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Abstract

English Abstract

This proposal addresses the development of the IABIN Ecosystem Thematic Network. The Ecosystem Thematic Network will include terrestrial, freshwater and marine ecosystems. The end product of this proposal will be version 1 of the ETN populated with data provided by consortium members and by other organizations and communities.

Version 1 of the ETN will include National Terrestrial Ecosystem databases from at least ten countries throughout the hemisphere, and most Regional Terrestrial Databases in existence. Version 1 of the ETN will also include prioritized existing regional Freshwater and Marine Ecosystem databases, such as WWF HyDROSHEDS and RAMSAR sites.

User access to the Ecosystem Thematic Network will be through the Ecosystem Thematic Network Portal, accessible from the IABIN Home Page in three languages (Spanish, English and Portuguese). The Portal will provide access to: the IABIN Catalog, Ecosystem Expert lists (terrestrial, freshwater, and marine), National and Regional Ecosystem Databases, an Ecosystem Data Structure Standard database, an America-Wide Terrestrial Ecosystem Database, and databases which are part of the other Thematic Networks (Species, Specimen, Invasive Species, Protected Areas and Pollinators). The Portal will also provide Links to other high quality ecosystem databases and maps, information systems and products available through the web.

The directory of **Ecosystem Experts** with searching capabilities in the Terrestrial, Freshwater and Marine realms and the standard to access tabular data in distributed servers will be developed in cooperation with the other Thematic Networks. The Ecosystem Thematic Network will make use of IABIN's Geospatial Network and the GeoIntegrator being developed under IABIN's DGF Project in order to integrate GIS layers and tabular data accessed in a distributed manner.

The Smithsonian Tropical Research Institute (STRI) as Coordinating Institution will manage the project, and Expert Committees chosen from the Consortium, collaborating institutions and others will provide scientific expertise during the development process. The IABIN Focal Points will play a key role as points of contact between the development team and data providers and users at the national level. The development of the Network will also be done in close collaboration with the IABIN Secretariat, who will provide the contacts with other Thematic Networks, the IABIN Focal Points and the IABIN Executive Committee.

The activities to be carried out in order to satisfy the proposal objectives will be divided into five components:
Component 1: Coordinating Activities
Component 2: Network Infrastructure Development and Maintenance
Component 3: Portal Functionality Development
Component 4: America-wide Terrestrial Ecosystem Database
Component 5: Administration and Network Sustainability.

Spanish Abstract

Esta propuesta es para el desarrollo de la Red Temática de Ecosistemas. La Red Temática de Ecosistemas (RTE) toma en consideración los ecosistemas terrestres, acuáticos y marino-costeros. El producto final será la Versión 1 de la Red Temática de Ecosistemas que contiene datos proveídos por los miembros del Consorcio y otras organizaciones y comunidades.

La Versión 1 de la RTE incluirá bases de datos de por lo menos 10 países del hemisferio y la mayor parte de las bases datos terrestres existentes para diferentes sub-regiones. También incluirá bases de datos sub-regionales existentes en las áreas de ecosistemas acuáticos y marino-costeros, tales como WWF HyDROSHEDS y sitios RAMSAR.

El acceso a usuarios de la Red Temática de Ecosistemas va a ser a través de un Portal, accesible desde la página de IABIN en tres idiomas (Español, Inglés y Portugués). El Portal proveerá acceso a: el Catálogo de IABIN, Bases de Datos de Ecosistemas Nacionales y Regionales (datos tabulares y SIG), una base de datos de clases de ecosistemas por país en un formato estándar, una Base de Datos de Ecosistemas Terrestres de América basado en una clasificación homogénea, y un Catálogo de Expertos en ecosistemas. El usuario podrá integrar datos de ecosistema (tabulares y capas SIG) con datos de las otras redes temáticas de IABIN. El Portal también proveerá ligas a otras bases de datos y sistemas de información existentes.

El Catálogo de Expertos en Ecosistemas y los estándares para proveer acceso a datos tabulares en servidores distribuidos será desarrollado en coordinación con las Instituciones Coordinadoras de las otras Redes Temáticas de IABIN. La RTE hará uso de la infra-estructura de la Red GeoEspacial de IABIN y el GeoIntegrador creados bajo el Proyecto DGF de IABIN para facilitar la integración de capas SIG y datos tabulares que existan en servidores distribuidos.

El Proyecto será dirigido por el Smithsonian Tropical Research Institute (STRI), como Institución Coordinadora, y un Comité de Expertos, constituido por miembros del Consorcio, colaboradores y otros, que guiarán el proceso de desarrollo de la Red. Los Puntos Focales de IABIN jugarán un papel importante como puntos de contacto entre el equipo de desarrollo y los proveedores de datos y usuarios de la Red al nivel nacional. El desarrollo de la Red se hará en colaboración con la Secretaría de IABIN, la cual proveerá el contacto con las otras Redes Temáticas, los Puntos Focales de IABIN, y el Comité Ejecutivo de IABIN.

Las actividades que se llevarán a cabo para alcanzar los objetivos de la propuesta se presentan en cinco componentes:
Componente 1 – Actividades de Coordinación y Planificación
Componente 2 – Desarrollo y Mantenimiento de la Infraestructura Física de la Red
Componente 3 – Desarrollo de la Funcionalidad del Portal
Componente 4 - Base de Datos de Ecosistemas Terrestres de América basado en una clasificación homogénea
Componente 5 – Administración del Proyecto y Sostenibilidad de la Red

SECTION – 1. TECHNICAL PROPOSAL SUBMISSION FORM

Panamá City, May 2, 2006

To: Iván A. Valdespino
Director IABIN Secretariat
P.O. Box 0843-02390
Panama, Panama
T: (507) 317-1994
F: (507) 317-1992
ivaldespino@iabin.net
www.iabin.net

Dear Sirs:

We, the undersigned, offer to provide the services for Ecosystems Thematic Network in accordance with your Request for Proposal dated May 2, 2006 and our Proposal. We are hereby submitting our Proposal, which includes a Technical and a Financial Proposal, sealed under on an envelope and send by e-mail to the address(es) indicated in Paragraph Reference 1.3 and 5.1.

We are submitting our Proposal in association with:
Nature Conservancy (TNC), PO Box 230-1225, San José, Costa Rica
Museo Argentino de Ciencias Naturales, Museo Argentino de Ciencias Naturales, Av. A. Gallardo 470, C1405DJR, Buenos Aires
NatureServe, 1101 Wilson Blvd. 15th Floor, Arlington, VA 22209, USA
Fundação O Boticário de Proteção à Natureza, Brazil
Instituto Nacional de Biodiversidad (INBio), Costa Rica

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, i.e., before the date indicated in Paragraph Reference 6.1, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from negotiations.

We undertake, if our Proposal is accepted, to initiate the consulting services related to the assignment not later than the date indicated in final negotiations.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: _____

Name and Title of Signatory: Dr. Ira Rubinoff, Director
Name of Firm: Smithonian Tropical Research Institute
Address: Unit 0948, APO AA 34002-0948, USA
Telephone: 507 212-8110
Fax: 507 212-8150
Email: rubinoff@si.edu
Website: http://www.stri.org

SECTION –2. CONSULTANT'S ORGANIZATION AND EXPERIENCE

A - Consultant's Organization

The Smithsonian Tropical Research Institute traces its 90-year history in Panama to the construction of the Panama Canal, when scientific interest in surveying the flora and fauna of the area grew for the purpose of controlling insect diseases such as yellow fever and malaria. After the canal began operating, entomologists and biologists involved in these studies sought to establish a permanent biological reserve on an island created during the construction of the Canal.

Dedicated to conducting long studies in tropical biology, Barro Colorado Island became part of the Smithsonian Institution in 1946. In 1966, the organization changed its name to the Smithsonian Tropical Research Institute (STRI), and expanded its scope by extending its research to other areas in the tropics. It also established a marine science program with laboratories on both the Atlantic and Pacific coasts of Panama. In 1974, these broader research interests were legally recognized by the Government of the Republic of Panama and were later included in the Panama Canal Treaties of 1977. In 1985, the Government of Panama granted the Institute International Mission status in order to further facilitate its goal.

After the Panama Canal Treaties ended in the year 2000, STRI signed agreements with the Interoceanic Canal Authority (ARI) to assure continued use of its current structures, areas and facilities for the next 20 years. In June l997, STRI also signed an agreement with the Government of Panama through the Ministry of Foreign Affairs, whereby the Institute is authorized to continue its research activities, and maintains the custodianship and management of the Barro Colorado Nature Monument, extending its International Mission status for 20 years. There are provisions to renew these agreements, making STRI's long-term research plans possible.

Today, long-term studies and explorations of natural history are being conducted throughout the Isthmus, at land and marine field stations equipped with modern laboratories and dormitory facilities. The first director of the BCI research station in Panama was James Zetek (1923-1956). In 1957, Martin H. Moynihan, founding director of STRI, began employing the first permanent resident scientists and expanded the institute's research to other tropical countries. Under the direction of Ira Rubinoff since 1973, STRI has continued to expand its work in the tropics, and now conducts research throughout Latin America, Asia and Africa.

STRI has developed into one of the leading research institutions of the world. STRI's facilities provide a unique opportunity for long-term ecological studies in the tropics, and are used extensively by some 900 visiting scientists from academic and research institutions in the United States and around the world every year. The work of our resident scientists has allowed us to better understand tropical habitats and has trained hundreds of tropical biologists.

STRI aims to offer research facilities that allow staff scientists, fellows, and visiting scientists to achieve their research objectives. The 38 staff scientists reside in the tropics and are encouraged to pursue their own research priorities without geographic limitations. The continuity of their long-term programs enables in-depth investigations that attract an elite group of fellows and visitors. Active

support for fellows and visitors leverages resources further and attracts more than 900 scientists to STRI each year.

A range of programs supports fellows and visiting scientists. In 2002, STRI hosted 8 university field courses (Princeton, McGill, University of Florida, Michigan State, Florida Atlantic, University of Panama, Organization for Tropical Studies and Union College). There were 406 research fellows at STRI between 1995 and 2001. Junior fellows often work closely with a senior scientist, while advanced fellows pursue their own research. Visiting investigators bring their own funding from sources other than STRI to pursue their research interests at STRI facilities. Staff and fellows are drawn from all nations in an open, global competition, while visiting scientists are drawn from leading research universities.

Although STRI is based in Panama, research is conducted throughout the tropics. STRI's Center for Tropical Forest Science uses large, fully enumerated forest plots to monitor tree demography in 14 countries located in Africa, Asia and the Americas. More than 3,000,000 individual trees representing 6,000 species are being studied. STRI's Biological Diversity of Forest Fragments project created experimental forest fragments of 0.01, 0.1, and 1.0 km 2 to study the consequences of landscape transformation on forest integrity in the central Amazon region. STRI marine scientists are conducting a global survey of levels of genetic isolation in coral reef organisms.

Partner Organizations

STRI recognizes the importance of partnerships in the development of the Ecosystem Thematic Network. This section describes some projects and the work of organizations with which STRI has established partnership. Partnerships have been established with: NatureServe, INBio, The Nature Conservancy, El Museo Argentino de Ciencias Naturales and Fundação O Boticário. Partnerships will not be limited to the organizations listed here, and new partnerships will be sought as the project develops.

The Nature Conservancy (TNC) is one of the world's largest conservation organizations; it works in 50 US states and 30 countries and has conserved over 116 million acres. Its mission is to preserve the plants, animals and natural communities that represent the diversity of life on Earth by protecting the lands and waters they need to survive. TNC has compiled and organized vast amounts of GIS and remote sensing data throughout Latin America and is heavily investing in the development of a conservation decision support system (DSS) and internet-based data dissemination portal designed to serve the needs of the conservation community. Having recently participated in several ecoregional assessments at multiple scales and realms (terrestrial, freshwater, and marine) throughout Latin America, TNC has expert ecosystem knowledge and base mapping information that will be a great benefit to the project. Strategies are currently underway to design smart systems that crosswalk habitats at hierarchical levels across regions that will facilitate rollup evaluations of ecosystems and threats.

NatureServe has been working with the classification, mapping, and documentation of natural communities for many years, and as a result of this experience identified the need of a standardized terrestrial ecological system classification based on a focal unit that is more coarsely grained than the community approach, retains a standard of consistency that allows ready identification and application of the unit at local or regional scales, that more fully integrates environmental factors into unit definition, and that is widely applicable at continental or hemispheric levels. In addition, gathering information on such focal elements should not make excessive demands of conservation or resource managers.

Terrestrial ecological systems as defined by NatureServe, are groups of vegetative associations with similar ecological processes, substrates and/or environmental gradients that tend to co-occur within landscapes. The classification approach analyzes the landscape in detail and integrates local environmental parameters with biogeography, bioclimate, spatial patterns of vegetation, and vegetation composition and structure.

Using this approach, NatureServe in collaboration with more than 30 vegetation experts from Latin America, has identified and described close to 800 ecological systems from Mexico down to Tierra del Fuego, including the Caribbean. A similar effort was undertaken for North America where close to 650 ecological systems have been classified. The purpose is to demonstrate that these systems, though related to both community and landscape ecosystem approaches, provide a greatly improved set of focal elements for conservation and resource management. To date this classification has been successfully used to map extensive regions across the Hemisphere, using different mapping methods depending on resources availability. Main applications of these maps have been conservation priorities setting, mapping critical habitats, and monitoring ecosystems health. Some of the products developed in collaboration with different partners include: a searchable public database of all the types identified and described, a modeled map of ecological systems of South America, more detailed maps of ecological systems of several extensive areas in the Andean region, the Gran Chaco, Central America, a map of ecological systems of Puerto Rico, and ecological systems maps of several states and ecoregions in the United States. Many of these classification systems will serve as the basis for the cross-walking technique that will attempt to unify and consolidate hemispherical ecosystems into a distributed network of spatially explicit units.

Another key Partner will be **INBio**, who besides being the Coordinating Institution for the Thematic Network on Species and Specimen, has also experience working with ecosystem data. INBio implemented the modifications that were recommended by the USGS-NPS Vegetation Mapping Program (The Nature Conservancy, 1994) to the International System for the Classification of the World's Vegetation as proposed by the UNESCO in 1973, and adapted the system to the particular situation of Costa Rica as an extraordinarily species-rich country. This system is hierarchical, can be applied at multiple scales and makes use of different levels of classification, among which the physiognomic, floristic, climatic, hydrologic and anthropogenic levels prevail. It is a flexible system, which is easy to use, scientifically rigorous, useful at the international level, compatible with other international classification systems, efficient and effective. The vegetation and other types of land use are jointly considered to be one of the most important components in ecosystem description, while also being one of the best indicators of ecosystem health condition. For this reason, land cover and in particular the existing vegetation, are used as basic ecosystem attributes which help most in their identification, characterization, mapping, monitoring, conservation and sustainable use. The geographic and ecological source data were incorporated into a Geographical Information System (GIS), which permits a great flexibility in the design and production of thematic maps on land cover, ecosystems and vegetation.

El Museo Argentino de Ciencias Naturales e Instituto de Investigación de las Ciencias Naturales, (MACN), founded in 1823, is characterized by a strong research component, belonging since 1996 to the CONICET (National Council for Scientific and Technological Research). In 2002 its functions were integrated into: scientific research, knowledge transfer, and responsibility on the national collections of flora, fauna and geology. Within this context, the development of the Ecology Area (formally established in 1991, at present one of the six scientific areas of the MACN), contributes to research, but also attempts to answer to a society demand for qualified knowledge transfer in relevant ecological issues, as well as to facilitate the interaction with environmental managers in order to contribute to the global goal of sustainable development.

B - Consultant's Experience

Assignment name: Center for Tropical Forest Science	Approx. value of the contract (in current US$ or Euro): $2,000,000 / yr
Country: Works in 13 countries Location within country: A range of partner institutions	Duration of assignment (months): Started in 1985. Project has no date of termination
Name of Client:	Total Nº of staff-months of the assignment: 3600
Address:	Approx. value of the services provided by your firm under the contract (in current US$ or Euro):
Start date (month/year): Jan 1985 Completion date (month/year): in progress	Nº of professional staff-months provided by associated Consultants:
Name of associated Consultants, if any: n/a	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader): Stuart J. Davies (Director) Richard C. Condit (Senior Scientist)
Narrative description of Project: Long-term monitoring of tropical forest diversity and dynamics.	
Description of actual services provided by your staff within the assignment: Coordinates the large network of plots. Provides scientific input/advice. Raises financial support.	

Firm's Name: Center for Tropical Forest Science of Smithsonian Tropical Research Institute

Assignment name: Compilation and presentation of environmental and cultural resources in the western region of the Panama Canal Watershed	Approx. value of the contract (in current US$ or Euro): $1,297,719.80
Country: Panama Location within country: Provinces of Cocle y Colon	Duration of assignment (months): 18 months
Name of Client: Panama Canal Authority	Total Nº of staff-months of the assignment: 222 (STRI staff only)
Address: Balboa, Panama, Rep. of Panama	Approx. value of the services provided by your firm under the contract (in current US$ or Euro): $418,784.40
Start date (month/year): February 2001 Completion date (month/year): August 2002	Nº of professional staff-months provided by associated Consultants: 405
Name of associated Consultants, if any: The Louis Berger Group Universidad de Panama	Name of senior professional staff of your firm involved and functions performed (indicate most significant profiles such as Project Director/Coordinator, Team Leader): Dr. Oris Sanjur Team Leader and Project Liaison for the STRI team
Narrative description of Project: The objective of this project was to compile data, environmental as well as cultural, in the western region of the Panama Canal Watershed, specifically in the watershed of the Rivers Indio, Miguel de la Borda, and Cocle del Norte. Within the environmental component the following tasks were carried out: determination of terrestrial habitat, inventory of flora and fauna, characterization of aquatic communities, species of special interest, and hydrology. For the cultural component archaeological and cultural sites in the area were considered, inventoried and studied.	
Description of actual services provided by your staff within the assignment: The STRI team participated in the characterization of the fauna, specifically the ornithology component, the characterization of aquatic communities and the archeological and cultural inventory. Ornithology: an inventory of communities and species present in the study area was carried out. Several collections were performed in both the dry and wet seasons. Aquatic Communities: A study of fish and aquatic insects was carried out with the objective of identifying the species present in the area. Archaeological Inventory: Sites of human occupation and archaeological interest were identified	

Firm's Name: Smithsonian Tropical Research Institute

SECTION – 3. COMMENTS AND SUGGESTIONS ON THE TERMS OF REFERENCE AND ON COUNTERPART STAFF AND FACILITIES TO BE PROVIDED BY THE CLIENT

A - On the Terms of Reference

The Annual Operating Plan will be submitted if chosen as CI.

. B - On Counterpart Staff and Facilities

Global Table includes the sum of the co-financing contributions from the Smithsonian Tropical Research Institute, INBio, The Nature Conservancy, Nature Serve and El Museo Argentino de Ciencias Naturales. The final co-financing table from Boticario was not received on time to include here.

Global Totals				
Co-financing category	**Co-financing amount in Dollars**			**Total cofinancing for category**
ITEM	**Year 1**	**Year 2**	**Year 3**	
Personnel				
Ecosystem Experts (3)	$118,301	$113,301	$100,301	$331,902
Biodiversity experts (2)	$60,574	$53,374	$19,174	$133,123
GIS and remote sensing expert/s	$21,200	$21,200	$6,200	$48,600
Web designer/s	$0	$0	$0	$0
Database management expert	$35,750	$34,550	$4,550	$74,850
System administrator/s	$13,000	$13,000	$13,000	$39,000
Network technician/s	$0	$0	$0	$0
Webmaster/s	$0	$0	$0	$0
Programer/s	$1,300	$3,800	$0	$5,100
Training specialist	$0	$0	$0	$0
Secretarial Support	$500	$500	$500	$1,500
Other (please specify)	$0	$0	$0	$0
Subtotal	**$250,625**	**$239,725**	**$143,725**	**$634,076**
Travel				
National	$570	$570	$570	$1,710
International	$14,000	$14,000	$14,000	$42,000
Other (please specify)	$0	$0	$0	$0

Subtotal	**$14,570**	**$14,570**	**$14,570**	**$43,710**
Software				
Commercial	$12,400	$500	$0	$12,900
Taylor-made	$28,500	$6,700	$4,700	$39,900
License maintenance	$0	$0	$0	$0
Subtotal	**$40,900**	**$7,200**	**$4,700**	**$52,800**
Hardware				
Server*	$16,000	$0	$0	$16,000
Computers	$8,000	$5,000	$5,000	$18,000
Printers	$500	$0	$0	$500
Communication	$1,250	$1,250	$1,250	$3,750
Uninterruptable power supplies	$250	$500	$0	$750
Routers*	$1,400	$0	$0	$1,400
Furniture	$270	$0	$0	$270
Other (please specify)	$0	$0	$0	$0
Subtotal	**$27,670**	**$6,750**	**$6,250**	**$40,670**
Connectivity & Networking				
Satellital Dish	$0	$0	$0	$0
Dedicated Line (T1-T3)	$2,200	$2,200	$2,200	$6,600
Broadband (128 kbps and up)	$8,400	$8,400	$8,400	$25,200
Dial-Up (56kbps)	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$10,600**	**$10,600**	**$10,600**	**$31,800**
Datasets				
Raster	$0	$0	$0	$0
Vector	$19,000	$0	$0	$19,000
Drawn maps/ photos	$500,000	$0	$0	$500,000
CDs/DVDs/Tape	$0	$0	$0	$0
Other (please specify)	$200,000	$0	$0	$200,000
Subtotal	**$719,000**	**$0**	**$0**	**$719,000**
Office space and maintenance				
Remodeling	$1,000	$0	$0	$1,000
Utilities	$1,000	$1,000	$1,000	$3,000
Other maintenance	$1,000	$1,000	$1,000	$3,000
Other (please specify)	$0	$0	$0	$0
Subtotal	**$3,000**	**$2,000**	**$2,000**	**$7,000**
External Service Contracts				
Personnel	$6,000	$1,000	$1,000	$8,000
Other (please specify)	$0	$0	$0	$0
Subtotal	**$6,000**	**$1,000**	**$1,000**	**$8,000**

Supplies				
Ink cartridges for printers/plotters	$300	$300	$300	$900
CDs/DVDs/Tape	$50	$50	$50	$150
Paper for maps	$0	$0	$0	$0
office supplies	$600	$900	$1,000	$2,500
Subtotal	**$950**	**$1,250**	**$1,350**	**$3,550**
Grand Total	$1,073,315	$283,095	$184,195	$1,540,606

Cofinancing by Consortium Member

Name of Institution: STRI (Smithsonian Tropical Research Institute)

Co-financing category / ITEM	Co-financing amount in Dollars Year 1	Year 2	Year 3	Total cofinancing for category
Personnel				
Ecosystem Expert/s	$21,000	$6,000	$3,000	$30,000
Biodiversity expert/s	$11,400	$4,200	$0	$15,600
GIS and remote sensing expert/s	$0	$0	$0	$0
Web designer/s	$0	$0	$0	$0
Database management expert/s	$0	$0	$0	$0
System administrator/s	$3,000	$3,000	$3,000	$9,000
Network technician/s	$0	$0	$0	$0
Webmaster/s	$0	$0	$0	$0
Programer/s	$1,300	$3,800	$0	$5,100
Training specialist	$0	$0	$0	$0
Secretarial Support	$500	$500	$500	$1,500
Other (please specify)	$0	$0	$0	$0
Subtotal	**$37,200**	**$17,500**	**$6,500**	**$61,200**
Travel				
National	$0	$0	$0	$0
International	$4,000	$4,000	$4,000	$12,000
Other (please specify)	$0	$0	$0	$0
Subtotal	**$4,000**	**$4,000**	**$4,000**	**$12,000**
Software				
Commercial	$2,000	$500	$0	$0
Taylor-made	$5,000	$2,000	$0	$0
License maintenance	$0	$0	$0	$0
Subtotal	**$7,000**	**$2,500**	**$0**	**$0**

Hardware				
Servers	$3,000	$0	$0	$3,000
Computers	$3,000	$0	$0	$3,000
Printers	$500	$0	$0	$500
Communication	$0	$0	$0	$0
Uninterruptable power supplies	$250	$0	$0	$250
Routers	$500	$0	$0	$500
Furniture	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$7,250**	**$0**	**$0**	**$7,250**
Connectivity & Networking				
Satellital Dish	$0	$0	$0	$0
Dedicated Line (T1-T3)	$1,000	$1,000	$1,000	$3,000
Broadband (128 kbps and up)	$0	$0	$0	$0
Dial-Up (56kbps)	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$1,000**	**$1,000**	**$1,000**	**$3,000**
Datasets				
Raster	$0	$0	$0	$0
Vector	$0	$0	$0	$0
Drawn maps/ photos	$100,000	$0	$0	$100,000
CDs/DVDs/Tape	$0	$0	$0	$0
Other (collections and census data)	$200,000	$0	$0	$200,000
Subtotal	**$300,000**	**$0**	**$0**	**$300,000**
Office space and maintenance				
Remodeling	$0	$0	$0	$0
Utilities	$500	$500	$500	$1,500
Other maintenance	$500	$500	$500	$1,500
Other (please specify)	$0	$0	$0	$0
Subtotal	**$1,000**	**$1,000**	**$1,000**	**$3,000**
External Service Contracts				
Personnel	$1,000	$1,000	$1,000	$3,000
Other (please specify)	$0	$0	$0	$0
Subtotal	**$1,000**	**$1,000**	**$1,000**	**$3,000**
Supplies				
Ink cartidges for printers/plotters	$300	$300	$300	$900
CDs/DVDs/Tape	$50	$50	$50	$150
Paper for maps	$0	$0	$0	$0
office supplies	$500	$500	$500	$1,500
Subtotal	**$850**	**$850**	**$850**	**$2,550**
Grand Total	$359,300	$27,850	$14,350	$392,000

Name of Partner Institution: Museo Argentino de Ciencias Naturales				
Co-financing category	**Co-financing amount in Dollars**			**Total cofinancing for category**
ITEM	**Year 1**	**Year 2**	**Year 3**	
Personnel				
Ecosystem Experts (3)	$27,300.72	$27,300.72	$27,300.72	$81,902.15
Biodiversity experts (2)	$14,174.48	$14,174.48	$14,174.48	$42,523.45
GIS and remote sensing expert/s	$0.00	$0.00	$0.00	$0.00
Web designer/s	$0.00	$0.00	$0.00	$0.00
Database management expert	$3,350.00	$3,350.00	$3,350.00	$10,050.00
System administrator/s	$0.00	$0.00	$0.00	$0.00
Network technician/s	$0.00	$0.00	$0.00	$0.00
Webmaster/s	$0.00	$0.00	$0.00	$0.00
Programer/s	$0.00	$0.00	$0.00	$0.00
Training specialist	$0.00	$0.00	$0.00	$0.00
Secretarial Support	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$44,825.20**	**$44,825.20**	**$44,825.20**	**$134,475.60**
Travel				
Nacional	$570.00	$570.00	$570.00	$1,710.00
International	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$570.00**	**$570.00**	**$570.00**	**$1,710.00**
Software				
Commercial	$0.00	$0.00	$0.00	$0.00
Taylor-made	$0.00	$0.00	$0.00	$0.00
License maintenance	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Hardware				
Server*	$3,000.00	$0.00	$0.00	$3,000.00
Computers	$0.00	$0.00	$0.00	$0.00
Printers	$0.00	$0.00	$0.00	$0.00
Communication	$1,250.00	$1,250.00	$1,250.00	$3,750.00
Uninterruptable power supplies	$0.00	$500.00	$0.00	$500.00
Routers*	$900.00	$0.00	$0.00	$900.00
Furniture	$270.00	$0.00	$0.00	$270.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$5,420.00**	**$1,750.00**	**$1,250.00**	**$8,420.00**
Connectivity & Networking				

Satellital Dish	$0.00	$0.00	$0.00	$0.00
Dedicated Line (T1-T3)	$0.00	$0.00	$0.00	$0.00
Broadband (128 kbps and up)	$8,400.00	$8,400.00	$8,400.00	$25,200.00
Dial-Up (56kbps)	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$8,400.00**	**$8,400.00**	**$8,400.00**	**$25,200.00**
Datasets				
Raster	$0.00	$0.00	$0.00	$0.00
Vector	$0.00	$0.00	$0.00	$0.00
Drawn maps/ photos	$0.00	$0.00	$0.00	$0.00
CDs/DVDs/Tape	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Office space and maintenance				
Remodeling	$1,000.00	$0.00	$0.00	$1,000.00
Utilities	$0.00	$0.00	$0.00	$0.00
Other maintenance	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$1,000.00**	**$0.00**	**$0.00**	**$1,000.00**
External Service Contracts				
Personnel	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Supplies				
Ink cartidges for printers/plotters	$0.00	$0.00	$0.00	$0.00
CDs/DVDs/Tape	$0.00	$0.00	$0.00	$0.00
Paper for maps	$0.00	$0.00	$0.00	$0.00
office supplies	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Grand Total	$60,215.20	$55,545.20	$55,045.20	$170,805.60

Name of Partner Institution: INBio

Co-financing category / ITEM	Co-financing amount in Dollars Year 1	Year 2	Year 3	Total cofinancing for category
Personnel				
Ecosystem Expert/s	$0.00	$0.00	$0.00	$0.00
Biodiversity expert/s	$0.00	$0.00	$0.00	$0.00
GIS and remote sensing expert/s	$1,200.00	$1,200.00	$1,200.00	$3,600.00
Web designer/s	$0.00	$0.00	$0.00	$0.00
Database management expert/s	$2,400.00	$1,200.00	$1,200.00	$4,800.00
System administrator/s	$0.00	$0.00	$0.00	$0.00
Network technician/s	$0.00	$0.00	$0.00	$0.00
Webmaster/s	$0.00	$0.00	$0.00	$0.00
Programer/s	$0.00	$0.00	$0.00	$0.00
Training specialist	$0.00	$0.00	$0.00	$0.00
Secretarial Support	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$3,600.00**	**$2,400.00**	**$2,400.00**	**$8,400.00**
Travel				
National	$0.00	$0.00	$0.00	$0.00
International	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Software				
Commercial	$10,400.00	$0.00	$0.00	$10,400.00
Taylor-made	$20,000.00	$1,200.00	$1,200.00	$22,400.00
License maintenance	$0.00	$0.00	$0.00	$0.00
Subtotal	**$30,400.00**	**$1,200.00**	**$1,200.00**	**$32,800.00**
Hardware				
Servers	$0.00	$0.00	$0.00	$0.00
Computers	$0.00	$0.00	$0.00	$0.00
Printers	$0.00	$0.00	$0.00	$0.00
Communication	$0.00	$0.00	$0.00	$0.00

Uninterruptable power supplies	$0.00	$0.00	$0.00	$0.00
Routers	$0.00	$0.00	$0.00	$0.00
Furniture	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Connectivity & Networking				
Satellital Dish	$0.00	$0.00	$0.00	$0.00
Dedicated Line (T1-T3)	$1,200.00	$1,200.00	$1,200.00	$3,600.00
Broadband (128 kbps and up)	$0.00	$0.00	$0.00	$0.00
Dial-Up (56kbps)	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$1,200.00**	**$1,200.00**	**$1,200.00**	**$3,600.00**
Datasets				
Raster	$0.00	$0.00	$0.00	$0.00
Vector	$0.00	$0.00	$0.00	$0.00
Drawn maps/ photos	$200,000.00	$0.00	$0.00	$200,000.00
CDs/DVDs/Tape	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$200,000.00**	**$0.00**	**$0.00**	**$200,000.00**
Office space and maintenance				
Remodeling	$0.00	$0.00	$0.00	$0.00
Utilities	$500.00	$500.00	$500.00	$1,500.00
Other maintenance	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$500.00**	**$500.00**	**$500.00**	**$1,500.00**
External Service Contracts				
Personnel	$0.00	$0.00	$0.00	$0.00
Other (please specify)	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Supplies				
Ink cartidges for printers/plotters	$0.00	$0.00	$0.00	$0.00
CDs/DVDs/Tape	$0.00	$0.00	$0.00	$0.00
Paper for maps	$0.00	$0.00	$0.00	$0.00
office supplies	$0.00	$0.00	$0.00	$0.00
Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
Grand Total	$235,700.00	$5,300.00	$5,300.00	$246,300.00

Cofinancing Categories for IABIN Ecosystem Thematic Network					
	Name of Partner Institution: The Nature Conservancy				
	Co-financing category	**Co-financing amount in Dollars**			**Total cofinancing for category**
	ITEM	**Year 1**	**Year 2**	**Year 3**	
10	**Personnel**				
	Ecosystem Expert/s	$0.00	$0.00	$0.00	$0.00
	Biodiversity expert/s	$20,000.00	$20,000.00	$5,000.00	$45,000.00
	GIS and remote sensing expert/s	$20,000.00	$20,000.00	$5,000.00	$45,000.00
	Web designer/s	$0.00	$0.00	$0.00	$0.00
	Database management expert/s	$0.00	$0.00	$0.00	$0.00
	System administrator/s	$0.00	$0.00	$0.00	$0.00
	Network technician/s	$0.00	$0.00	$0.00	$0.00
	Webmaster/s	$0.00	$0.00	$0.00	$0.00
	Programer/s	$0.00	$0.00	$0.00	$0.00
	Training specialist	$0.00	$0.00	$0.00	$0.00
	Secretarial Support	$0.00	$0.00	$0.00	$0.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$40,000.00**	**$40,000.00**	**$10,000.00**	**$90,000.00**
	Travel				
	National	$0.00	$0.00	$0.00	$0.00
	International	$5,000.00	$5,000.00	$5,000.00	$15,000.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$5,000.00**	**$5,000.00**	**$5,000.00**	**$15,000.00**
20	**Software**				
	Commercial	$0.00	$0.00	$0.00	$0.00
	Taylor-made	$3,500.00	$3,500.00	$3,500.00	$10,500.00
	License maintenance	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$3,500.00**	**$3,500.00**	**$3,500.00**	**$10,500.00**
30	**Hardware**				
	Servers	$10,000.00	$0.00	$0.00	$10,000.00
	Computers	$0.00	$0.00	$0.00	$0.00
	Printers	$0.00	$0.00	$0.00	$0.00

	Communication	$0.00	$0.00	$0.00	$0.00
	Uninterruptable power supplies	$0.00	$0.00	$0.00	$0.00
	Routers	$0.00	$0.00	$0.00	$0.00
	Furniture	$0.00	$0.00	$0.00	$0.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$10,000.00**	**$0.00**	**$0.00**	**$10,000.00**
40	**Connectivity & Networking**				
	Satellital Dish	$0.00	$0.00	$0.00	$0.00
	Dedicated Line (T1-T3)	$0.00	$0.00	$0.00	$0.00
	Broadband (128 kbps and up)	$0.00	$0.00	$0.00	$0.00
	Dial-Up (56kbps)	$0.00	$0.00	$0.00	$0.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
50	**Datasets**				
	Raster	$0.00	$0.00	$0.00	$0.00
	Vector	$19,000.00	$0.00	$0.00	$19,000.00
	Drawn maps/ photos	$0.00	$0.00	$0.00	$0.00
	CDs/DVDs/Tape	$0.00	$0.00	$0.00	$0.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$19,000.00**	**$0.00**	**$0.00**	**$19,000.00**
50	**Office space and maintenance**				
	Remodeling	$0.00	$0.00	$0.00	$0.00
	Utilities	$0.00	$0.00	$0.00	$0.00
	Other maintenance	$0.00	$0.00	$0.00	$0.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$0.00**	**$0.00**	**$0.00**	**$0.00**
79	**External Service Contracts**				
	Personnel	$5,000.00	$0.00	$0.00	$5,000.00
	Other (please specify)	$0.00	$0.00	$0.00	$0.00
	Subtotal	**$5,000.00**	**$0.00**	**$0.00**	**$5,000.00**
60	**Supplies**				
	Ink cartidges for printers/plotters	$0.00	$0.00	$0.00	$0.00
	CDs/DVDs/Tape	$0.00	$0.00	$0.00	$0.00
	Paper for maps	$0.00	$0.00	$0.00	$0.00
	office supplies	$100.00	$400.00	$500.00	$1,000.00
	Subtotal		**$400.00**	**$500.00**	**$1,000.00**
100	Grand Total	$82,500.00	$48,900.00	$19,000.00	$150,500.00

Name of Institution: NatureServe				
Co-financing category	**Co-financing amount in Dollars**			**Total cofinancing for category**
ITEM	**Year 1**	**Year 2**	**Year 3**	
Personnel				
Ecosystem Expert/s	$70,000	$80,000	$70,000	$220,000
Biodiversity expert/s	$15,000	$15,000	$0	$30,000
GIS and remote sensing expert/s	$0	$0	$0	$0
Web designer/s	$0	$0	$0	$0
Database management expert/s	$30,000	$30,000	$0	$60,000
System administrator/s	$10,000	$10,000	$10,000	$30,000
Network technician/s	$0	$0	$0	$0
Webmaster/s	$0	$0	$0	$0
Programer/s	$0	$0	$0	$0
Training specialist	$0	$0	$0	$0
Secretarial Support	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$125,000**	**$135,000**	**$80,000**	**$340,000**
Travel				
National	$0	$0	$0	$0
International	$5,000	$5,000	$5,000	$15,000
Other (please specify)	$0	$0	$0	$0
Subtotal	**$5,000**	**$5,000**	**$5,000**	**$15,000**
Software				
Commercial	$0	$0	$0	$0
Taylor-made	$0	$0	$0	$0
License maintenance	$0	$0	$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**
Hardware				
Servers	$0	$0	$0	$0
Computers	$5,000	$5,000	$5,000	$15,000
Printers	$0	$0	$0	$0
Communication	$0	$0	$0	$0
Uninterruptable power supplies	$0	$0	$0	$0

Routers	$0	$0	$0	$0
Furniture	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$5,000**	**$5,000**	**$5,000**	**$15,000**
Connectivity & Networking				
Satellital Dish	$0	$0	$0	$0
Dedicated Line (T1-T3)	$0	$0	$0	$0
Broadband (128 kbps and up)	$0	$0	$0	$0
Dial-Up (56kbps)	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**
Datasets				
Raster	$0	$0	$0	$0
Vector	$0	$0	$0	$0
Drawn maps/ photos	$0	$0	$0	$0
CDs/DVDs/Tape	$0	$0	$0	$0
Other (collections and census data)	$0	$0	$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**
Office space and maintenance				
Remodeling	$0	$0	$0	$0
Utilities	$0	$0	$0	$0
Other maintenance	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**
External Service Contracts				
Personnel	$0	$0	$0	$0
Other (please specify)	$0	$0	$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**
Supplies				
Ink cartidges for printers/plotters	$0	$0	$0	$0
CDs/DVDs/Tape	$0	$0	$0	$0
Paper for maps	$0	$0	$0	$0
office supplies	$0	$0	$0	$0
Subtotal	**$0**	**$0**	**$0**	**$0**
Grand Total	$135,000	$145,000	$90,000	$370,000

SECTION – 4. Description of Approach, Methodology and Work Plan for Performing the Assignment

a) Technical Approach and Methodology.

The main goal of the Ecosystem Thematic Network is to facilitate access to ecosystem information through an electronic and institutional network dedicated to regional ecosystem information that supports the decision making process and enhances knowledge.

The objectives of the Ecosystem Thematic Network are the following:

1. Enhance the usefulness of ecosystem information for decision makers in government and civil society.
2. Recommend standards for IABIN Council approval for providing access to information on ecosystems that is distributed among multiple institutions.
3. Establish a hemispheric system for accessing ecosystem information that allows cross-referencing different ecosystem classifications.
4. Integrate ecosystem information with specimen and species information from other IABIN thematic networks.

The following issues represent the main challenges to IABIN in achieving the goal related to ecosystem information:

- Lack of widely accepted standards for ecosystem classification inhibits comparison of information from one region to another.
- Ecosystem information exists at multiple scales and resolutions.
- Inadequate geo-referencing of specimen and observation data to develop understanding of relationships between ecosystems and species distributions.
- Relatively little existing support for international collaboration on ecosystem data standards.
- Few existing tools that support analysis and interpretation of ecosystem data for decision-making.

The Consortium will responsibly address these issues and facilitate the advancement in the understanding of science underlying them.

Description of Approach and Methodology

The term ecosystem refers to a territorial unit, which is defined according to its biological and geophysical characteristics, in relation to other areas. Countries have traditionally represented ecosystems in geospatial form, utilizing different resolutions and a multitude of classifications, which make regional analysis difficult. Geographical Information Systems (GIS) have facilitated the management of ecosystem data and their visualization, also providing the tools with which the information can be standardized. The development of the IABIN Ecosystem Thematic Network presents an excellent opportunity to standardize and homogenize how ecosystem information is handled, providing the mechanisms to access, and visualize ecosystem data at the national level, as well as providing access to homogenized hemispheric ecosystem data.

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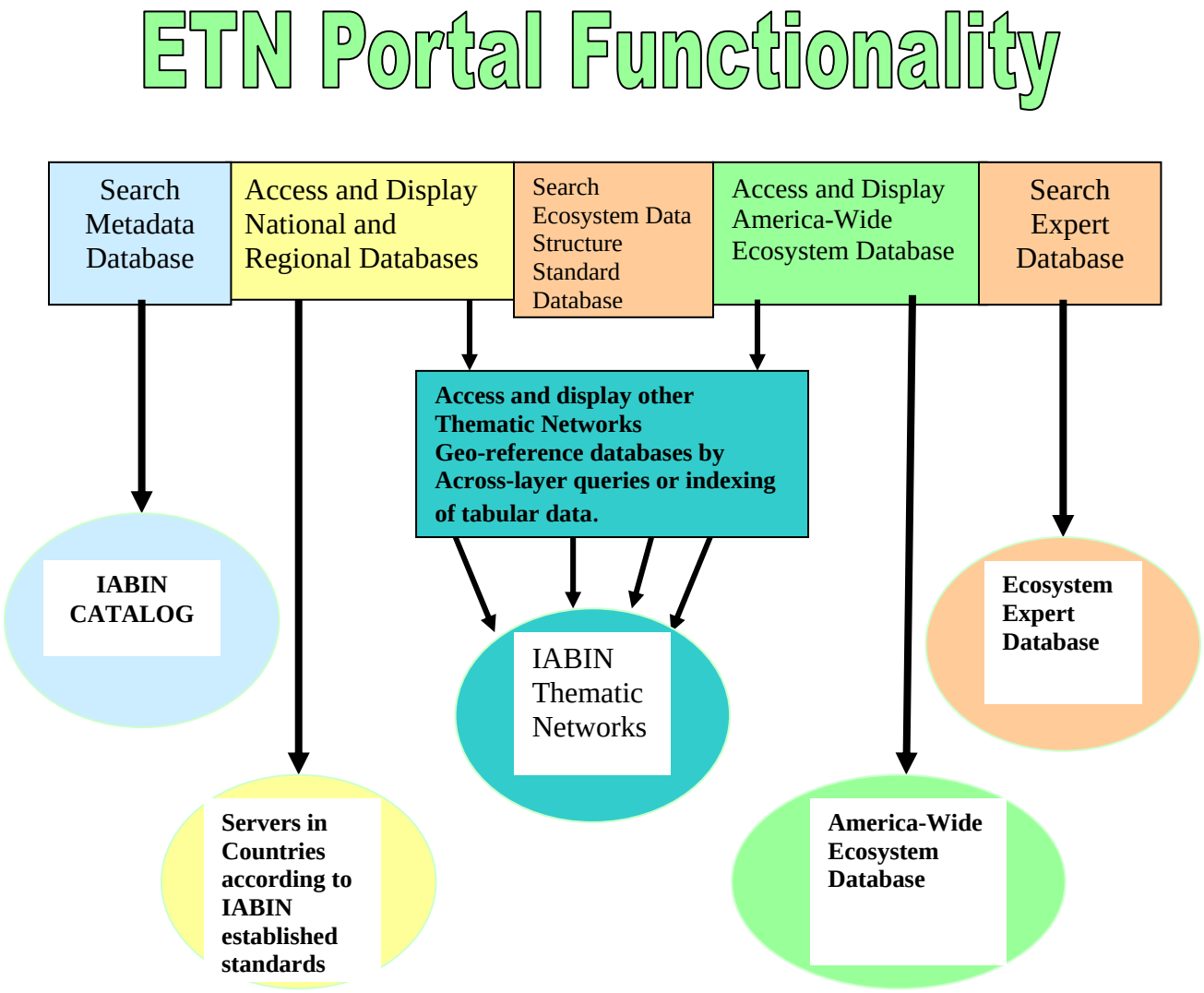

Figure 1

The Ecosystem Thematic Network (ETN) will include terrestrial, freshwater and marine ecosystems. In order to develop the ETN, Expert Committees will be formed in each of the ecosystem areas. The end product of this proposal will be version 1 of the ETN populated with data provided by consortium members, and by other organizations and communities.

User access to the Ecosystem Thematic Network will be through the Ecosystem Thematic Network Portal, accessible from the IABIN Home Page in three languages (Spanish, English and Portuguese). The ETN Portal functionality is illustrated in Figure 1. The Portal will provide access to: the IABIN Catalog, Ecosystem Expert lists (terrestrial, freshwater, and marine), National and Regional Ecosystem Databases, an Ecosystem Data Structure Standard database, an America-Wide Terrestrial Ecosystem Database, and databases which

are part of the other Thematic Networks (Species, Specimen, Invasive Species, Protected Areas and Pollinators). The Portal will also provide Links to other high quality ecosystem databases and maps, information systems and products available through the web.

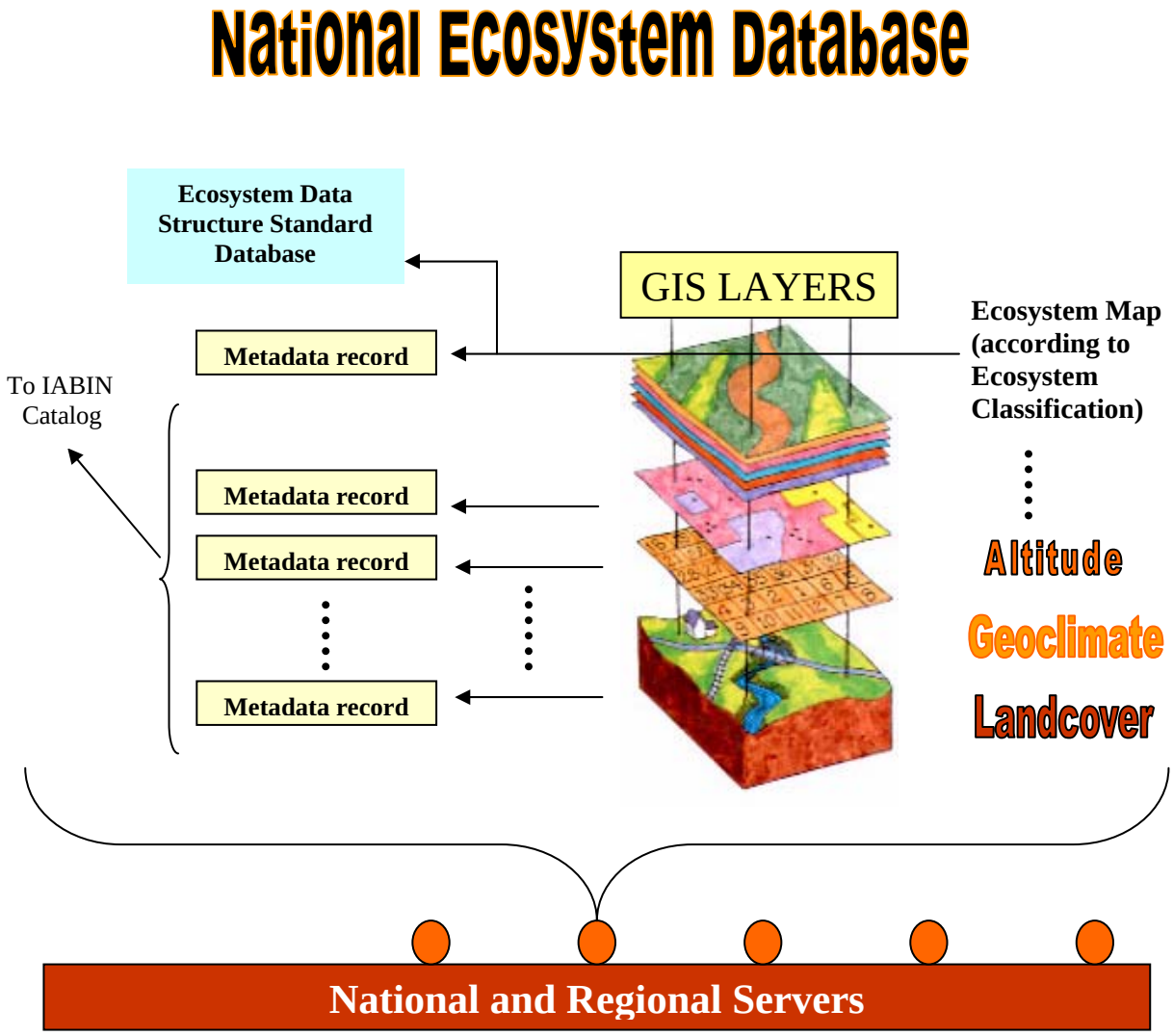

Figure 2

The directory of **Ecosystem Experts** with searching capabilities in the Terrestrial, Freshwater and Marine realms will be developed in cooperation with the other Thematic Networks.

Access to National and Regional Databases
One of the main functions of the ETN will be to access National and Regional Ecosystem databases. There are many **National or Regional Ecosystem Database**s that contain geo-referenced data which reside in a Geographic Information System (GIS), as illustrated in Figure 2. To be accessible through the Web this database must be part of a Web Map Service (WMS) at the institution that owns the data or a designated hosting institution. The database consists of layers which may include landcover, geoclimate, altitude, etc., which can be combined to produce a classification system and an ecosystem map. Each layer will be documented according to IABIN metadata standards and made available through the IABIN Catalog. The experience acquired by IABIN in setting the Geospatial Network for Mesoamerica and the Caribbean will be useful in creating this system.

A georeferenced record in a standard format (**Ecosystem Data Structure Standard, EDSS**) will be generated for each class within an ecosystem classification system. The EDSS envisioned is similar to the UBI created by INBio to describe ecosystem classes in Costa Rica. The EDSS should have information that ties a particular ecosystem to biological databases, specifically those provided by the other TNs. The EDSS to be adopted and the final architecture of the system will be defined with support from an Expert Committee and input from other TNs. The Consortium will develop a searchable database with the EDSS data generated by the countries. The EDSS user interface will also allow the user to establish the equivalence among classes within the main ecosystem classification systems used in the region. An EDSS electronic form will be created by the Consortium, so the countries can input their data. The EDSS data base will reside in a server at one of the Consortium institutions.

Version 1 of the ETN will include National Terrestrial Ecosystem databases from at least ten countries throughout the hemisphere, and most Regional Databases in existence. Version 1 of the ETN will also include prioritized existing regional Freshwater and Marine Ecosystem databases, such as WWF HyDROSHEDS and RAMSAR sites.

Accessing Tabular and GIS layers in distributed servers
It is essential that users will be able to access tabular data that exist in institutions at the national and regional levels. The Consortium will provide the necessary **translators/connectors** to convert tabular data to adopted standards, so the user can download these data. The Consortium will provide procedures and translators for three foreseen situations:

- Data provider has an electronic database in a different format and has the Internet infrastructure to disseminate it. In this case a translator/connector will be provided electronically and data will be disseminated from a server at the data providing institution.

- Data provider has an electronic database in a different format, but does not have the Internet infrastructure to disseminate it. In this case the translator/connector will be provided on a CD and the data will be disseminated in the correct format from a server at one of the consortium institutions.

- Data provider has data that is not in an electronic format and does not have the Internet infrastructure to disseminate it. In this case the Consortium will provide software on a CD to digitize the data and the data will be hosted in a server at a consortium institution.

In the decision making process the information on specimens, species and ecosystems is typically utilized in an integrated fashion. The TNs being implemented by IABIN (specimens, species, invasive species, protected areas, pollinators and ecosystems) will be interconnected allowing the user, who enters the system through either one of the networks, access to the information in the other networks (as well as correlative information), and to be able to view this information in an integrated manner. For this objective we will use the GeoIntegrator being developed under IABIN's Geospatial Network, which will allow the user to access either GIS WMS layers or tabular data residing in distributed servers, and to integrate these data into base maps. This functionality will be available for National and Regional Databases, as well as for the America-Wide system to be described in the next section.

The preparation of the National databases, their metadata and the EDSS data to be included in the Version 1 of the ETN will be the responsibility of the countries and will be funded by Component 2 of the GEF Grant, assigned to the development of the ecosystem databases. The Consortium will work with the IABIN Secretariat in the process to identify the institutions within the countries that will participate and will be funded on a competitive basis to carry out these tasks.

The participating countries will be trained in the following areas:

- IABIN standard metadata preparation
- Setting up Web Map Services.
- Filling out the EDSS form created by the Consortium
- Installing Interphase/Connectors for accessing tabular datasets

The preparation of training materials will be done by the consultants and consortium members working on the specific topics. Training will be carried out with funds from Component 2 of the GEF Grant on a competitive basis.

Creating an America-Wide Terrestrial Ecosystem Database

It is important to take advantage of existing national/regional ecosystem maps by compiling/reconciling a variety of data sources into a standard classification system: the terrestrial ecosystems of Central America (World Bank), Caribbean ecosystems (TNC), Mexico ecosystems, North America GAP products, the recently completed South America ecosystems product (TNC) and TNC's Central America classification system that will be completed in 2007. One of the main activities of the ETN will be to choose an America-wide

classification system through extensive consultations/surveys with in-country experts. The key will be to utilize a classification system that will capture ecosystems in a practical manner where you find co-occurring vegetation types that share common ecological processes, gradients, or substrates. We may want to consider using a system that has already been developed, such as NatureServe's Americas continental framework, which is standardized for both North and Latin America/Caribbean.

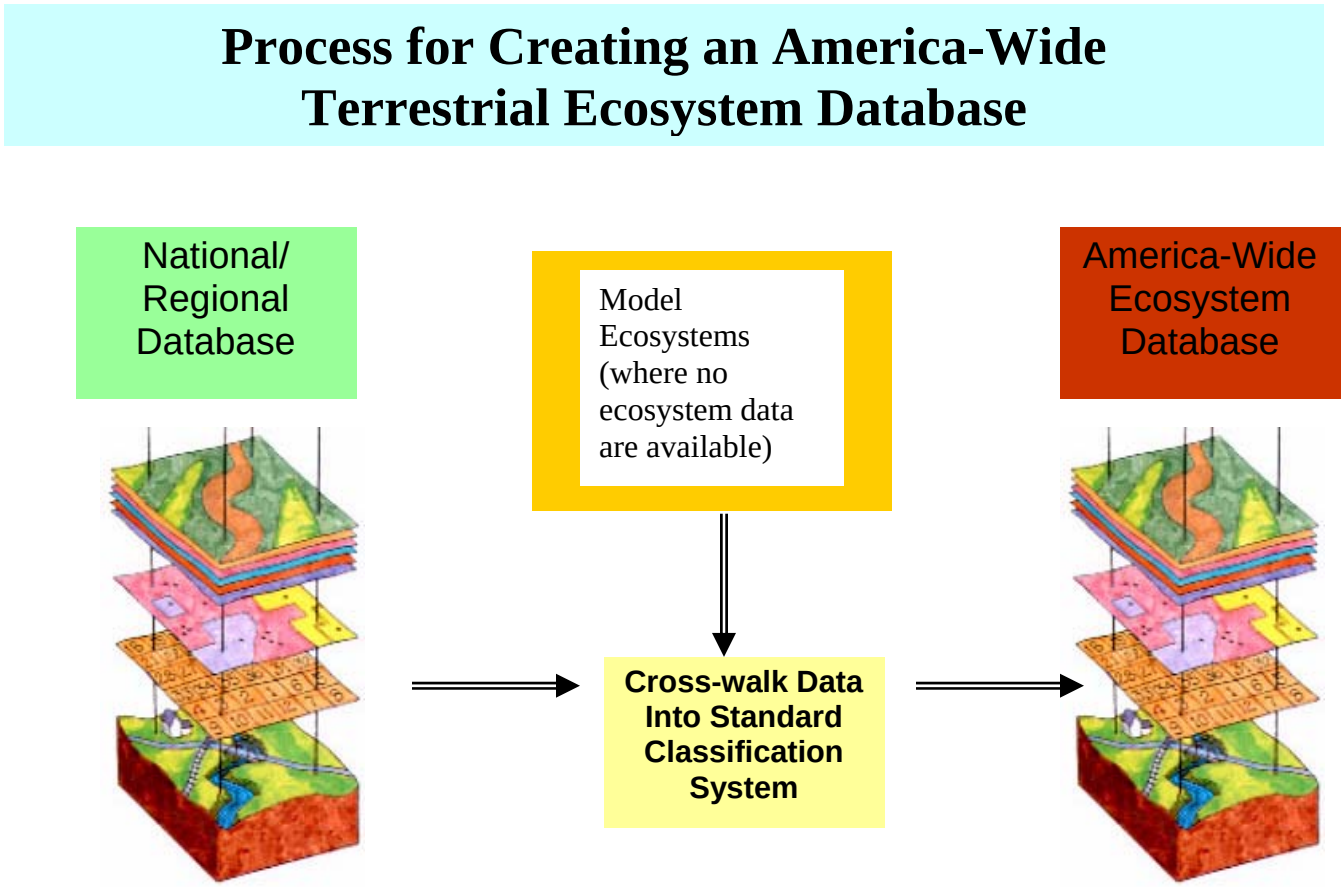

Figure 3

This will lead to an America-Wide Terrestrial Ecosystem Database. The process to develop this database, as illustrated in Figure 3, includes gathering the most readily available geospatial data for ecosystem classifications and cross walk the classification categories to fit the America-wide classification system previously defined.

For areas where there is no data available, an ecosystem will be modeled based on the combination of several different physical global variables (e.g. landcover, elevation,

landforms, geology, and bioclimate). Model outputs will be categorized and cross walked to fit ecosystems within a particular landcover type (forests, deserts, grasslands, etc).

b) Work Plan.

This section will identify the main activities to be carried out under this proposal, their content and duration, phasing and interrelations, milestones and delivery dates.

In order to facilitate developing a Work Plan the activities to be carried out will be divided into five major components:

Component 1: Coordinating Activities
Component 2: Network Infrastructure Development and Maintenance
Component 3: Portal Functionality Development
Component 4: America-wide Terrestrial Ecosystem Database
Component 5: Administration and Sustainability

Each of the Components will be described next.

COMPONENT 1: COORDINATING ACTIVITIES
The following activities will be carried out under Component 1:

1. Carry out a survey in order to:
- **Identify users' needs;**
- **Identify existing data and their quality and availability;**
- **Identify existing information systems on ecosystems.**

With support from the IABIN Focal Point, users and data providers from each IABIN participating country will be identified and contacted. The survey will be provided in paper and electronic form. The Expert Teams will help prepare the survey questions.

2. Establish a Committee of Experts – The Committee of Experts will be established with subgroups to deal with terrestrial, freshwater, and marine ecosystems, respectively. The Consortium members and collaborators will choose the Expert Committee. The members of the Committee will interact through the Web and there will be a workshop each year to address the needs of each ecosystem realm. The Committee will be responsible for:

- Developing the users and data provider survey.
- Making recommendations on choosing an ecosystem classification system for terrestrial, aquatic and marine ecosystems.
- Making a recommendation on an Ecosystem Data Structure Standards that will be used in the development of a database, taking into consideration IABIN standards and protocols, as well as GBIF. The recommendations should take into consideration the need to cross-reference among different ecosystem classifications, and between the ecosystem database and other TN databases.

- Making recommendations on the functionality of the software to be developed for user access.
- Identifying and evaluating existing information systems on ecosystems that should be linked or integrated into the Ecosystem Thematic Network.
- Making recommendations on the different kinds of data that should be included in the Ecosystem Thematic Network.
- Summarizing existing high quality data and data gaps.
- Compiling data on experts in the three realms.
- Recommending policies on the use of information, and
- Choosing a Terrestrial Ecosystem Model.

3. Choose an America-wide ecosystem classification system through extensive consultations/surveys with in-country experts.

In the case of terrestrial ecosystems, it is desirable to utilize a system that will capture ecosystems in a practical manner where users will be able to find co-occurring vegetation types that share common ecological processes, gradients, or substrates. If possible, a classification system already developed will be adopted. For example, a terrestrial ecosystem classification system, such as NatureServe's Americas Continental Framework, is standardized for both North and Latin America/Caribbean. A similar classification system for freshwater and marine habitats also will be identified.

4. Translation to Spanish, English and Portuguese.

Products

A report at the end of year 1 for Terrestrial Ecosystems, at the end of year 2 for Freshwater Ecosystems and at the end of year 3 for Marine Ecosystems, with recommendations from the Expert Committees, including:

- A prioritized, annotated list of user types and their requirements;
- An evaluation of ecosystem information systems in the context of ongoing regional projects, and recommendations for their improvement and integration into the Ecosystem Thematic Network;
- Recommendations on Data Structure Standards;
- Recommendation of America-Wide Terrestrial Ecosystem classification;
- Recommendation on Terrestrial Ecosystem model to be used to generate America-Wide Terrestrial Ecosystem classification in cases where data are not available.
- Recommendations on the functionality of the software to access the ecosystems databases;
- Recommendations of the different kinds of data to be included in the Ecosystem Thematic Network;
- A summary of existing high quality data (including geospatial and national/regional ecosystem maps) and their availability, indicating the state of the data and available infrastructure to provide it;
- Policies for the use of information accepted and documented.

All reports will be in English and Spanish. Interfaces will be available in Spanish, English and Portuguese.

Component 1 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
CI/IT Specialists-IABIN Secretariat Meeting												
Establish Terrestrial Expert Committee	Consortium Members *											
Establish Freshwater Expert Committee					*							
Establish Marine Expert Committee									*			
Determine communication mechanism through the web and a work schedule for the Expert Committee	Consortium member											
Develop survey for data users and data providers	EC# Consultant 1											
Identify and contact data users and data providers who will participate in survey	Consortium Members, EC, IABIN Focal Points, Consultant 1											
Summarize survey data		Consortium Members – Consultant 1										
Consortium Members and Experts Committee meeting				Consortium Members, EC								
Choose America-wide ecosystem classification system and model				EC								
Develop Data-Structured Standard Format				EC								
Report with recommendations from Expert Committee				Consortium Members, EC, Consultant 1								
Development of a list of ecosystems experts for the expert database			EC									
Translation to Spanish, English and Portuguese	Consultant 2			Consoritum Members								

EC = Expert Committee

* Color Tan refers to terrestrial ecosystems, yellow to freshwater, and orange to marine.

Component 1: Budget – GEF funds

Activity	Year 1	Year 2	Year 3
CI/IT Specialists-IABIN Secretariat Meeting	**$2,000**		
Establish Expert Committee			
Determine Communication mechanism for Expert Committee –			
Develop survey for data users and data providers through electronic forum –	**$1,000**	**$1,000**	**$1,000**
Identify and contact data users and data providers who will participate in survey –	**$1,000**	**$1,000**	**$1,000**
Summarize survey data	**$1,000**	**$1,000**	**$1,000**
Consortium Members and Experts Committee meeting – travel	**$10,000**	**$10,000**	**$10,000**
Develop Data Structured Standard Format			
Choose Ecosystem Classification System and model			
Develop list of ecosystem experts			
Report with recommendations from EC			
Translations	**$2,000**	**$2,000**	**$2,000**
Total	**$17,000**	**$15,000**	**$15,000**

COMPONENT 2 – NETWORK INFRASTRUCTURE DEVELOPMENT AND MAINTENANCE

Activities

- Provide server infrastructure, connectivity (T1 line), and system administration to operate and maintain an Ecosystem Thematic Network Portal;
- Provide access to data and information 24x7, proper security policies, practices, and tools needed to be implemented within the Ecosystem Thematic Network;
- Host data and information for ecosystem data providers who do not have this capability;
- Provide user and technical support;
- Host the EDSS and Expert databases
- Host the Portal interface.

Products

- System set up for user assistance and technical support
- Network functioning 24/7 with high-speed internet connection and security features

- Ecosystem Thematic Network Portal interface accessible through the IABIN web page
- EDSS and Expert databases accessible through the Portal
- National Data hosting

Component 2 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Provide server infrastructure			**CI, CMs**									
Provide connectivity (T1 line)			**CI, CMs**									
Provide software			**CI, CMs**									
Provide system administration			**Consultant 3**									
Provide technical and user support			**Consultant 3**									
Data hosting			**CI and CMs**									

Component 2: GEF Budget

	Year 1	Year 2	Year 3
Server infrastructure			
Connectivity (T1 line)			
Software			
System Administrator –	**$10,000**	**$10,000**	**$10,000**
Technical support –	**$2,000**	**$2,000**	**$3,000**
Hosting			
Total	**$12,000**	**$12,000**	**$13,000**

COMPONENT 3 – PORTAL FUNCTIONALITY DEVELOPMENT

Activities

1. Design, implementation and maintenance of the Portal interface.

2. Development of a searchable Expert Database and mechanisms for updating database.

3. Design and implementation of the EDSS searchable database, including forms for countries to input their data.

4. Develop GIS and metadata standards for countries providing data.

5. Modify GeoIntegrator to allow user to access and visualize distributed tabular and GIS layers.
6. Assist the IABIN Secretariat to choose the countries that will provide the National databases to be included in the prototype and will receive Grants under the GEF Component 2.
7. Assist the IABIN Secretariat in developing the Terms of Reference for the consultant that will develop the training materials and provide training to the country staff (under GEF Component 2).
8. Work with the consultant chosen to develop the training materials and provide training.
9. Training of country staff that will set up map servers and database, develop metadata and develop EDSS database.
10. Provide technical assistance to country staff to set up map servers and database.
11. Develop the America-Wide Terrestrial Ecosystem Database.
12. Provide support to consultant chosen to develop America-Wide Terrestrial Ecosystem Database.
13. Development of Translator/Connector

Component 3 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Design, implementation of version 1 of Portal interface	Consultant 4											
Maintenance of Portal					Consultant 4							
Development of a searchable Expert Database and mechanisms for updating database			Consultant 5									
Development of Connector/translator					Consultant 6							
Design and implementation of the EDSS searchable database, including forms for countries to input their data					Consultant 7							
Develop a GIS template for countries providing data					Consultant 8							
Adapt GeoIntegrator to access GIS and tabular distributed data					Consultant 9							

Assist the IABIN Secretariat to choose the countries that will provide the National databases to be included in the prototype and will receive Grants under the GEF Component 2				**Consortium**								
Assist the IABIN Secretariat in developing the Terms of Reference for the consultant that will develop the training materials and provide training to the country staff (under GEF Component 2)				**Consortium**								
Work with the consultant chosen to develop the training materials and provide training					**Consortium And consultants**							
Training of country staff that will set up map servers and database, develop metadata and develop EDSS database					**Consortium and consultants**							
Remote technical assistance to country staff to set up map servers and database						**Consultant 9**						

Component 3: GEF Budget

Activity	Year 1	Year 2	Year 3
Design, implementation of version 1 of Portal interface	$5,000 Consultant 4		
Maintenance of Portal	Consultant 4	$5,000	$5,000
Development of a searchable Expert Database and mechanisms for updating database	$1,499 Consultant 5		
Development of Connector/translator	Consultant 6	$5,000	$5,000
Design and implementation of the EDSS searchable database, including forms for countries to input their data	Consultant 7	$5,000	
Develop a GIS template for countries providing	Consultant 8	$3,000	

data			
Adapt GeoIntegrator to access GIS and tabular distributed data	Consultant 9	$5,000	
Assist the IABIN Secretariat to choose the countries that will provide the National databases to be included in the prototype and will receive Grants under the GEF Component 2	Consortium		
Assist the IABIN Secretariat in developing the Terms of Reference for the consultant that will develop the training materials and provide training to the country staff (under GEF Component 2)	Consortium		
Work with the consultant chosen to develop the training materials and provide training	Consortium and consultants		
Training of country staff that will set up map servers and database, develop metadata and develop EDSS database	GEF Component 2		
Remote technical assistance to country staff to set up map servers and database	Consultant 10	$3,000	$3,000
Total	$6,499	$26,000	$13,000

Products

1. ETN Portal designed, implemented and maintained.- Year 1
2. Searchable Expert Database implemented and accessible through Portal.
3. Connector/Translators implemented and functioning for identified datasets, which should be accessible through the Web.
4. At least 10 National Terrestrial Ecosystem Databases accessible through the Web.
5. Identified Regional (Terrestrial, Aquatic and Marine) Ecosystem Databases accessible through the Web.
6. GeoIntegrator functioning and adapted to access tabular data and GIS layers from distributed servers, allowing integration of ecosystem data with data from other TNs.
7. Metadata from all accessible datasets accessible through the IABIN Catalog.
8. EDSS searchable database functioning.

COMPONENT 4: AMERICA-WIDE TERRESTRIAL ECOSYSTEM DATABASE

Activities:
1. Gather all available national and regional geospatial data that represents the most complete coverage of ecosystems for the selected countries.
2. Organize the data into a consistent format and projection.
3. For areas lacking geospatial data, model ecosystems using physical global variables to create classes consistent with the previously gathered ecosystems.
4. Create a master list of all possible combinations of ecosystems classes.
5. Organize and group all ecosystem classes in preparation for expert review in order to establish the hierarchical cross-walk classification.
6. Consult experts to create and establish a hierarchical ecosystem classification for level 1 and 2 category class groupings.
7. Create a final table that contains three columns representing the three levels of the ecosystem classification (from most detailed to more broad): Original class, Type 1 classification, Type 2 classification.
8. Peer-review of cross-walk classes to ensure accuracy.
9. Create attributes for each classification level and assign all ecosystems an appropriate class at each level.

It is estimated a total of 36 person months to complete the cross-walk process. This activity will be carried out with co-financing from NatureServe and The Nature Conservancy. Version 1 of the America-wide Terrestrial Ecosystem Database will cross-walk at least the databases that will be included in the National Ecosystem Databases section of the Portal. The Consortium will try from the beginning to obtain supplementary funds to complete this activity.

Component 4 – Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Gather all available national and regional geospatial data that represents the most complete coverage of ecosystems	**SS LC MC**					**Lenin Corrales Marco Castro**						
Organize the data into a consistent format and projection						**same**						
For areas lacking geospatial data, model ecosystems using physical global variables to create classes consistent with the previously gathered ecosystems						**Same M. Kappelle Shirley Keel JT**						
Create a master list of all possible combinations of ecosystems classes						**Same as above**						

Organize and group all ecosystem classes for expert review in order to establish the hierarchical cross-walk classification.						**LC SK JT MK**		**Jerry Touval**				
Consult experts to create and establish a hierarchical ecosystem classification for level 1 and 2 category class groupings						**Sameas above**						
Create a final table that contains three columns representing the three levels of the ecosystem classification (from most detailed to more broad): Original class, Type 1 classification, Type 2 classification								**LC SK JT MK**				
Peer-review of cross-walk classes to ensure Accuracy.										**Same as above**		
Create attributes for each classification level and assign all ecosystems an appropriate class at each level											**SS MC LC**	

COMPONENT 5: ADMINISTRATION AND SUSTAINABILITY

Activities

Project administration and management will be carried out by STRI, as Coordinating Institution (CI), utilizing the Annual Operating Plan as a guide. The Project Coordinator will monitor the state of the project and coordinate activities among participants according to the Annual Operating Plan. The following activities will be carried out by the Project Coordinator in coordination with the Consortium members:

1. Develop an Annual Operating Plan (AOP)

The AOP of the Consortium will be produced previous to the beginning of each year of Contract award and will be submitted to the GS/OAS. The AOP will contain the Project activities to be carried out during the calendar year following the date of presentation of said plan to the GS/OAS, and a timetable for the completion of the Project activities during the year in question.

2. Overall project coordination

The Project Coordinator will oversee the implementation of the project and carry out the necessary coordination among Consortium members and other participants. The Project

Coordinator will monitor progress against the implementation plan and be in charge of making the planned product deliverables.

3. Reporting to the OAS and IABIN Secretariat

STRI will furnish to the OAS and the IABIN Secretariat Quarterly Technical Reports and Semester Reports (semi-annual progress) not later than 20 days after the end of the first calendar semester after the Contract start date. All Reports will be provided in English and Spanish. The Project Coordinator will submit the following reports:

- **Quarterly Technical Reports** will document the completion of planned activities and the progress made toward the achievement of desired results, as set out in the Annual Implementation developed by the Consortium for the Ecosystem Thematic Network. The report will also review any problems or decisions with an impact on performance. Final products will be evaluated according to the Key Performance Indicators provided in the PIP on progress specific to the Ecosystem Thematic Network.

- **Semi-Annual Progress Reports** will provide a summary of the Consortium activities, highlighting significant results and overall progress toward achievement of the final products according to the Implementation Plan. The Semi-Annual Progress report will include a summary of the Financial Monitoring Reports. It will also provide information on Key Performance Indicators.

- **Financial Monitoring Reports**
  The Financial Monitoring Report will provide an overview of project finances and counterpart funds to-date including disbursements and expenditures according to procedures provided by the OAS.

- **Final Report**
  A Final Report will be submitted at the end of contract that evaluates the implementation effectiveness of the Consortium, the achievements under each project component and the ultimate success of the Consortium in meeting its stated objectives. The Final Report will also address track performance according to Key Performance Indicators in the PIP.

4. Develop Sustainability Plan

The main objective of the Sustainability Plan will be to ensure human, technical and financial resources for the long-term sustainability of the Ecosystem Thematic Network. The plan will include provisions by which at the end or during the execution of the official contract phase, if the Consortium can no longer ensure the continued hosting and maintenance of the website and data, that data will be transferred in their entirety and at no cost to IABIN.

5. Translation of reports

Component 5 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Coordinate and monitor project	CI											

Develop Annual Operating Plan	**CI**											
Quarterly Technical Reports	**CI**											
Semi-Annual Progress Reports		**CI**										
Final Report												
Financial Reports		**CI**										
Develop Sustainability Plan												
Translation of reports												

Component 5: Budget

Activity	Year 1	Year 2	Year 3
Project Coordinator	**$29,000**	**$29,000**	**$29,000**
Travel	**$7,000**	**$7,000**	**$7,000**
Tele-Communications			
Office supplies			
Overhead	**$4,167**	**$4,167**	**$4,167**
Total	**$40,167**	**$40,167**	**$40,167**

Performance Measures

The following performance indicators will be measured in order to establish the effectiveness of the project:

- Number of ecosystem databases identified by the Committee of Experts.
- Use of the Network Portal increasing by 25% per year starting with year 2.
- Network downtime less than 2% per year.
- Percentage of institutions participating as data providers.
- Percentage of users who tested the software for searching the database who found it user friendly and effective for decision-making.
- An assessment of the improved interoperability provided by the use of the Ecosystem Thematic Network in conjunction with IABIN's Thematic Networks in decision-making.

c) *Organization and Staffing.*

STRI as Coordinating Institution, will name a Project Coordinator, to manage the project. Under the supervision of the Director of STRI, Dr. Vincent Abreu will serve as project coordinator. A Committee of Experts, chosen from the Consortium, Collaborating institutions and others, will provide scientific expertise during the development process. A Technical Expert will be identified among the Consortium Members, who will represent the Consortium in all technical matters.

The IABIN Focal Points will play a key role as points of contact between the development team and data providers and users at the national level. The development of the Network will also be done in close collaboration with the IABIN Secretariat, who will provide the contacts with other Thematic Networks, the IABIN Focal Points and the IABIN Executive Committee. The IABIN Secretariat will also be invited to participate in Committee of Experts meetings. The Committee of Experts will make recommendations to the IABIN

Secretariat concerning the availability of quality data that should be incorporated into the Network with the aid of GEF Component 2 Grants to data providing institutions.
The development of the Ecosystem Thematic Network will be carried out by a Consortium consisting of the following institutions:

- Instituto Nacional de Biodiversidad (INBio) de Costa Rica
- Museo Argentino de Ciencias Naturales
- Smithsonian Tropical Research Institute, Panamá
- The Nature Conservancy
- NatureServe
- Fundação O Boticário

The Consortium Members will provide the hemispheric, regional, and sub-regional technical expertise necessary to carry out this project and consolidate a sustained network beyond the lifetime of the project.

SECTION -5. TEAM COMPOSITION AND TASK ASSIGNMENTS

The positions described below are supported through co-financing by the Consortium organizations, except the Project Coordinator, who will be hired by STRI and will be paid from the GEF funds.

Professional Staff				
Name of Staff	Firm	Area of Expertise	Position Assigned	Task Assigned
Vincent J. Abreu	STRI	Information Products for Decision Making	Project Coordinator	Project Coordination, reporting, sustainability, developing terms of reference for consultants, Annual Plan, etc.
Ana Faggi	MACN	Agronomist	Terrestrial Expert Committee leader	Coordinate activities of Terrestrial Expert Committee
Alba Puig	MACN	Biologist	Freshwater Expert Committee leader	Coordinate activities of Freshwater Expert Committee
Claudia Muniain	MACN	Biologist	Marine Expert Committee leader	Coordinate activities of Marine Expert Committee
Marta Collantes	MACN	Agronomist	Expert Committee member	Terrestrial ecosystems
Alejandro Tablado	MACN	Biologist	Expert Committee member	Marine Expert
Eduardo Dalcin	Fundação O Boticário	Ecologist	Expert Committee member	Brazilian databases
C. Josse	NatureServe	Ecologist	Expert Committee member	America-Wide system/cross walk
Mireya Correa	STRI	Botanist	Expert Committee member	Terrestrial ecosystems
David Ward Roubik	STRI	Entomologist/ Pollinators	Expert Committee member	Conceptualize how to link ETN to other TNs

Erick Mata	INBio	Biodiversity Informatics	EDSS leader/Expert Committee member	Coordination of EDSS
Steve Paton	STRI	Biodiversity Informatics	Informatics Leader/Expert Committee member	Coordinate technical activities; Coordinate National tabular databases collection, metadata development
Kip Gupta	STRI	Programmer	Informatics expert	Connector/Translators
J. Bessier	STRI	Programmer	Informatics expert	Geoservers and Geointegrator
F. Bouche	STRI	Information Technology	Informatics expert	Network operations: servers, connectivity, portal, databases, hosting, etc.
K. Snow	NatureServe	Data specialist	Informatics Expert	Data Standards, ETN Portal, Expert database
D. Grossman	NatureServe		America-Wide system leader for NatureServe activities/Expert Committee member	Coordinate collection of National and Regional GIS databases and cross-walk to America-Wide system at NatureServe
P. Comer	NatureServe	Ecologist	America-Wide system expert	America-Wide system/cross-walk
D. Faber	NatureServe	Ecologist	America-Wide system expert	America-Wide system
J. Swenson	NatureServe	Ecologist	America-Wide system expert	America-Wide system
A. Morris	NatureServe	Administrator	Administrator	America-Wide system reporting
Marteen Kappelle	TNC	Ecologist	America-Wide system leader for TNC activities/Expert Committee member	Coordinate collection of National and Regional GIS databases and cross-walk to America-Wide system at TNC

				coordination
Steve Schill	TNC	Database/GIS expert	America-Wide system expert	America-Wide system/GIS expert
Lenin Corrales	TNC	Database/GIS expert	America-Wide system expert	America-Wide system/Database expert
Marco Castro	TNC	Database/GIS expert	America-Wide system expert	America-Wide system/GIS expert
Shirley Keel	TNC	Ecologist	America-Wide system expert	America-Wide system
Jerry Touval	TNC	Ecologist	America-Wide system expert	America-Wide system
TBD	Fundação O Boticário	Secretary	Translator	Translations to Portuguese
C. Nascimiento	NatureServe	Language expert	Translator	Translations to Portuguese

SECTION -6. CURRICULUM VITAE (CV) FOR PROPOSED PROFESSIONAL STAFF

SEE CV FOLDER

Section-8. Work Schedule (cronograma)

Component 1 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
CI/IT Specialists-IABIN Secretariat Meeting												
Establish Terrestrial Expert Committee	**Consortium Members ***											
Establish Freshwater Expert Committee					*							
Establish Marine Expert Committee									*			
Determine communication mechanism through the web and a work schedule for the Expert Committee	**Consortium member**											
Develop survey for data users and data providers	**EC# Consultant 1**											
Identify and contact data users and data providers who will participate in survey	**Consortium Members, EC, IABIN Focal Points, Consultant 1**											
Summarize survey data		**Consortium Members – Consultant 1**										
Consortium Members and Experts Committee meeting				**Consortium Members, EC**								
Choose America-wide ecosystem classification system and model				**EC**								
Develop Data-Structured Standard Format				**EC**								
Report with recommendations from Expert Committee				**Consortium Members, EC, Consultant 1**								
Development of a list of ecosystems experts for the expert database			**EC**									
Translation to Spanish, English and Portuguese	**Consultant 2**			**Consoritum Members**								

EC = Expert Committee

- In Component 1 Schedule, Color Tan refers to terrestrial ecosystems, yellow to freshwater, and orange to marine.

Component 2 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Provide server infrastructure			**CI, CMs**									
Provide connectivity (T1 line)			**CI, CMs**									
Provide software			**CI, CMs**									
Provide system administration			**Consultant 3**									
Provide technical and user support			**Consultant 3**									
Data hosting			**CI and CMs**									

Activity	Year 1				Year 2				Year 3			
Design, implementation of version 1 of Portal interface	**Consultant 4**											
Maintenance of Portal					**Consultant 4**							
Development of a searchable Expert Database and mechanisms for updating database			**Consultant 5**									
Development of Connector/translator					**Consultant 6**							
Design and implementation of the EDSS searchable database, including forms for countries to input their data					**Consultant 7**							
Develop a GIS template for countries providing data					**Consultant 8**							
Adapt GeoIntegrator to access GIS and tabular distributed data					**Consultant 9**							

Assist the IABIN Secretariat to choose the countries that will provide the National databases to be included in the prototype and will receive Grants under the GEF Component 2				**Consortium**								
Assist the IABIN Secretariat in developing the Terms of Reference for the consultant that will develop the training materials and provide training to the country staff (under GEF Component 2)				**Consortium**								
Work with the consultant chosen to develop the training materials and provide training					**Consortium And consultants**							
Training of country staff that will set up map servers and database, develop metadata and develop EDSS database					**Consortium and consultants**							
Remote technical assistance to country staff to set up map servers and database						**Consultant 9**						

Component 4 – Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Gather all available national and regional geospatial data that represents the most complete coverage of ecosystems												
Organize the data into a consistent format and projection												
For areas lacking geospatial data, model ecosystems using physical global variables to create classes consistent with the previously gathered ecosystems												

Create a master list of all possible combinations of ecosystems classes												
Organize and group all ecosystem classes for expert review in order to establish the hierarchical cross-walk classification.												
Consult experts to create and establish a hierarchical ecosystem classification for level 1 and 2 category class groupings												
Create a final table that contains three columns representing the three levels of the ecosystem classification (from most detailed to more broad): Original class, Type 1 classification, Type 2 classification												
Peer-review of cross-walk classes to ensure Accuracy.												
Create attributes for each classification level and assign all ecosystems an appropriate class at each level												

Component 5 - Schedule of Activities

Activity	Year 1				Year 2				Year 3			
Coordinate and monitor project												
Develop Annual Operating Plan												
Quarterly Technical Reports												
Semi-Annual Progress Reports												
Final Report												
Financial Reports												
Develop Sustainability Plan												
Translation of reports												

Financial Information Submission Form

City of Panama
Republic of Panama

To: Iván A. Valdespino
Director IABIN Secretariat
P.O. Box 0843-02390
Panama, Panama
T: (507) 317-1994
F: (507) 317-1992
ivaldespino@iabin.net
www.iabin.net

Dear Sirs:

We, the undersigned, offer to provide the consulting services for the Ecosystems Thematic Network in accordance with your Request for Proposal dated May 2, 2006 and our Technical Proposal. Our attached Proposal Financial Information is for the sum of US$250,000 (two hundred and fifty thousand). This amount is exclusive of the local taxes, which are not valid expenses.

Our Proposal Financial Information shall be binding upon us subject to the modifications resulting from negotiations, up to the expiration of the validity period of the proposal, i.e. before the data indicated in Paragraph Reference 6.1.

Commissions and gratuities paid or paid by us to agents relating to this Proposal and the execution of its activities, if we are selected to become the CI of the ETN, are listed below[2]:

Name and Address of Agents	Amount and Currency	Purpose of Commission or Gratuity

We understand you are not bound to accept any Proposal you receive and that financial information provided here is only of informative nature since final decision on this aspects is contingent upon negotiation of a possible Coordinating Institution Transfer Agreement with the SG/OAS.

We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: _____
Name and Title of Signatory: Dr. Ira Rubinoff, Director
Name of Firm: Smithonian Tropical Research Institute
Address: Unit 0948, APO AA 34002-0948, USA

1 Amounts must coincide with the ones indicated under Total Cost of Financial Proposal in Form FIN-2
2 If applicable, replace this paragraph with: "No commissions or gratuities have been or are to be paid by us to agents relating to this Proposal and Contract execution."

SECTION -2. SUMMARY OF COSTS

Item	**Costs**
	US$
Total Costs of Financial Part of the Proposal [2]	250,000

Summary of Cost under GEF

Labor under GEF Project	Expertise	Year 1	Year 2	Year 3
Consultant 1	Asssistant	3,000	3,000	3,000
Consultant 2	Translator	2,000	2,000	2,000
Consultant 3	System Administrator	12,000	12,000	13,000
Consultant 4	Web Master	5,000	5,000	5,000
Consutlant 5	Programmer	1,499		
Consultant 6	Programmer		5,000	5,000
Consultant 7	Programmer		5,000	
Consultant 8	GIS Programmer		3,000	
Consultant 9	GIS Programmer		5,000	
Consultant 10	Web Master		3,000	3,000
Consultant 11	Project Director	29,000	29,000	29,000
Labor Subtotal		52499	72000	60000
Travel				
Worshops		10,000	10,000	10,000
IEC Meeting		2,000		
Travel Project Coordinator		7,000	7,000	7,000
Subtotal		19,000	17,000	17,000
Overhead		4,167	4,167	4,167
Total/year		75,666	93,167	81,167
Total	$250,000			

Section -3. Breakdown of Costs by Activity[1]

See Annex 1