

**Environment and Natural Resources Trust Fund
2018 Request for Proposals (RFP)**

Project Title:

ENRTF ID: 130-C

Aquatic Education & Outreach Programs: Engaging 6,000 Students

Category: C. Environmental Education

Total Project Budget: \$ 52,477

Proposed Project Time Period for the Funding Requested: 3 years, July 2018 to June 2021

Summary:

The Aquatic Research & Conservation Society requests funding to expand youth learning experiences enhancing their environmental science education through hands-on field and in-class workshops and free classroom kits to educators.

Name: Amy Waters

Sponsoring Organization: Aquatic Research & Conservation Society, Inc

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Location

Region: Metro

County Name: Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, Wright

City / Township:

Alternate Text for Visual:

Educating 6,000 children and young adults in environmental science; map of workshop locations and pictures of youth pulling a seine net, measuring, and documenting their catch.

_____ Funding Priorities	_____ Multiple Benefits	_____ Outcomes	_____ Knowledge Base
_____ Extent of Impact	_____ Innovation	_____ Scientific/Tech Basis	_____ Urgency
_____ Capacity Readiness	_____ Leverage	_____ TOTAL	_____ %



Environment and Natural Resources Trust Fund (ENRTF)

2018 Main Proposal

Project Title: Aquatic Education & Outreach Programs: Engaging 6,000 Students

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I. PROJECT STATEMENT

At present, there are minimal outreach efforts for children and young adults that include hands-on field and in-class learning experiences conducted by aquatic scientists. The Aquatic Research & Conservation Society, Inc. is a non-profit formed by fisheries biologists that provides educational opportunities to local youth to educate them about biology and ecology through field and in-class workshops, and free classroom kits to educators. We are requesting funds to expand our current field and in-class workshops and produce and distribute additional free classroom kits to educators to expand their environmental education curricula indefinitely. This expansion will reach a minimum of 6,000 youth over 3 years. Our programs motivate children and young adults to become citizen scientists by providing a variety of ways for them to immerse themselves in local aquatic habitats. Programs educate students how they can help conserve the fish they enjoy angling for while enhancing fish populations, their habitats, and creating awareness that their actions have environmental consequences. This increased understanding and connection with local aquatic resources builds capacity within the community to better manage aquatic natural resources. Programs will be evaluated annually to ensure each curriculum is best suited for specified age groups. All participants will receive educational handouts, a survey to submit upon completion of the program (age specific), and a Certificate of Participation.

Students in the Metro and surrounding areas will participate in outdoor recreation, research, and learn about aquatic science and conservation methods. Activities include:

- Students ages 4 to 8 learn about fish, camouflage, ways different fish eat, and general conservation practices through discussions, games and crafts;
- Students ages 9 to 15 learn about fish, their habitats, aquatic food webs, and how to keep ecosystems in balance including research experience by collecting fish with a small seine net;
- Students ages 11 to 18 are conservation leaders assisting with youth educational outreach programs;
- Students ages 16 to 18 can participate in our High School Volunteer Program that provides a hands-on fisheries science research experience that complements their traditional academic studies; and
- Classroom kits are provided to educators (at no cost) to bring aquatic educational materials to students of all ages, as well as in-class workshops to bring fisheries science from the field to the classroom.

II. PROJECT ACTIVITIES AND OUTCOMES

Activity 1: Hands-on Field Workshops for Children Ages 4 to 15.

Budget: \$22,200.00

Youth ages 4 to 8 will learn about fish, camouflage, ways different fish eat, and conservation practices while creating fish prints, playing games, making crafts through educational workshops by experienced fisheries biologists. Funds will be used to further develop and expand current programs and provide an additional 15 workshops over 3 years, reaching a minimum of 90 participants.

Youth ages 9 to 15 will participate in hands-on field workshops collecting fish using a small seine. Students will learn to identify, record data and field notes, take water quality readings, and learn about their catch through this experience-based program. Students will learn about fish, their habitats, camouflage, dangers of invasive species, population management, aquatic food webs, and conservation methods. Funds will be used to purchase additional field equipment and provide an additional 15 field workshops over 3 years, reaching a minimum of 120 participants.

Outcome	Completion Date
1. Contact schools and non-profit organizations and advertise workshops.	January 2020
2. Annual review of programs based on participant surveys to evaluate effectiveness and age specificity to revise curriculum.	March 2021
3. Development of additional educational materials and workshops.	June 2021



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Activity 2: Young Adult and High School Volunteer Programs.

Budget: \$15,502.00

Young adults ages 11 to 18 will assist with educational outreach programs by learning about aquatic biology and help teach children and their peers. Funds will be used to purchase additional field gear, preparation of workshops, and travel. High school students ages 16 to 18 will gain hands-on fisheries science experiences through our Volunteer Program, as well as building resume experience and professional references. Students will collect fish using traditional fisheries methods to measure, weigh, record data, and take and record water quality readings. Students will learn about fish, their habitats, invasive species, population management and conservation methods. Students will receive field notebooks for documenting their findings. Funds will be used to purchase additional field equipment and preparation of workshops, providing an additional 143 field workshops and engaging up to 400 volunteers over 3 years.

Outcome	Completion Date
1. Contact schools and non-profit organizations and advertise workshops.	January 2020
2. Annual review of programs based on participant surveys to evaluate effectiveness and age specificity used to revise curriculum.	March 2021
3. Select field sampling locations and methods for hands-on workshops.	June 2021

Activity 3: Classroom Kits and In-Class Workshops, Engaging Infinite Students.

Budget: \$14,775.00

Teachers and educators can request a free environmental science education kit that will enhance their science curricula. These kits include information on aquatic species and their habitats, educational activities, and a CD with handouts to print. In-class workshops are age specific and include hands-on activities, educational handouts, stories, games, and crafts. Funds will be used to develop additional workshops, purchase additional workshop equipment, prepare classroom kits, and for travel. Funds will provide an additional 84 in-class workshops, reaching a minimum of 2,500 participants, and produce an additional 100 classroom kits, reaching a minimum of 3,000 participants, over 3 years.

Outcome	Completion Date
1. Contact schools and non-profit organizations and advertise kits and in-class workshops.	January 2020
2. Development of additional educational materials for kits and in-class workshops and delivery of kits to educators.	December 2020
3. Annual review of programs based on participant surveys to evaluate effectiveness and age specificity used to revise curriculum.	March 2021

III. PROJECT STRATEGY

A. Project Team/Partners

1. Amy A. Waters, Biologist and Outreach Coordinator, the Aquatic Research & Conservation Society, Inc. (ARCS). Administration of projects, development of educational curriculum and workshops, and collaboration with educators.

Schools, non-profit organizations, and community centers in the Metro and surrounding areas will be contacted to establish relationships to include field and in-class workshops, and classroom kits in their curriculum to increase involvement in programming.

B. Project Impact and Long-Term Strategy

Participants will have an increased awareness and understanding of the fishes present in their communities and the habitats in which they reside, as well as an increased understanding of their roles within these environments and ways they can conserve and protect aquatic resources. The hands-on approach builds capacity within the community to better inform citizens of fish population health and fisheries biology. Curricula are analyzed and revised annually to ensure programming is informative, engaging, and age specific. Funding for 3 years will further develop curriculum and preparation of classroom kits to be used for the life of our programming.

C. Timeline Requirements

3 years, July 2018 to July 2021.

2018 Detailed Project Budget

Project Title: Aquatic Education and Outreach Programs: Engaging 3,000 Students

IV. TOTAL ENRTF REQUEST BUDGET: 3 years

<u>BUDGET ITEM</u>	<u>AMOUNT</u>
Personnel:	
Project Manager salary: 717 hours per year at \$18.00 per hour = \$12,906.00 x 3 years = \$38,718, 100% part time salary for 3 years, 0% benefits.	\$ 38,718
Equipment/Tools/Supplies:	
Field Workshop Equipment: Nets \$2,480, field gear (aqua shoes/boots, waders, life vests, gloves, etc.) \$1,980, other equipment \$370.	\$ 4,830
In-Class Workshop Equipment: Fish print supplies \$489, other equipment (paper, crayons, etc.) \$270.	\$ 759
Classroom Kit Supplies: CD materials (CDs, jackets, etc.) \$175, envelopes and postage \$375, other equipment (paper, folders, etc.) \$120.	\$ 670
Travel:	
Mileage to workshops and meetings with educators (8,333 miles x .54 per mile = \$4,500). Field workshop boat travel between ramp and sampling sites (5,556 miles at \$0.54/mile = \$3,000).	\$ 7,500
TOTAL ENVIRONMENT AND NATURAL RESOURCES TRUST FUND \$ REQUEST =	\$ 52,477

V. OTHER FUNDS

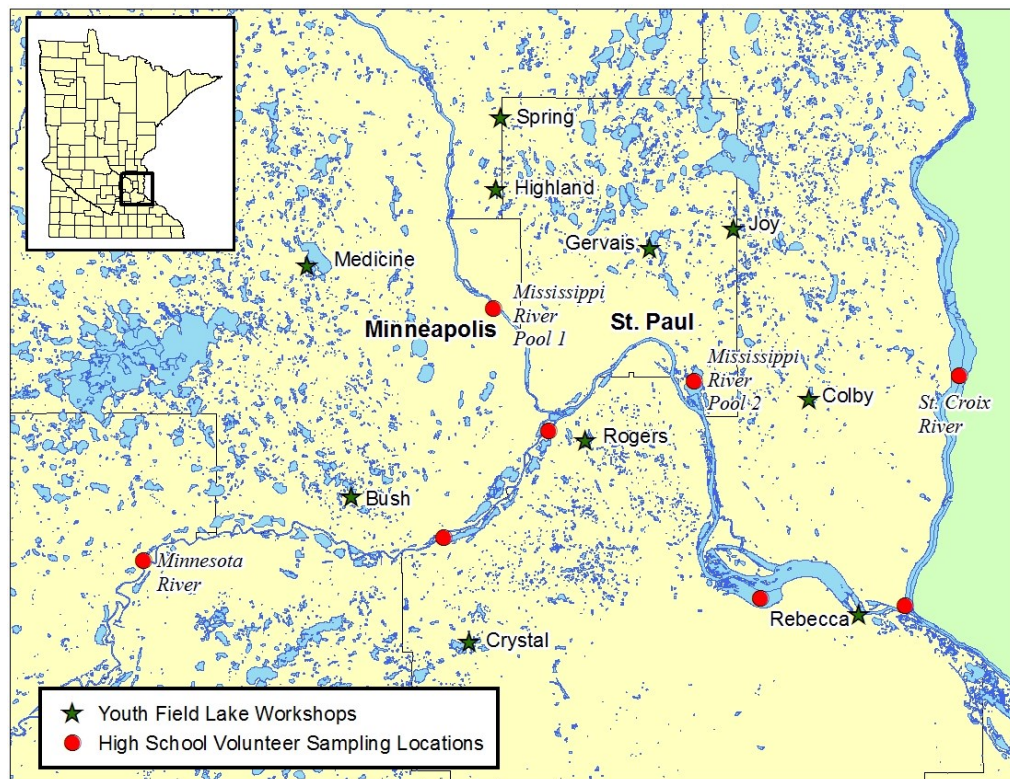
<u>SOURCE OF FUNDS</u>	<u>AMOUNT</u>	<u>Status</u>
Other Non-State \$ To Be Applied To Project During Project Period: West Marine Blue Future Fund (\$1,500)	\$ 1,500	Secured
Other State \$ To Be Applied To Project During Project Period:	N/A	
In-kind Services To Be Applied To Project During Project Period: All staff benefits, support staff, facilities, office equipment (computers, phone, internet, etc.), costs for project are covered by ARCS general operating budget.	\$ 10,512	Secured
Past and Current ENRTF Appropriation:	N/A	
Other Funding History: City of Maplewood (\$1,140)	\$ 1,140	Secured

Aquatic Education & Outreach Programs

Educating children and young adults in environmental science



The Aquatic Research & Conservation Society, Inc. will offer learning experiences for 3 years to over 6,000 youth pre-school through high school ages in the Metro and surrounding areas through hands-on field and in-class workshops and free classroom kits to educators. We will expand our programs by offering 250 additional workshops and provide an additional 100 classroom kits.



Project Manager Qualifications – Amy Waters

Amy Waters has a BS from the University of Minnesota and since 2011 has been the Vice President of ARCS. Ms. Waters has extensive field and laboratory research and project management experience with over 15 years as an Outreach Program Supervisor with state agencies and non-profit organizations. She manages field sampling, outreach programs, grant writing, marketing and accountings. She collaborates with local fisheries professionals to develop project plans for future research. Outreach Coordinator duties include curricula development, planning field and in-class programs, and community engagement. She has managed projects ranging from \$10,000 to \$750,000 overseeing program budgets and development, purchasing, travel, and day-to-day operations. She networks and forms productive partnerships with other environmental organizations, and analyzes data and presents results through reports, scientific publications, journals, presentations, and educational materials as an author.

Organization Description – Aquatic Research & Conservation Society, Inc. (ARCS)

ARCS is a 501(c)(3) non-profit organization based in Minnesota dedicated to furthering research and the understanding of aquatic resources through science and education-based initiatives. ARCS is governed by a volunteer Board of Directors and is a collaborative organization based within the community to serve the public while advancing fisheries science through civic engagement and collaborative efforts with state and local agencies. ARCS conducts scientific fisheries research through field sampling and laboratory analysis. We participate in the conservation of native fishes through research and outreach and collaboration with educational agencies. Our hands-on Education and Outreach Programs engage students in environmental science education opportunities, these programs prepare students for careers in wildlife biology, conservation, and management through field, laboratory, and data analysis experiences. These programs provide experiences that expand knowledge of fisheries science, conservation and management to children and young adults.