

BIOTIC SURVEYS AND INVENTORIES

Program Announcement

DIRECTORATE FOR BIOLOGICAL SCIENCES
DIVISION OF ENVIRONMENTAL BIOLOGY

Deadline for Receipt of Proposals: *First Friday in November of each year*



NATIONAL SCIENCE FOUNDATION

We are at a critical juncture for the conservation and study of biodiversity; such an opportunity will never occur again. Understanding and maintaining that diversity is the key to humanity's continued prosperous and stable existence on Earth.
Loss of Biological Diversity: A Global Crisis Requiring International Solutions
National Science Board 1989

PURPOSE

Understanding biological diversity is essential for studies in environmental biology. Baseline knowledge of species-level biodiversity provides the foundation for analytical research in systematic and population biology, ecology, conservation and restoration biology, anthropology, physical geography, biological oceanography, paleobiology and other sciences. This baseline knowledge is also necessary for monitoring and assessing land-use patterns, global climate change, and the economic value of natural resources. Humanity is dependent on a diverse array of products obtained from wild species, on genetic diversity among wild relatives of domesticated species, and on the stability of natural ecosystems. All of these dependencies require the maintenance of biodiversity. Increasing rates of extinction of species, and the loss of knowledge of local species among indigenous peoples, have created an urgent need for scientific exploration to increase humanity's knowledge of species-level biodiversity across all organisms. In support of this area of research, the Division of Environmental Biology established the Biotic Surveys and Inventories Program (BS&I). BS&I invites proposals to document diversity of species throughout the world, especially fungi, prokaryotes, protists, and invertebrate animals from all marine, aquatic, and terrestrial habitats.

The Program supports research to record the species-level diversity of life on earth as a prologue to investigations of patterns and processes and the development of plans for conservation of that diversity. Support for analytical phases of biodiversity research beyond the production of electronic specimen databases, inventories, identification guides, or other products should be sought from other programs in the Directorates for Biological Sciences or Geosciences. BS&I does not provide support for phylogenetic, monographic, biogeographic, genetic, or ecological studies. The program does not accept proposals to fund assays of genetic diversity within single species, projects to monitor diversity over time, ecological comparison of the diversity in two or more sites, or studies of the functional significance of diversity at the ecosystem level.

PROPOSAL CATEGORIES

Biotic Surveys

The majority of BS&I awards are for discovery (using traditional and/or molecular techniques), collecting, identifying, classifying and naming biota of a substantial geographic or oceanographic region. BS&I typically makes between fifteen and twenty awards in this category per fiscal year. Most awards range from \$30,000 to \$150,000 per year (averaging approximately \$70,000 per year) and are for three years. Investigators

are cautioned that the budget request should be cost-effective, commensurate with the proposed research, and fully justified in the text and budget justification. Proposals in this category should include all information discussed below under "proposal content" and "proposal format."

Long-Term, Large-Scale Inventories

Major projects to catalog thoroughly a major portion of the biota of a geographic region of continental scale usually involve multiple collaborators and complex logistics. Such projects may require several years to complete, and their successful conduct may be hampered by short funding cycles. Leaders of such projects may apply for longer-term support in the form of a series (no more than three) of five-year awards that would be administered as cooperative agreements, rather than grants. Proposers should discuss potential proposals for such projects with the BS&I program director in advance of application. In addition to all the elements described below under "proposal content" and "proposal format," an initial proposal for a long-term project should include:

- 1) the scientific rationale for the long term of the overall project and of each of the two or three five-year components of it;
- 2) description of the electronic information products of the segments of the project and the project as whole, and of the underlying data, metadata standards, information management protocols, and database architectures that provide for interoperability with other databases, geographic information systems, ecological models, etc.
- 3) description of the mechanism by which electronic availability of the information will be maintained into the future, and the means by which that information can be corrected, upgraded, and added to by future scientists;
- 4) discussion of the expected users of the products of the project and the benefits they will derive from those products that are not otherwise available;
- 5) description of the overall budget of the project, both of the segments and of the whole, including which categories NSF will be asked to support;
- 6) specification of institutional cost-sharing, and of plans to use NSF funding as leverage to gain support from other agencies, foundations, industry, private donations and the like; and
- 7) the means by which the proportion of NSF funding will be reduced and the proportion of funding from other sources increased over the life of the project.

Project director(s) on proposals in this category that are recommended for funding may be required to submit further documentation for additional merit review prior to negotiation of a cooperative agreement. Funded projects in this category will be reviewed during the third year of each five-year segment, for the next five years. This review will lead either to another five-year cooperative agreement, or to two years of interim funding. In the latter case, a new proposal in year five will undergo review, and lead either to further funding or close-out of the project.

Biotic Survey and Inventory Research Experience Supplements

A limited number of supplements will be provided annually to ongoing BS&I projects to underwrite the involvement of college undergraduates and high school students in survey and inventory research activities. Current guidelines for *Research Experience for Undergraduates* (NSF 96-102) and *Research Assistantships for Minority High School Students* (NSF 89-39) should be utilized in preparing such requests. All such supplement requests must be received by the BS&I program by February 1 of each year.

PROPOSAL CONTENT

Proposals submitted to the Biotic Surveys and Inventories Program should involve making collections of specimens of organisms, including cultures, stocks, or extracted macromolecules where appropriate, as samples of taxa of geographic or oceanographic regions with the purpose of discovering species new to science and documenting the occurrence of groups of organisms in those regions; developing and disseminating electronic databases of the collected specimens and taxa; and/or producing electronic biotic treatments, authenticated species lists, catalogs, keys, expert identification systems, or other types of information products. BS&I funds projects to discover biodiversity, and to provide baseline information on that diversity that can be used in future hypothesis formation and testing, analyses, and syntheses.

Products: The products of the majority of BS&I projects are expected to be new collections, discovery of species new to science, and electronic inventories of those collections and taxa. Some projects may involve extensive use of existing collections and known taxa. These projects should result in the production of electronic and electronically accessible (e.g., available via the World Wide Web to the scientific community and to the public) specimen-based databases, and other electronic information products such as keys, expert identification systems, checklists, descriptions, or taxon databases and authority files. These products should be designed to foster interactions with other disciplines, to permit the PI and/or other scientists to use the data in research and synthesis, and to benefit both formal and informal science education. The program expects these information products to be made accessible via the Internet. In addition, the results of some projects may lend themselves to publication in other media (print, compact disc, etc.). Investigators interested in developing database standards, protocols, or applications that would support a community infrastructure for survey and inventory research are encouraged to contact the program officer in Database Activities in the

Biological Sciences in the Division of Biological Infrastructure at (703) 306-1470.

Urgency: There is much biodiversity to be discovered in most geographic regions or ecological habitats. However, the need for exploration of certain regions and habitats may be substantially greater than in others, because of one or more factors such as impending habitat destruction or ignorance of entire biotic systems (e.g., soil biotas). Proposals which demonstrate that the geographic region to be investigated, and/or the need for knowledge of particular group(s) of organisms is of particular importance and urgency, will be more competitive.

Schedule: The ongoing, unprecedented disappearance of species and populations on Earth and the need to discover ways to develop biodiversity resources in a sustainable manner dictate a timely research schedule in which the knowledge of biological diversity can be gained, disseminated, and used by the scientific community and others (e.g., conservation organizations, resource managers, governmental agencies, educational institutions, and the public). Biotic surveys and inventories and their information products should be scientifically expedient, not duplicate other studies, and be cognizant of other biological survey projects (ongoing and completed) in the same region. Where possible, collaborations with such endeavors should be developed to maximize the scientific outcomes. Projects should be planned such that dissemination of the information gathered during the project occurs as *that information is collected* or as soon thereafter as is reasonably possible.

Scale and Focus: The taxonomic content and geographic, oceanographic, or geologic scale of a survey or inventory should constitute a natural and compelling biological focus and need. The proposed project should involve sampling a diversity of taxa, rather than only a narrow group of closely related taxa. Specifically, surveys of single species or genera are excluded from submission, and surveys of single families will generally be less competitive. BS&I encourages surveys that have a very broad taxonomic scale (e.g., the full array of microorganisms from soil or water columns; fungi and vascular plants; vertebrates and their parasites). Similarly, the geographic, geologic, and logistic scales of surveys should be regional (e.g., the southeastern U.S., the Orinoco River drainage), national or larger. Biogeographic or other definitions of region, based on scientific rationale, are preferable to geopolitical definitions. Proposals that focus on little explored regions of the world and/or especially poorly known segments of the biota (e.g., prokaryotes, invertebrates, fungi, protists) are strongly encouraged, as are surveys of little-known biota of Long Term Ecological Research (LTER) sites, both those within the U.S. and in the international LTER network

Infrastructure: Effective survey and inventory of the world's biotic diversity will require local commitment and international cooperation. Proposals for survey activities in foreign countries must involve host country scientists and students as well as including U.S. students in the international activities. Projects in developing countries should be designed to contribute to the scientific infrastructure of those countries such that biodiversity surveys could be continued and expanded after completion of the BS&I project. Equipment (e.g., vehicles or computers) purchased on BS&I awards may be left in-country at the discretion of the awardee; however, those plans should be detailed in the

proposal. Prospective PIs who wish to establish working relationships with foreign scientists prior to submitting a BS&I proposal should refer to NSF's Division of International Programs (INT) International Opportunities for Scientists and Engineers: Program Announcement (NSF 96-14). Investigators are encouraged to contact cognizant program officers in INT for additional information at (703) 306-1710.

PROPOSAL FORMAT

Information on the preparation of proposals to NSF can be found under "Proposal Preparation" at <http://www.nsf.gov/home/grants.htm>. Proposals that do not conform to NSF 95-27, the *Grant Proposal Guide* (GPG) and to these program guidelines will be returned unreviewed.

Proposals to the Biotic Survey and Inventory Program should include the components listed in GPG, in the sequence and format indicated. The information in each of these components should be stated as clearly and concisely as possible for merit review and evaluation by the Program. The proposal should contain all the elements listed in GPG, Section C, but particular attention should be devoted to the following information:

Title: The title of the proposal should indicate clearly the name(s) of the taxon or taxa to be surveyed- usually the scientific names, but common names may be included - and of the country or region in which the research will be conducted.

Project Summary - Proposal Section A: Maximum length: one page. Summarize the proposed survey or inventory project, emphasizing its design, rationale and impact on our knowledge of biological diversity and other disciplines, and the societal and educational relevance of the work.

Project Description—Proposal Section C: Include the following components within the description.

1. Results from Prior NSF Support (maximum length: Five of the 15 pages of text): Summarize the results of the single, most recent biotic survey or inventory award that the PI has received from NSF in the preceding five years (include proposal number, title, duration, and level of funding). If previous awards within the past five years do not involve biotic surveys or inventories, describe a single award to the PI or co-PI(s) that is most closely related to the current proposal.
2. Need for the Project: Describe the proposed survey or inventory including the need and rationale for the project, with particular reference to the following issues:

Taxonomic Breadth. Proposals should specify and justify the range of taxonomic groups to be sampled. Estimate the number of new taxa likely to be discovered by the survey and discuss the plans for describing these new taxa and producing the electronic information products of the work.

Scale. Investigators should specify and justify the geographic or geologic scale of the proposed survey or inventory, with emphasis on the rationale for the choice of sampling sites. In particular, proposals must discuss and assess:

- a) previous and ongoing biotic surveys in the region;
- b) known levels of biotic diversity;

- c) the status of existing collections and of information products; and
- d) why these collections and inventories are inadequate.

The Program expects that proposed biotic survey and inventory projects will not overlap unnecessarily with previous or ongoing endeavors, but rather seek collaboration and cooperation with these efforts if possible, in order to maximize effectiveness and outputs.

Urgency. Investigators should provide reasons that this project is urgently needed. The urgency should be reflected in the project management plan and schedule. Justifications that involve endangered habitats, threatened sites, or vanishing resources should make reference to the specific area to be sampled, not simply to the broad region. An immediate and intensive collecting effort may be required for other reasons (such as political difficulty, limited opportunity, scientific expediency), in which case PIs should indicate the reasons for such urgency.

3. Project Management Plan: Describe the detailed strategies, protocols, and timetable to be used in collecting, preparing, documenting, distributing, and studying the surveyed material. Using tables and figures as appropriate (these must be included within the 15-page limit), the project management plan should include: estimates of the number of sites to be sampled and/or existing collections to be inventoried; the volume of material to be collected or inventoried; the data to be recorded at the time of the survey or inventory; the repository for new collections and accompanying data sets; and the electronic means by which these collections data and other products will be made available to the research community and other users. Include discussion of the methods by which the completeness of the survey will be assessed.

Electronic Products: Describe the electronic database and other information—that is, checklists, catalogues, manuals, descriptions, taxonomic keys, interactive identification systems, or other innovative products. The description of database activities must include information regarding hardware and software specifications, the data model, elements and structure of the database, the manner in which specimen records will be captured in a quality-controlled manner, and capabilities for expansion. Projects that involve LTER sites should discuss the use of the LTER network in databasing and dissemination of the research results. For new collections, investigators are strongly encouraged to make use of appropriate Global Positioning System (GPS) technology to record locality data, and to link the biodiversity databases to a Geographic Information System (GIS). Description of database and information provision over the World Wide Web should include networking protocols, the integration of the specimen databases with other electronic information resources, and the means by which the availability of the products of the research will be sustained into the future. The last item may be documented by letters from directors of computer centers or other units that house WWW servers; such a letter may be included in proposal Section I, Supplementary Information.

Deposition of Specimens: The BS&I Program expects that proposals will include descriptions of the arrangements for the housing of specimens, cultures, stocks, or extracted macromolecules and the accompanying data both in the host country (if the work is done outside the U.S.) and in the U.S. Funds to defray the costs of preparation and storage of the specimens collected during the project should be requested in this proposal. However, the PI must justify fully this budget request both in the text and in the Budget Justification. The proposal should include (in proposal section L Supplementary Information) letters from the curators of the selected repositories, and these must specifically indicate their willingness to accept, to curate, and to maintain the collections. It is the intent of the program to foster international cooperation in research, and the open and accessible sharing of data across international boundaries while at the same time assuring that specimens collected today will be available for study by researchers (of any nationality) now and in the future.

Surveys and Inventories in the United States and its Territories: Projects conducted in the United States are expected to obey the laws of the state(s) or territories included in the geographic region to be surveyed, including regulations regarding collecting permits, and in accordance with the regulations of the U.S. Fish and Wildlife Service, Forest Service, Bureau of Land Management, National Park Service, or other responsible government agencies. It is expected that the rights of private landowners will be respected. If the research is to be conducted in whole or in part on one or more LTER site(s), letters from the director(s) of those sites should be included in the Supplementary Information section of the proposal. Evidence that all relevant permits and permissions have been obtained will be required prior to an award.

If the proposed survey or inventory involves a significant component related to a comprehensive synthesis, review, analysis, or evaluation of taxonomy, nomenclature, distribution and collections for one or more biological groups (selected groups of invertebrates, protists, algae and fungi) that are high priority for the federal agency members of the Integrated Taxonomic Information System partnership <http://www.itis.usda.gov/itis/>, it may be eligible for potential assistance by ITIS or its member agencies. The proposal may be submitted under joint NSF/ITIS aegis for support of biodiversity information in these biological groups. Survey and inventory proposals with possible NSF/ITIS implications must be submitted to the NSF BS&I Program, where the proposal will undergo merit review. Proposals that are recommended for funding by NSF may, at the discretion of BS&I be forwarded to a joint NSF/ITLS steering committee for consideration for supplemental funding.

Surveys and Inventories in the Oceans & U.S. Great Lakes: Proposals to survey marine biodiversity that require the scheduling of NSF-UNOLS ship time must include a complete NSF-UNOLS Request Form (NSF Form 831). The UNOLS form may be obtained from the Division of Ocean Sciences Ship Operations Program, National Science Foundation by calling (703) 306-1577, or directly from the UNOLS World Wide Web site http://sio.ucsd.edu/supp_groups/ship-sked/forms/NSF_forms.html. If the proposal requires time aboard non-UNOLS vessels, the proposal budget must reflect the direct cost of ship time. Use of UNOLS or other ship

time also requires that permits to enter sovereign waters, in compliance with international laws of the sea, be obtained with the assistance of the U.S. Department of State if the researchers plan to collect specimens in any nation's sovereign waters. The Ship Operations Program of the NSF can assist in these negotiations. Contact information can be found in the "general divisional information" section of the Geoscience Directorate, Division of Ocean Sciences portion of the NSF home page <http://www.nsf.gov>.

Surveys and Inventories in Foreign Countries: For surveys in countries other than the United States, the proposal must include a description of collaborations that have been established with scientists and students from the host country, and how these individuals will be involved in the project, as well as the arrangements for the in-country housing of specimens and data. Arrangements to divide the specimens between host country institution(s) and U.S. institutions may be made, but type specimens and quality representative specimens should remain in the host country. Prior to an award, PIs must document that they have obtained necessary research agreements and all legally required collecting, import, and export permits. These documents include those needed not only to remove specimens from the field, but also those required to export or import them across national boundaries, including compliance with CITES regulations.

Surveys and Inventories in Antarctica or Greenland: Proposals that involve field work in Antarctica must include information about the logistical and operational requisites of the proposed research, and any environmental impacts. Instructions on proposal preparation for research in Antarctica are provided in the Program Announcement and Proposal Guide for the Antarctic Program of the Office of Polar Programs (OPP), currently NSF 96-93, which can be found in the NSF Documents Online system <http://www.nsf.gov>. Information on working in Antarctica should be obtained from the OPP prior to preparation of a proposal. All research projects in Greenland must be approved in advance by the Government of Denmark as stated in the RISF *Grant Policy Manual* <http://www.nsf.gov/bfa/cpo/gpm95/>, Chapter 7, Article 763. Applications for projects in which U.S. citizens and U.S. nationals are involved in any way (logistical, operational and/or financial support) shall be submitted to the Danish Government through diplomatic channels (i.e., through the U.S. Department of State and the American Embassy, Copenhagen) to the Danish Ministry of Foreign Affairs. The Arctic Research Program <http://www.nsf.gov/od/opp/> of OPP (703-306-1029) can assist in the submission of these applications, and should be contacted for instructions prior to preparation of a proposal.

Vertebrate Animals: If the proposed research includes the collection of vertebrate animals, the PI must respond to RISF 95-27 (obtainable from the Documents Online system at <http://www.nsf.gov>), the *Grant Proposal Guide* (GPG) section II part D, paragraph 12, subparagraph e.

The Project Management Plan must be included within the 15 pages of proposal text allowed by the GPG. Except as noted above, none of its elements may be deferred to Special Information and Supplementary Documentation, Proposal Section I (see GPG). Section I may only be used to submit copies of permits, letters of agreement from collaborators, letters and

documentation from curators of institutions in which specimens will be deposited and from scientists who will identify particular materials, and letters from institutions which document that electronic provision of information generated by BS&I-funded research will be sustained into the future.

4. Scientific Context: Collection and documentation of biodiversity alone is not sufficient to conserve that diversity for posterity; however, it is a necessary first step. All survey projects should lead to a better description, record, and understanding of poorly known taxonomic groups and geographic regions. Lack of knowledge about the taxa and region, alone, cannot be the sole justification for a survey or inventory proposal. Investigators should, therefore, place the proposed survey and inventory in a broader scientific and/or conservation context (e.g., whether the collected material will allow resolution of phylogenetic relationships of taxa, whether other data can be captured from the specimens, whether explicit tests can be made of hypotheses about evolutionary and ecological patterns and processes, whether research may be stimulated in other areas of inquiry, or how conservation efforts will be aided). Contextual statements should be specific, and projects that provide concrete plans or directions for future research based on the baseline data generated by the proposed survey or inventory will be more competitive in the review process. Furthermore, the specimens (as defined above, under "Deposition of Specimens") and data should be collected in such a way as to contribute to later scientific inquiry. However, PIs should not propose to complete the contextual work as part of the project described in this proposal.

5. Value-added: The proposed survey or inventory may include value-added component(s), such as the collection of additional or more detailed information about the organisms to be collected during the survey (e.g., ecological and/or physical context data, or descriptions of indigenous peoples' uses of the taxa under study). Interactions with foreign collaborators and training of students and others to contribute to the infrastructure for biodiversity science in host countries, as well as the involvement of U.S. students in the work in other countries, are value-added components. Projects with meritorious value-added components will fare better in the competition.

Bibliography—Proposal Section D: List the full names (not just initials) of authors and the full citation of publications.

Biographical Sketch(es) —Proposal Section E: Provide a biographical sketch only for the senior participants (PIs and co-PIs whose names are listed on the cover page of the proposal). The biographical sketch for each PI must list the full names and institutions of that person's collaborators and co-authors on papers, books, proposals or other works. The PI's doctoral major professor and post-doctoral advisor(s), but not members of advisory committees, should be listed, as well as all of the PI's own doctoral advisees.

Budget—Proposal Section F: The proposal must include a detailed budget justification, including an especially detailed breakdown of any foreign costs or support of foreign scientists or students. The PI should provide a clear explanation of the need for each listed item (e.g., why the PIs propose to purchase

equipment or vehicles in the U.S. and shipping it to the host-country, rather than either purchasing it in-country or renting it).

PROPOSAL FORMAT AND ELECTRONIC SUBMISSION

Proposals must be prepared following margin and other quality requirements described on page 3 of the NSF document Grant Proposal Guide, (GPG) NSF 95-27. The GPG, as well as many other NSF publications, can be obtained from the Documents Online system at the NSF World Wide Web home page <http://www.nsf.gov/>. Paper copies of the GPG can be requested at no cost from:

NSF Publications and Supplies Unit
4201 Wilson Blvd., Room P15
Arlington, VA 22230
Telephone: (703) 307-1130 or
via e-mail: pubs@nsf.gov

Proposals must be submitted electronically using the NSF FastLane system for electronic proposal submission and review, available through the World Wide Web at the FastLane home page (<https://www.fastlane.nsf.gov>).

In order to use NSF FastLane to prepare and submit a proposal you must use a browser that supports multiple buttons and file upload (e.g., Netscape 2.0 and above for Windows, UNIX, or Macintosh). In addition, Adobe Acrobat Reader is needed to view and print forms, and Adobe Acrobat 3.0 (or Adobe Exchange or Distiller) is needed for creating PDF files. To access the FastLane Proposal Preparation application, your institution needs to be a registered FastLane institution. A list of registered institutions and the FastLane registration form are located on the FastLane home page.

PROPOSAL REVIEW

Proposals to the Biotic Surveys and Inventories Program will be reviewed in accordance with NSF policy within six months following the deadline. Proposals received after the deadline will not be eligible for consideration until the following competition. Investigators and institutions may submit more than one proposal on different projects, for the same competition. Each proposal to BS&I will be reviewed by experts in the particular field represented by the project and will be evaluated by the Program using the following criteria adapted from the guidelines for merit review¹ adopted by the National Science Board in March, 1997:

1. What is the intellectual merit of the proposed activity?

The following are suggested questions that the reviewer will consider in assessing how well the proposal meets this criterion. Each reviewer will address only those questions which

¹ For additional information on NSF's new merit review criteria, see the Merit Review Task Force Final Report, (NSB) 97-72 via the NSF Home Page online document system at <http://www.nsf.gov>.

he/she considers relevant to the proposal and for which he/she is qualified to make judgments.

How important is the proposed activity to advancing knowledge and understanding within its own field and across different fields? How well qualified is the proposer (individual or team) to conduct the project? To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?

2. What are the broader impacts of the proposed activity?

The following are suggested questions that the reviewer will consider in assessing how well the proposal meets this criterion. Each reviewer will address only those questions which he/she considers relevant to the proposal and for which he/she is qualified to make judgments.

How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

Applicants are encouraged to suggest the names and complete contact information for possible reviewers, and a brief description of their expertise, in a letter or e-mail to the Program Director.

AWARD ADMINISTRATION

Awards made as a result of this document are administered in accordance with the terms and conditions of NSF GC-1, "Grant General Conditions," or FDP-III, "Federal Demonstration Partnership General Terms and Conditions," depending on the grantee organization, or "Cooperative Agreement General Terms and Conditions." Copies of these documents are available from the "Grants and Awards" section of the NSF home page <http://www.nsf.gov/home/grant.htm>, and at no cost from the NSF Forms and Publications Unit, which may be contacted via telephone at (703) 306-1130 or Internet at pubs@nsf.gov. More comprehensive information is contained in the *Grant Policy Manual* (NSF 95-26), for sale through the Superintendent of Documents, Government Printing Office, Washington, DC 20402. The telephone number of GPO is (202) 783-3238 for subscription information.

Any exceptions to the terms and conditions of GC-1, FDP-III, or the Cooperative Agreement General Terms and Conditions should be addressed. If the submitting institution has never received an NSF award, it is recommended that appropriate administrative officials become familiar with the policies and procedures in the *Grant Policy Manual* that are applicable to most NSF awards. If a proposal is recommended for an award, the NSF Division of Grants and Agreements will request certain organizational, management, and financial information. These requirements are described in Chapter III of the *Grant Policy Manual*.

STUDENT RESEARCH EXPERIENCES SUPPLEMENTS

Organizations with active BS&I awards are invited to submit requests for supplemental support that will broaden the research and educational impact of the project. NSF announcements about these supplements may be obtained from the Documents Online system at <http://www.nsf.gov/>.

High School Students

Investigators with active BS&I awards are encouraged to make contact with local high schools and engage one or more biology teachers as summer research associates and several students as research assistants. Most of the students chosen should be from minority or at-risk groups. In addition to being employed in the project's research activities, the students and their teachers may receive training in order to improve their understanding of biological science and foster the students' interest in biodiversity-related scientific careers. Supplements can be requested for summer salary support for the students and teachers, their supplies, training by project staff members, and the equipment to be used. Applicants should follow the currently applicable guidelines for the program *Research Assistantships for Minority High School Students* (NSF 89-39).

Undergraduate Students

Investigators with active BS&I awards have the opportunity to improve scientific research and education, especially in organismal biology, by recruiting undergraduate students to work on BS&I research projects. Supplements can be requested for student stipends as described in the "REU Supplements" section of the currently applicable *Research Experiences for Undergraduates (REU)* guidelines (NSF 96-102).

OTHER INFORMATION

Inquiries regarding the program or these guidelines and questions about prospective proposals should be directed to:

Biotic Surveys and Inventories Program Division of
Environmental Biology National Science Foundation
4201 Wilson Boulevard, Room 635 Arlington, VA 22230
Phone: (703) 306-1480
Fax: (703) 306-0817

or via e-mail to the appropriate Program Director, who may be identified by searching "Directory and Staff" on the NSF World Wide Web home page, <http://www.nsf.gov>.

The Foundation provides awards for research in the sciences and engineering. The awardee is wholly responsible for the conduct of such research and preparation of the results for publication. The Foundation, therefore, does not assume responsibility for the research findings or their interpretation.

The Foundation welcomes proposals from all qualified scientists and engineers and strongly encourages women, minorities, and persons with disabilities to compete fully in any of the research related programs described here. In accordance with federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability

shah be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving financial assistance from the National Science Foundation.

Facilitation Awards for Scientists and Engineers with Disabilities (FASSED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF projects. See the program announcement or contact the program coordinator at (703) 306-1636.

Privacy Act. The information requested on proposal forms is solicited under the authority of the National Science Foundation Act of 1950, as amended. It will be used in connection with the selection of qualified proposals and may be disclosed to qualified reviewers and staff assistants as part of the review process; to applicant institutions/grantees; to provide or obtain data regarding the application review process, award decisions, or the administration of awards; to government contractors, experts, volunteers, and researchers as necessary to complete assigned work; and to other government agencies in order to coordinate programs. See Systems of Records, NSF 50, "Prin-

cial Investigators/Proposal File and Associated Records", 60 Federal Register 4449 (January 23, 1995), and NSF-51, "Reviewer/Proposal File and Associated Records", 59 Federal Register 8031 (February 17, 1994).

Public Burden. Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of your receiving an award.

The public reporting burden for this collection of information is estimated to average 120 hours per response, including the time for reviewing instructions. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Gail A. McHenry, Reports Clearance Officer, National Science Foundation, 4201 Wilson Boulevard, Suite 245, Arlington, VA 22230.

The National Science Foundation has TDD (Telephonic Device for the Deaf) capability, which enables individuals with hearing impairment to communicate with the Foundation about NSF programs, employment, or general information. To access NSF TDD, dial (703) 306-0090; for FIRS, 1-800-877-8339.

**The program described in this announcement is in category 47.074 (BIO)
of the Catalog of Federal Domestic Assistance.**

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