers published in the conference proceedings. In addition, one paper was published by A. Pyak in the journal “Bulletin of Tomsk State University”. The ‘audience’

at these conferences is largely from the local scientific communities (scientists and students), but also includes scientists from other Russian regions as well as from other countries, staff from local government committees and NGO's, and others interested in conservation and biodiversity issues.

We are delighted to report that Dr Pyak was awarded the Doctor of Science, in recognition of his work in the Altai, and in particular the publication of his book "Petrophyte Flora of the Russian Altai".

We fully expect that host country participants will continue to disseminate information from the project once Darwin funding ceases, using local sources of support for attendance at conferences where possible (as has been the case this year), and preparation of journal papers and other 'publicity' materials in their own time.

- **Dissemination activities in the host countries**

1. The project workshops held in Gorno-Altaisk and East Kazakhstan provided an ideal opportunity for dissemination of information to the local communities (see section 4).
2. Information about the project was presented at the conference devoted to the 70th anniversary of the Department of Biology and Soil Sciences of Tomsk State University (April 23–14, 2003) and during official celebrations of the 125-year anniversary of the foundation of Tomsk State University (September 11–12, 2003).
3. Development of the official project WEB-site (http://www.ecos.tsu.ru/altai) continued.
4. A report on the theme of the project was given by A.I. Pyak at the 2nd International Conference "Problems of Botany of Southern Siberia and Mongolia" held in Barnaul, Russia, August, 21–22, 2003.
5. XI congress of the Russian Botanical Society (August 18–22, 2003, Novosibirsk – Barnaul, Russia). Participants: Pyak A.I., Ebel A.L., Lapshina E.D., one paper printed
6. VI International Scientific Conference "Natural conditions, history and culture of Western Mongolia and contiguous regions" was held in Hovd (Western Mongolia) on September 18–22,2003. Participants: Pyak A.I., Ebel A.L., Zverev A.A., Oyunchimeg D. 4 oral and 1 poster reports were submitted and published (in Russian)
7. Project staff participated in a field expedition to the Altai Mountains in August 2003 by 18 geography students plus staff from University of Bochum (Germany). The opportunity was taken to present information about the project, and contribute to botanical training and discussions of general conservation issues of the area, including raising awareness of the threats and problems faced by the endemic species of the Altai.
8. Arnold B Nagy (UK) and Andrei Zverev organised a 'round table' seminar in school № 24 (Tomsk, 22.03.2004) for school teachers and senior pupils as a first step of the proposed Tomsk–Sheffield environmental school-twinning project. Topics covered were "Darwin Initiative's activity in Siberia" and "Europe and Russia: similarities and differences in environmental problems and solving approaches".
9. The book by Dr. A. Pyak "Petrophyte Flora of Russian Altai", Tomsk, Tomsk State University Publishing House, 2003, 202 p., 64 plant photos (In Russian), shares species data with the project.

Table 1. Project Outputs (According to Standard Output Measures)

Outputs additional to those originally planned are shown in red

Code No.	Description	Quantity	Description
1A	PhD submitted	1	Bayarhuu Batbayar (Mongolia), PhD thesis is submitted. "Recreational assessment of landscapes of Western Mongolia for the purposes of tourism (with the example of Hovd aimag)". Date of defence – 28 April 2004
1B	PhD attained	1	Natalia Rudaya (Russia), "Endemic and subendemic plants of Southeast Altai, Northwest Mongolia and Southwest Tyva".
3	Other qualifications		Andrei Pyak was awarded a Doctor of Science qualification following publication of his book "Petrophytes in the flora of

Code No.	Description	Quantity	Description
			Russian Altai".
4A	No. of undergraduates receiving training	52	Undergraduate students (biologists and geographers) from Tomsk State University (2 groups) undertook training (2 weeks) at the Tomsk State University Altai Mountain Research Station in July, 2003 (supervised by Dr. Pavel S. Borodavko from TSU and Dr. Natalia M. Semenova from TSU).
4B	No of training weeks	22	2 groups for 2 weeks and 3 students for 6 weeks (shown above)
4C	No. of post-grads receiving training	2	Maya Morenko – 3 weeks, Natalia Schegoleva – 4 weeks
4D	No of training weeks	7	
8	UK staff in host country	3	Arnold B Nagy (UK) in Tomsk for 3 weeks in March 2004.
11A	Peer-reviewed papers	1	Pyak A.I. A question of protection of rare and endemic petrophytes of Russian Altai. In: Bulletin of Tomsk State University. Appendix, № 8. – 2003. p. 176-178
11B	Other papers	8	See Table 2
14A	Workshops organised	2	Workshops in Ust-Kamenogorsk and in Gorno-Altaisk
14B	Workshops / conferences attended	4	Tomsk (Russia), Novosibirsk (Russia), Barnaul (Russia), Hovd (Mongolia)
15B	Local press releases in host country	1	Press-release on results of first year of the project at the Department of International Connections of TSU (http://www.inter.tsu.ru/programs/UK/index.htm and http://www.ecos.tsu.ru/altai/ru/inter2.htm), March 2004. [*To be made available on project website shortly*]
23	Additional resources	????	*To be completed - awaiting details from Tomsk*

Table 2: Publications

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
Conference proceedings*	Ebel A.L. On the distribution of Draba mongolica Turcz. (Brassicaceae) in Southern Siberia and Mongolia. In: Natural conditions, history and culture of Western Mongolia and contiguous regions: Reports of the VI International scientific conference (September 18–22, 2003, Hovd, Mongolia). 2003. p. 122–123 [In Russian]	Tomsk State University, Tomsk		0
Conference proceedings*	Ebel A.L. About some taxonomy problems of the South-Siberian representatives of the genus Draba (Brassicaceae). In: Botanical researches in Asian Russia: Materials of the XI congress of the Russian Botanical Society (August 18–22, 2003, Novosibirsk – Barnaul). Volume 1. 2003. p. 301–302 [In Russian]	"Azbuka", Barnaul		0
Conference proceedings*	Morenko M.O. Sketch on family Chenopodiaceae of Russian and Mongolian Altai. In: Botanical researches in Asian Russia: Materials of the XI congress of the Russian Botanical Society (August 18–22, 2003, Novosibirsk – Barnaul). Volume 1. 2003. p. 301–302 [In Russian]	"Azbuka", Barnaul		
Conference proceedings*	Oyunchimeg D. & Miagmarjav U. Flora of Hovd aimak (district) and its quantitative composition. In: Natural conditions, history and culture of Western Mongolia and contiguous regions: Reports of the VI International scientific conference (September 18–22, 2003, Hovd, Mongolia). 2003. p. 101–102 [In Russian]	Tomsk State University, Tomsk		0
Conference proceedings*	Pyak A.I. On the protection of endemic plants of the Altai. In: Natural conditions, history and culture of Western Mongolia and contiguous regions: Reports of the VI International scientific conference (September 18–22, 2003, Hovd, Mongolia). 2003. p. 278 [In Russian]	Tomsk State University, Tomsk		0
Conference proceedings*	Pyak A.I. The protection of rare and endemic petrophytes of Russian Altai. In: Materials of 2nd International Conference "Problems of Botany of Southern Siberia and Mongolia". 2003. p. 80-81 [In Russian]	"Azbuka", Barnaul		0
Journal*	Pyak A.I. A question of protection of rare and endemic petrophytes of Russian Altai. In: Bulletin of Tomsk State University. Appendix, № 8. –2003. p. 176-178 [In Russian]	Tomsk State University, Tomsk		0
Conference proceedings	Rudaya N.A. Features of endemism of flora of Southeast Altai, Southwest Tuva and Northwest Mongolia. In: Botanical researches in Asian Russia: Materials of the XI congress of the Russian Botanical Society (August 18–22, 2003, Novosibirsk – Barnaul). Volume 1. 2003. p. 395–397 [In Russian]	"Azbuka", Barnaul		
Conference proceedings*	Schegoleva N.V. The study of Ranunculus L. in the Altai-Sayan mountain region. In: Natural conditions, history and culture of Western Mongolia and contiguous regions: Reports of the VI International scientific	Tomsk State University, Tomsk		0

Type * (e.g. journals, manual, CDs)	Detail (title, author, year)	Publishers (name, city)	Available from (e.g. contact address, website)	Cost £
	conference (September 18–22, 2003, Hovd, Mongolia). 2003. p. 120–121 [In Russian]			
Conference proceedings*	Zverev A.A. Use of Internet opportunities for realisation of a cross-border strategy for preservation of the biodiversity of the Altai Mountains. In: Natural conditions, history and culture of Western Mongolia and contiguous regions: Reports of the VI International scientific conference (September 18–22, 2003, Hovd, Mongolia). 2003. p. 273–274 [In Russian]	Tomsk State University, Tomsk		0

9. Project Expenditure

Table 3: Project expenditure during the reporting period (Defra Financial Year 01 April 2003 to 31 March 2004)

Item	Revised budget (agreed Nov. 2004)	Expenditure	Balance

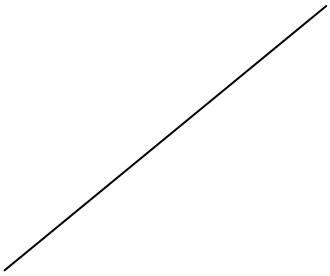
The revised budget was agreed with the Darwin Secretariat in November 2003. The underspend in the 'Others' budget is due to a few small items either not being purchased, or else being assigned to other headings.

10. Monitoring, Evaluation and Lessons

Project progress can be evaluated against the agreed timetable/milestones and outputs (see Annex 2), as well as the measurable indicators and means of verification identified in the logical framework. The project has achieved all of its planned milestones this year, including research and training activities, and has produced more dissemination outputs at this stage than originally envisaged (including nine publications, and attendance at four conferences).

The UK personnel visit to Tomsk for three weeks in March 2004 was considered particularly beneficial for the project team. This included a workshop organised for Tomsk participants on technology based on GIS tools and the possibilities for spatial distribution analysis of endemic plants (illustrated within the limits of Russian Altai), plus on-the job training in data and map preparation for GIS work. Host-country participants are now in a much better position to prepare additional data in the required formats to work on in the UK next winter.

Annex 1. Original Logical Framework

Project summary	*Measurable indicators*	*Means of verification*	*Important assumptions*
Goal To assist countries rich in biodiversity but poor in resources with the conservation of biological diversity and implementation of the Biodiversity Convention		*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*	*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.*
Purpose *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.*	*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.*	*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.*	*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.*
Outputs *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*	*Successful training, adherence to milestones and delivery of outputs on time.*	*Peer-reviewed publications; databases; collected specimens and habitat data; progress and final reports to Darwin Initiative, PhD and Masters degrees awarded*	*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*.
Activities *Training in the UK, Russia, Mongolia and Kazakhstan; collation of existing information and filling gaps through fieldwork; compilation of databases, GIS maps; reporting, publications*	*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*	*Audited statements; progress and final reports to Darwin Initiative; regularity of communications; reciprocal visits made; workshops and seminars held*	*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.*

Annex 2 Report of progress and achievements against Logical Framework for Financial Year: 2003/2004.

Project summary	Measurable Indicators	Progress and Achievements April 2003-Mar 2004	Actions required/planned for next period
Goal*:* 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 • 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			
Purpose *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.*	*Population of 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.*	*Field expeditions were undertaken. Good progress has been made on the database and GIS maps.*	*Work will be continued on all the planned outputs – see below* *Further discussions with local Authorities are planned.*
Outputs			
Trained scientists, students and local authority staff	Successful training, adherence to milestones and delivery of outputs on time.	52 students underwent training; 2 workshops involving students, scientists & local authority staff were held; 1 workshop held for project scientists. 1 PhD has been awarded and 1 submitted.	A workshop will be held in Hovd, Mongolia in June 2004. One further PhD and two Masters are in progress.
Scientific book on Altai endemics		Draft text for 10 species have been prepared in Russian	Work will continue on the manuscript, with the final draft planned in spring 2005.
Journal papers		10 papers have been published this year, mostly as part of conference proceedings.	We have plans for at least one publication in the central Botanical Journal (Saint-Petersburg) and two in conference proceedings (Barnaul and Ulan-Ude). Other possibilities are under discussion.

Herbarium and photographic collections		More then 200 hundred photographs have been taken of 12 Altai endemic species and their typical habitats. Many herbarium specimens have been collected during the expeditions.	The best photographs will be used in the planned book, and some will be placed on the project web-site. They will also be used in lecture courses for students: "Vegetation Geography of Siberia" and " Botanical geography of Altai" and "Ecology of Mountain Plants" The specimens collected will be used to enhance herbarium collections held in Tomsk, Leninogorsk and Hovd
Project web site		Progress can be seen at http://www.ecos.tsu.ru/altai	The web site will be updated on a regular basis.
Reports		Progress reports have been submitted to Darwin	Progress reports will be submitted to Darwin
Databases		At present information is being compiled onto one database, which will subsequently be split for each participating country.	Work will continue on the databases.
GIS maps		Good progress has been made on preparation of GIS layers for the Russian part of the Altai, and addition of species locations.	Further work is required on preparing the GIS layers etc, particularly for Mongolia and Kazakhstan.
Species and habitat action plans		Relevant information is being collated.	Work on preparing the plans will start once the data collection and analysis has been completed.

Note: Please do NOT expand rows to include activities since their completion and outcomes should be reported under the column on progress and achievements at output and purpose levels.

Annex 3. Revised project timetable (agreed with DEFRA)

All outputs remain the same – date changes are shown in red.

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 2		
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)
Nov. 2003	14A	Training workshop in Gorno-Altaisk, 15 people, 2 days. Moved from Oct. 2003
Nov. 2003,	14A	Training workshop in Leninogorsk (East Kazakhstan) 10 people, 1 day
2004	6A / 6B	1 young researcher from Hovd University (Mongolia) trained at Tomsk Herbarium. (26 weeks)
March 2004	8	UK staff in host country, 3–4 weeks. Moved from July 2003
	23	approx. £38,200 (Additional resources raised)
Year 3		
June 2004	8	(UK staff in host country) (2 weeks) Additional visit – includes workshop in Mongolia. [NB: Due to incompatible date availabilities, this visit has been split, with one person from UK visiting Tomsk in May, and two going to Mongolia in June]
March 2005	(Additional output)	Classification of endemic Altai species on the basis of geographical distribution, habitat and age. Moved from Dec. 2004.
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)
Year 4		(all outputs moved from Year 3)
May 2005	14A	Field workshop in Leninogorsk (15 people, 4 days).
May 2005	8	(UK staff in host country) (2 weeks)
Sept. 2005	13B	Enhancement of the plant collection from Mountain Altai in the Herbarium of Tomsk University.
Sept. 2005	13A	3 herbarium collections of endemic species established (for Mongolian, Kazakhstan & Russian Altai).
Sept. 2005	(Additional output)	Publication of the illustrated scientific book "Endemics of the Altai" (in Russian and English) (1000 copies)
Sept. 2005	(Additional output)	GIS electronic maps of species distributions handed over
Sept. 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
Sept. 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
Sept. 2005	14A	Final Symposium in Tomsk at which findings will be presented and disseminated.
Sept 2005	8	(UK staff in host country) (2 weeks)
Sept. 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.

Key Milestones	
Year/Month **(starting April)**	**Description** **(include travel dates, drafts and other processes that support the delivery of outputs)**
Year 2	
July / August 03	2 months field work, including student training. (*Field expedition to Mongolia postponed to Year 3)*
Sept–Dec 03	Collation of information; population of databases; data analysis.
Nov. 2003	Training workshop in East Kazakhstan. *Moved from October 2003.*
Nov. 2003	Training workshop in Gorno-Altaisk
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.
March 2004	UK scientist present for 3/4 weeks. *Moved from July 2003.*
	Note that the proposed visit of 4 scientists from host countries to UK originally scheduled for year 2, actually took place in Year 1.
Year 3	
June 2004	Field expedition to Mongolia (1 month) – postponed from Year 2 due to SARS outbreak.
Winter 04/05	2 scientists from host countries spend 6 weeks in UK
Year 4	
May 2005	Field workshop, including UK scientists
May 2005	Databases and electronic maps completed
Sept. 2005	Final symposium in Tomsk, including UK scientists
Sept. 2005	Publication of the illustrated scientific book "Endemics of Altai" (in Russian and English)
Sept. 2005	Scientific papers submitted
Sept. 2005	2 Videos, 10 information leaflets about rare Altai species, web site, photo collection of endemic species and typical habitats completed
Sept. 2005	3 databases handed-over (on regions of Russian, Kazakhstan and Mongolian Altai)
Sept. 2005	GIS electronic maps of species distribution handed over
Sept. 2005	3 species reference collections (herbaria) completed, and enhancements to the Tomsk herbarium finished
Sept. 2005	Species action plans and habitat management plans finalised and handed over to relevant authorities