

PO KAW 380

AID 1350-1 (387) *PIO/T	AGENCY FOR INTERNATIONAL DEVELOPMENT PROJECT IMPLEMENTATION ORDER/TECHNICAL SERVICES	1. Cooperating Country Ecuador	Page 1 of Pages
		2. PIO/T No. 518-0107-3-09178	3. <input checked="" type="checkbox"/> Original or Amendment No. _____
		4. Project/Activity No. and Title CDF Plant conservation for the Galapagos Islands Project No. 518-0107	
		REPLY DUE 11-27-91 <input type="checkbox"/> NO REPLY NEEDED REPLIED BY _____	

DISTRIBUTION	5. Appropriation Symbol 72-1111021 P091135	6. Budget Plan Code LDNA 91-25518-IG13
FUNDS AVAILABLE (UN) FEEL DES. X FEEL RES. J FEEL RES. J FEEL RES. J DATE 09/25/91 SIGNATURE OF THE CONTROLLER	7. Obligation Status <input checked="" type="checkbox"/> Administrative Reservation <input type="checkbox"/> Implementing Document	8. Project Available Completion Date (Mo., Day, Yr.) 03/31/93
	9. Authorized Agent RCO/Quito	10. This PIO/T is in full conformance with PRO/AG No. _____ Date _____

11a. Type of Action and Governing AID Handbook <input type="checkbox"/> AID Contract (HB 14) <input checked="" type="checkbox"/> AID Grant or Cooperative Agreement (HB 13) <input type="checkbox"/> PASA/RSSA (HB 12) <input type="checkbox"/> Other	11b. Contract/Grant/Cooperative Agreement/ PASA/RSSA Reference Number (if this is an Amendment)
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12. Estimated Financing (A detailed budget in support of column (2) is attached as Attachment No. <u>2</u>)					
Maximum AID Financing Available	A. Dollars	(1) Previous Total	(2) Increase	(3) Decrease	(4) Total to Date
		- 0 -	100,000		100,000
	B. U.S.-Owned Local Currency				

13. Mission References

Charles Darwin Foundation Proposal
RCO 3-

14A. Instructions to Authorized Agent
Please execute an Operational Program Grant to the Charles Darwin Foundation (CDF) for implementation of the Plant Conservation for the Galapagos Islands project. Total estimated amount of this OPG is \$100,000 as explained in the Program Description and Budget attached.
* Controller's clearance contingent on RCO negotiation of proposed budget to include sufficient funding for a financial compliance audit.

14B. Address of Voucher Paying Office
Office of the Controller, USAID/Ecuador

- ACTION:
- DIR
- D/D
- PPD
- EXO
- CONT
- RCO
- RLA
- ETIO
- ANRO
- EXO
- GEO
- RIJUD
- WAM

15. Clearances—Include typed name, office symbol, telephone number and date for all clearances.			
A. The Project Officer certifies that the specifications in the statement of work or program description are technically adequate.	Phone No.	B. The statement of work or program description lies within the purview of the initiating office and approved agency programs. (IN NEEDED)	Date
ANRO: FMaldonado <i>FMaldonado</i>	Date 08/16/91	For content only PPD/CONT J	8-19-91
ANRO: DALverson <i>DL</i>	Date 8/16/91	PPD: PMaldonado <i>PM</i>	
C. PPD: CTorres <i>CT</i>	Date 8/16/91	D. Funds for the services requested are available	Date
PPD: PGoddard <i>PG</i>	Date 8/19/91	CONT: RCaughnour *	9/27/91
E. RCO: JDunlap <i>JD</i>	Date 8/21/91		
DDIR: HRKramer <i>HR</i>			

16. For the Cooperating Country: The terms and conditions set forth herein are hereby agreed to	17. For the Agency for International Development
Signature _____ Date _____	Signature <i>Charles E. Costello</i> Date <i>9/27/91</i>
Title _____	Title Mission Director

See HB 3, Sup. A, App. C, Att B, for preparation instructions. Note: The completed form contains sensitive information whose unauthorized disclosure may subject an employee to disciplinary action.

18. Statement of work or program description for this project is described in Attachment No. 1.

19. Special Provisions

- A. Language Requirements (specify) Spanish 5-3, R-3 or equivalent
(If marked, testing must be accomplished by AID to assure desired level of proficiency.)
- B. Access to classified information will will not be required by technical specialists. (Indicate level) _____
- C. Duty post(s) and duration of technical specialist(s) services at post(s) (months) 18 months
- D. Dependents will will not be permitted to accompany technical specialist(s). N/A
- E. Geographic code applicable to procurement under this PIO/T is 000 899 935 941 Other (specify) Ecuador
(If other than authorized in HB 1, Sup B, Chap 5, Para 5A1d, attach waiver(s).)
- F. Salary approval(s) to exceed FS-1 salary ceiling are attached in process N/A.
- G. Cooperating country acceptance of this project (applicable to AID/W projects only)
 has been obtained is in process is not applicable to services required by PIO/T.
- H. Justification for use of external resources for consulting services is attached N/A.
- I. Clearance for procurement of ADP equipment, software, and services is attached in process N/A.
- J. OMB approval of any report to be completed by ten or more members of the general public under the statement of work is
 attached in process N/A.
- K. Participant training is is not being funded as part of this PIO/T.
- L. Requirement (contracts only) is recommended for small business set-aside SBA 8(a) Program neither.
- M. Other (specify).

20. Provisions for Logistic Support	IN KIND SUPPLIED BY		FROM LOCAL CURRENCY SUPPLIED BY		TO BE PROVIDED OR ARRANGED BY SUPPLIER	N/A
	AID	COOPERATING COUNTRY	AID	COOPERATING COUNTRY		
A. Specific Items (Insert "X" in applicable column as right. If entry needs qualification, insert asterisk and explain below in C. "Comments")						
(1) Office Space					X	
(2) Office Equipment					X	
(3) Housing and Utilities					X	
(4) Furniture					X	
(5) Household Appliances (Stoves, Refrig., etc.)					X	
(6) Transportation in Cooperating Country					X	
(7) Transportation to and from Country					X	
(8) Interpreter Services/Secretarial					X	
(9) Medical Facilities (Health Room)					X	
(10) Vehicles (official)					X	
(11) Travel Arrangements/Tickets					X	
(OTHER SPECIFY) (12) Nightwatchman for Living Quarters					X	
(13)						
(14)						
(15)						

20. Provisions for Logistic Support (Continued) N/A

B. Additional Facilities Available From Other Sources

Otolometric pouch

PX

Commissary

Other (specify, e.g., duty free, entry, tax exemption)

C. Comments

21. Relationship of Contractor or Participating Agency to Cooperating Country and to AID

A. Relationships and Responsibilities The grantee will report to the project officer and the office Director of the Agriculture and Natural Resource Office, with ultimate responsibility to the Mission Director.

B. Cooperating Country Liaison Officials Alfredo Carrasco, Secretary General, Charles Darwin Foundation
Daniel Evans, Director, Charles Darwin Foundation

C. AID Liaison Officials Howard Clark, REA/SA
Fausto Maldonado, ANRO

22. Background information (additional information useful to authorized agent)

23. Summary of attachments that accompany the PIO/T (check applicable boxes)

A. Detailed budget estimate in support of increased funding (Block 12) Attachment 2

B. Evaluation criteria for competitive procurement (Block 14A)

C. Justification for procurement by other than full and open competition or noncompetitive assistance Attachment 3

D. Statement of work or program description (Block 18) Attachment 1

E. Waiver(s) justification(s), clearance(s), certification(s) (Block 19) (specify number _____)

Attachment 1

PROGRAM DESCRIPTION

I. Background and Objective:

Plant conservation is important worldwide, but is particularly critical for island ecosystems. If present trends continue, 60,000 plant species (one in five of the world's total) could become extinct by the year 2050. Archipelago and island ecosystems are especially vulnerable due to a reduced number of species (many of which are endemic), a simple community structure (compared to continental ecosystems), and relatively recent colonization by man. The Galapagos Islands contain some of the most unique island ecosystems worldwide. No other archipelago is at once so extensive, so isolated, so simple in its ecosystems, and so little altered by man.

The Galapagos flora contains a high percentage of endemic taxa (approximately 30%). Grave problems, however, threaten the survival of this unique flora. Of the 604 known species and subspecies of indigenous plants of the Galapagos Islands, 144 (24%) are rare or threatened. Problems include the continued introduction of exotic species, inadequate Galapagos National Park management of previously introduced exotic species due to the lack of human and financial resources, and pressure on the Park by human activity (particularly demands for firewood and construction timbers, sand for construction, agricultural uses of land, and tourism). With regard to human activity, little empirical knowledge is available about how human activity affects biological diversity in the Galapagos or elsewhere.

To preserve the exceptional attributes of the Galapagos Archipelago requires careful management of the islands fragile ecosystems. Although island ecosystems are relatively simple compared to continental ecosystems, any interference creates complex changes, revealing the intricate network of ecological interrelationships. Man is, and will continue to be, part of the Galapagos ecosystem. The challenge is to protect and prevent further alteration of existing ecosystems, particularly within the National Park and Marine Reserve, while enabling man to use them on a continuing basis. A prolonged effort is needed to design a scheme that will satisfy the needs of the local population, scientific research, tourists, and national security.

The purpose of this project is to mitigate human impacts on the unique biological diversity of the Galapagos Islands, particularly the floral species in the Galapagos. The unique flora and ecosystems of the Galapagos have global biological significance.

The Charles Darwin Foundation (CDF) was established in 1959, one hundred years after the publication of Darwin's The Origin of Species, under the auspices of the Ecuadorian Government, UNESCO and the International Union for Conservation of Nature and Natural Resources (IUCN). The CDF operates within guidelines of a long-term agreement between the Foundation and the Ecuadorian government. The agreement gives the CDF and the Charles Darwin Research Station (CDRS) international status and privileges, provides for government support of both, and establishes their responsibilities in terms of conservation, research and education in Galapagos.

The CDRS, the CDF's operational arm, is located in Puerto Ayora, Santa Cruz, Galapagos, and has a staff of over 50, of which approximately 20 are scientific and educational employees. The CDRS has been studying the ecological relationships within the Galapagos since 1964, to develop management techniques to assure the conservation of the archipelago's biological diversity. The CDRS collaborates closely with a large number of Ecuadorian public and private institutions in order to fulfill the responsibilities of the CDF in the Galapagos and in Ecuador as a whole. Its principal counterpart agency is the Galapagos National Park Service (Servicio del Parque Nacional Galápagos, SPNG). The CDRS's role is to conduct applied conservation management research on the key problems affecting the Galapagos environment and ecosystems and to aid the SPNG in the design, planning and evaluation of its conservation management programs.

The CDRS also serves as the logistical support base in the Galapagos for visiting scientific missions from all over the world which conduct research in the Galapagos, supported by funding from outside sources. In addition, the CDRS and SPNG conduct extensive environmental education programs throughout the islands with primary and secondary schools, other civic organizations and the local public at all levels. They also train all tourism guides working on the islands and conduct educational activities for the almost 42,000 visitors who annually come to the archipelago. The CDRS has close ties with all major Ecuadorian universities and other research institutions and conducts an extensive program of training of scientists and students from these institutions. Finally, the CDRS collaborates with many other national and local agencies and the local populations in the planning of sound, environmentally- conscious development in the Galapagos.

II. Program Activities:

This eighteen month, \$100,000 project will be implemented by the Charles Darwin Foundation (CDF) and its research branch, the Charles Darwin Research Station (CDRS), working in partnership with host country government agencies. Project activities will consist of: developing a quarantine program to reduce or eliminate the

introduction of exotic biota; developing a recommended plan of action for the Ecuadorian government to control or eliminate invasive introduced plants; expanding agroforestry outside of the park boundaries through the education of farmers, applied research, and the distribution of seedlings; conducting applied conservation research directed towards addressing critical conservation problems; developing a Geographic Information System (GIS) for the Galapagos and using this to develop sociological and biological models to guide park management; and disseminating information and providing training to park managers and national scientists. The plant conservation component will be led by Dr. Daniel Evans, Director of the CDRS, the human impact study will be led by Dr. Howard Snell, and the education and training component will be led by the CDRS Director and the CDF's national representative, Ing. Alfredo Carrasco, working in close cooperation with government agencies.

USAID funds will provide for personnel training, operating expenses, operational support for Charles Darwin Research Station personnel and other research personnel, and the dissemination of technical information. A.I.D. will provide \$100,000.

This grant will comply with the FY 91 Congressional earmark of AID funds to the Charles Darwin Foundation (CDF), for conservation of biological diversity in the Galapagos.

The Recipient will undertake the following activities:

1. PLANT CONSERVATION

Control of exotic flora: Develop a quarantine program, with the Government of Ecuador, to prevent the further introduction of invasive species by cargo boats and planes, nationals, and tourists. The program will involve control at mainland ports before ships or airplanes disembark for the Galapagos. A quarantine specialist will be brought from the USDA Office of Plant Quarantine, to assist in developing this new program. The program will recommend the types of quarantine equipment necessary, the scope of the quarantine effort, the cost of quarantine personnel, and quarantine practices. The project will also expand the CDRS' on-going public awareness campaign to educate those visiting or living on the islands of the importance of preventing the introduction of exotic species. Finally, the project will develop a comprehensive recommended plan of action for the Ecuadorian government to control, or eliminate, existing alien plants throughout the Archipelago.

Agroforestry: Develop agroforestry outside of the national park to reduce pressure on the National Park and to improve the income of the farmers. Both indigenous and already introduced, non-aggressive

species of local value such as Teak and tropical Walnut will be used. The project will use the following three approaches:

a) **educate** farmers (utilizing workshops, radio, brochures, demonstrations, and other media) about the importance of controlling exotics, both for the benefit of the farmers and for the Galapagos as a whole, and the utility of agroforestry in farm management (for watershed protection, erosion control, increased productivity, etc). Emphasis will be on management techniques to eliminate or control existing introduced species, when feasible.

b) **continue research** in CDRS' existing nursery.

c) **expand the number of trial agroforestry projects**, in plots of less than a hectare, using seedlings from the nursery from indigenous and already introduced non-aggressive timber species of local value. This project will expand the number of agroforestry trial projects on farms in Santa Cruz, emphasizing the use of native species (as much as possible). Plot sizes and numbers will be based on local and GOE interest and demand for extension of the program. A follow-on project will also be undertaken to track the growth rate of the seedlings on the different farms.

Applied conservation research: This project will involve applied research, part of the larger interdisciplinary research effort conducted by the CDRS. AID funds will be used to help support an ecologist/taxonomist as part of the interdisciplinary team. The areas of research include the following: examination of the effect of introduced animals on the distribution of endemic floral species; identification and determination of the distribution of alien and endemic floral species.

2. HUMAN IMPACT ON BIOLOGICAL DIVERSITY

Develop a Geographic Information System for the Galapagos. Geographic Information Systems (GIS) involve combining many types of spatial data, each comprising a different layer, into a single coordinate system for the land mass. Physical data will comprise one layer, location and distribution of biological diversity another (using key indicator species), and location of human use another. The base of the GIS will be derived from digitized data characterizing the islands' physical and vegetative parameters. We will develop a GIS layer showing the island distribution of vascular plants and terrestrial vertebrates. These data will provide CDRS with a technically sophisticated, but relatively simple, means of characterizing the biological diversity of a region. Data will be obtained from four sources: the published literature and technical reports, museum collections, the CDRS's

own long-term monitoring program, and limited field work. Field work will be limited to those few islands not previously surveyed.

Based on the information from the GIS and the long years of research experience by the CDRS in the Galapagos, the project will develop models of the interaction between tourism and biological diversity in the Galapagos, past and future, to guide management decisions. These models will provide a useful tool for management personnel to predict the effects of future changes on the biological diversity of the Galapagos, and will help to develop the islands with minimal effects on the natural biological diversity.

Human activity will be characterized by determining the frequency, intensity, and distribution of past and present human use on the island. Sociological investigations will examine present use of the Galapagos by tourists and local populations. Methods used will include interviews with visitors and residents, and analyses of published economic patterns at the regional and national level.

3. DISSEMINATION OF INFORMATION AND EDUCATION

Translate into Spanish, publish, and disseminate the proceedings of the 1987 International Botanical Workshop on Galapagos to all interested parties (principally to park managers and staff in the Galapagos and elsewhere in Ecuador, also to Ecuadorean students and other researchers).

Fund the participation of one GNP official and one member of the CDRS staff at the Parks and Protected Areas Management course in Colorado in 1991.

III. Implementation

This project will be implemented by the CDF and the CDRS, the research branch of the CDF. The project will be conducted by an international group of investigators, all with previous research experience in the Galapagos. The research staff of the CDRS will lead the plant conservation component, under the supervision of Dr. Daniel Evans, Director. The human impact study will be led by Dr. Howard Snell, with the collaboration of the Head of the GNPS and the CDRS Director. The sociological research will be conducted by Dr. Craig MacFarland and Dr. Gary Machlis, in close collaboration with national sociologists. The third component, for education and information dissemination, will be led by the CDRS Director and the Charles Darwin Foundation's national representative, Ing. Alfredo Carrasco, as part of the biological conservation training program at the CDRS.

IV. Evaluation

1. Conduct an in-house evaluation of the project, as much as possible focusing on (a) the extent to which outputs are being achieved and (b) the success of the project in terms of research

results; dissemination of information to park managers and scientists, training of personnel, improved protection of the Galapagos flora, and increased control of exotic species.

V. Reports and Deliverables:

The following reports shall be provided to the USAID/Ecuador project officer, Howard L. Clark, during the course of this project:

a) Mid-term evaluation report to USAID/Ecuador, due June 1, 1991. This report will provide information on accrued financial expenditures for each of the three components to mid-term and projected expenditures for the following term, the status of the major outputs, other accomplishments and overall project status, problems and delays, major activities and corrective actions.

b) Five copies of the in-house evaluation report prepared by the CDF.

c) Copies of published articles, training guides, proceedings, etc. that are developed by project staff concerning this project.

VI. Substantial Involvement Understandings:

1. A.I.D. reserves the right to review and approve the work and training plan prepared by the recipient prior to initiation of activities.

VII. Program Budget

BIOLOGICAL DIVERSITY: PLANT CONSERVATION PROGRAM FOR THE GALAPAGOS ISLANDS.

A.I.D. CONTRIBUTION

FIELD RESEARCH:

1. Plant Conservation Component

	US\$
Personnel	
Plant Ecologist/Taxonomist 1 @ US\$6,700/year X 1.5yr	10,000
University students as research assistants and field assistants 2 @ US\$2,000/year X 1.5yr	6,000
General field assistants 1 @ US\$5/day for 200 days	1,000
Quarantine specialist 1 @ US\$4,700/year X 1.5yr	7,000
Operating Expenses	
Initial costs of quarantine program	3,000
Agroforestry, tree nursery activities	2,000
General materials & camping equipment	12,000
Inter-Island travel 26 boat days @ US\$150/day	4,000
Subsistence in field 5 people @ US\$5/day for 200 days	5,000
SubTotal:	50,000

2. Human Impact on Biological Diversity

Personnel	
Ecologist consultant fees	10,000
Sociologist consultant fees	5,000
University students as research assistants and field assistants 2 @ US\$2,000/year for 9 months	3,000
Operating Expenses	
General materials and camping equipment	2,000
International travel to Galapagos 1 airfare Sociologist @ US\$1,800 2 airfares Ecologist @ US\$1,600	5,000
Inter-Island travel 20 boat days @ US\$150/day	3,000
Subsistence in field 4 people @ US\$5/day for 100 days	2,000
SubTotal	30,000

3. Education and Dissemination of Information

Personnel Training	
Training course in management and development of parks and protected areas (participants from CDRS and GNPS)	
Air fares & transportation	3,620
Course fees, insurance and per diem (\$3,190 per participant)	6,380
 Dissemination of Information	
Translation of International Botanical Workshop on Galapagos	
Layout, preparation of text & artwork	3,000
Printing costs of workshop proceedings	1,000
	6,000
SubTotal	20,000

Total A.I.D. Budget **US\$100,000**

In-kind contribution from CDF	
Laboratory space and facilities, computers, personnel, nursery, administrative overhead	
Total In-Kind Contribution from CDF	\$34,000
 TOTAL PROJECT BUDGET	 \$134,000

Attachment #2
ILLUSTRATIVE BUDGET

<u>Cost Element</u>	<u>Life of Project</u>	<u>Obligation This PIO/T</u>
1. Plant Conservation		
- Personnel	24,000	24,000
- Operating expenses	26,000	26,000
2. Human Impact on Biological Diversity		
- Personnel	18,000	18,000
- Operating expenses	12,000	12,000
3. Education and Dissemination of Information		
- Personnel Training	10,000	10,000
- Dissemination of In- formation	10,000	10,000
TOTAL	100,000	100,000

UNITED STATES GOVERNMENT

memorandum

PPD-91-233

DATE: August 16, 1991

REPLY TO
ATTN OF: David Alverson, ANRO

SUBJECT: Selection Justification for a Non-competitive Award to the Charles Darwin Foundation (CDF) for an Operational Program Grant

TO: Regional Contracting Officer

The Charles Darwin Foundation, established in 1959 under the auspices of the Ecuadorian Government, UNESCO and the International Union for the Conservation of Nature and Natural Resources, operates within the guidelines of a long-term agreement between the Foundation and the Ecuadorian Government. The agreement gives the CDF and the Charles Darwin Research Station (CDRS) international status and privileges, provides for government support of both and establishes their responsibilities in terms of conservation, research and education in the Galápagos Islands.

The CDRS collaborates closely with a large number of Ecuadorian public and private institutions in order to fulfill the responsibilities of the CDF in Galápagos and in Ecuador as a whole. CDRS's role is to conduct applied conservation/management research in the key problems affecting the Galápagos environment and ecosystems and to aid the Galápagos National Park in the design, planning and evaluation of its conservation/management programs. The CDRS also serves as the logistical support base in the Galápagos for visiting scientific missions from all over the world which conduct research in the Galápagos, supported by funding from outside sources.

The US Congress earmarked \$100,000 to the Charles Darwin Foundation for FY-91. These funds are provided by AID/W and are to be administered by USAID/Quito. On June 20, 1991, the Foundation presented a proposal developed by the CDF executive board to carry out activities in Galápagos focusing on: improving the conservation of endangered native plants, examining the impact of humans on biodiversity, and strengthening the capacity of Ecuadorian park managers and scientists to better manage protected areas and species. The proposal combines innovative research techniques with practical conservation applications to protect Galápagos' unique plant diversity.

Conservation programs undertaken during the last 30 years by the CDRS and the Galápagos National Park service have successfully ensured the survival of many unique endemic species. The CDF's

past performance and current and future plans makes it exclusive in this field. There is no doubt that the CDF has predominant capability for the type of activities being proposed for plant conservation in the Galápagos Islands.

The justification for the proposed Non-competitive Assistance Award to the Charles Darwin Foundation is based on Section 2 B of Chapter 2, Handbook 13. Competition is not required if, according to subsection 3b), one recipient is considered to have exclusive or predominant capability, based on experience, specialized facilities or technical competence, or based on an existing relationship with the cooperating country or beneficiaries.

We believe that the assistance award to the Charles Darwin Foundation to carry out their proposed activities meets this criterion for a non-competitive award for the reasons herein stated.

Clearance:

ANRO:FMaldonado SMC 08/16/91

Drafted by PPD:CTorres:chr (F:chdfound) (08-15-91)

CT