

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

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**Project Title:**

**ENRTF ID: 101-C**

Connecting Students with Watersheds through Hands-on Learning

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**Category:** C. Environmental Education

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**Total Project Budget:** \$ 581,270

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

**Summary:**

Students will get outdoors for hands-on learning focused on water quality, groundwater, aquatic life, watershed health and their role as watershed stewards. Introductions to fishing and conservation will be offered.

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**Sponsoring Organization:** Minnesota Trout Unlimited

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**Location**

**Region:** Statewide

**County Name:** Statewide

**City / Township:**

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**Alternate Text for Visual:**

Students study stream ecology, learn casting and prepare to release fish raised in class aquarium

_____ 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:** Connecting Students with Watersheds through Hands-on Learning

**PROJECT TITLE: Connecting Students with Watersheds through Hands-on Learning**

**I. PROJECT STATEMENT**

This is the second phase of our successful program getting students engaged outdoors through hands-on learning and connecting them with water, aquatic life, groundwater and watersheds. Our pilot phase has exceeded expectations, exciting kids about watersheds and the outdoors. We will expand the program to more schools, including in outstate communities. Students will learn their role in healthy, sustainable, freshwater habitats and develop a sense of stewardship they carry forward into adulthood. We will reach students in classrooms, during field days and via outdoor recreation which encourages lifelong, tangible connections to aquatic ecosystems.

Youth are increasingly becoming disconnected from the natural environment. This lack of connection follows students into adulthood and impacts their ability to make well informed decisions about their environment. Many schools have some environmental education programming, but fail to adequately reinforce ongoing lessons through real life applications outside. We use tangible education tools and take students outdoors for hands-on learning activities to connect them to aquatic ecosystems. We utilize a national curriculum which places aquariums in classrooms so students can follow the development of trout from egg to juvenile. This serves as a spring board for field trips to streams and as a focal point for reinforcing learning about water, watersheds and ecology. Lessons on groundwater will be included. We also use the Project WET watershed curriculum, endorsed by the National Science Teachers Association. Minnesota specific adaptations will be made to include state specific grade level standards and STEM initiatives.

We will enhance students’ science skills and knowledge concerning water quality, groundwater, watersheds, native aquatic life and healthy, sustainable, freshwater habitats. Students will engage in interactive science-based natural resource education through the use of technology and applied sciences as they gather first-hand knowledge of healthy ecosystems. Classroom aquariums and outdoor lessons encourage students to use critical thinking skills and foster deeper knowledge in multiple areas, including science, math, language arts and art.

Our year-long program is unique - combining habitat site explorations, field studies and classroom visits with opportunities to explore outdoor recreation, conservation work and careers relating to fresh water habitats.

**II. PROJECT ACTIVITIES AND OUTCOMES**

**Activity 1: Classroom** - Bring aquatic study into 37 classrooms and engage 1,480 students. **Budget:** \$190,000  
Place aquariums with trout eggs in classrooms (grades 4 to 12), train teachers and provide classroom lessons between field days, including programming on freshwater ecology, groundwater, etc.

<b>Outcome</b>	<b>Completion Date</b>
1. Partner with participating schools - year one – 27 schools; year two – 32 schools; year three – 37 schools.	July to Sept., each year
2. Organize equipment and resources, meet with partners, train participating educators, assemble educator manuals focusing on ways to enhance state learning standards and STEM initiatives, and assist with aquarium set up in schools. Coordinate with DNR.	July to October, each year
3. Utilize contracted educators to work with students in schools located in outstate Minnesota.	July to May, each year
4. Coordinate with DNR to bring trout eggs into classrooms for rearing by students.	each December
5. Assist with programming on groundwater, watersheds, invasive species, water contaminants, habitat activities, etc.	November to June, each year

**Activity 2: Field Days** – Outdoor learning and fish release activity days. **Budget:** \$181,900  
Connect students with the natural world through hands-on outdoor field studies and activities at streams, habitat areas, groundwater sites, etc.



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Outcome	Completion Date
1. Fall trip: macroinvertebrate and stream surveys using technology; groundwater site visits	Sept to Nov, each year
2. Spring trip: Students release trout in natural environment, other hands-on learning, including chance to try fishing and catch a lifelong interest in outdoor recreation.	each May

**Activity 3: Student Summits** – Up to 500 students and 15 schools at each of six summits. **Budget:** \$127,100  
Summits held in central location(s) where students showcase their projects, participate in outdoor skills learning, and learn about water resources careers from professionals.

Outcome	Completion Date
1. Students share inquiry based research projects and learn about careers in natural resources.	Mar to April, each year

**Activity 4: Outdoor Recreation** – create lifelong interest in outdoor activities by youth and their families. **Budget:** \$82,270

Series of fishing clinics and outings, camps, and opportunities to participate in conservation projects offered after school and throughout summer, to get youth and families engaged in the outdoors.

Outcome	Completion Date
1. Offer calendar of events/opportunities with partners; engage additional students, classes and schools using print news, websites, social media and YouTube	April to June, each year
2. Conduct multiple youth and family fishing events and clinics, advancing MN’s Recruitment, Retention, Recruitment and Reactivation (R3) initiative	April to Sept., each year
3. Winter field days – introduce kids to interactive winter outdoor activities and skills, including ice fishing and winter lake ecology	Dec. to March, each year

**III. PROJECT STRATEGY**

**A. Project Team/Partners**

Minnesota Trout Unlimited and chapters – will receive funding and contribute cash and in-kind assistance;  
Schools and school districts – contribute extensive in-kind assistance and required cost sharing to stretch budget;  
MNDNR – contribute in-kind support through professional staffing.

**B. Project Impact and Long-Term Strategy**

By reaching kids in classrooms, in the field and after school, we will get them excited about watersheds, the outdoors and outdoor recreation. We will combine outdoor “classrooms” with technology through STEM related activities so students may master state standards across a spectrum of subjects, develop skills necessary for making informed decisions about the water resources, create connections to the natural world, and think critically about their roles in the environment. Students will learn to appreciate the watersheds in which they live, become active in the outdoors and stewards of land and water. Recreational activities are included to encourage enduring connections to the outdoors beyond the classroom. Afterschool and summer programs for youth, families and diverse audiences will cement lifelong involvement in outdoor recreation and conservation. YouTube and other media will extend the reach and impact of the programs. Instilling a sense of stewardship in tomorrow’s leaders, which is the program’s ultimate goal, is vital to the long term health and protection of Minnesota’s natural resources. This program should reach approximately 6,000 to 8,000 students and their communities annually.

**C. Timeline Requirements**

This is a three year program. We have exceeded Phase I goals and garnered good media coverage and public support. We will expand the number of students and schools reached, including in Greater Minnesota communities. We will work hard to use our successes to capture corporate sponsors or other funding sources to continue the program on a sustained, long-term basis.

## 2018 Detailed Project Budget

**Project Title:** Connecting Students with Watersheds through Hands-on Learning

### IV. TOTAL ENRTF REQUEST BUDGET: For 3 years

BUDGET ITEM	AMOUNT
<b>Personnel:</b>	<b>\$196,560</b>
Project coordinator -100% fte; 78.1 % salary/21.9% fringe; 36 months; (average of approximately \$61,440 annually); Subtotal = approximately \$184,320;	
Director of youth education— 5% fte; 78.1 % salary/21.9% fringe; 36 months; (average of approximately \$4,080 annually); Subtotal = approximately \$12,240;	
<b>Professional/Technical/Service Contracts:</b>	<b>\$91,800</b>
Program manager – average of approximately \$6,600 annually; [project manager will likely be an independent contractor, not an employee, and paid an hourly fee]; Subtotal = approximately \$19,800;	
Outstate educator/consultants (selected competitively) to coordinate/assist in classrooms and on field trips – 2 individuals in different parts of MN X \$3,000 = \$6,000/yr x 3 yrs. = \$18,000;	
Field day assistants (we cannot count on agency assistance) – 2 non-agency educators/helpers per field day x \$200 = \$400/field day x 135 field days = \$54,000;	
<b>Equipment/Tools/Supplies:</b>	<b>\$81,150</b>
Comprehensive aquarium equipment (3+ years) 15 classrooms x \$1,300 per classroom set = \$19,500;	
Maintenance/replacement of portions of existing aquarium equipment set - \$150/year per set, plus filter and chiller replacements on older equipment: Year 1 – 22 existing x \$150 = \$3,300; plus \$2,000 to replace filters on 10 oldest (\$200 x 10) = \$5,300 Year 1 subtotal; Year 2 – 27 existing x \$150 = \$4,050; plus \$1,000 to replace filters on 5 aquariums (\$200 x 5) = \$5,050 Year 2 subtotal; Year 3 – 32 existing x \$150 = \$4,800; plus \$1,000 to replace filters on 5 aquariums (\$200 x 5); plus replace chillers on 10 oldest (\$600 per chiller x 10 = \$6,000); = \$11,800 Year 3 subtotal; 3 year total = \$22,150;	
Supplies – fish food - \$25/aquarium/yr; Year 1 – 27 classrooms x \$150 = \$675; Year 2 – 32 classrooms x \$150 = \$800; Year 3 – 37 classrooms x \$150 = \$925; 3 year total = \$2,400;	
Field Aquarians for Macro studies 15 x \$40 each = \$600;	
Printing/copying for teacher manuals and class worksheets, handouts, summit banners, etc. Estimated to be approximately \$500 per year x 3 years = \$1,500;	
Equipment for complimentary National Fishing in the Schools (NFIS) program for physical education classes - \$3,500 per comprehensive kit x 10 schools = \$35,000;	
<b>Travel:</b> Travel expenses of project coordinator to and from schools, field sites, DNR facilities, etc. Limited travel of project manager to key meetings with coordinator, schools, events, & DNR. Mileage expense estimated at IRS rate of 0.535/mile	<b>\$20,000</b>
<b>Additional Budget Items:</b>	<b>\$191,760</b>
Fish eggs and disease testing with shipping - \$300/classroom aquarium per year (x 27,32,37) = \$28,800;	
Summit facility to accommodate 15+ schools and 350-500 kids in centralized location - \$7,500 per summit; \$7,500 X 6 summits over 3 years = \$45,000;	
Essential food for instructors at: Centralized teacher orientation on use of equipment, fish raising issues, etc. - \$100 x 3 yrs. = \$300; Lunches for non-teacher volunteers/agency help at field days - \$50/field day x 135 field days over 3 years = \$6,750; Summits – lunches for volunteers, agency help needed for student summits - \$200/summit x 6 summits = \$1,200; Food subtotal - \$8,250;	
Storage of seasonal equipment that cannot fit in trailer \$60/mo. x 36 mo. = \$2,160;	
Bus transportation: \$350/trip x 3 trips per year(4th trip contributed by schools) = \$1,050/class/year; Yr 1 - \$1,050 x 27 schools = \$28,350; Yr 2 - \$1,050 x 32 schools = \$33,600; Yr 3 - \$1,050 x 37schools = \$38,850; Bus transportation total = \$100,800;	
Porta potties as needed for 60+ students for those field days which take place on streams not near bathrooms (school buses do not have bathrooms); estimate 45 of 135 field days likely not near bathrooms; - \$150 x 45 = \$6,750;	
	<b>\$ 581,270</b>

### V. OTHER FUNDS (This entire section must be filled out. Do not delete rows. Indicate "N/A" if row is not applicable.)

SOURCE OF FUNDS	AMOUNT	Status
<b>Other Non-State \$ To Be Applied To Project During Project Period:</b> Indicate any additional non-state cash dollars secured or applied for to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.		Indicate: Secured or Pending
<b>Other State \$ To Be Applied To Project During Project Period:</b> Indicate any additional state cash dollars (e.g., bonding, other grants) secured or applied for to be spent on the project during the funding period. For each individual sum, list out the source of the funds, the amount, and indicate whether the funds are secured or pending approval.	\$ -	Indicate: Secured or Pending
<b>In-kind Services To Be Applied To Project During Project Period:</b> Indicate any additional in-kind service(s) secured or applied for to be spent on the project during the funding period. For each type of service, list type of service(s), estimated value, and indicate whether it is secured or pending. In-kind services listed must be specific to the project.	\$ -	Value not determined
<b>Past and Current ENRTF Appropriation:</b> Specify dollar amount and year of appropriation from any current ENRTF appropriation for any directly related project of the project manager or organization that remains unspent or not yet legally obligated at the time of proposal submission. Be as specific as possible. Indicate the status of the funds.	\$ 400,000	2/3 spent or obligated with 1 year (of 3) remaining
<b>Other Funding History:</b> Indicate funding secured but to be expended prior to July 1, 2018, for activities directly relevant to this specific funding request. State specific source(s) of funds and dollar amount.	\$ -	

# Connecting Students with Watersheds through Hands-on Learning



**Project Manager Qualifications & Organization Description:**

Project manager:

John Lenczewski is the part time Executive Director of Minnesota Trout Unlimited. He currently manages several state and federal grants, including Phase 1 of the education program..

Organization Description:

Minnesota Trout Unlimited is a non-profit, 501(c)(3) organization made up of several thousand members organized into six chapters across the state. Our volunteers work hard to advance our mission to conserve, protect, and restore Minnesota's coldwater fisheries and their watersheds.