

**PROJECT TITLE: Southeast Minnesota Showcase Stream Restoration Projects**

**Project Manager:** Jeff Hastings  
**Affiliation:** Trout Unlimited  
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**Web Page address:** [www.tu.org](http://www.tu.org)  
**Funding Source:** Environmental and Natural Resources Trust Fund  
**Legal Citation:** M.L. 2008, Chap. [367], Sec. [2], Subd. 4(g)

**APPROPRITATION AMOUNT: \$240,000**

Overall Project Outcome Results:

The overall objective of this project was to accelerate stream restoration in Southeast Minnesota by building the capacity of county and federal conservation staff and private citizens to implement future projects.

Early European settlement and agricultural practices from the 1850's to the 1930's led to wide scale erosion, flooding, and altering of streams and valleys in Southeast Minnesota. Many of the streams today still have steep eroding banks, incised channels, and poor in-stream habitat. Annual sedimentation coming off streambank ranges from 250 to 1000 tons per mile and is responsible for as much as 85% of the total sediment load that enters the stream.

One of our primary goals was to have eight showcase stream restoration projects; we were successful in having eleven. Our other primary goal was to educate and train volunteers and professionals the various techniques and the planning involved in implementing a stream restoration project. Through a combination of 12 workshops, 4 symposiums, and 8 in-the-field demonstrations over 45 volunteers were trained on how to install various habitat practices for fish and non-game species, and contributed over 2300 volunteer hours working on stream restoration projects. Projects were completed in four of the seven targeted counties, and approximately 3 miles were restored.

Volunteers and contractors installed over 100 different habitat structures for trout, and non-game species of fish, turtles, birds and frogs. Cost of designs, permits, materials, earth moving, and professional oversight of the projects was close to half a million dollars. Environmental and Natural Resources Trust Fund dollars contributed \$188,535, with Trout Unlimited Chapters, County and Federal agencies contributing over \$357,447.

Project Results Use and Dissemination

Over the three year period of this project we more than quadrupled the educational and informational events we proposed for in our original plan.

Promoting, educating and accelerating stream restoration projects were accomplished through a variety media formats:

- 41 Workdays – involving volunteers clearing brush, installing habitat for fish and nongame species, seeding and mulching grade banks.
- 6 News releases – on completed projects.
- 8 Newsletters – newsletters to volunteers, county, state and federal employees.
- 4 Driftless Symposiums – regional symposium on riparian and watershed management.
- 2 Driftless Stream Bus Tours – free tour for professionals and volunteers of recently completed projects
- 7 In-the-field workshop – for volunteers on how to seed, mulch and install fish and non-game habitat practices.
- 4 Minnesota Great Waters Fly Fishing Expos – handouts, talks, displays on cold water stream restoration projects
- 2 Television Programs – on cold-water stream restoration
- 5 Stream Restoration Project Planning Workshop – 2-day workshop for volunteers on how to organize projects, write grants, workdays, easements, etc..
- Conducted one tour for Outdoor Writers Association – Southeast MN streams
- 7 Presentations to MN TU chapters on cold water stream restoration.
- 12 Presentations to County and Federal employees of Southeast Minnesota on cold water stream restoration.
- Presentations to Winona State students and St. Paul Fisheries graduates.
- Presentation at the Lakes and Rivers Conference in Rochester
- 4 presentations in MN at the American Fisheries Association conference
- 6 Local Work Group meetings (meeting of local Soil and Water Conservation Districts and Natural Resources Conservation Service) to plan on where spending of federal Farm Bill dollars will be directed.
- 42 Hand guides on habitat practices for trout and non-game species to volunteers, county, state and federal employees

## **Environment and Natural Resources Trust Fund 2008 Work Program Final Report**

**Date of Progress Report: February 18, 2013**

**Date of Next Status Report: Final Report**

**Date of Work program Approval: June 30, 2008**

**Project Completion Date: September 30, 2012**

### **I. PROJECT TITLE: Southeast Minnesota Showcase Stream Restoration Projects**

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**Telephone Number:** 608-606-4158  
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**Web Page address:** www.tu.org

**Location:** Dakota, Goodhue, Wabasha, Olmsted, Winona, Fillmore  
and Houston Counties

<b>Total Trust Fund Project Budget:</b>	<b>Trust Fund Appropriation:</b>	<b>\$ 240,000.00</b>
	<b>Minus Amount Spent:</b>	<b>\$ 238,446.57</b>
	<b>Equal Balance:</b>	<b>\$ 1,553.43</b>

**Legal Citation: M.L. 2008, Chap. [367], Sec. [2], Subd. 4(g)**

**Appropriation Language:** \$240,000 is from the trust fund to the commissioner of natural resources for an agreement with Trout Unlimited to accelerate stream bank stabilization projects on at least six miles of streams through restoration, providing technical assistance, and conducting workshops. This appropriation is available until June 30, 2011, at which time the project must be completed and final products delivered, unless an earlier date is specified in the work program.

**Legal Citation: M.L. 2011, 1<sup>st</sup> Special Session, Chap. [2], Art. [3], Sec. [2], Subd. 18(a)(3)**

### **Carryforward Language:**

(a) The availability of the appropriation for the following projects is extended to June 30, 2012: (3) Laws 2008, chapter 367, section 2, subdivision 4, paragraph (g), Southeast Minnesota Stream Restoration Projects;

## **II. AND III. FINAL PROJECT SUMMARY**

### **Overall Project Outcome Results:**

The overall objective of this project was to accelerate stream restoration in Southeast Minnesota with eight showcase restoration projects, and to build the capacity of county and federal conservation staff and private citizens to implement future projects.

Early European settlement and agricultural practices from the 1850's to the 1930's led to wide scale erosion, flooding, and altering of streams and valleys in Southeast Minnesota. Many of the streams today still have steep eroding banks, incised channels, and poor in-stream habitat. Annual sedimentation coming off streambank ranges from 250 to 1000 tons per mile and is responsible for as much as 85% of the total sediment load that enters streams in Southeast Minnesota.

One of our primary goals was to have eight showcase stream restoration projects; we were successful in having twelve. Our other primary goal was to educate and train volunteers and professionals the various techniques and planning involved in implementing a stream restoration project. Through a combination of 12 workshops, 4 symposiums, and 8 in-the-field demonstrations over 56 volunteers were trained on how to install various habitat practices for fish and non-game species, and contributed over 2300 volunteer hours working on stream restoration projects. Projects were completed in four of the seven targeted counties, and approximately 3 miles were restored. Eleven conservationists from county and federal conservation offices participated in stream restoration projects and gained knowledge of stream restoration project planning.

Volunteers and contractors installed over 100 different habitat structures for trout, and non-game species of fish, turtles, birds and frogs. Cost of designs, permits, materials, earth moving, and professional oversight of the projects was close to half a million dollars. Environmental and Natural Resources Trust Fund dollars contributed \$188,535, with Trout Unlimited Chapters, County and Federal agencies contributing and additional \$357,447.

### **Project Results Use and Dissemination**

Over the three year period of this project we more than quadrupled the educational and informational events we proposed for in our original work plan.

Promoting, educating and accelerating stream restoration projects were accomplished through a variety media formats:

- 41 Workdays – involving volunteers clearing brush, installing habitat for fish and nongame species, seeding and mulching restored stream banks.
- 6 News releases – on completed projects.
- 8 Newsletters – newsletters to volunteers, county, state and federal employees.
- 4 Driftless Symposiums – regional symposium on riparian and watershed management.

- 2 Driftless Stream Bus Tours – free tour for professionals and volunteers of recently completed projects
- 7 In-the-field workshop – for volunteers on how to seed, mulch and install fish and non-game habitat practices.
- 4 Minnesota Great Waters Fly Fishing Expos – handouts, talks, displays on cold water stream restoration projects
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- 7 Presentations to MN TU chapters on cold water stream restoration.
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- Presentations to Winona State students and St. Paul Fisheries graduates.
- Presentation at the Lakes and Rivers Conference in Rochester
- 4 presentations in MN at the American Fisheries Association conference
- 6 Local Work Group meetings (meeting of local Soil and Water Conservation Districts and Natural Resources Conservation Service) to plan on where spending of federal Farm Bill dollars will be directed.
- 42 Hand guides on habitat practices for trout and non-game species to volunteers, county, state and federal employees

#### **IV. OUTLINE OF PROJECT RESULTS:**

##### **Result 1: Eight Showcase Stream Restoration Projects**

**Description:** Working with private citizens and federal, county, and state agency employees, TU will collaborate to stabilize and improve habitat on over 6 miles of streams in Southeast Minnesota with at least one project in each of the targeted counties (i.e. Dakota, Goodhue, Wabasha, Olmstead, Winona, Fillmore, and Houston). Contractors will be hired to work on incised channels to shape and reconnect the stream to their floodplains, with side slopes of 3:1 or better. Eroding banks will be stabilized using a combination of rock riprap (covered with soil to the waterline), native species plantings, and the installation of habitat structures for trout and nongame species where appropriate and identified in Minnesota's Wildlife Action Plan.

Because these projects will be built along streams, which have a high potential for historic sites, project review and approval by both State and Tribal Historic Preservation Officers will be obtained. All permits and approvals, and their associated fees will be paid for by the sponsoring agency, and not part of this grant. Furthermore, all projects will follow standard, internally established protocol of routing all permits for projects through DNR's Lanesboro Area trout habitat program staff. Prior to the start of any projects, Trout Unlimited Project Manager will meet

with the DNR's Lanesboro Area fisheries staff and staff from the DNR central office to talk over procedure.

Trout Unlimited may provide portions of the proceeds of this agreement to the State to accomplish work specified in the approved work program, by submitting a letter to the authorized contact person for the State. The letter will include: the specific area of the work program authorizing the work; the portion of the proceeds to be used by the State; the name, title address, phone number and e-mail address for the State's representative assigned to accomplish the work; the expected completion date of the work; and a brief description of the nature of the work sufficient as the basis for judgment of whether or not the work was accomplished.

Trout Unlimited has developed the following criteria for prioritizing project funding:

1. Cold water streams having sufficient natural reproduction to sustain populations of wild trout and an easement for public access to fish has been, or will be obtained.
2. Coldwater streams having sufficient natural reproduction to sustain populations of wild trout, without an easement, but the public still has reasonable access to the stream reach.
3. Coldwater streams having some natural reproduction but not enough to utilize available food and space and an easement for public access to fish has been, or will be obtained.
4. Coldwater streams having some natural reproduction but not enough to utilize available food and space and without an easement for public access to fish.
5. Coldwater streams that provide marginal trout habitat with no natural reproduction.

**Summary Budget Information for Result 1:** Trust Fund Budget: **\$199,333**  
Amount Spent: **\$199,013.39**  
Balance: **\$ 319.61**

Deliverable	Completion Date	Budget	Status
1. 2 mi. of stream restored	June 2011	\$62,845	\$62,845
2. 2 mi. of stream restored	June 2012	\$62,845	\$62,845
3. 2 mi. of stream restored	June 2012	\$62,845	\$62,845
4. Org. Volunteer work days	June 2012	\$5,890	\$ 5,570.39
5. On-site project supervision	June 2012	\$4,908	\$ 4,908
Completion Date: September 30 <sup>th</sup> , 2012			

## **Final Report Summary:**

### **Showcase Stream Restoration Projects:**

*Streams Restored:* Our goal was to have eight showcase projects in seven counties and restore six miles of stream. We completed twelve showcase projects in four counties and restored just over three miles of highly degraded streams. When the project started there were no county or federal employees working at the county

level that had “job approval” to do a stream restoration projects, only a couple of regional engineers. One of the main objectives of this proposal was to engage conservationists and volunteers at the local level in restoration projects. Over the course of the project over 56 volunteers obtained experience working on a stream project and contributed over 2300 hours ( $2300 \times \$20.25/\text{hr.} = \$46,575$ ). We also engaged 11 county and federal employees on projects in their respective counties. Projects were more expensive than anticipated and we were not able to restore the full six miles we had hoped to. Projects costs vary depending on amount of debris to be removed and height of banks to be shaped and stabilized. We utilized all of the Environmental and Natural Resources Trust Fund dollars (\$188,535) and found more than matching dollars from 3 Trout Unlimited Chapters, Landowners, Natural Resources Conservation Service, U.S. Fish and Wildlife and donated staff time from County, State and Federal employees (total contributing hours and dollars \$357,447).

List of completed projects:

1. Pilot Mound 30' with Fillmore Co. SWCD
2. Willow Creek 309' with Fillmore Co. NRCS
3. Trout Run 2,700' Hiawatha Trout Unlimited
4. Whitewater 300' Hiawatha, Win-Cres and Twin Cities TU; and Trout Fly Tying Club
5. Trout Run 3,200' Hiawatha Trout Unlimited
6. Trout Run 2,200' Hiawatha and Twin Cities TU
7. Rush Creek 375' with MN DNR
8. Hay Creek 1,200' Twin Cities TU
9. Hay Creek 1,250' Twin Cities and Hiawatha TU
10. Campbell Creek 260' Minnesota Board of Water and Soil Resources BWSR & Houston County SWCD
11. Hay Creek 3,200' MN BWSR and Goodhue SWCD
12. Rush Creek 600' Winona NRCS and SWCD

*Organize Volunteer Workdays:* At the beginning of this project we anticipated that we would organize and help with workdays associated with the various projects. We never stipulated the number of workdays we anticipated, but we far exceeded our expectations with 41 workdays. Not all of these workdays were associated with projects funded by this grant proposal; some were outside the scope of this project. However we utilized almost all of the funding associated for workdays, and had over the course of the project over 56 volunteers obtained experience working on a stream project and contributed over 2300 hours ( $2300 \times \$20.25/\text{hr.} = \$46,575$ ).

*On-site project supervision:* All of the on-site project supervision dollars were utilized by the Project Manager. Besides all of the volunteers, county, state and federal employees that benefited from Trout Unlimited experienced on-site project supervision an unexpected benefit was the training of contractors to install trout and non-game habitat work. Southeast Minnesota also lacks in trained contractors in stream restoration projects. Through this proposal three different contracting companies gained knowledge on how to install various trout and non-game habitat and bank stabilization techniques.



## Result 2: Promote, Educate & Accelerate Stream Restoration

**Description:** Several coordinated efforts will aim to increase the capacities of participants to implement future stream restoration projects, improve cross-jurisdictional coordination and collaboration on future projects, and increase public visibility of projects. Activities include establishing partnerships across public and private entities, holding learning forums and training sessions on conducting effective stream restoration projects, producing educational materials, and conducting outreach. In particular, TU will work to increase the ability of the seven County Soil and Water District and Natural Resources Conservation Service office employees to increase the amount of streambank stabilization and fisheries habitat into their conservation projects in southeast Minnesota. This will multiply many times over the number of conservation professionals able to plan and oversee streambank stabilization and fish habitat restoration projects. Ultimately, this will greatly increase our ability to tap into the significant funding available in Farm Bill conservation programs and make significant strides in improving watershed, stream, and fishery health in southeast Minnesota.

**Summary Budget Information for Result 2: Trust Fund Budget: \$40,667**  
**Amount Spent:**

**Balance:**

**\$**  
**\$**

Deliverable	Completion Date	Budget	Status
1. Write & release 9 News Releases (3 /Yr)	June 2011	\$464	\$464
2. Organize & direct Fall Symposium (one)	Nov. 2009	\$6,130	\$6,130
3. Organize & lead Stream Restoration Project Planning Workshop	March 2008	\$5,690	\$5,690
4. Develop & Produce 20 Stream Restoration Manuals	Nov. 2009	\$1,310	\$1,310
5. Organize & coordinate "Hands-on" workshops	July 2009	\$1,410	\$1,410
6. 8 - Project partnership signs (3/yr)	June 2012	\$2,800	\$1,378.60
7. Coordinate and conduct partnership meetings	June 2012	\$19,286	\$19,286
8. Help Counties, NGO's write 6 grants	June 2012	\$3,577	\$3,577

### Final Report Summary:

1. *Write & release 9 News Releases (3 /Yr.):* We wrote six news releases in our efforts to engage volunteers, landowners and conservation staff in our projects. Besides the news releases we were interviewed twice by Television and Outdoor programming about cold-water stream restoration projects. We also utilized our Driftless newsletter and emailed it to over 250 professionals to promote cold-water stream restoration.
2. *Organize & direct Fall Symposium (one):* Our goal at the start of this project was to organize a symposium that would bring together county, state, federal and nonprofits from the four state areas that makes up the Driftless Area. Our first



- symposium was so successful with over 125 participants that we have made the Driftless Symposium an annual for all but one of the past five years. Last year we decided to expand the symposium to include an additional tract to cover watershed management (besides our usual tract of riparian management). Participation was the best ever with over 200 professionals from the Driftless area participating!
3. *Organize & Lead Stream Planning Workshop Planning Workshop:* We had the same sort of success with our Stream Restoration Project Planning Workshop. Instead of just having one workshop in the spring of 2008, we have had one every year (total of five). Over 23 Trout Unlimited chapters and conservation organizations have participated; with over 325 participants!
  4. *Develop & Produce 20 Stream Restoration Manuals:* Through the life of this project we distributed over 40 hard cover copies, and made available the pdf. The Driftless Habitat Guide was developed with “life histories” of the various game and non-game species that make up the Driftless area and includes habitat practices to help sustain these populations. Not including habitat for non-game species at the same time we include habitat for trout would be a missed opportunity. Almost all of the cold-water projects that are done today by Trout Unlimited chapters and the state and federal agencies include nongame habitat practices as well (when appropriate). The last project we did with ENRTF dollars on the Rush Creek involved an artificial mound for swallows and belted kingfishers, probably the first of its kind anywhere. The mound was constructed from the soil that was removed from the eroding banks when the contractor pulls back the banks to stabilize them. Our second round of funding from the ENRTF will include a 2<sup>nd</sup> edition (revision) of the habitat guide.
  5. *Organize & coordinate “Hands-on” workshops:* We did our “hands-on” workshops as part of our “workdays”, which were very successful and involved over 56 volunteers!
  - 6.8 - *Project partnership signs (3/yr.):* Our project partnership signs were not as expensive as anticipated. Every project involved a number of volunteers and a variety of contributions in funds.
  7. *Coordinate and conduct partnership meetings:* We did a number of activities to build partnerships and get information out about cold-water stream restoration projects. Two years ago we started a **bus tour** and invited volunteers, professionals working on stream restoration and contractors, to spend a day touring recently completed projects. The tour was so successful it has become an annual. The Project Manager has also given seven presentations to the three Trout Unlimited chapters that make up the southeast Minnesota region, and presentations to the Lower Mississippi River Basin Alliance, the Southeast regional counties SWCD employees and the Southeast region Natural Resources Conservation Technical staff.
  8. *Help Counties, NGO's write 6 grants:* Grant writing has always been part of our spring stream restoration project planning workshops. Last year Project Manager devoted a special 2 hour segment on grant writing and developed a handbook on where to find funding.

9. *Misc. opportunities for educating the public:* During the course of this project the Project Manager had the opportunity to make a number of presentation: 4 presentations at the American Fisheries Society annual meeting in Minneapolis; 4 presentations and displays at the annual Minnesota Great Waters Fly Fishing Expo; organized a tour for the Outdoor Writers Association meeting held in Rochester; presentation at the Lakes and River Conference in Rochester; and Project Manager is an active member on the MN Natural Resources Conservation Service State Technical Committee.

## **V. TOTAL TRUST FUND PROJECT BUDGET:**

**Staff or Contract Services:** \$40,600 (.25% TU Project manager – over a 3 year period)

**Equipment:** \$0

**Development:** \$ 0

**Restoration:** \$ 188,535 for rock and heavy machinery costs to improve 6 miles of stream.

**Acquisition, including easements:** \$ 0

**Other:** \$ 10,865

- \$1,350 - 6 Volunteer workdays to build structures, seed and mulch projects (food for volunteers and portable toilets);
- \$1,900 - 1 – Fall Symposium in Minnesota on stream restoration and upland watershed management (materials, printing costs, room rental);
- \$3,365 (6938 miles X .485) Travel in Minnesota (project design, meet with counties, state and federal employees, TU Chapters and others, workshops, workdays, etc.)
- \$2,800 – 8 Project Partnership/Demonstration Signs.
- \$1,050– 1 Project Planning Stream Restoration Workshop (how to put together a stream restoration project) includes room rental & materials.
- \$150 - 20 Stream Restoration manuals for “hands on workshop”.
- \$250 – 1 “Hands-on-Workshop” demonstrating various conservation and instream habitat practices (portable toilets).

**TOTAL TRUST FUND PROJECT BUDGET: \$240,000**

**Explanation of Capital Expenditures Greater Than \$3,500:** (n/a)

## **VI. OTHER FUNDS & PARTNERS:**

**A. Project Partners:** U.S. Fish and Wildlife Service, National Fish and Wildlife Foundation, National Fish Habitat Action Plan, SE Watershed Organizations, Basin Alliance for the Lower Mississippi in Minnesota, Minnesota Department of Natural Resources, Twin Cities TU, Kiap TU Wish TU, Hiawatha TU, Win Cres TU, Southeast Soil & Water Conservation Districts and Natural Resource Conservation Service Offices.

**B. Other Funds Proposed to be spent during the 3 year Project Period:**

Landowners	\$ 50,000.00
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TU Chapters (labor & cash)	\$ 71,000.00
US Fish & Wildlife Service	\$ 20,000.00
National Fish Habitat Action Plan	\$ 85,000.00
Trout & Salmon foundation	\$ 10,000.00
National Fish and Wildlife Foundation	\$ 20,000.00
Farm Bill programs (EQIP & WHIP)	\$116,000.00
Other NGO's (ex. Pheasants Forever)	\$ 10,000.00
Corporations (ex. Patagonia)	<u>\$ 10,000.00</u>
	\$392,000.00

**C. Past Spending:** *Estimated past spending on stream restoration – past 2 years.*

Landowners	\$ 17,000.00
TU Chapters (labor & cash)	\$ 22,000.00
US Fish & Wildlife Service	\$ 8,000.00
National Fish Habitat Action Plan	\$ 15,000.00
Trout & Salmon foundation	\$ -
National Fish and Wildlife Foundation	\$ 15,000.00
Farm Bill programs (EQIP & WHIP)	\$ 45,000.00
Other NGO's (ex. Pheasants Forever)	\$ 3,000.00
Corporations (ex. Patagonia)	<u>\$ 8,000.00</u>
	\$ 133,000.00

**D. Time:** 3 year period June 2008 to June 2011

**VII. DISSEMINATION:** Project results will be disseminated both locally and nationally. Project profiles will be developed and displayed on the Driftless Area Restoration Effort page of the TU website. Project updates will be emailed quarterly to all the partners and anyone that has requested to be informed of current happenings. To help facilitate an email newsletter Trout Unlimited has created a signup sheet on their website allowing easy access to anyone interested in finding out more about projects. Local and state media will also be used to raise awareness of the importance of stream resources and benefits of local restoration projects in the Metro Area. Minnesota stream restoration efforts will be exhibited at the Great Waters Fly Fishing Expo in Minneapolis each year. Finally, a fall symposium is being planned for the Eagle Bluff Environmental Center near Lanesboro. Conservationist from WI, IL, IA and MN will be presenting the latest information on upland watershed protection and coldwater stream restoration.

**Dissemination to date:**

**January 2009** (July 09 to Jan 09) –

- 2 Newsletters have been completed since the start of the project and have gone out to over 500 recipients. Contents include an article on the funding received from the LCCMR, announcement about the upcoming fall symposium in Lanesboro, and the “hand-on” workshop.
- Two letters announcing available funding from the LCCMR have been sent out to every county and federal employee in the SE MN area.

- Several news releases were sent out inviting folks to the “hands-on” workshop on Hay Creek.
- Invitations were sent out to every county field office about the upcoming “hands-on” workshop.
- Did a press release with the Fillmore County Natural Resources Conservation Office on the Willow Creek project.
- Held a symposium at Eagle Bluff Environmental Center near Lanesboro with over 20 presentations on the latest information on upland watershed protection and coldwater stream restoration.
- Have posted numerous postings on the Driftless Area website about upcoming symposiums, workdays, workshops, etc. [www.tu.org//driftless](http://www.tu.org//driftless).
- Registered for the Great Waters Fly Fishing Expo in Minneapolis.

## September 2009 (Jan. 09 – Sept. 09)

### News Releases/Media Events

- Spring newsletters have been sent to MN Soil & Water Conservation Districts & Natural Resources Conservation Service Offices, DNR fisheries, Various Trout Unlimited Chapters, Minnesota Pollution Control Agency, U.S. Fish and Wildlife Service, etc.
- Hiawatha TU sent out news releases to papers and TV. I was interviewed for one of the papers, and one TV Kaal TV channel 6 station covered the project.
- “On the Rise” Trout Unlimited’s TV show developed for the Outdoor Channel made its way into the Driftless Area on April 21-23. The four person crew spent three days filming streams in the Driftless Area. Frank (host of the program) was accompanied by two Driftless anglers, Steve Carlton from the Twin Cities Chapter and Henry Koltz from the Southeast Wisconsin Chapter. The program aired several times during June.
- Presentation at the Lakes and Rivers Conference in Rochester on stream restoration projects in SE MN.
- Presentation to the SE MN area Soil and Water Conservation Employees on stream restoration projects and funding available through the LCCMR.
- **Riparian Habitat Guide for the Driftless Area** –Driftless Riparian Habitat Guide completed. After meeting with herpetologists, conservationists and biologists for three years I have assembled the *Driftless Riparian Habitat Guide*. This 28 page document highlights the non-game habitat practices we have developed to make a positive contribution to protecting, preserving, or increasing habitat for reptiles, amphibians and birds in the Driftless riparian area. The guide is separated into chapters of amphibians, reptiles, birds, monitoring and 12 habitat designs in NRCS technical standards format. Through a generous grant from the National Fish and Wildlife Foundation, over 300 copies were printed and mailed out to all Conservation field office, DNR fisheries, U.S. Fish & Wildlife Service and non-game biologists in SE MN.

- Channel 8 out of La Crosse covered one of the Stream Restoration Workshops. I was interviewed talking about stream restoration in the Driftless and who was attending the workshops.

**December 2009** (Sept. 09 – Dec. 2009)**News Releases/Media Events**

- Fall Newsletter – was developed and mailed out to all MN counties in the Driftless Area.
- Project Solicitation – Sent an email out to all counties in the project area soliciting projects for the summer of 2010, received interest from Houston County and the Vermillion Watershed.
- Stream Restoration Project Planning Workshop – Working on developing another workshop for TU chapters and conservation clubs doing stream restoration projects. The workshop will be held in March and cover the topics of: grants, monitoring, project planning, and partnering.
- Presentations to TU Chapters – presentation to the Hiawatha Trout Unlimited chapter in Rochester at their chapter monthly meeting.

**September 2010** (Dec. 2009 – Sept. 10)**News Releases**

- Spring newsletter sent out electronically to over 500 partners.

**Outreach:**

- Developed display and did presentation on Driftless stream restoration at the Great Waters Fly Fishing Expo at the Sheraton Bloomington, March 26 – 28, 2010.
- Helped organize and lead a stream restoration tour for the Outdoor Writers Association of America.
- Met twice with the Basin Alliance for the Lower Mississippi in Minnesota partners.
- Spoke with and help lead a tour of SE MN stream restoration project and other conservation practices to the Midwest Regional Conservation Supervisors.
- Presentation to the US Fish and Wildlife Private Lands Program staff in Minnesota on ENTFF. Presentation to the Hiawatha Trout Unlimited Chapter in Rochester.

**January 2011** (Sept, 2010 – Dec. 31, 2010)

- Winter newsletter sent out electronically to over 500 conservationists and partners.
- Presentation on “Streambank Stabilization in the Driftless Area” at the new Cascade Meadow Wetlands & Environmental Science Center in Rochester.
- In October I made a presentation in front of the Midwest Natural Resources Group, MNRG. MNRG is made up of Federal agency senior executives

organized to coordinate activities and to establish the role of each Federal bureau with the Midwest, including the Upper Mississippi River, Missouri River, Ohio River and the Great Lakes watersheds. The group is made up of EPA, NRCS, BLM, USDA, NOAA, USGS etc. I presented the work we are planning to do in the Root River watershed and they came up with close to \$68,000 in technical assistance dollars for stream restoration.

- I worked with BWSR and NRCS state office staff to organize three meetings for county, state and federal agency staffs involved with the new MRBI watershed projects.
- Four “project partnership signs” were erected on Mill Creek, Trout Run, and two on Middle Branch of the Whitewater.
- I gave the U.S. Fish and Wildlife Service, Midwest and state Private Lands Directors a tour of some of the SE MN projects.
- Met with the new MN NRCS State Conservationist and state engineers about 580 streambank stabilization.
- I gave three presentations at the Midwest Fish and Wildlife Conference in St Paul – “Trout Unlimited - Driftless Area Restoration Effort”; “How to Supplement State Budgets with Farm Bill Dollars to Offset Declining Conservation Budgets”; and “The Economic Impact of Recreational Trout Angling in the Driftless Area”.
- Attended several watershed meetings focused on the new MRBI projects in the Root River.

### **June 2011** (January 1, 2011 to June 30, 2011)

- Midwest Fly Fishing Expo in Blaine, MN – Presentation on stream restoration in the Driftless area.
- Earth Day in Rochester, MN – Presentation with State NRCS conservationists from WI, MN & IA.
- Stream restoration projects with staffs from Goodhue, Winona and Fillmore counties.
- Driftless Symposium – 17 presentations on managing the riparian corridor, over 90 professional conservationists in attendance for the two day event.
- 2-day Stream Restoration Project Planning Workshop – over 60 participants participated in the two day event, coming from over 24 Trout Unlimited Chapters and conservation clubs/organizations in the Midwest.
- Driftless electronic newsletter – sent out in Jan. to over 500 email addresses.
- Troutfest – first time event, attracted over 500 people from MN, WI, IA and IL. Trout fishing for kids, guest lectures, vendors, food and music.
- Presentations and meetings with Win-Cres, Hiawatha and Twin Cities Trout Unlimited chapters.
- Member and active participant of the Rush/Pine Mississippi River Basin Initiative project.



- Met with the Rochester Sales Manager about stream restoration in the Driftless area and possibly hosting future events in Rochester.
- Workdays on Garvin Brook & Pickwick.

**January 2012** (June 2012 to Dec. 31, 2011)

- Troutfest regional celebration to highlight and educate people and visitors about coldwater trout streams and angling opportunities to fish trout in the Driftless area. An estimated 1800 people attended the two day event.
- In June the National Fish Habitat Board visited the Driftless Area and had an opportunity to see projects that were installed in cooperation with NFHAP dollars. Project Manager, Jeff Hastings led the board on a tour of practices and presented the board with a PowerPoint on various projects and educational accomplishments.
- As a way of wrapping up the year I organized a bus tour of Driftless restoration projects...three in Minnesota. Over 30 fish biologists, Trout Unlimited members, and conservationists participated in the tour.
- Interview with Northland Adventures highlighting MN restoration projects.
- Presentations to St. Paul university fisheries graduates on Driftless stream restoration and techniques and high school advance biology class.
- Three presentations at the Midwest Fisheries and Wildlife Conference.

**September 30<sup>th</sup>, 2012** (Dec.31, 2011 to September 30<sup>th</sup>, 2012)

- Presentation to Hiawatha Trout Unlimited in Oct..
- Walked Rush Creek with Resource Specialist from Winona SWCD.
- Bus tour of cold-water stream restoration practices in MN and WI. 40 participants – volunteers, professionals from county, state and federal.
- MN Natural Resources Conservation Service state technical committee meeting in Minneapolis. Driftless Area Land Landscape Initiative is approved from Chief White NRCS. An additional 2.25 million in Farm Bill dollars will be available in 2013 for stream restoration, prairies, forest management and managed grazing.
- Attended cold-water DNR roundtable meeting in Minneapolis. Help MN TU Executive Director with presentation on cold-water stream restoration projects.
- Walked potential project on Bullard creek with landowners.
- Stream Restoration Project Planning workshop – 16 Trout Unlimited Chapters and 2 Conservation Clubs – 62 participants.
- Midwest Fly Fishing Expo Minneapolis – PowerPoint presentation on cold-water stream restoration in the Driftless and booth.
- Driftless Symposium 200+ attendance.
- Tour and presentation for private donors to cold-water in Lanesboro, MN.
- Attended Root River Watershed meeting.
- Tour of cold-water projects with congressman Walz.
- American Fisheries Society talk in Minneapolis



- Helped SE MN Fish Biologist with PowerPoint on cold-water restoration projects.

**VIII. REPORTING REQUIREMENTS:**

Periodic work program progress reports will be submitted not later than January 2009, September 2009, January 2010, September 2010, January 2011, June 2011, and January 2012. A final work program report and associated products will be submitted between June 30 and September 30<sup>th</sup>, 2012 as requested by the LCCMR

**IX. RESEARCH PROJECTS: N/A**

Attachment A: Final Budget Detail for 2008 Project								
Project Title: Southeast Minnesota Showcase Stream Restoration Projects								
Project Manager Name: Jeff Hastings								
Trust Fund Appropriation: \$ 240,000 (over a 3-year period)								
<b>FINAL REPORT</b>								
2007 Trust Fund Budget	<u>Result 1 Budget:</u>	Amount Spent (date)	Balance (date)	<u>Result 2 Budget:</u>	Amount Spent (date)	Balance (date)	TOTAL BUDGET	TOTAL BALANCE
	<i>Eight Showcase Stream Restoration Projects</i>	<i>As of end of Sept. 30, 2012</i>	<i>As of end of Sept. 30, 2012</i>	<i>Promote, Educate &amp; Accelerate Stream Restoration Projects</i>	<i>As of end of Sept. 30, 2012</i>	<i>As of end of Sept. 30, 2012</i>		
BUDGET ITEM								
PERSONNEL: wages and benefits	8,526.00	8,526.00	0.00	32,074.00	32,074.00	0.00	40,600.00	0.00
Equipment / Tools Hourly rate for bulldozers, excavators and dump trucks (includes operator)	93,000.00	93,000.00	0.00			0.00	93,000.00	0.00
Printing- Hands-on stream restoration workshop \$150; Fall symposium materials \$250, Stream restoration project planning workshop \$250				650.00	650.00	0.00	650.00	0.00
Travel expenses in Minnesota	922.00	922.00	0.00	2,443.00	2,443.00	0.00	3,365.00	0.00
Construction (rock rip-rap, jute netting, seed, mulch)	95,535.00	95,535.00	0.00			0.00	95,535.00	0.00
Other - Volunteer Workdays - \$1,350 (food, portable toilet,) Fall Symposium \$1,250 (room rental, materials), Signs for projects - \$2,800, Stream Restoration Workshop \$800 (room rental & materials), "Hands-on-Workshop" \$650 (portable toilets).	1,350.00	1,030.39	319.61	5,500.00	4,266.18	1,233.82	6,850.00	1,553.43
COLUMN TOTAL	199,333.00	199,013.39	319.61	40,667.00	39,433.18	1,233.82	240,000.00	1,553.43



## Southeast Minnesota Showcase Stream Restoration Projects – Final Report – 2/18/2013



Early European settlement and agricultural practices from the 1850's to the 1930's led to wide scale erosion, flooding, and altering of streams and valleys in Southeast Minnesota. Hundreds of miles of clean cold water spring creeks were inundated with tons of fine sediment as a result.



Although land-use practices, erosion control, and stream health have improved tremendously since the 1930s, the legacy of the past continues to haunt Southeast Minnesota cold-water streams. Many of the streams today still have steep eroding banks, incised channels, and poor in-stream habitat. Annual sedimentation coming off streambank ranges from 250 to 1000 tons per mile and is responsible for as much as 85% of the total sediment load that enters the stream.



Rush Creek before and after work was performed.

Result #1: Working with private citizens and federal, county, and state agency employees we stabilized and improve habitat on over three miles of streams in Southeast Minnesota. Contractors were hired to work on incised channels to shape and reconnect the stream to their floodplains, with side slopes of 3:1 or better. Eroding

banks were stabilized using a combination of rock riprap (covered with soil to the waterline), native species plantings, and the installation of habitat structures for trout and nongame species where appropriate and identified in Minnesota's Wildlife Action Plan.



Hay Creek project before (left) and soon after (right).



Some of the vertical eroding banks provide nesting cover for swallows and belted kingfishers. However, this habitat is not stable and often collapses each spring or during a flooding event.



Although there are plenty of unstable eroding banks in southeast Minnesota available for nesting cover we developed a habitat practice for swallows and belted kingfisher's that we hope will be stable year after year, and won't collapse every spring.

Utilizing the soil from when we shaped the eroding banks we created a compact mound with a vertical face. (Picture to left)





Over a hundred feet long and ten feet high we hope to see the face of this structure being used next spring by swallows and belted kingfishers.



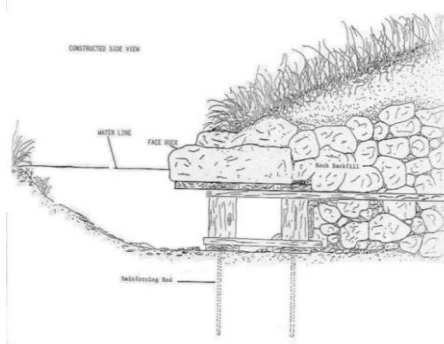
Belted Kingfisher



Vortex weirs are installed to create permanent pools in streams. A weir is constructed by placing large rocks in the shape of a “V”, with the point of the “V” facing upstream. As water flows over the rock it is directed to the center of the stream scouring out a deep pool below.

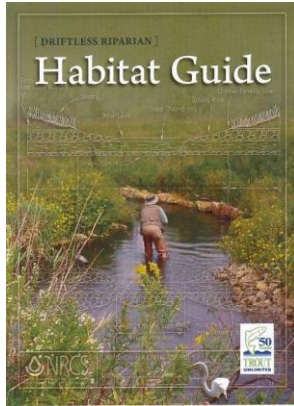


Large logs “woody debris” was also utilized in projects for additional habitat for both game and non-game species.



One of the limiting factors for trout is “overhead” cover. Artificial wood structures called LUNKERS are wooden “cribs” designed to provide permanent overhead cover for trout. They consist of two-inch boards, log spacers and reinforcing rod. When installed they not only help stabilize badly eroded stream banks but also provide 8-10 inches of clearance underneath.

This practice in conjunction with bank stabilization has been shown to increase the carrying capacity of trout by as much as ten times. High quality streams with 300 fish per mile could increase to as high as 3000 fish per mile.



This habitat guide designed for the Driftless Area was widely distributed to county, state and federal agencies working with stream restoration projects.



This turtle hibernaculum (over wintering habitat) is just one of many designs found in the Driftless Riparian Habitat Guide.



A wide variety of workshops, meetings, field days etc. were utilized to educate and train conservationists and volunteers on how to get involved (designing, planning, installing, fund raising) with stream restoration projects.

Picture (left) was one of several in-the-field days for conservationists demonstrating how to install various habitat practices.



As a result of this project several heavy equipment operators had the opportunity to learn on the job how to implement a stream restoration project.



For the past two years we have conducted a bus tour of recently completed projects. Volunteers and county, state and federal conservationists have enjoyed this one day event.



The Driftless Symposium was organized to bring professionals from IL, WI, MN and IA together to discuss watershed and riparian management. The



symposium has been so successful we have made it an annual event.



A great deal of time was spent training Trout Unlimited and various conservation organization group volunteers on how to:

- Raise funding for projects
- Permits
- Easements
- Organizing a workday for volunteers
- Install various habitat practices
- Prepare press releases
- Handle liability issues, etc.

Over 120 Minnesota volunteers participated in workshops, workdays, symposiums etc.

