Funding Opportunity Announcement – Barton Springs Salamander Conservation Fund

Overview

The Barton Springs Salamander Conservation Fund (BSSCF) was established as a conservation measure in the City of Austin's Habitat Conservation Plan (HCP) and associated incidental take permit (ITP) from the U.S. Fish and Wildlife Service that allows for the operation and management of Barton Springs Pool as a recreational facility. The objective of the BSSCF is to support educational, scientific, or management projects that promote the conservation of endangered Barton Springs and Austin Blind salamanders, and the groundwater ecosystem where they exist. Each year, a portion of the proceeds from entrance fees to Barton Springs Pool is allocated to the BSSCF. In accordance with the HCP and ITP, the use of this fund is restricted to "the study of salamander biology, captive breeding, refugium development, reintroduction, watershed related research, improved cleaning techniques for natural water bodies, education and/or land acquisition." Proposals should therefore fall into one of those categories, although we outline specific areas of interest below. Applicants are encouraged to review the City's HCP and the USFWS recovery plans (for the Barton Springs and Austin blind salamanders), which outline conservation objectives as well as ongoing research and management activities. Additional information can also be found on our website, http://www.austintexas.gov/department/salamanders.

Schedule, Eligibility and Funding: The annual request for proposals is made in October, with proposals due January 30th. Award notifications are usually made by the end of May, with fund distribution by September. This is an anticipated schedule, and is therefore subject to change. Eligible applicants include non-profit 501(c)(3) organizations, local and municipal governments, resource conservation districts, state and federal agencies, Indian tribes, educational institutions, businesses, and unincorporated individuals; international organizations are not eligible. **All successful proposals from public entities (including public universities) are subject to approval of an interlocal agreement negotiated and executed by Austin City Council, according to Texas state law.** In this case, award and distribution of funding is contingent upon this approval.

Award Size: Previous awards have ranged in size from $10,000 to $80,000, with an average of $40,000, although proposals for funding will be considered above and below this range. Funding will be divided into calendar years, with each sequential year and final payout contingent on progress toward the objectives of the project (as judged by the annual report) and compliance with terms and conditions of the award.

Project Evaluation: The decision to fund a project is made jointly by the City of Austin and the U.S. Fish and Wildlife Service. All proposals will be reviewed by members of a technical committee including representatives from both entities, and potentially other science advisors. The final decision to fund rests with this committee (contingent upon Austin City Council approval, as noted above). Research proposals may be sent out for peer review to at least two

technical experts. Grant applications are evaluated according to their ability to meet the evaluation criteria and the adequacy and clarity of application information.

Proposed projects will be evaluated on the following:

Benefit to Species. The proposal addresses a recovery, restoration, conservation, management, educational or scientific information need for Barton Springs or Austin Blind salamanders or the ecosystems that sustain these species. These needs may include (but are not limited to) those identified in the HCP, recovery plan, or habitat management plan. The proposal should include: i) clear presentation of project goals and objectives including a discussion of the project's alignment with the funding source guidelines; ii) scientific soundness; iii) demonstration of ability to have direct, near-term, reasonably certain benefits to Barton Springs or Austin Blind salamander conservation, education or scientific knowledge; and iv) an effective and reasonable work plan.

Technical Merit. Objectives, approach, and scope of work are clear; the project is both feasible and appropriate and can be completed on schedule given reasonably foreseeable constraints (e.g., weather conditions, operational conditions). The proposal is sufficient for reviewers to fully understand and evaluate the technical merits of the project (e.g., detailed project/experimental plans, schematics, activities identified). The proposal should also include a description of how reporting of the project milestones will occur during the project until its completion. For scientific studies, reporting should follow a standard format (e.g., Introduction, Methods, Results, Discussion). Work described in the proposal should be unique and not duplicate projects by the City of Austin or other entities, unless this can be justified in the proposal.

Cost Effectiveness. The budget is detailed and the project is cost effective. Total cost is reasonable based on costs of similar project types and commensurate with projected benefits to salamanders. The budget description should include a financial justification that demonstrates the expenditure of funds based on the expected conservation/scientific return of the project. Funds will not be awarded for projects already fully funded from other sources.

Organization Qualifications. The project manager, principal investigator(s), and other key personnel have experience and expertise required for the project, and individual roles and responsibilities are well defined and appropriate. The proposal demonstrates access to necessary equipment and lab resources needed to complete the project. The proposal demonstrates relevant lab, field or refugium experience, completed projects, published reports, or other materials.

Additional Project Scope and Funding. Project scope and benefit/value by assistance from other funding sources, such as matches from Federal, foundation, or private sources are provided, as applicable. Matching funds are not required as part of this program, but projects that demonstrate strong partnerships and that have matching funds from various partners/donors to support a substantial portion of cost of the project being submitted, are strongly encouraged and will be given higher priority consideration.

Private Landowner Partnership, if applicable. Description of required partnerships with private landowners (if applicable), and documentation that the landowners are willing to provide access and agree to the work done on their property are provided.

Funding Priorities: While all projects that meet the intended purpose of the fund will be considered, we are particularly interested in funding projects on the following topics:

- *Evaluation of the effects of chloramine and total chlorine toxicity*
  Chlorinated water discharges from municipal water transmission pipes are a potential threat to Barton Springs biota. While we have some understanding of the toxicity of free chlorine on neotenic *Eurycea*, municipal water in Austin is a monochloraminated system, which is a slower and less aggressive disinfectant. We are interested in a better understanding of whether monochloramine poses an acute risk to salamanders in the event of a municipal water discharge, and if so, what concentrations are likely to cause a lethal dose or sublethal effects.

- *Investigation of aquifer ecology as it relates to Barton Springs/Austin Blind salamanders.*
  Barton Springs salamanders rely upon the surface and subsurface habitat within and around Barton Springs. However, little is known about the ecology of the aquifer and how it relates to the population dynamics of Barton Springs salamanders. Austin Blind salamanders are rarely seen on the surface, and relatively little is known of their ecology and natural history. We are interested in funding studies that take a close look at the Barton Springs aquifer ecosystem. Examples include:
    - Characterizing the microbial community at spring outlets where Barton Springs salamanders are found and the role of the microbial community in the groundwater ecosystem. Of particular interest is how the microbial community changes over time with variation in spring flow, aquifer recharge, and salamander abundance; how the microbial community affects groundwater nutrient and carbon dynamics, and whether there are microbes present that could indicate the presence of pollutants harmful to salamanders.
    - Relationships between aquifer dynamics (e.g., energy inputs) and salamander population dynamics (e.g., reproduction, growth, survival).
    - Investigations of food web structure, from epilithic biofilms to stygobitic crustaceans and salamanders. Who are the species in the groundwater ecosystem? How do these species interact? What are their functional roles? What are the consequences of these interactions to salamander populations (e.g., reproduction, growth, survival)? What is the food web structure (e.g., based on stable isotopes)? What are the relative contributions of photosynthetic and chemolithautotrophic organic matter to food webs, and how does this vary with hydrogeochemistry?

- *Effects of terrestrial ecosystem processes on springflow and water flow regulation.*
    - How do processes such as canopy interception, succession, autogenic recharge, etc. in the contributing zone regulate water flow in the recharge and artesian zones of the Barton Springs segment of the Edwards Aquifer?

- *Understanding of subterranean distribution of salamanders.* While decades of observations of the surface abundance of salamanders have been made at the spring outlets of Barton Springs, relatively little is known of the role of subterranean habitat for these species and their distribution throughout it. This could, for example, include eDNA or isotope studies.

- *Understanding of the gas exchange system of the Barton Springs Salamander.* Relationship between supersaturated total dissolved gas in the groundwater and gas bubble trauma in salamanders.

- *Understanding of how* Batrachochytrium salamandrivorans *affects central Texas* Eurycea *via clinical trials.* No central Texas *Eurycea* have been tested to determine susceptibility to *B. salamandrivorans*. Testing should look at susceptibility and characterize lethal and sublethal impacts of *B. salamandrivorans.*

- *Investigations of the gut and skin microbiota of captive and wild salamander populations*. Few studies have examined the microbiome of salamanders. The study would need to include optimizing methods using minimally invasive methods for collecting microbial DNA and provide to provide baseline information on microbial community structure and diversity. Of particular interest is how diet, water quality, and other environmental parameters may affect the structure and diversity of the microbiome and whether the microbiome of the captive salamander population represents the microbiome diversity of wild salamanders.

Applicants may contact us (see below) with questions or for more information about these topics.

Other:
Permits – Successful applicants will be required to provide sufficient documentation that the project expects to receive or has received all necessary permits and clearances to comply with any Federal, state or local requirements. Applicants will be required to provide specific information about study sites, species used, sample sizes, and other criteria needed to comply with regulations. COA encourages applicants to contact relevant authorities in advance of completing a proposal to ensure the support of proposed work.

Publicity and Acknowledgement of Support – Award recipients will be required to grant COA the right and authority to publicize the project and COA's financial support in press releases, publications and other public communications. Recipients may also be asked by COA to provide high-resolution (minimum 300 dpi) photographs depicting the project.

Proposal Guidelines

Project Details (Limited to 5 pages, single-spaced, including references)

Project Goal: Specify the project goal (study of salamander biology, captive breeding, refugium development, reintroduction, watershed related research, improved cleaning techniques for

natural water bodies, education and/or land acquisition) that the project is meeting or will meet when implemented. All proposed projects must meet at least one project goal and must explicitly identify the goal(s) met.

Project Objectives: What is/are the purpose(s) and objectives of the project? What are the expected short-term benefits to Barton Springs and/or Austin Blind salamanders and long-term measurable outcomes?

Scope of Work: The scope of work needs to include the following:

1. Describe the length of term of the project. If the proposed activity is a multiple year action or can be renewed each year, describe in proposal. Provide the targeted implementation date of the project.
2. Elaborate on the primary activities that will be conducted through the proposed grant. Explain how these activities address the goals, objectives, and target(s) described above.
3. Describe the planning, design/engineering, and permitting (e.g., state and federal scientific permits) necessary to begin the project and how the project team will complete those necessary steps and obtain all relevant permits. Also describe the permitting status (Secured, Applied for, Did not apply, or N/A) for each necessary permit or authorization and provide anticipated dates of permit approval.
4. If private landowner cooperation is necessary, please describe what is needed and the status of that cooperation. Documentation of formal agreements may be required with these landowners in order for a project to receive funding.
5. Describe the reporting or documentation to be prepared as part of the project.

Methodology: Describe the means and methods by which the scope of work will be accomplished. Discuss how this project will succeed in and of itself in restoring/protecting/enhancing the species population(s) or increase scientific knowledge about the biology of the species.

Research/Management Implications: Describe how the project results will be used to enhance the conservation and management of the species.

Dissemination/Community Involvement: Describe in detail your strategy for communicating project results. Describe the educational values and stewardship benefits of the project, if any.

Supporting Information

Project Participants: What organizations, entities, or contractors comprise the project team? What is the expertise and prior experience of the project team in accomplishing similar projects? The names of the project manager, key cooperators, and/or those providing technical guidance, along with their qualifications for involvement in the project, must be stated. Resumes or CVs outlining the requisite experience should be provided.

Partnerships: Briefly list the proposed partners and the roles that they will play in accomplishing the scope of work. If the project is a cooperative effort with other organizations, define the degree of funding participation in the overall project, what the level of responsibility will be for

this grant's component, and whether/how the other components may impact successful completion of this grant's portion of the comprehensive effort.

Project Budget

The project budget needs to be as accurate as possible to the true scope of work. This will require the applicant to provide accurate estimates of project costs. As part of the application, project costs will need to be broken down according to the following budget categories:

- Personnel – Specific tasks and work to be performed by personnel are to be outlined. Total fees should be broken down according to the amount of time spent on the project (e.g., hourly, weekly, or monthly rates). Funding for salaries for federal government agency personnel is not allowed, but other costs such as seasonal assistants, travel time, etc., are eligible. Salaries for non-federal government personnel are allowed if they are directed specifically to the proposed project. Supporting documentation should be included (i.e., pay scale for organization). Project work by consultants or other personnel hired specifically for the project should be included in Contractual Services as described below. Salaries should not duplicate projects already included in the regularly salaried position for personnel. Salaries should scale to the scope of work performed (e.g., a senior scientist salary should not be applied to tasks that do not require senior levels of experience).
- Travel – Specify the purpose or destination for the travel item, unit type, and the quantity of units requested. Do not lump trips together into one amount, rather, itemize by travel category listed. Long-distance travel costs should be minimized by grouping scopes of work into fewer trips. Mileage should be calculated using City of Austin mileage charts.
- Equipment – Equipment is defined as items with a useful life of more than 1 year, a per-unit cost of $2,000 or more, and that are necessary to complete the project. Routine equipment for your organization's operational needs should not be included here, only those specific to the project. These items must be identified; however, capital equipment expenditures are highly discouraged and will be thoroughly reviewed for potential alternatives during the competitive review process. Rental of such items should be considered instead. Any equipment less than $2,000 will be considered supplies and shall be identified in the "Materials and Supplies" category. Supporting documentation should be included (i.e., estimate, website, etc.)
- Contractual Services – Contractual services are any agreement issued to a third party to assist with the completion of the project. All work to be completed by the contractor and their rates must be identified. Service rates that are not the lowest available need justification.
- Materials and Supplies – Tangible property are items not meeting the criteria of Equipment. Routine materials or supplies for your organization's operational needs should not be included here, only those specific to the project. Examples of materials and supplies include hand tools, monitoring equipment, laboratory consumables, etc.
- Other Direct Costs – Applicants must detail other specific costs associated with the project that do not appropriately fit within any other budget category, as Other Direct Costs.
- Indirect Costs – Grant funding will not cover indirect costs or overhead.

Project Schedule

As part of the application, a project schedule must be provided. The project schedule should be detailed, describe major project milestones, and identify the planned project implementation and completion date. The completion date for the project (or stage of the project) must occur within two years from the project initiation date. Longer projects will only be considered if it's unfeasible or detrimental to split the scope into smaller projects and unfeasible to finish in two years. For projects longer than two years, provide justification for the longer timeframe along with a project schedule with annual milestones for project progress.

How to Apply

Submit all application materials to the following email address by January 30th:
BSSCF@austintexas.gov.
Contact: Nathan Bendik 512-974-2040