## IRWIN INITIATIVE FOR THE SURVIVAL OF SPECIES

## APPLICATION FOR GRANT

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 require but you may provide additional information on a separate sheet if necessary. Copies of this form are available on disk on request. You are asked to complete the summary sheet attached at the end of this form. Although you may reproduce this sheet in a reasonable font, you should not expand it to more than an A4 sheet as additional information will not be taken into account.

## 1. DETAILS OF APPLICANT

1.I Name of organisation applying

LONDON ECOLOGY UNIT

### 1.2 Address for correspondence

$\square$
1.3 Person who may be contacted about this application, and position in organisation

Professor David Goode, Director
1.4 Telephone and FAX numbers
1.5 Nature of organisation (e.g. is it an academic institution, a registered charity, company limited by guarantee?)

## LOCAL GOVERNMENT JOINT COMMITTEE

Aims: The Unit provides a professional advisory service on nature conservation and ecology, especially in the urban environment. We advise public bodies on how to protect and maintain natural habitats and encourage biodiversity within towns and cities.

Activities:
See attached list

Structure (enclose chart if appropriate)
Structure chart enclosed.

Provide brief details of the relevant past experience and achievements of the person to be responsible for the activities for which funding is sought. (This will normally be either the person completing this form or the contact at Section 1.3).

Professor Goode has 30 years experience as an ecologist working with central and local government of which 15 were with the UK Nature Conservancy Council where he was latterly Assistant Chief Scientist. Since 1982 he has played a key role in developing urban nature conservation as a professional discipline, largely through the work of the London Ecology Unit but also through direct links with International bodies (e.g. UNESCO MAB Project 11 and the European Academy for the Urban Environment) and through development of projects in Portland Oregon, USA, Santiago, Chile and Nanjing in China. He has been closely involved with the Unit's work in Santiago funded by the Darwin Initiative and has established effective collaboration with biodiversity specialists in Chile. He has published over 60 scientific papers and two books. Professor Goode is a member of the UK Biodiversity Group and Chairs the UK Local Issues Advisory Group which produces guidance on development of Local Biodiversity Action Plans.
1.8 Have you received funding under the Initiative before? If so, please give details.

Yes. Project entitled Biodiversity Action Plan for Santiago, Chile. 1995-1998

### 1.9 How did you learn about this Initiative?

The London Ecology Unit has been kept informed of the Darwin Initiative since we expressed interest following the Government's original announcement at Rio.


## ACTIVITIES

| ecological surveys and nature | nature reserve management plans |  |
| :--- | :--- | :--- |
| conservation assessments |  |  |
| ecological parks and nature reserves | $\square$ | research in applied ecology |
| ecology in planning | $\square$ | species management |
| ecology in urban design | $\square$ | environmental impact assessment |
| creation of new habitats | $\square$ | environmental audits |
| technical and popular publications | $\square$ | training courses |
| interpretative material | $\square$ | community involvement |
| environmental education | $\square$ | Local Agenda 21 |
| design of ecology centres | $\square$ | Local Biodiversity Action Plans |

1.11 A brief description of the organisation's recent achievements. (Please note that, while short pamphlets may be useful, the Department does not wish to receive books or lengthy reports.)

1. Establishment of urban nature conservation as an integral part of strategic and local planning in London. This involves all aspects from development of effective planning policies through to the design and management of urban nature areas.
2. Publication of a series of about 30 Ecology Handbooks providing technical advice for planners, land managers and all concerned with urban design and also providing popular descriptions of the range of biodiversity in individual London boroughs. The series has received several awards.
3. Creation of several ecology parks and educational nature reserves. The Unit is in the forefront in developing techniques for habitat creation in urban areas.
4. Recent research includes a comprehensive review of the ecological role of green corridors in urban areas (Dawson, D.G., 1994) which has been extensively cited in the literature.

Completion of the survey and evaluation of wildlife habitats of Santiago, Chile as the basis for a Biodiversity Action Plan for the city (existing Darwin grant).
6. Substantial input to the UK Biodiversity Action Plan especially on the development of local action plans

## 2. PROJECT DETAILS

It is important that applicants set out precisely their objectives and the activities of their proposal. Plense be as explicit as possible.
2.1 How has the need for the work been identified? How is the project related to conservation priorities in the host country(ies)? How is the project intended to assist the host country with its obligations under the Biodiversity Convention?
(i) The need for the project has emerged directly from the Unit's existing Darwin Project in Santiago. This has stimulated considerable interest and commitment on the part of the Chilean Government which wishes to proceed with initiatives to promote greater understanding and awareness of biodiversity and to cater for training of specialists in this field. The identification of a major nature reserve Bosque de Santiago was the direct result of the existing project. However, there is a need for expertise to draw up an appropriate management plan for the reserve and to make detailed plans for the proposed Darwin Biodiversity Centre. In addition, the Minister for Santiago has personally proposed the construction of a new ecology park and awareness centre in one of the poorest districts of Santiago as one means of raising the quality of life, and providing an environmental education resource for the local community.
(ii) Our work in the Santiago Region together with that of specialists in the University of Chile has identified central Chile as the region with the greatest concentration of biodiversity, yet it has the least effective provision for protection of natural areas and the greatest threats as a result of rapid urbanisation. This project will play a major role in raising awareness of biodiversity issues. The construction of two high profile biodiversity centres will considerably raise the profile of biodiversity issues not only in the City, but also the whole country. It is intended that the 'Charles Darwin Centre' in the Metropolitan Park witl act as a major focus for biodiversity in Chile. The other, in a low-income area, will provide a model for such initiatives in other parts of Chile, demonstrating how enhanced biodiversity can contribute significantly to quality of life.
(iii)The project is specifically designed to assist Chile to meet its obligations under Article 13 of the convention, concerning public education and awareness. It is intended to be a capacity-building project which can be expected to have long-term benefits in meeting other aspects of the convention by providing facilities for training of biodiversity specialists, as well as raising public awareness more generally.

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 proposal satisfies virtually all of the Darwin objectives. It is a collaborative project which will provide direct assistance to institutions concemed with biodiversity conservation, and to scientists working in this field, in a country which is rich in biodiversity but lacking resources and expertise to develop effective programmes of action. In terms of British expertise, the London Ecology Unit has a well-established reputation in the field of biodiversity conservation with particular emphasis on the urban environment. Our work includes a related Darwin project in Santiago. The Unit has an international reputation for its work in creation of urban ecology parks and educational centres and this experience will be relevant to development of the proposed centres and in the training of Chilean staff. The project will be based on sound science, benefiting from the ecological survey and assessment which forms part of our current Darwin project in Santiago. The project will be collaborative with the Government Ministry concerned (MINVU) and to a lesser extent the University of Chile. The Unit has already established close working links with both.

The creation of educational centres for biodiversity set within ecological parks will leave a lasting legacy capable of influencing biodiversity awareness in Chile well into the next century. MINVU has already pledged to fund the construction and ranning of these centres, but the project is dependent on Darwin funding to provide the necessary expertise to develop such centres in the urban context. The proposal is a direct result of our existing Darwin project which has drawn attention to the issues and mobilised further activity. In the same way it can be expected that this project will act as a catalyst for further initiatives to promote awareness of biodiversity elsewhere in Chile. The proposed programme is novel and innovative in the context of Santiago, and is likely to become a high profile project in media terms. We believe that the project will be extremely good value for money in terms of the long-term infrastructure and capacity-building involved, particularly taking into account the substantial input from our collaborators in Chile.

The proposed nature area in Penalolen is particularly important in that it is an attempt to develop public awareness, and involvement of the local community in biodiversity issues in a relatively poor sector of Santiago. The project could have a direct bearing on poverty erndication. It will provide opportunities for local people to develop innovative programmes for environmental enhancement, thereby improving their quality of life, and reducing ecological degradation. This aspect of the project is likely to be particularly challenging. Innovative solutions could well be of lasting importance. A community treenursery using native species is an option, but a range of other possibilities will be explored.

There will be considerable opportunities for the Darwin name and logo to be used throughout this project. There are clear opportunities for long-term publicity in terms of the centres, one of which will be named after Darwin himself. Interpretative material to be produced by the centres offer more scope. Other opportunities include public documents, pamphlets and publicity material resulting from this project. Because of the potentially high media profile which this project is likely to have there will also be opportunities to promote the Darwin Initiative in a range of articles, including radio and television. The training of Chilean professionals in the UK may also offer opportunities for publicity and promotion in the UK. A conference in the third year will promote the whole project with the object of stimulating other centres elsewhere in Chile.
2.3 Give the proposed starting date and duration of the project.

1 April 1998 for 3 years
2.4 Give brief details of the main objective(s) of the project.

The main objectives of the project are to raise awareness of biodiversity conservation in Chile by establishing two major educational nature reserves and ecology centres in Santiago and to provide training for specialists in this field. The objectives are as follows:

- To establish a new 143 ha educational nature reserve the Bosque de Santiago close to the centre of Santiago (see p.13).
- To provide a new centre to be known as the Darwin Biodiversity Centre associated with this reserve.
- To produce a detailed management plan for the nature reserve.
- To design and create an entirely new educational nature area in Penalolen, a low income district of Santiago.
- To provide an Ecology Centre as an environmental education resource associated with this nature area
- To provide advice on facilities to be provided in each of the biodiversity centres and to advise on how principles of sustainability can be incorporated in their design.
- To provide specialist training in environmental education techniques and in the effective use of such centres for training in biodiversity.
'For a more detailed list of objectives see Annex 1.

Set out in greater detail the proposed programme of work for which grant is sought. Include the programme's aims and measurable outpuls using the attached list of output measures. Give the estimated timing of the achievements.

## 1. The Bosque de Santiago Educational Nature Reserve and Darwin Biodiversity Centre

## Year 1

Detailed Ecological Survey to provide data as basis for management plan. Habitats mapped and key species located (plants, birds, butterflies and other selected groups). OUTPUTS 8: two visits totalling five weeks survey work by LEU staff. 12A Computer database established for Bosque area.
Consultation with potential user groups for: nature reserve management plan; precise location of biodiversity centre; appropriate interpretative facilities on the nature reserve; facilities to be included in the centre. OUTPUTS. Report on consultation.

## Year 2

Production of the Nature Reserve Management Plan. OUTPUT 9: habitat management plan for Bosque with detailed recommendations and targets for key species.

Advice to architect on design of centre using sustainability principles. OUTPUT. 8: one week input by LEU staff to provide detailed advice in consultation with Chilean specialists.

Commence construction of the Biodiversity Centre. OUTPUT. 21; environmental education facility (phase 1).
Year 3
Production of text and design for interpretative material for both nature reserve signs and leaflets and for Darwin centre.
OUTPUTS 8: two week input from LEU staff to advise on production of interpretative material. 10 : nature reserve guides and eaflets on species and habitats; 21: environmental education facility completed.

## 2. Penalolen Ecology Centre and Nature Area.

## Year 1

Initial discussions and fensibility study. Site selection criteria using 1996 survey results. Decision on location. OUTPUT. 8: two weeks input from LEU staff to assist in preliminary stages of project development.

Consultation with local community on objectives. OUTPUT. Research output: production of consultation report
Project plan produced and agreed with MINVU and Penatolen Municipality. OUTPUTS: Project Plan. 15A Press Release.
Year 2
Drawing up detailed design plans for the nature area in consultation with Chilean landscape architect. OUTPUT. 8: two weeks input from LEU staff to provide detailed advice on design in collaboration with landscape designer.

Further consultation on draft design with local community, plus report. OUTPUT. Research output: production of consultation report.

Commence construction of ecology centre and nature area. OUTPUT. 21: environmental education facility (phase 1).
Year 3
Ecological input to construction phase of nature area working with both contractors and local community.
Detailed recommendations for educational facilities to be provided in the ecology centre. OUTPUT. 8: two week input from LEU staff to provide advice. OUTPUT 21 environmental education facility established.

## 3. Training

## Year 3

Training of Chilean staff in environmental education. Three Chileans to spend 4 weeks with London Ecology Unit studying environmental education initiatives and techniques in London and elsewhere in the UK. OUTPUTS. 6A: 3 Chileans to receive training in the UK. 6B: 12 weeks training to be provided, 4 weeks per person.

## 4. Conference (Year 3)

Detailed review of whole project OUTPUTS 14A. Conference organised in Chile to disseminate results. 15A Press release produced.

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

New Project. However, as stated in section 2.1 this project has emerged as a direct result of an existing Darwin project which identified the need.
2.7 Will the project include an element of training? Please indicate how many trainees would be involved and from which countries// Would those trained then be able to train others? Where appropriate give the length of any training course. Broadly how many local people will be involved? How will trainee outcomes/destinations be montored after the end of training?
i) The project includes a period of training for 3 Chilean environmental education staff in the UK for a period of 12 weeks (4 weeks each). As part of their training in the UK, the trainees will learn about environmental education techniques enabling them to raise awareness of biodiversity conservation in Santiago, including training other potential staff working at the centres. The training will include a range of examples of such centres in the UK with emphasis on how such resources can be developed as a basis for training in biodiversity. The purpose of this training is to aid the successful development of the centres in Santiago. Trainees will be awarded a final certificate at the end of their training period, in addition to any awards gained from specific training elements within the 12 week period. In addition, they will be required to produce a report on their training in the UK. It is envisaged that the trainees will be employed in the new education centres and their progress will be monitored as part of an annual report for the project.
ii) In addition, staff from the LEU will visit Chile for periods of two to four weeks to provide additional training and guidance (2 visits per year) to staff undertaking the development of the two projects, including the production of the nature reserve management plan, and the design of new habitats in the Penalolen project.
2.8 [If applicable] How is the research element of the project to be disseminated?

The project includes a number of research elements of the following types:

- a data-base on habitats and species for the Bosque Nature Reserve
- reports on consultation with local people
- management plan for the Bosque area
- methodology for creation of the Penalolen nature area
- reports from Chilean trainees on their UK training
- interpretative information

This information will be disseminated in the following ways:
i) Articles in relevant scientific and professional journals and newsletters (Chile and UK)
ii) In Santiago, via the Environmental Forum, already established in 1995 as part of the Unit's existing Darwin project.
iii) In London via the London Ecology Committee
iv) In papers presented at relevant conferences (Chile and UK).
v) Via consultation procedures with local communities in Chile.
vi) By means of scientific papers and a detailed review of the whole project at a Conference devoted to this project in Year 3 (in Chile)

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 establish two new centres for environmental education and training in Santiago aimed at promoting greater awareness of biodiversity in the city and elsewhere in Chile. After the end of the third year, the centres and associated nature reserves will be self-sufficient. The Darwin Biodiversity Centre and Bosque Nature Reserve will be administered by the Government Ministry (MINVU) as part of the Metropolitan Park. The proposed Ecology Centre and Nature Area in Penalolen will be managed by the Municipality of Penalolen.
2.10 Which overseas institutions, if any, will be involved in the project? Please explain the responsibilities of these institutions and provide details on the individuals who will be involved in the project.

Ministry of Housing and Urban Development (MINI U), Santiago. The contacts here are Sergio Leon Balaa, Advisor to the Minister, and Erich Krohmer Heim, Director of the Metropolitan Park. The MINVU coordinates the parks programme for the City, including the creation of new open spaces and parks. It also has the central planning role, producing the Structure Plan for the City. The Metropolitan Park is one of the main open spaces dominating Santiago, where the proposed Bosque nature reserve and Charles Darwin Biodiversity Centre will be established.

Peñalolèn Mmicipality, Contacts here are the Mayor of Penalolèn, Carlos Alarcon and Ministerial Secretariat for the Santiago Region, Sergio Gonzalez Tapia. Peñalolen is one of Santiago's 33 municipalities (districts), and the one chosen for the location of the second environment centre, specifically because of its 'low income' character.

University of Chile. Department of Botany. Contact here is Prof. Mary T. Kalin Arroyo. Prof. Kalin is involved with biodiversity at a national level in Chile and it is proposed that she be an advisor to this project.
2.11 Do you know of any other individual/organisation carrying out similar work? Give details of the work, explaining the similarities and differences.

No other organisation is carrying out similar work in Santiago. The national agency for nature conservation and national parks CONAF has programmes for environmental education associated with its national parks elsewhere in Chile It is not developing programmes in the urban context at present but could well be influenced by this project if it is successful. A number of NGOs may also become involved in such projects once examples are established.

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 detailed project plan will be agreed for the two main elements of the proposal: the Bosque area Nature Reserve and Darwin Centre; and the Penalolen nature area and Centre. These plans will set clear deadlines and targets (in terms of meeting project objectives) which will be monitored at 6 month intervals by the London Ecology Unit. A final report at the end of three years will review the whole project

A programme for the training will be agreed between the main collaborators in advance of the commencement of training. The trainees will be required to produce reports at the end of their training period.

The LEU will be responsible for monitoring the effectiveness of the whole programme and will ensure, in association with our main collaborators, that the project is cost-effective and meets its objectives in terms of financial allocations.

Paras 2.2 \& 2.8 give details of the main arrangements for the dissemination of results. As an awareness raising initiative, the project offers excellent opportunities for publicity and dissemination. Staff collaborating in this project will be encouraged to publish details in technical journals and in more popular publications locally in London and Santiago. A Conference in Santiago in year 3 will also provide a major opportunity for dissemination of the project's results and experiences.

In terms of consultation with clients/customers, the project contains a significant element of public consultation on the various aspects of the proposed education centres and ecology parks. The results of this consultation will influence the location and scope of facilities ovided.

## 4. INCOME

4. I What financial support from public sources (Government Department or Agency) does the organisation as a whole receive at present, and from which organisations? What percentage is this of the organisation's total income?

The London Ecology Unit has a projected budget of $\square$ for the current financial year. Of this, $\square$ is from local government. Income from our current Darwin Grant amounts to and the remaining income comes from a range of public bodies, such as the Environment Agency.
4.2 Please give details of resources you have sought from the host country partner institution(s).

The London Ecology Unit has sought funding from the Government Ministry (MINVU) for this project. The Ministry agreed that 143 ha of land in its ownership forming the Bosque de Santiago shall be protected as a nature reserve. In addition, the following resources have been offered by the MINVU (responsible for the Metropolitan Park and Ministerial Secretariat for Santiago overall budget):
i) . in year 2 (1999) for the construction of the Charles Darwin Biodiversity Centre, situated in the Bosque de Santiago
ii) for the creation of the Nature Area in Peñalolén
iii) for the construction of the Ecology Centre in Peñalolén.
iv) ( $5 \%$ of the cost of the ecology area and ecology centre) for the design of the Nature Area in Peñalolen.
v) Staff costs including senior staff in the Ministry averaging $1 / 2$ post for the full 3 years (totalling about 5 ).
vi) Provision of office facilities for staff undertaking the project.
4.3 Please state all other sources of income and amounts to be put towards the costs of the project (including any income from other public bodies, private sponsorship, trusts, fees or trading activity). Include donations in kind e.g. accommodation. Indicate any income or donations which are confirmed.

Total confirmed income from collaborators $£ 295,000$. See 4.2

## 5. EXPENDTTURE

5.1 Please state gross expenditure on the programme of work (see 2.6) Please work by financial year (defined as April to March), using 1998/99 prices throughout - do not include any allowance for assumed future inflation. Indicate salary costs on Table A and total costs on Table B. For programmes of less than 3 years' duration, enter 'nil' as appropriate for future years. It would be helpful to highlight the areas for which Darwin funding is requested.

Table A
Number of staff - list each member
a) UK
LEU staff
(1) Prof D. Goode, Director
(2) Dr Meg Game, Principal Ecologist
(3) Mr J. Archer, Senior Ecologist
(4) Mr N. Machin, Senior Ecologist
(5) To be agreed.
b) collaborators
(6) MINVU staff*

Sergio Leon Balza Erich Krohmer Heim
(7) Ecologist to be appointed

* Staff time of senior staff of MINVU provided as contribution from collaborator of $£ 1 \mathrm{~K}$ per annum deducted in table $\mathbf{C}$.
a) UK staff.
(1)
(3) and (4)
b) collaborators:
(6)
(7)
a) UK staff
(1)
(2)
(3)
b) collaborators
(6)
(7)
a) UK staff
(1)
(2)
(5)
b) collaborators:
(6)
(7)

| \% of time each would spend on this work | (1) <br> (3 \& 4) <br> (6) <br> (7) | 2 weeks <br> 11 weeks <br> 6 months <br> 9 months | (1) <br> (2) <br> (3) <br> (6) <br> (7) | 2 weeks <br> 2 weeks <br> 8 weeks <br> 6 months <br> 1 year | (1) <br> (2) <br> (5) <br> (6) <br> (7) | 2 weeks <br> 2 weeks <br> 5 weeks <br> 6 months <br> 1 year |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cost of this work |  |  |  |  |  |  |

Expenditure on other costs and then the total costs should be listed as below:
Table B


[^0]Please deduct any confirmed income or donations from elsewhere (where this may be costed) and indicate in Table $C$ the amounts of grant requested under the Darwin Initiative.

Table C

|  | $1998 / 1999$ | $1999 / 2000$ |  |
| :--- | :---: | :---: | :---: |
| Income to be deducted |  |  |  |
| Amount of Darwin Initiative funding tequested |  |  |  |

## 6 CERTIFICATION

n behalf of the London Ecology Committee I apply for a grant $£ 41,850$ in respect of expenditure to be incurred in the financial year ending II March 1999 on the activities specified in paragraph 2.5

I certify that, to the best of our knowledge and belief, the statements made by us in this application are true and the information provided is correct.
l enclose a copy of the organisation's most recent audited accounts and annual report

Please retum completed form to the Department of the Environment, A504 Romney House, Marsham Street, London SWIP 3PY.

Department of the Environment
September 1997

## DETAILED OBJECTTVES ( 2.4 continued)

Bosque de Santiago Educational Nature Reserve and Darwin Biodiversity Centre

1. To establish a new 143 ha educational nature reserve the Bosque de Santiago close to the centre of Santiago.
2. To provide a new centre to be known as the Darwin Biodiversity Centre associated with this reserve.
3. To undertake consultation with potential users of the nature reserve and biodiversity centre
4. To produce a detailed management plan for the nature reserve.
5. To make recommendations regarding the location and facilities to be provided by the Darwin Centre and to produce text and design of interpretative material for nature reserve signs and leaflets.
6. To advise on design of the centre to meet sustainability principles.

## Penalolen Ecology Centre and Nature Area

7. To design and create an entirely new educational nature area in Penalolen, a low income district of Santiago.
8. To provide an Ecology Centre as an environmental education resource associated with this ecology park.
9. To consult with the local community regarding the design of the nature area and facilities of the centre
10. To undertake a feasibility study.
11. To produce a project plan for this proposal with recommendations for location and outline design
12. Ecological input to the detailed design of the nature area including proposals for a community based tree nursery for native species.
13. Ecological input to the construction phase.
14. Detailed recommendations for facilities to be provided in the Ecology Centre.

Training
15. To provide specialist training in environmental education techniques and in the effective use of such centres for training in biodiversity. Provision of training in UK for 3 Chilean specialists for 4 weeks each

## BOSQUE DE SANTIAGO PROPOSED NATURE RESERVE

The area proposed as a nature reserve is an impressive hill overlooking the northern part of Santiago city. It supports extensive areas of sclerophyllous woodland and neutral to basic grassland with steep valleys, and rock outcrops in the upper slopes. The flora and fauna is typical of the Santiago region with a good representation of the sub-montane flora including endemic species and a number of local rarities. The area is sufficiently wild to support breeding populations of several raptor species including the largest of the Chilean eagles, even though the hill is within the city and directly accessible to many people. The range of habitats offers considerable opportunities for environmental education and for both in-situ and ex-situ conservation projects relating to endangered species.


[^0]:    * Grants may be limited to a percentage of the total cost of the project. The Department will look for balancing income from non-public sources (eg. private sector funding, subscriptions, donations, fees).

