Project Summary

Organization and Partners: Texas Stream Team, based at Texas State University’s River Systems Institute, is the state’s leading volunteer water quality monitoring program. Texas Stream Team (formerly Texas Watch) has been training monitors and conducting environmental education projects since 1991. The proposed Urban Watersheds Project is a two-year project to be led by Texas Stream Team in partnership with Texas Amphibian Watch, which is part of Texas Parks and Wildlife’s (TPWD) Texas Nature Trackers program, and Project WILD, another education program of TPWD. The project will take place at a middle school and T-STEM (Texas Science, Technology, Engineering, and Mathematics) academy in Corpus Christi, Texas.

Goal and Objectives: The purpose of the Urban Watersheds Project is to increase environmental literacy and stewardship among middle school students in a watershed that is considered impaired for water quality, with the ultimate goal of preventing pollution and improving water quality. This project will constitute Phase 2 (improvement phase) of a larger, three-phase effort. It builds on a pilot program (Phase 1) conducted in 2005-07, in which the multi-program delivery approach and innovative tools for measuring environmental literacy were developed and preliminarily tested. The currently proposed project is an intensive effort aimed at a numerically larger audience, with the intent of refining the method of delivery and generating quantitative evidence of improved environmental literacy. The implementation phase (Phase 3), with future funding, will be statewide implementation by Texas Stream Team, Texas Nature Trackers, and Project WILD.

Educational Priorities Addressed: This project addresses community stewardship (EPA Environmental Education Priority 3). Students will conduct field-based water quality and amphibian monitoring, participate in hands-on classroom activities using Texas Stream Team, Texas Amphibian Watch, and Project WILD Aquatic curriculum, and create and implement service-learning projects. These activities will prepare students for participation in water quality protection efforts as current and future stakeholders in the Oso Creek watershed, a water body that is listed as impaired under the federal Clean Water Act, Section 303(d).

Delivery Method: The Urban Watersheds Project synergistically combines three existing, well-established statewide programs: Texas Stream Team, Texas Amphibian Watch, and Project WILD Aquatic. Year 1 features an intensive suite of learning activities for all 6th grade students and teachers at the project site, including summer teacher workshops, hands-on classroom activities, field-based water quality and amphibian monitoring events, and a service learning component to support community outreach. In Year 2, all events for the incoming 6th grade will be repeated, with the addition advanced methods of water quality and amphibian monitoring, advanced classroom curriculum, and additional service learning projects for all 7th grade students.

Audience: The audience for the Urban Watersheds Project will be the entire body of 6th and 7th grade students and teachers at Cunningham Middle School in Corpus Christi, Texas, about half of whom are part of the Innovation Academy for Engineering, Environmental, and Marine Science. The project will reach an estimated 400 students and teachers over two years. Cunningham Middle School and the Innovation Academy together have a predominantly minority (Hispanic), low income, and at-risk student population. Student-generated service-learning activities will reach an additional, public audience in the local community.

Costs: The requested funds will support teacher stipends, workshop supplies, monitoring equipment, classroom supplies, personnel time for project coordination and oversight, travel between Austin/San Marcos and Corpus Christi for coordination and training, and a robust project evaluation. Texas Stream Team, Texas Nature Trackers, and Project WILD will contribute staff time for training. In-kind match from Cunningham Middle School and the Innovation Academy will support substitute teachers and local bus transportation during field monitoring activities, as well as local coordination and training facilities.