

Prescott Creeks Preservation Association

2004 Grant Application for the
Yavapai County Community Foundation—Yavapai County Fund For The Environment

1. Project Name: Upper Granite Creek Watershed Monitoring-Survey, Water, GIS

2. Project Summary (3000 character maximum):

The Upper Granite Creek Watershed (a.k.a. the Prescott Basin) is approximately 36,000 acres or 56.25 square miles in size, with a range of elevation from approximately 5,000 to 7,110 feet. Unlike many other cities in the semi-arid Southwest, Prescott (with a population of almost 34,000) has eight creeks winding their way through town. These cool shady greenways are a haven to humans and wildlife alike; the water they provided early settlers is the reason Prescott is where it is. Prescott Creeks' ongoing efforts to manage Watson Woods Riparian Preserve and our five CreekWatch Groups revealed a real need for coordinated, systematic monitoring of the local watershed. The Watershed Monitoring program (created in 2002) was established to provide a framework for community-based monitoring throughout the length of Granite Creek and its seven tributaries. Following the same adaptive management strategy as that employed at the Preserve, Prescott Creeks (and ideally, other stakeholders) will use data generated from monitoring to guide management, restoration, and educational decisions within the watershed.

While Prescott Creeks and its many volunteers have collected general information to characterize the watershed, detailed surveys need to take place before watershed assessments can occur. Through this project, we will begin establishing current conditions and specific methodologies appropriate for a volunteer monitoring effort. In particular, we will work with a combination of volunteers to survey cross-sections (across the creek) and profiles (along the main water flow) of the creeks to establish baseline conditions, as well as sample water within the creeks to determine water chemistry and look for indications of water quality issues. All information from this project will be compiled in a computerized spatial database (geographic information system) that will allow Prescott Creeks to archive, analyze and present the data to the public, watershed stakeholders, project partners and funding entities such as the Yavapai County Community Foundation.

3. Requested Amount:

\$8,000.00

4. Contact Person:

Michael Byrd, Executive Director / Preserve Mgr.

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5. Contact information for contact person listed in #4:

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6. One sentence description of project.

This project will continue the important work of monitoring the Upper Granite Creek Watershed by supplying Prescott Creeks with tools and resources to engage watershed residents (volunteers, general citizens, land managers, educators, etc.) in a variety of hands-on activities that will lead to broader personal and general knowledge about their watershed, a characterization of that watershed's condition, and essential information for restoration and/or enhancement of the Upper Granite Creek Watershed.

7. Project description including objectives (measurable outcomes), methods (how to achieve them), and timeframe (start & finish dates).

Prescott Creeks will continue its efforts to monitor the Upper Granite Creek Watershed with this project. Specifically it will include physical survey of the creeks (cross-sections and profiles), investigation of water-quality sampling methodologies for intermittent systems in the semi-arid Southwest (chemical monitoring), and creation of a system for the storage, manipulation and display of the information gathered.

Prescott Creeks' volunteers and Prescott College students in the Restoration Ecology class (taught by Prescott Creeks' President Joel Barnes) will conduct physical monitoring over a two-year period (beginning summer 2005/ending August 2007). During this time, we expect to complete surveys for approximately third of the 60+ creek miles in the watershed. Training for volunteers and students will occur at a daylong, hands-on, restoration-planning workshop (funded by the Arizona Water Protection Fund) scheduled for summer 2005 at Watson Woods Riparian Preserve and during the restoration class at Prescott College (autumn 2005). Two sets of equipment (including levels, stadia rods, and tape measures) will be purchased through Forestry Suppliers (or other similar vendor). Similarly, Prescott Creeks will begin investigating water quality with the use of a HACH portable water testing kit. Initial investigations will begin at each tributary's confluence with Granite and progress upstream at intervals if potential problems are encountered. Volunteers will conduct the investigations during each season for a two-year period (beginning summer 2005/ending August 2007) to determine changes in water chemistry and make correlations between wet and dry season parameter values. Finally, Prescott Creeks will record all data in a GIS system to store, analyze and display findings. This GIS software will be purchased with funds from an existing grant (Arizona Water Protection Fund-Watson Woods Restoration Feasibility Project), but there is not a dedicated piece of equipment for this software. This project will supply a needed desktop computer to run the GIS system. Stantec Consulting approached Prescott Creeks earlier this year and offered their in-kind services to assist with the development of this watershed-wide GIS system. Purchase of the computer and development of the GIS will begin as early as January 2005 and be completed by August 2007. The overall project will take place between January 2005 and August 2007.

8. Statement of need (why this project/program/purchase is necessary).

"A stream is only as healthy as the watershed where it is located" (Riley, Ann L. *Restoring Streams in Cities: A Guide for Planners, Policymakers, and Citizens*. Island Press. Washington D.C. 1998.). Therefore, monitoring the condition of the creeks is the best way to gauge watershed condition. Prescott Creeks and its many partners (the City of Prescott, the Open Space Alliance, etc.) have successfully developed awareness of, and concern for the creeks (through projects such as Watson Woods Riparian Preserve, the Granite Creek Clean-up, the West Granite Creek Park Restoration, the Prescott CreekWatch Network, etc.). In 2002, Prescott Creeks began a coordinated effort to identify current conditions in the Upper Granite Creek Watershed by researching what types of information existed and which were needed. In general, there was a general lack of existing

information. Our research determined that conventions dictated monitoring physical, chemical and biological conditions. While physical monitoring methodologies are well established (Rosgen, et al.), available models for chemical and biological monitoring all come from much wetter regions of the U.S. and are not fully established for the semi-arid Southwest.

To address the lack of information, Prescott Creeks led a volunteer effort to collect basic data about the physical condition of the creeks (channel size, land use, general vegetation, etc.) through our Creek Observation Guide project. The guide resulting from the project will be released before the end of the year. While the guide will provide much information for the layperson, Prescott Creeks realizes the need to continue its efforts to gather additional detailed information about the creeks. Rather than hiring costly consultants to perform the work, Prescott Creeks will purchase the needed equipment, and recruit and train volunteer for the task. Survey equipment (including: levels, stadia rods, measuring tapes) is needed to gather empirical information about the current condition of the creeks. A water monitoring kit will help us to learn more about how our intermittent waterways respond to pollutants during seasonal storms, and finally, a computer is needed to house the database and GIS system that will receive the information gathered. In addition to housing information gathered, Prescott Creeks views the computer and GIS system as being essential tools for manipulation and presentation of the data, and as tools that will also benefit our non-profit and government partners. Currently, neither the City of Prescott nor Yavapai County governments possess the type of ecologically based GIS data that Prescott Creeks will generate during this project.

9. Identify which segments of Yavapai County will be served by this project.

This project will create a valuable tool that will be of service to Prescott area citizens, the local and countywide conservation and scientific communities, as well as local, county and state policymakers. Additionally, the project will serve the local college students and faculty and the large influx of year round tourists visiting the Prescott area.

10.If applicable, estimated number of people to be served by this project.

The 2000 population estimates for the City of Prescott (33,938) and Chino Valley (7,835), were obtained from the US Census Bureau. Combined with the Prescott Chamber of Commerce's estimated 2003 walk-in tourist 36,160, a conservative estimate of the number of people served by this project would be over 78,000 people. As Granite Creek eventually feeds into the Verde River, and the Verde into the Salt River, it is arguable that this project is of value to the Prescott, Chino Valley, Verde Valley, and Phoenix areas, with a combined population of approximately 1.9 million.

11.How the project's results will be evaluated. Please be very specific.

Primary evaluation of this project will be the successful accomplishment of the objectives described above. The project will be determined to be successful if equipment is acquired and utilized to train a minimum of 30 volunteers, survey at least 20 miles of creek, collect 56 water samples and expand Prescott Creeks' GIS system from one that has Watson Woods Riparian Preserve as its primary focus to one that encompasses the entire Upper Granite Creek Watershed (utilizing data collected from this project and elsewhere).

12.Qualifications of project manager.

Michael Byrd, Executive Director and Watson Woods Riparian Preserve Manager, and past President of Prescott Creeks (1996-1998), has a background in environmental conservation with an emphasis on resource

management. Michael has managed the Preserve since its inception in 1995, and in addition to his management of numerous other grants with the Arizona Water Protection Fund, River Network and Arizona Community Foundation during the past 9 years, he has successfully managed several YCCF grant funded projects for Prescott Creeks (Creek Signing Project Phases II-IV and Watershed Monitoring Planning). He also conducts riparian restoration, education and research projects with his consulting firm, Riparia.

13.Plans for future funding for the project.

In 2002, the Yavapai County Community Foundation provided seed funding (\$3,500) for Prescott Creeks' Upper Granite Creeks Watershed Program. As a direct result of that grant, Prescott Creeks received an additional grant and assistance from the River Network, Watershed Assistance Grants program (valued at \$22,095). In addition to the support and funding from River Network, Prescott Creeks has engaged over 50 volunteers (their time valued at over \$19,000) in monitoring during the past two years. Continuing our successes from the first two years of the program, future funding will continue through innovative grant seeking (with entities such as River Network, the US EPA, the Yavapai County government, the Arizona Dept. of Environmental Quality, and others), ongoing volunteer contributions, and through continued and new partnerships with diverse community stakeholders (such as the City of Prescott, the Open Space Alliance, Prescott National Forest, Stantec Consulting, just to name a few).

14.Plans to publicly acknowledge the funding, if received.

Prescott Creeks plans to acknowledge the Yavapai County Community Foundation-Fund for the Environment in many ways if granted funding. The YCCF name and logo will be placed on all physical products that result from this project (maps, handouts, etc.), in The Creekside Almanac (our seasonal newsletter) and in any press releases or news articles about the project. Recognition will also be prominently placed on the sponsor page of the Prescott Creeks web site (www.PrescottCreeks.org).

15.Has funding been received from YCCF, the Arizona Community Foundation, or the Greater Sedona Community Foundation during the years 2001– present? If so, give funding date(s), purpose(s), and amount(s).

Prescott Creeks received funding from the YCCF, Fund for the Environment 2001 (\$2,200) for Phases III of the Creek-Signing project and in 2003 (\$1,851) for development and printing of the Upper Granite Creek Watershed Map. In 2002, funding (\$3,500) was also received to initiate the Upper Granite Creek Watershed Monitoring Program.