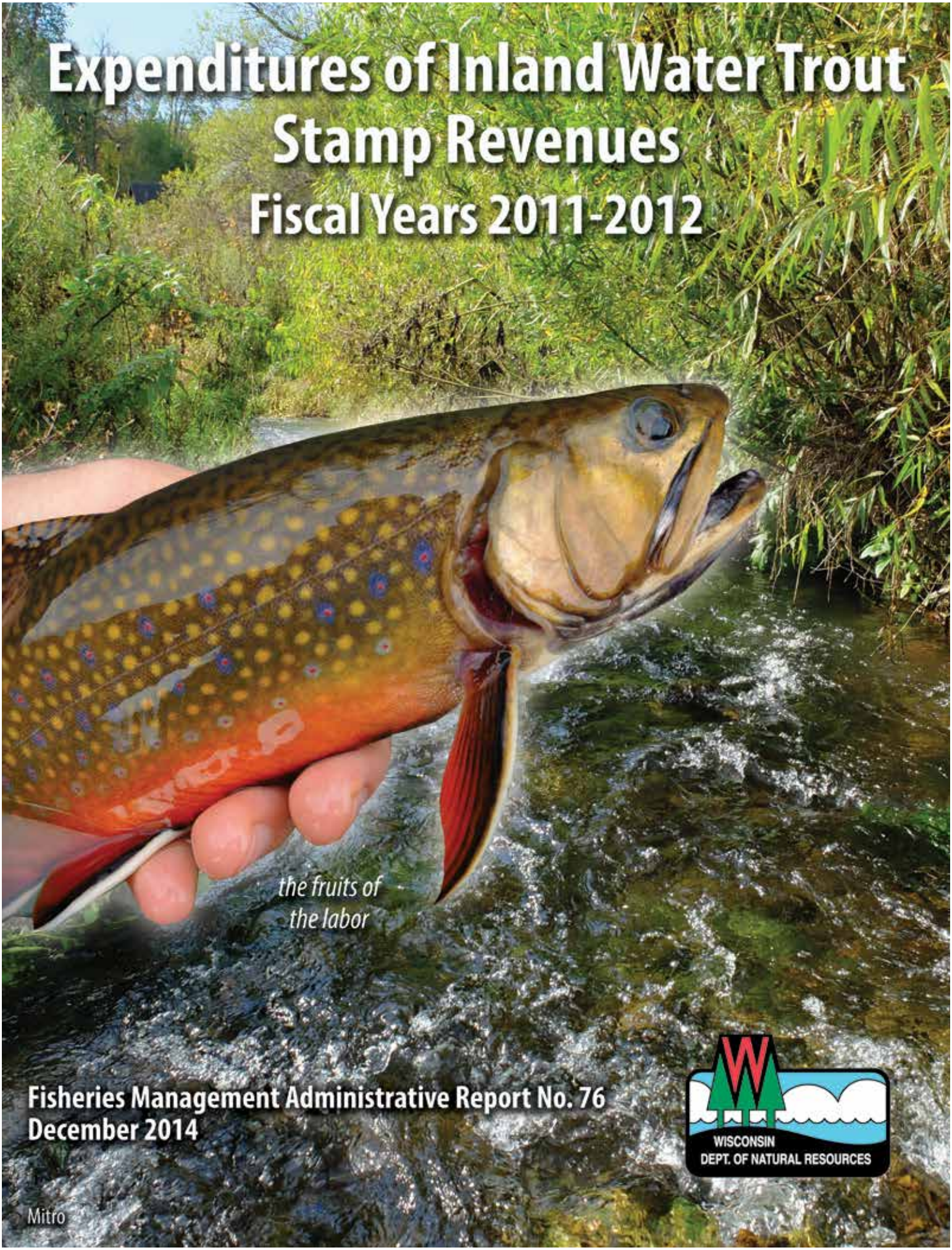
# Expenditures of Inland Water Trout Stamp Revenues

## Fiscal Years 2011-2012



*the fruits of the labor*

**Fisheries Management Administrative Report No. 76**
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WISCONSIN
DEPT. OF NATURAL RESOURCES

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# Expenditures of Inland Water Trout Stamp Revenues
## Fiscal Years 2011-2012

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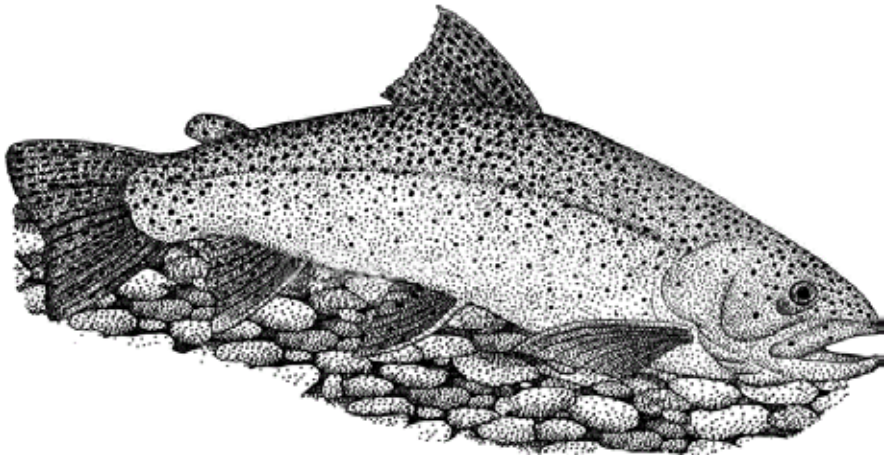


# Stamped a Success

The Wisconsin Department of Natural Resources has a long history of successful trout stream habitat management. Work began with the federal work programs in the 1930s and improved as more successful methods were developed over the history of the program. Only limited work could be accomplished due to limited funding ($140,000). In 1977, the inland waters trout stamp program was created to provide additional funding for improving and restoring trout habitat and to provide increased trout fishing opportunities.

The cost of the trout stamp was initially $2.50 during 1978-1983, and increased to $3.25 during 1984-1991, to $7.25 during 1992-2006, and currently is $10.00 (since 2006).

The number of trout stamps sold averages about 140,555 stamps annually over the last 5 years. The total revenue averages about $1,552,177 over the last 5 years. In addition, Patron License holders (currently about 44,000 support the Inland Waters Trout Stamp program (Table 1)).

DNR biologists and technicians have used trout stamp dollars to improve and maintain an average of 25 miles of stream and 1 spring pond per year. Over 700 miles of trout stream are kept free of beaver dams in northern Wisconsin each year. An average of $585,048 in fiscal years 2011 and 2012 was spent on inland trout habitat from general fishing license fees and partner funds (Table 2).

This document summarizes expenditures of the Inland Waters Trout Stamp (IWTS) and other trout habitat expenditures from the fisheries program for fiscal years 2011 and 2012 (July 1, 2010 – June 30, 2012). Inland Waters Trout Stamp contributions, fishing license revenues, grants, gifts and federal funds also support this program.

Many of the DNR personnel working on trout habitat projects are not paid by trout stamp funds, representing a significant amount of non-trout stamp dollars supported trout habitat work

Since 1992, these funds have included maintenance of habitat improvements, which is vital to insuring the long-term benefits of habitat work. Trout population surveys were added as a viable use in 1998. Surveys are very important for planning habitat improvement projects and evaluating the results of funded projects on trout populations.

Federal Sport Fish Restoration (SFR) money has been used to do trout surveys since 2004. In

**Table 1** -- License sales contributing to the inland waters trout stamp account

| Year | Patron Card | Trout Stamp | Total Trout Anglers | Total Revenues |
|---|---|---|---|---|
| 1978 | N/A | 183,185 | 183,135 | $244,459 |
| 1979 | N/A | 183,447 | 183,447 | $393,912 |
| 1980 | N/A | 187,958 | 183,958 | $420,403 |
| 1981 | N/A | 194,873 | 194,873 | $445,189 |
| 1982 | N/A | 194,658 | 194,658 | $440,949 |
| 1983 | N/A | 190,821 | 190,821 | $424,617 |
| 1984 | N/A | 192,510 | 192,510 | $503,337 |
| 1985 | 218 | 181,960 | 182,178 | $548,513 |
| 1986 | 264 | 182,354 | 182,618 | $550,349 |
| 1987 | 398 | 180,096 | 180,494 | $544,367 |
| 1988 | 254 | 177,138 | 177,392 | $674,422 |
| 1989 | 449 | 162,447 | 162,896 | $723,358 |
| 1990 | 756 | 131,910 | 132,666 | $401,174 |
| 1991 | 539 | 113,640 | 114,179 | $346,440 |
| 1992 | 847 | 131,008 | 131,855 | $647,594 |
| 1993 | 13,486 | 131,308 | 144,794 | $971,516 |
| 1994 | 24,757 | 135,425 | 160,182 | $1,044,839 |
| 1995 | 34,942 | 130,701 | 165,643 | $1,066,710 |
| 1996 | 43,370 | 136,687 | 180,057 | $1,107,057 |
| 1997 | 48,368 | 127,840 | 176,208 | $986,760 |
| 1998 | 55,579 | 129,385 | 184,964 | $1,008,113 |
| 1999[1] | 89,114 | 184,526 | 273,640 | $1,553,033 |
| 2000 | 76,175 | 140,603 | 216,778 | $1,019,645 |
| 2001 | 81,211 | 142,449 | 223,660 | $1,180,221 |
| 2002 | 82,615 | 142,633 | 225,248 | $1,157,984 |
| 2003 | 80,851 | 143,405 | 224,256 | $1,166,441 |
| 2004 | 74,587 | 137,828 | 212,414 | $1,126,266 |
| 2005 | 69,979 | 133,441 | 203,420 | $1,147,805 |
| 2006 | 59,974 | 129,194 | 189,168 | $1,782,603 |
| 2007 | 56,676 | 130,119 | 186,795 | $1,495,230 |
| 2008 | 55,159 | 136,836 | 191,995 | $1,504,428 |
| 2009 | 50,752 | 146,803 | 197,555 | $1,618,053 |
| 2010 | 46,837 | 140,576 | 187,413 | $1,569,374 |
| 2011 | 44,952 | 137,731 | 182,683 | $1,498,739 |
| 2012 | 44,049 | 140,830 | 184,879 | $1,570,291 |

[1]A spike in sales occurred in FY 99 due to implementation of the Automated License Issuance System (ALIS).

2011 and 2012 an average of $1,186,637 in state and federal funds per year (excluding costs associated with general hatchery operations) was spent on inland trout propagation and stocking, and about $897,522 per year was spent on trout surveys.

**Guidelines for the use of Inland Waters Trout Stamp revenues**

Wisconsin State Statute 29.2285(3)(e) states: "The Department shall expend the receipts from the sale under this subsection of inland waters trout stamps on improving and maintaining

**Table 2.** Expenditures of inland waters trout stamp revenue and general license fees supporting trout habitat work in fiscal years 2011-2012.

| | Expenditures | |
|---|---|---|
| Funding Source | FY 11 | FY 12 |
| **Trout stamp** | | |
| Permanent salaries | $354,970 | $324,745 |
| LTE salaires | $211,132 | $281,616 |
| Fringe benefits | $251,260 | $245,017 |
| Supplies and services | $724,070 | $667,886 |
| **Total trout stamp** | **$1,541,433** | **$1,519,264** |
| **Other funds** | | |
| General license fees | $341,625 | $398,574 |
| Partner funds - grants | $233,731 | $196,166 |
| **Total Other funds** | **$575,356** | **$594,740** |
| **GRAND TOTAL** | **$2,116,790** | **$2,114,004** |

[1] Fringe benefits only permanent fringe.
[2] Salaries and benefits are only included once.

trout habitat in inland trout waters, conducting trout surveys in inland trout waters and administering this subsection." In addition to specifying trout species, these statutes define the geographic and program requirements of the Inland Waters Trout Stamp Program.

*Geographical Requirement:* Projects that use trout stamp revenues must be geographically focused on Wisconsin's inland trout waters. These revenues may not be used on portions of Great Lakes tributaries that are only accessible to anadromous trout and salmon.

*Program Requirement:* Projects funded by Inland Waters Trout Stamp money must specifically relate to inland trout habitat management (improving and maintaining habitat) or to conduct trout surveys. Expenditures for trout surveys are limited to not more than 10% of the habitat management budget. Surveys authorized must be limited to trout surveys of inland waters. Sur-

**Table 3.** Annual Inland Waters Trout Stamp account activities, fiscal years 2011-2012.

| | FY 11 | FY12 |
|---|---|---|
| Beginning cash balance | $394,004 | $351,350 |
| Revenues | $1,498,739 | $1,570,291 |
| Total available funds | $1,892,783 | $1,921,641 |
| Total expenditures | $1,541,433 | $1,519,264 |
| Cash balance | $351,350 | $402,377 |

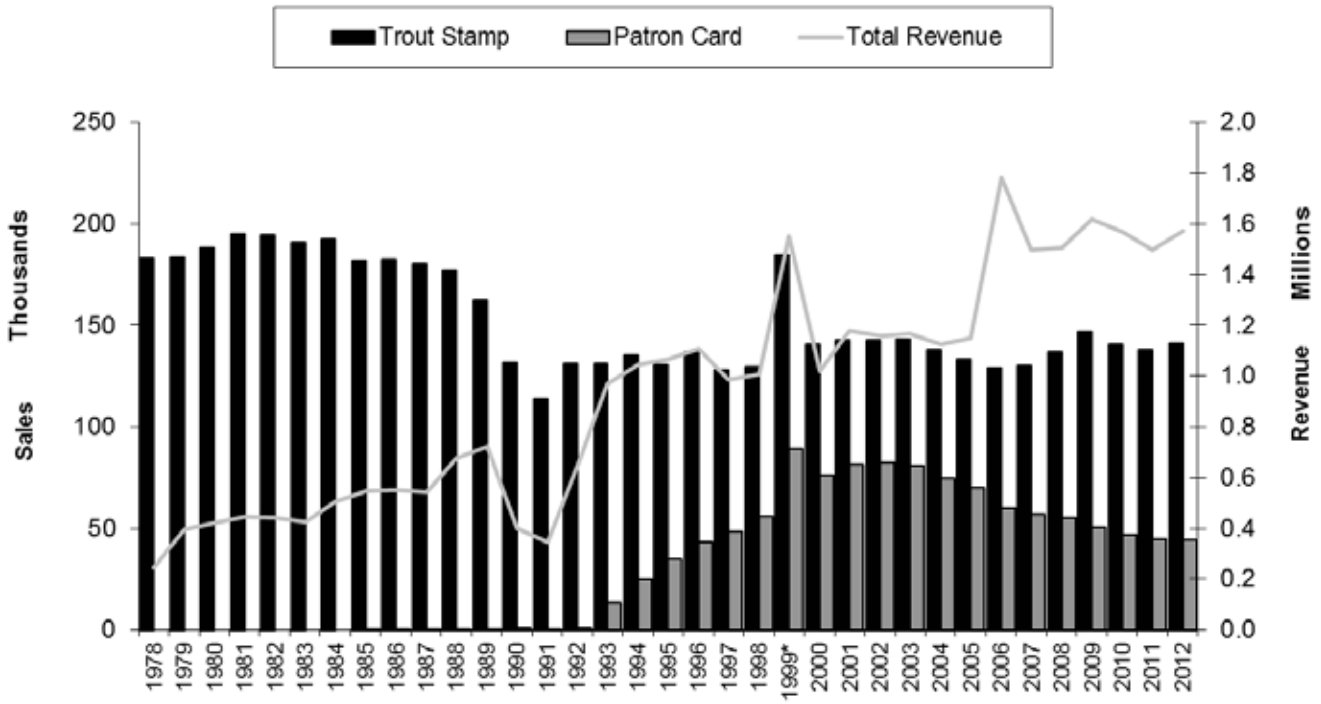



**Figure 1.** Trout stamp, patron sales and total license revenue from 1978 - 2012. The spike in sales in 1999 was due to implementation of the Automated License Issuing System (ALIS). The spike in revenues in 2006 was due to the fee increase and a rebate from the surplus in the heavy equipment pool.

veys funded to date include those designed to plan and evaluate habitat improvement projects, wild trout stocking, trout genetics and regulations.

Habitat management encompasses activities such as maintaining trout streams, improving existing streams and restoring streams capable of sustaining trout populations. Beaver control projects may be funded as part of habitat management. The purchase of equipment to conduct this work is also authorized.

### Sources of Revenue for the Inland Trout Stamp Account

All receipts from the sale of Inland Waters Trout Stamps are placed in the Inland Waters Trout Stamp Account (IWTS). Inland Waters Trout Stamp revenues, sales of patron licenses and collector stamps, General fishing license fees, federal Sport Fishing Restoration (SFR) funding and donations all support the inland trout program.

Currently the cost of each Inland Waters Trout Stamp is $10.00. The IWTS Account receives about $3.40 for each Patron License sold. The price of each license to the consumer includes the base price of the license plus a fee that goes to the vendor. The vendor's fee is $.75 for the patron license and $.25 for the Inland Waters Trout Stamp. Calculations and references in this report exclude vendor's fees. In addition, collectors can purchase souvenir Inland Waters Trout Stamps from previous years. All revenues from these sales contribute to the Inland Trout Stamp account (Figure 1, Table 1).

Table 3 shows that we usually have a cash balance of funds that are not spent each year. This could be due to weather, flooding, position vacancies, timing of reporting, or increase in revenue from stamp increases or rebates from other programs. These funds are added to revenues the next year to give us total available funds.

We commit between 8 – 9.34 full time equivalents (FTE) positions funded by trout stamp. Any additional hours spent on eligible activities

are billed to the Department's Fish and Wildlife account which is supported by general fishing and hunting license sales. Table 4 shows Fisheries Program person-hours (FTE = full time equivalents) of time spent on habitat projects in each fiscal year. By law, permanent staff hours spent working on non-trout projects cannot be billed to the IWTS account. Limited Term Employees (LTEs) are not included in this total.

Five previous Inland Waters Trout Stamp Expenditure reports have been published. They cover the fiscal years 1998-2001, 2000-2003, 2002-2005, 2004-2007, and 2008-2010.

**Table 4.** Time coded to Trout Stamp projects by permanent employees by fiscal year. FTE's are full-time equivalents, or person-years of time (hours/1825).

| Year | Permanent FTEs |
|---|---|
| FY 2011 | 11.26 |
| FY 2012 | 12.37 |

*Wilson Creek in Shawano County. The Rawhide Boys Ranch About Face Program volunteers removing polyurethane sand bags from the banks of this brook trout tributary of the Embarrass River.*

# TROUT HABITAT IMPROVEMENT PROJECTS FUNDED BY TROUT STAMP IN 2011-2012

These project reports were taken from annual progress reports and edited for this report. Projects are listed by Fish Teams and counties.

## EAST FISH TEAM

2011 Estimated Expenses: $33,935
2012 Estimated Expenses: $17,615

## DANE COUNTY

### Vermont Creek (1)

**Site Description:** Between Michalis Rd and CTH JJ
**Project Length:** 3,500 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Re-meander formerly channelized stream thread. Slope and stabilize banks to allow floodplain connectivity. Add In-stream habitat to provide cover for all life history stages of trout.
**Technique or Structure:** Brushing, channel shaping, in-stream, various, riprap
**Partners:** Trout Unlimited, Dane County LCD, FWS
Comments and Accomplishments: Project connected downstream habitat to this newly rehabilitated area by addition of fish passage features. Project added 2,575 feet of habitat and included 16 sets of LUNKERS, Cross log revetments and rootwad features.

### Garfoot Creek (2)

**Site Description:** Downstream of CTH KP
**Project Length:** 1,400 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Removal of overgrowth to assess necessary bank and instream repair and habitat needs.
**Technique or Structure:** Brushing
**Comments and Accomplishments:** Nuisance invasive and undesirable woody vegetation has been removed and banks reverted to low density pasture. Minor additions of rock and wood have created micro habitat areas for brook trout where depth was sufficient but cover was lacking.

### Garfoot Creek (3)

**Site Description:** from cattle crossing on Pamela Allen parcel downstream to confluence with Black Earth Creek
**Project Length:** 2,550 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Removal of overgrowth to assess necessary bank and instream repair and habitat needs.
**Technique or Structure:** Bank stabilization, brushing
**Comments and Accomplishments:** This project was limited to tree removal, brushing, and bank work necessary to allow for future installation of in-stream habitat features. This project immediately created access to the stream by removing the dense understory that had prevented angler access or the ability to perform any habitat work.

*A byproduct of a successful inland water trout stamp program - a brown trout for the creel.*

# LOWER CHIPPEWA FISH TEAM

2011 Estimated Expenses: $182,809
2012 Estimated Expenses: $111,972

## CHIPPEWA COUNTY

### Elk Creek (1)

**Project Length:** 784 feet

**Fiscal Year:** 2011

**Justification and Purpose:** This cooperative project with the Clear Waters chapter of Trout Unlimited will entail the trout habitat enhancement and stabilization of 1,300 feet of highly eroding sand substrate stream channel. Vertical eroding stream banks will be sloped to a gradual 4 to 1 angle and reshaped to increase stability. Approximately 3,500 tons of quarry dolomite rock will be added to the toe and upslope to ensure long term stability. Eighteen jetted habitat structures will be placed at bends for overhead trout cover. Boulders, rootwads and logs will be added for additional cover. Two grade control/ plunge pools will be placed in the channel to reduce channel degradation and add aerated pool trout habitat. All exposed streamside rock will be covered with soil, seeded with appropriate riparian seed mixture and mulched.

**Technique or Structure:** bank stabilization, brushing, channel shaping, LUNKER structure (9), boulder retards (25), large woody debris (15)

Partners: Clear Water TU, CVORA, Excel, Energy, NRCS

**Comments and Accomplishments:** The project placed eighteen jetted habitat structures, five plunge pools and numerous boulders, logs and root wads were placed for habitat complexity. The stabilized narrower channel increased velocity and moved sediment downstream or to inside point bars. The channel deepened and pools developed below plunges and outside Lunker bends. Gravel riffles that were constructed were utilized by trout for spawning in the fall.

### Trout Creek (2)

**Project Length:** 1,490 Feet

**Fiscal Year:** 2011

**Justification and Purpose:** Trout Creek is a high gradient wild brook trout stream (68fpm) with a sand, gravel and rubble substrate. The channel has migrated into the steep valley walls at several areas of this reach leading to extreme erosion and sand sedimentation of the stream channel. The resultant habitat lacks overhead cover and depth suitable for optimum trout survival. The restoration plan will entail the toe benching of the steep valley wall scarps to halt channel sand sedimentation. Steep stream banks will be sloped to a stable 4 to 1 angle or less and rip rapped with quarry dolomite shot rock. Twenty LUNKER- type habitat structures will be placed at bends and pools. Boulders, logs and root wads will be incorporated for additional cover. Three plunge pool / grade control structures will be added to halt channel degradation and add aerated deep pool cover.

**Technique or Structure:** bank stabilization, channel shaping, LUNKER structure (22), plunge pools (3), boulder retards (15), large woody debris (15)

Partners: NRCE. Clearwater TU, Fish America

Comments and Accomplishments: Trout Creek with its steep gradient and loose streambank material required a great amount of heavy armoring to stabilize the stream. The heavy bedload precluded the development of deep pools and overhead cover. With the placement of plunge pools, Lunker structures and instream wood and boulders the trout population responded immediately to the stabile conditions. Wild trout populations have tripled within the year following project completion.

## PEPIN COUNTY

### Arkansaw Creek (3)

**Project Length:** 1,050 Feet

**Fiscal Year:** 2011

**Justification and Purpose:** A one in 1000 year flood destroyed portions of Arkansaw Creek in August 2009. The banks through the town were eroded so that portions of the bank and numerous trees were falling into the stream. Banks were unstable and could cause buildings and additional tree to fall into the stream. Trout have moved away from the site. Crews will remove portions of a remnant dam and numerous trees from the creek and creek bank. The channel will be redefined. Banks will be resloped to offer flood control. Rocks will be placed to stabilize the banks and create fish habitat. Debris will be hauled from the stream to areas approved by the county/township.

**Technique or Structure:** bank stabilization, boulder retards (50), brushing, channel shaping, plunge pools (2), riprap

**Partners:** Township
**Comments and Accomplishments:** Trout population has responded rapidly to habitat enhancement techniques. The Village of Plum City residents have been very appreciative of the recreational opportunities and appearance within the Village created by the project.

### Bear Creek (4)
**Project Length:** 1,482 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** This highly eroded reach of Bear Creek suffers from very poor trout recruitment and number though water quality and thermals are excellent for trout survival. Habitat enhancement will provide suitable spawning and cover conditions for trout proliferation.
**Technique or Structure:** LUNKER structure (24), bank stabilization (1,482 feet), half logs/whole logs (6), boulder retards (34), large woody debris (17), plunge pools (2), riffles (2)
**Partners:** Durand Rod and Gun Club, Clear Water TU, National TU, Fish America
**Comments and Accomplishments:** Brush was cleared by volunteers. Slope was reshaped at a 4:1 slope. All rock work, a total of 4,200 tons, was covered with dirt and seeded and mulched by volunteers.

## PIERCE COUNTY

### Pine Creek (5)
**Project Length:** 3,880 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** This section of Pine Creek is greatly impacted by beaver activity that has caused extensive streambank erosion widening and thermal impacts to downstream reaches of the creek. High volume springs emanating from various points do not have direct discharge to the creek. Poor habitat is present and trout numbers minimal considering the excellent water quality.
**Technique or Structure:** LUNKER structure (23), brushing both sides of stream (3,880 feet), bank stabilization both sides of stream (3,880 feet), half logs/whole logs (19), boulder retards (32), large woody debris (14), plunge pools (9)
**Partners:** WI Industrial Sands, Kiap-tu-wish TU, National TU
**Comments and Accomplishments:**
Box elders and invasive plants were removed by volunteers and trucked off-site. The project used 7,000 tons of rock.

### Plum Creek (6)
**Project Length:** 1,550 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** This reach of Plum Creek within the Village of Plum City was greatly impacted by a massive flood that greatly altered the creek within the Village. Federal disaster funds provide for the restoration and enhancement of the creek to return it to a stabile state and enhance the trout habitat of this excellent trout stream.

*Plum Creek, within the village of Plum City, Pierce County was restored and enhanced after a massive flood severly impacted the creek.*

**Technique or Structure:** plunge pools (2), brushing both sides of stream (1,550 feet), bank stabilization both sides of stream (1,550 feet), instream, various (2), large woody debris (12), LUNKER structure (16), boulder retards (21)
**Partners:** Village of Plum City; Kiap-tu-wish TU
**Comments and Accomplishments:** Volunteers removed 55 truckloads of invasive box elder, Asian honey suckle and other invasive plants off-site. Approximately 5,330 tons of rock was used.

### Trimbelle River (7)
**Project Length:** 875 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** A mill pond formerly occupied this reach of the Trimbelle leaving sediment to a depth exceeding 10 feet. The River has eroded through this fine silt leaving vertical unvegetated banks, a shallow silted channel and poor fish habitat. The project will stabilize the river banks, halt erosion and sedimentation. The site is within a county recreation park that will provide excellent public access and recreation.
**Technique or Structure:** brushing (875 feet),boulder retards (19), bank stabilization (875 feet), LUNKER structure (22), plunge pools (1), riffles (2), large woody debris (5)
**Partners:** Kiap-tu-wish TU, WI Industrial Sands, Pierce County Parks
**Comments and Accomplishments:** Volunteers cut and removed trees, brush and other invasive plants on the entire project site. The entire project used 4,400 tons of rock for the both sides of the stream.

## ST. CROIX COUNTY

### Parker Creek (8)

**Project Length:** 2,305 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Parker Creek, at this site, has been influenced by beaver damming, invasive vegetation and past over-pasturing by cattle. This headwater tributary of the Kinnickinnic River contributes 1000's of tons of sediment to the watershed. The native brook trout population is far below capacity as pools and overhead cover are absent.
**Technique or Structure:** brushing, bank stabilization, boulder retards (35), LUNKER structure (16), plunge pools (3), large woody debris (25), channel shaping
**Partners:** DNR TS, St Croix County

## UPPER FOX/WOLF FISH TEAM

2011 Estimated Expenses: $107,988
2012 Estimated Expenses: $83,204

## MARQUETTE COUNTY

### Wedde Creek (1)

**Site Description:** Also into Waushara County
**Fiscal Year:** 2011 & 2012
**Justification and Purpose:** Beaver and their associated activities (dams) are a constant problem on trout waters. Dams and impoundments that they create, slow stream currents, warm water and create obstructions to upstream movement. Removal of beaver, and the dams they create, is a critical component to protecting and enhancing our trout resource.
**Technique or Structure:** 4 Beaver and 3 dams were removed from 2 different sites on the Wedde Creek.

## SHAWANO COUNTY

### Wilson Creek (2)

**Fiscal Year:** 2011 & 2012
**Project Length:** 1,550 Feet (2011), 1700 Feet (2012)
**Justification and Purpose:** The Wilson Creek is a small Class I brook trout stream located on county land in the West Central area of Shawano County. Overhead bank covers and wing deflector structures installed in the late 1980s were in need of maintenance. Technique or Structure: bank stabilization, brush bundles (2),brushing, channel shaping, cross-channel logs (18), overhead bank covers (6), wing dams (4)
**Partners:** Rawhide Boys ranch, Shawano Co parks, TU
**Comments and Accomplishments:** Sand bags used as bank stabilization in a previous trout habitat rehabilitation project were removed. Seed and mulch were spread in place of the bags. Habitat device installation is to commence the next fiscal year.

## WAUPACA COUNTY

### Leer Creek (3)

**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal, Beaver Removal

### Peterson Creek (4)

**Project Length:** 1,000 Feet
**Fiscal Year:** 2011 and 2012
**Justification and Purpose:** The Peterson Creek is high quality Class I trout stream located in Central Waupaca County. This stream has had a long history of trout habitat development with several projects dating back to the 1960s and 1970s. This particular reach of stream had a past history of beaver problems and some habitat work completed in the early 1990s. The purpose of this project was to maintain and enhance previous trout habitat improvement projects.
**Technique or Structure:** large woody debris (4), overhead bank covers (2), brush bundles (3)
**Partners:** Fox Valley Chapter Trout Unlimited, Rawhide Boys Ranch
**Comments and Accomplishments:** Manual labor of overhead cover construction and brush bundling was proved by volunteers from the Fox Valley chapter of Trout unlimited during monthly workdays. Work began during FY10 to be completed FY13

## Radley Creek (5)

**Project Length:** 1,000 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Radley Creek provides a popular trout fishery to the Waupaca Area. Several hundred acres of publicly accessible DNR lands are available within the Radley Creek Fishery Area. The stream has had a long history of trout habitat development. The purpose of this project was to remove or reposition storm-damaged trees that had fallen into the stream and were impeding water flow, navigability, and fishability. Beaver activity was noted.
**Technique or Structure:** Mechanical brushing and tree removal, Beaver Removal (2), Beaver Dam Removal (1)
**Comments and Accomplishments:** Removal of 10 storm damaged trees that had fallen into the stream and/or impeded navigability. Trees and brush were placed in reserve piles in hopes of use instream in FY13.

## South Branch Little Wolf River (6)

**Project Length:** 2,500 Feet (2011), 1,700 Feet (2012)
Justification and Purpose: Maintain and enhance previous trout habitat improvement projects. Failing structures provided little to no usable trout habitat. Increase trout habitat quantity and improve trout habitat quality.
**Fiscal Year:** 2011
**Technique or Structure:** rock vortex weirs (1), wing dams (1), plunge pools (2), overhead bank covers (4), bank stabilization (4)
**Partners:** Rawhide Boys Ranch and Fox Valley Chapter of Trout Unlimited
**Comments and Accomplishments:** Maintenance was performed on previously installed brush bundles. Volunteers assisted staff in the addition of stream side brush to the bundles

**Fiscal Year:** 2012
**Technique or Structure:** digger logs (3), large woody debris (5), bank stabilization (5), brush bundles (5), brushing (5)
**Partners:** Fox Valley Chapter of Trout Unlimited, Rawhide Boys Ranch
**Comments and Accomplishments:** Manual labor of overhead cover construction and brush bundling was proved by volunteers from the Fox Valley chapter of Trout unlimited during monthly workdays.

## Trout Nace Creek (7)

**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (8), Beaver Removal

## Waupaca River (8)

**Project Length:** 500 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** This project developed approximately 500 feet of trout habitat within the Waupaca River at Riverview Park, City of Waupaca. The Waupaca/Tomorrow River is one of Central Wisconsin's more popular trout streams. The DNR has acquired several thousand acres of riparian land within the watershed to protect and restore coldwater fisheries. In recent years the Central Wisconsin Region of Trout Unlimited identified the Waupaca/Tomorrow River as a focus area. In addition, the City of Waupaca, Challenge to the Outdoors, Trout Unlimited and other groups have developed fishing access trails associated with the Waupaca River.

The goals of this project were to develop a showcase demonstration area that can educate anglers and other citizens on various trout habitat restoration techniques and provide instream habitat for trout and other species. This area was identified for habitat work since it receives high recreational use and would provide the most exposure to local citizenry.
**Technique or Structure:** channel constrictors (1), large woody debris (1), bank stabilization (3), plunge pools (3), channel shaping (2), mid-channel deflector (7), overhead bank covers (2), mid-stream islands (1), boulder retards (15)
**Partners:** Fox Valley Chapter Trout Unlimited, Rawhide Boys Ranch, Waupaca County Parks Personnel
**Comments and Accomplishments:** Development of the Riverview Park in downtown Waupaca directly below the Waupaca Foundry Spillway consisted of 2 overhead bank covers, a 80ft by 20ft mid-stream island, a complex large woody debris sill, and mid-stream boulder retards.

## Waupaca River (9)

**Project Length:** 500 Feet/1,000 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** The purpose of this project is to develop trout habitat at the former County Q bridge crossing location, Waupaca County in cooperation with Wisconsin Department of Transportation. The Waupaca/Tomorrow River is a high quality trout stream with approximately 34 miles of trout water in Portage and Waupaca Counties. This particular location is adjacent to one of the more popular fishing accesses on the river and in the special regulations (trophy management) water.
**Technique or Structure:** bank stabilization, brush bundles (2), brushing (8), channel shaping, cross-channel logs (18), overhead, bank covers (6), wing dams (4)
**Partners:** WI DOT
**Comments and Accomplishments:** One overhead bank cover, canoe access ramp, parking area, rock weir, bank sloping, and boulder structures were installed. In addition, the department consulted with DOT to create a barrier free fishing access site for people with disabilities out of the old bridge abutment on the right bank.

### Whitcomb Creek (10)
**Fiscal Year:** 2011
Technique or Structure: Beaver Dam Removal, Beaver Removal

## WAUSHARA COUNTY

### Chaffee Creek (11)
**Project Length:** 500 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Fishability was impeded by overgrown woody vegetation.
**Technique or Structure:** Brushing, brush bundles
**Comments and Accomplishments:** Angler access and streambanks were hand brushed and bundles were installed.

### Little Pine Creek (12)
**Project Length:** 500 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Fishability was impeded by overgrown woody vegetation.
**Technique or Structure:** Brushing, brush bundles
Partners: Central Wisconsin Chapter Trout Unlimited
Comments and Accomplishments: Angler access and streambanks were hand brushed and bundles were installed.

*The Mecan River in Waushara County. A significant increase in trout production has come from a large portion of the stream undergoing stream improvement through bank stabilization and the installment of brush bundles and large woody cover.*

### Mecan River (13)
**Project Length:** 1,700 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The Mecan River is one of the best known and best producing trout streams in the county. It originates in a large spring area known as Mecan Springs and flows southeast into Marquette County. A significant increase in trout production has come from a large portion of the stream undergoing stream improvement. Much of this work was done in the 1960's and 1970's and is in need of repair and enhancement. Previously installed overhead bankcovers in this section of the Mecan had completely failed and provided little to no trout habitat.
**Technique or Structure:** brush bundles (5), large woody debris (7), bank stabilization (12), digger logs (2), overhead bank covers (7)
**Partners:** Central Wisconsin Chapter of Trout Unlimited
**Comments and Accomplishments:** Manual labor of overhead bank cover construction and brush bundling was provided by volunteers from the Central Wisconsin chapter of Trout Unlimited during monthly workdays. Work began during FY10 to be completed FY13

### North Branch Wedde Creek (14)
**Project Length:** 1,500 Feet
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal, Beaver Removal

### West Branch White River (15)
**Project Length:** 3,000 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** An intensive trout habitat project was done on the West Branch of the White River from Cottonville Ave upstream 3,000 feet in 2010. A sand trap was installed in the lower section of the project to catch the sand moving downstream. The trap is monitored and emptied when full.
**Partners:** Trout Unlimited
**Comments and Accomplishments:** 100 cubic yards of material was removed from the trap. If not captured and removed this sand would have slowly made its way downstream negatively impacting existing fish habitat and work done there.

### White River (16)
**Project Length:** 500 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The White River by name starts in downtown Wautoma just below the dam creating the Wautoma Millpond and runs southeast to the next dam creating Lower White River (Dahlke)Flowage. The stream above the dam is called Soules Creek. The White River is nationally known for its Giant Mayfly (Hexagenia limbata) hatch in May-June. Over the years trout survey data has showed a slight decline in the local trout population. Some very high water events in the last 10 years have resulted in significant habitat degradation. Unstable stream banks in sections of the stream have resulted in braiding and abnormally wide stream widths. A heavy load of sand due to flooding and erosion is slowly making its way downstream, getting trapped in these wide areas, filling holes and covering critical habitat.

**Technique or Structure:** large woody debris (3), channel shaping (2), brushing (10), bank stabilization (2), brush bundles (2)
**Partners:** Central Wisconsin, Southeastern Wisconsin, Green Bay, Elliott Donnelley Chapters of Trout Unlimited
**Comments and Accomplishments:** Staff coordinated workdays with Trout Unlimited Chapters from Wisconsin and Illinois to inhibit stream braiding of the main branch of the White River. Brush bundles were strategically installed throughout two major braids (30 feet long by 12 feet wide and 120 feet long by 15 feet wide) using Christmas trees. Along with trees, brush was placed stream side and along the braided corridors. Sand is trapped in the bundles creating a new stream bank and returning flow to the main channel.

### Willow Creek (17)
**Project Length:** 1,200 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Willow Creek originates near the town of Wild Rose and is free of dams for ~21 miles downstream to 29th lane just upstream of Auroraville Millpond. Public access is obtained through the many state parking areas and road crossings. The section of the Willow just downstream of Blackhawk Rd is one of the DNR's trend sites which we have been surveying annually since 2005. A tornado and heavy straight line winds had knocked numerous large trees down into the stream impeding water flow, navigability, and fishability.
**Technique or Structure:** brush bundles (2), brushing (10), digger logs (3), large woody debris (4), treetop deflectors (3), bank stabilization (2), plunge pools (3)
Comments and Accomplishments: Storm-damaged trees were removed and strategically placed throughout this fish management survey trend site to restore normal stream flow, provide access for the stream shocking crew, and provide some excellent fish habitat.

*The installation of brush bundles on Mary Creek, Oconto County.*

## LOWER FOX/UPPER GREEN BAY FISH TEAM

2011 Estimated Expenses: $72,452
2012 Estimated Expenses: $80,093

## MARINETTE COUNTY

### Camp 9 Creek (1)
**Site Description:** Upstream from Benson Lake Rd. on Marinette County lands.
**Project Length:** 3 Miles
**Fiscal Year:** 2012
**Partners:** Marinette County Forestry Department
Technique or Structure: Beaver Dam Removal (3)
**Comments and Accomplishments:** Camp 9 Creek is one of three tributaries to the Peshtigo River on which an intensive beaver dam removal effort has been conducted. The entire linear length of three beaver dams have been removed from Camp 9 Creek. This totals 375 feet of beaver dam removal. Removal of dams enhances spring seep input and stream flow during times of high water. Reduces warm stagnant water supplies connected to stream.

### Eagle Creek (2)
**Project Length:** 1,500 Feet
**Fiscal Year:** 2011
**Technique or Structure:** Maintain & enhance present

pre-fabricated bank covers. Re-dredge sand trap (1).
**Comments and Accomplishments:** Brush removal on present bank covers to provide a stable grass/sod cover. Sand trap on Eagle Creek was not re-dredged due to unavailability of a Department excavator, track-dump and operators.

**Fiscal Year:** 2012
**Site Description:** Trout stream habitat project area consisting of pre-fabricated bank covers, boulder retards and sand trap located on SR 40, downstream from Eagle River Rd.
**Technique or Structure:** Maintain & enhance present pre-fabricated bank covers. Re-dig sand trap (1). Comments and Accomplishments: Selective stream bank brushing. Re-dredged a sand trap.

### Little South Branch Pike River (3)
**Project Length:** 5,300 Feet
**Fiscal Year:** 2011
**Technique or Structure:** Selective stream bank brushing.
Comments and Accomplishments:
Re-dredge sand traps (2). Construct third sand trap. Selective brush removal on north stream bank & other strategic locations.
**Site Description:** Project area located on Marinette County lands – T35N-R19E – Section 8.

**Fiscal Year:** 2012
**Technique or Structure:** Sand traps (3)
**Partners:** Marinette County Forestry Department
**Comments and Accomplishments:** Sand traps were not re-dredged due to unavailability of excavator and track-dump.

### North Branch Beaver Creek (4)
**Project Length:** 200 Feet
**Fiscal Year:** 2011
**Technique or Structure:** Culvert replacement.

**Site Description:** 21st Rd. – Marinette County.
**Project Length:** 200 Feet
**Fiscal Year:** 2011
**Partners:** Town of Beaver, Green Bay TU, Marinette TU, USFWS
**Justification and Purpose:** Improve fish passage. Reduce sand bed-load upstream from 21st Rd due to the former perched culvert, deepen pools and expose woody debris and desirable substrate.

### Upper Middle Inlet (5)
**Project Length:** 2,700 Feet
**Fiscal Year:** 2011
Technique or Structure: Maintain & enhance present bank covers. Periodically re-dredge sand trap.
**Comments and Accomplishments:** Sand trap dredged.

### Unnamed Cr. 10-11 (T35N – R17E) (6)
**Site Description:** Upstream from Benson Lake Rd. on Marinette County lands.
**Project Length:** 2 Miles
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (3)
**Partners:** Marinette County Forestry Department
**Comments and Accomplishments:** Unnamed Creek 10-11 is one of the three tributaries to Peshtigo River where restoration activities have been applied via removal of large remnant beaver dams. Entire linear length (completely across riparian zone) of 3 beaver dams (totaling 650 feet) has been removed from this stream. One dam was not removed due to unfavorable conditions for heavy equipment. Plans call for an attempt to remove this dam during FY 12-13. Brook and brown trout reproduction has been observed since the implementation of this project.

### Walker Creek (7)
**Site Description:** Upstream from 33rd Rd. located on North Branch Beaver Fishery Area – Marinette County.
**Project Length:** 1,500 Feet
**Fiscal Year:** 2012
**Technique or Structure:** sand trap (1)
**Partners:** Endangered Resources (NHI)
**Comments and Accomplishments:** Construct access road and dig 40 foot sand trap. Work with Endangered Resources to construct artificial turtle nesting site with the sediment (sand) taken from sand trap.

## OCONTO COUNTY

### Hemlock Spring Pond (8)
**Site Description:** Project location is on Chequamegon-Nicolet National Forest - Oconto County.
**Project Length:** 1.6 Acres
**Fiscal Year:** 2012
**Technique or Structure:** Spring Pond Dredging
**Partners:** US Forest Service
**Justification and Purpose:** Without any action taken towards restoring this spring pond, livable conditions for the trout fishery will deteriorate. Eventually pond will fill in to the point where there will be little inhabitable space for trout. An additional benefit of this project would be to provide a thermal safe haven for the brook trout fishery in the North Branch Oconto River during the months of July and August when this river experiences unfavorable water temperature for resident trout.
Comments and Accomplishments: Dredging operations are expected to begin May 2013. Chapter 30, NHI, Cultural Resources compliance issues have been addressed. Outfall areas (4) have been established. Construction with access road to spring pond has begun.

Beaver and beaver dam removal summary from Marinette, Oconto and Forest County trout streams.

| | | FY2011 | | FY2012 | |
|---|---|---|---|---|---|
| County | Stream | No. Beavers | No. Dams | No. Beavers | No. Dams |
| Marinette | Camp 5 Creek | 2 | 2 | 0 | 1 |
| | Camp 9 Creek | 0 | 1 | 0 | 3 |
| | Campbell Creek | 2 | 0 | | |
| | Chemical Creek | 3 | 3 | | |
| | Eagle Creek | 7 | 0 | 10 | |
| | Little S. Br. Pike | 2 | 2 | | |
| | Rosey Creek | | | 2 | |
| | Springdale Creek | | | 3 | 4 |
| | Swamp Creek | | | 3 | 3 |
| | Swede John Creek | 4 | 0 | 12 | 16 |
| | Unnamed Streams (3) | 9 | 4 | 2 | 2 |
| | **Total** | **29** | **12** | **32** | **29** |
| Oconto | Hay Creek | | | 2 | 0 |
| | First S. Br Oconto | 9 | 1 | | |
| | McCaslin Creek | | | 7 | 0 |
| | N Br Oconto | 13 | 0 | 4 | 0 |
| | N Fk Thunder | 2 | 2 | 1 | 6 |
| | Second S Br Oconto | | | 5 | 5 |
| | S Br Oconto | 1 | 1 | | |
| | S Fk Thunder | | | 2 | 3 |
| | Snowfalls Creek | 3 | 3 | | |
| | Waupee Creek | | | 2 | 0 |
| | Unnamed Streams (2) | 3 | 2 | | |
| | **Total** | **31** | **9** | **23** | **14** |
| Forest | Knowles Creek | | | 2 | 1 |
| GRAND TOTAL | | **60** | **21** | **57** | **44** |

## First South Branch Oconto River (9)

**Project Length:** 3,500 Feet
**Fiscal Year:** 2011
**Technique or Structure:** Maintain & enhance present bank covers built during early 1980's.
**Site Description:** Downstream from Cty. Hwy W on Chequamegon-Nicolet National Forest property in Oconto County.

**Project Length:** 3,500 Feet
**Fiscal Year:** 2012
**Technique or Structure:** Brushing – Rip Rap
**Partners:** U S Forest Service, TU Green Bay Chapter
Comments and Accomplishments: Remove tag alder from existing bank covers to maintain a stable grass/sod cover. Strategically apply additional rip-rap to settled areas on bank covers.

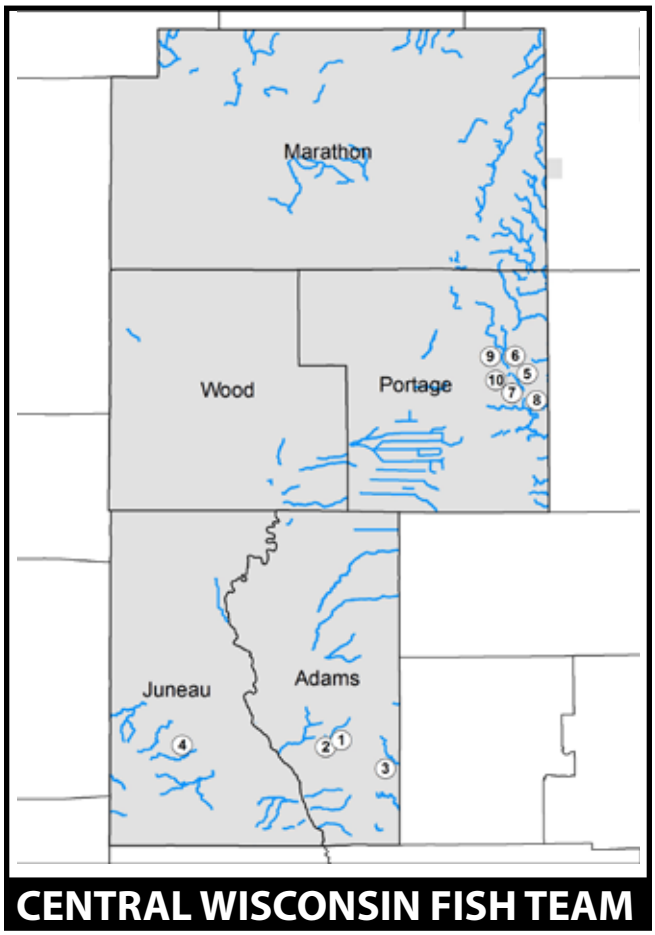
## Jones Creek (alias Mary Creek) (10)

**Site Description:** Upstream from Jones Spring Rd on Chequamegon-Nicolet National Forest property in Oconto County.
**Project Length:** 1,000 Feet
**Fiscal Year:** 2012
**Technique or Structure:** brush bundles (12)
**Partners:** US Forest Service, Trout Unlimited
**Comments and Accomplishments:** Brush bundling Mary Creek has been an add-on project. Conifer saplings were utilized from designated spoil areas (outfalls) from the Hemlock Spring Pond Dredging Project. Conifer bundles were strategically placed in an abandoned beaver-dam meadow to decrease width of stream by 50% and deepen main stream thalweg. A total of 458 brush bundles (2011:216 bundles; 2012: 241 bundles) were strategically placed into stream to make up 12 deflector/point bars. Trout Unlimited played an active role with the installation of these habitat devices.

## South Branch Oconto River (11)

**Site Description:.** Project location is on Chequamegon-Nicolet National Forest property – Oconto County.
**Project Length:** 6,500 Feet
**Fiscal Year:** 2012
**Technique or Structure:** brush bundles (1), Remove tag

alder off present pre-fabricated bank covers.
**Partners:** U S Forest Service/Trout Unlimited
**Comments and Accomplishments:** Stream bank brushing of tag alder to maintain grassy sod cover over pre-fabricated bank covers and to leave more desirable shrub species such as nine bark, red osier and high bush cranberry. "Re-stuffing" of a 125 foot brush bundle point bar with Trout Unlimited.




2011 Estimated Expenses: $37,086
2012 Estimated Expenses: $37,214

## ADAMS COUNTY

### Campbell Creek (1)

**Site Description:** CTH A. Downstream
**Project length:** 1,500 feet
**Fiscal Year:** 2011
**Justification and Purpose:** Campbell Creek is a class 1 trout stream containing healthy naturally reproducing populations of both Brook and Brown Trout. In the winter of 2008 a brushing project was done along a 1500 foot stretch of stream. The stream was extremely choked with tag alder making it inaccessible to anglers. We are trying to prevent the regrowth of tag alder and go in annually to cut new growth alder.
**Technique or Structure:** Brushing, Large woody debris (5)
**Comments and Accomplishments:** Maintenance was completed.

### Campbell Creek (2)

**Site Description:** CTH A. Downstream
**Project length:** 1,500 feet
**Fiscal Year:** 2012
**Justification and Purpose:** Campbell Creek is a class 1 trout stream containing healthy naturally reproducing populations of both Brook and Brown Trout. In the winter of 2008 a brushing project was done along a 1500 foot stretch of stream. The stream was extremely choked with tag alder making it inaccessible to anglers. We are trying to prevent the regrowth of tag alder and go in annually to cut new growth alder. A plunge pool was installed with rock to create pool habitat. The stream is very shallow and was lacking in pool habitat.
**Technique or Structure:** brushing, plunge pool (1)
**Comments and Accomplishments:** The large wind fallen trees from the summer storm were cut out. One rock deflector was installed and a plunge pool was hand dug. The entire stream (1,500 feet) was brushed on both banks and 100 spruce trees were planted to eventually provide stream shade.

### Neenah Creek (3)

**Site Description:** 1st Lane, Confluence of Peppermill Creek continuing upstream.
**Fiscal Year:** 2012
**Project length:** 3,600 feet
**Justification and Purpose:** Neenah Creek is a class 1 trout stream, supporting healthy naturally reproducing populations of Brown Trout. It is one of the most heavily utilized trout streams in Adams County. During the summer of 1983 an intensive trout habitat development was completed. All of the installed jetted overhead bank covers had failed. The goal of the project was to remove all previously installed covers and replace them with new materials. Also, sandbags had been used to backfill the original installed covers. All sandbags were removed and the new covers were backfilled using field stone.
**Technique or Structure:** brushing, boulder retards (6), overhead bank covers (11), plunge pool (1)
**Partners:** Bill Cook Chapter Izaak Walton League
Comments and Accomplishments: Almost the entire stream was brushed for a summer maintenance project (3500 feet). Eleven previously installed jetted overhead bank covers were removed and eleven jetted overhead bank covers, totaling 624 feet, were installed. Six boulder retards and one plunge pool were also installed.

## JUNEAU COUNTY

### Brewer Creek (4)

**Site Description:** Brokup Road
**Justification and Purpose:** Brewer Creek is a class 1 trout stream, supporting healthy naturally reproducing brown trout populations. Due to past agricultural practices and natural stream aging processes, the stream currently is wide and shallow, supporting minimal cover for fish, nearly inaccessible to anglers, containing dense Tag Alder or Prickly Ash growth. The stream is a highly utilized public fishery area. Past trout habitat improvements have attracted anglers, creating a positive angling experience. Improvements not only create desirable habitat for trout and other fish, but also non-fish species. Improvements create habitat for many amphibian and reptile species as well as habitat for waterfowl, nesting songbirds and rabbits. Habitat improvement throughout the basin will reverse the stream aging process.

**Fiscal Year:** 2011
**Project length:** 100 feet
**Technique or Structure:** LUNKER structure (1)
**Partners:** Mauston High School
**Comments and Accomplishments:** Installed one jetted overhead bank cover 50 feet in length with the help of the Mauston High School wildlife class.

**Fiscal Year:** 2012
**Project length:** 2,550 feet
**Technique or Structure:** overhead bank cover (1), brushing
**Partners:** Mauston High School Wildlife Class
**Comments and Accomplishments:** 1) Installed one jetted Overhead bank cover 50 feet in length with the help of the Mauston High School wildlife class. 2) Re-brushed both stream banks for entire 2550 feet of stream.

## PORTAGE COUNTY

### Emmons Creek (5)

**Project length:** 6,970 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The Emmons Creek is a class 1 trout stream supporting healthy naturally reproducing brown trout populations. During the summers of 2006 and 2007 a trout habitat development project took place. Brushing and installing brush bundles, overhead bank cover installation and boulder installation took place. The purpose of the work was to keep up with new tag alder growth and hope that native grasses could overtake the tag alder and create a meadow habitat.
**Technique or Structure:** Brushing
**Comments and Accomplishments:** Cut out large wind fallen trees from summer wind storm. Many large Elm trees fell into and across the stream, making passage very difficult. Many trees fell into the water increasing stream bank erosion as well.

*Lunker boulder installation Tomorrow River, Keener Road, Portage County*

### Tomorrow River (6)

**Site Description:** Rolling Hills Road
**Project length:** 200 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The purpose of the work was to maintain previously installed Christmas tree bundles. Bundles were previously installed in the spring of 2008 and needed to have additional trees added to help collect sediment coming downstream. Over time the bundles will collect sediment, creating a bank. The overall goal of the bundles is to narrow the stream channel, exposing substrate suitable for fish spawning.
Technique or Structure: brush bundles (2)
**Partners:** Bill Cook Chapter Izaak Walton League
**Comments and Accomplishments:** Maintained 2 Christmas tree bundles by adding 200 more trees to the existing bundles.

### Tomorrow River (7)

**Site Description:** Lake Meyers Road upstream from Bob Lea Farm
**Project length:** 1,000 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The Tomorrow River is a class 1 trout stream supporting healthy naturally reproducing populations of both Brook and Brown Trout. The purpose of the project was to create desired overhead and mid channel cover for trout. The original stream was wide, shallow and contained very little instream cover. Wing deflectors narrowed the stream channel increasing water flows and stream depth. Instream cover was also added.

**Technique or Structure:** large woody debris (5), wing dams (8), boulder retards (32), LUNKER structure (24)
Partners: TU and Bob Lea, NRCS
**Comments:** Bob Lea landowner is a contractor, donated his time and equipment to excavate, do rock placement and create wing dams.
**Comments and Accomplishments:** 1) Installed 24 lunker structures totaling 192 feet in length. 2) Installed 8 wing deflectors totaling 545 feet in length. 3) 32 boulder retards, 5 pieces of large wood cover also installed.

## Tomorrow River (8)

**Site Description:** Chuck Egle Property - Keener Road
**Project length:** 1,185 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The Tomorrow River is a class 1 trout stream supporting healthy naturally reproducing populations of both Brook and Brown Trout. The purpose of the project was to create desired overhead and mid channel cover for trout. The original stream was wide, shallow and contained very little instream cover. Wing deflectors narrowed the stream channel increasing water flows and stream depth. Instream cover was also added.
**Technique or Structure:** LUNKER structure (30), midstream islands (1), wing dams (1), half logs/whole logs (2), boulder retards (65)
**Partners:** TU and Egle Landscaping
**Comments and Accomplishments:** 1)30 LUNKERs (4 sets of 6, 2 sets of 3) were installed in stream to provide overhead cover for trout. Total LUNKER distance with merging into the bank is 353 feet. 2) 65 boulder retards were installed to provide mid channel cover. 3) 2 logs were installed in stream. 4) One large wing deflector totaling 200 feet in length was installed as well. 5) One existing island was added onto with stream bed materials and rock to narrow the stream channel and force water flows to each bank of the river. Deflector totaling 200 feet in length was installed as well.

## Tomorrow River (9)

**Site Description:** Echo Rd
**Justification and Purpose:** The Tomorrow River is a class 1 trout stream supporting healthy naturally reproducing populations of both Brook and Brown Trout. Due to past agricultural practices, and natural stream aging processes, the stream currently is wide and shallow, supporting minimal cover for fish, nearly inaccessible to anglers, containing dense Tag Alder or Prickly Ash growth. The stream is a highly utilized public fishery area. Past trout habitat improvements have attracted anglers creating a positive angling experience. Improvements not only create desirable habitat for trout and other fish, but also non-fish species. Improvements create habitat for many amphibian and reptile species as well as habitat for waterfowl, nesting songbirds and rabbits.
**Project length:** 4,200 Feet
**Fiscal Year:** 2011
**Technique or Structure:** boulder retards (100), brush bundles (10), large woody debris (32), LUNKER structure (77), wing dams (6)
**Partners:** Frank Hornberg TU, Izaak Walton League, NRCS

**Project length:** 3,100 Feet
**Fiscal Year:** 2012
**Technique or Structure:** brush bundles (6), wing dams (1), plunge pools (2), boulder retards (20), large woody debris (8), LUNKER structure (20)
**Partners:** Bill Cook Chapter Izaak Walton League
**Comments and Accomplishments:** 1) Installed 20 lunker structures, totaling 180 feet in length. 2) Installed 20 boulder retards. 3) Installed 6 big woody cover and 2 root wads. 4) Installed 1 wing deflector totaling 50 feet in length. 5) Cleaned out 1 large spring, increasing flow. 6) Installed 6 Christmas tree bundles with the help of the Bill Cook Chapter of the Izaak Walton League using 600 Christmas Trees. 7) Installed 2 plunge pools.

## Tomorrow River (10)

**Site Description:** Lake Meyers Road 1000 ft upstream from Lake Meyers Road.
**Fiscal Year:** 2011
**Justification and Purpose:** The Tomorrow River is a class 1 trout stream supporting healthy naturally reproducing populations of both Brook and Brown Trout. The purpose of the project was to create desired overhead and mid channel cover for trout. The original stream was wide, shallow and contained very little in stream cover. Wing deflectors narrowed the stream channel increasing water flows and stream depth. In stream cover was also added.
**Technique or Structure:** large woody debris (5), wing dams (6), boulder retards (75), LUNKER structure (24)
**Partners:** TU , NRCS and landowner, Bob Lea
**Comments and Accomplishments:** 1) Installed 24 lunker structures totaling 192 feet in length. 2) Installed 6 small wing deflectors totaling 500 feet in length. 3) 75 boulder retards, 5 pieces of large wood cover also installed. Bob Lea, a contractor, donated his time and equipment to excavate, do rock placement, and create wing dams.

*Spring pond dredging is a critical habitat restoration tool in northeastern Wisconsin.*

# HEADWATERS FISH TEAM

2011 Estimated Expenses: $51,248
2012 Estimated Expenses: $70,865

## LANGLADE COUNTY

### Evergreen River

**Justification and Purpose:** The Evergreen has been negatively impacted by both logging and beaver in the past, making it wide and shallow. Silt deposits throughout this reach of the river cause less than ideal spawning and feeding areas for trout. By adding pools, boulders, and woody structure, resting and feeding areas will be significantly improved.
**Partners:** Trout Unlimited

### Evergreen River (1)

**Project length:** 3,200 Feet
**Fiscal Year:** 2011
**Technique or Structure:** channel shaping, half logs/ whole logs (20), large woody debris (20)

### Evergreen River (2)

Project length: 1,700 Feet
**Fiscal Year:** 2012
**Technique or Structure:** brush bundles (10), half logs/ whole logs (24), boulder retards (50)

### Evergreen River (3)

**Project length:** 2,128 Feet
**Fiscal Year:** 2012
**Technique or Structure:** brushing
**Comments and Accomplishments:** The stream was narrowed from half to a third of its former width in most areas. By narrowing the stream, the current increased, helping to maintain a gravel and rubble substrate in spawning areas. Woody habitat and boulders were added in the areas of stream that were deepened. Several on-site boulders were placed and installed; approximately 200 – 6 inch to 8 inch diameter logs and 50 root wads were installed throughout the pools and runs. The boulders, logs, and root wads that were placed in the stream will provide overhead cover, mid channel cover, and direct water flow. Approximately 679 feet was brush bundled, because the substrate was too soft to support an excavator. Brush was used to shape and narrow the channel from half to a third of its former width in most areas. By placing brush bundles within the banks of the stream, the river naturally deposits sediments into the brush bundles to create point bars. By creating these point bars, we will also create pools and runs on the outside bends of the creek.

### Hunting River (4)

**Fiscal Year:** 2011
**Project length:** 4,172 Feet
**Justification and Purpose:** The failed devices have slumped into the stream creating a vertical, flat wall with no type of cover for fish or invertebrates. In some cases flow has cut behind the devices creating spots of erosion and causing the stream to become shallow.
**Technique or Structure:** bank stabilization, channel shaping, instream, various, large woody debris
**Partners:** Trout Unlimited
**Comments and Accomplishments:** About 35 devices from a previous project done in the 1970's have failed. In the areas where these devices needed to be removed or repositioned, boulders, root wads, logs, and other woody structures were installed in their place. All of the woody materials and rock were gathered on site. The woody structures were embedded into the stream bank and/or secured with boulders. These structures should prove to be exceptional habitat for both fish and invertebrates.

### Karberger Spring Pond (5)

**Fiscal Year:** 2012
**Justification and Purpose:** Poor fishing access; little to no instream cover for trout.
**Technique or Structure:** Spring Pond Dredging
**Partners:** Trout Unlimited
**Comments and Accomplishments:** Project is complete. Pond deepened to approximately 6 feet over majority of the acreage. Several whole logs added to improve cover for trout. Shallow areas where gravel was present beneath silt were blown off with a jet pump to increase spawning potential. Spoil site was groomed and seeded with a wildlife mix.

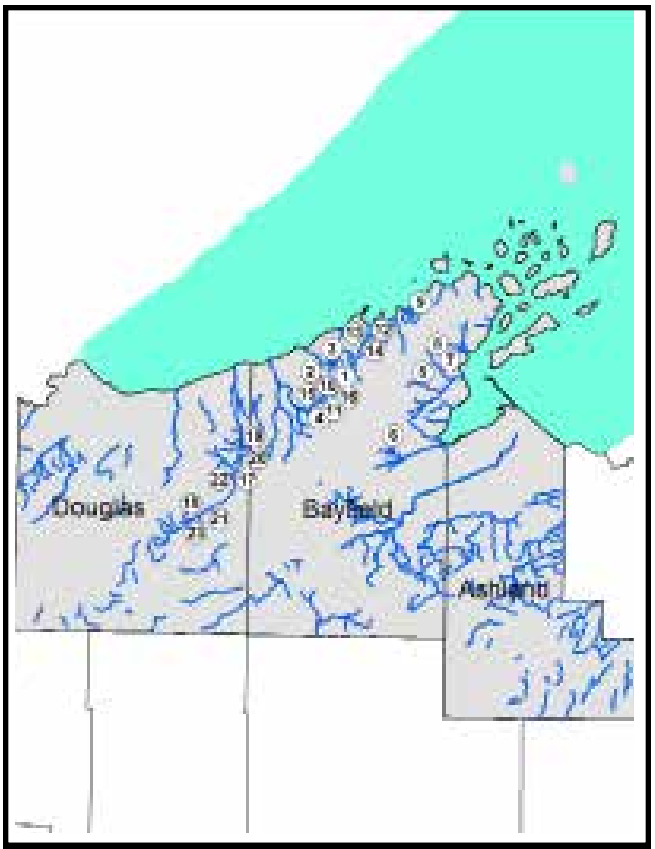
## ONEIDA COUNTY

### Noisy Creek (6)
**Project length:** 1,200 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Poor fishing access; little to no instream cover for trout.
**Technique or Structure:** brushing, brush bundles (13)
**Partners:** Trout Unlimited
**Comments and Accomplishments:** Stream corridor was brushed back several feet on each bank. Brush bundles were installed at key locations to promote scouring and formation of pools, also forcing a more defined stream channel and exposing sand and gravel substrate to encourage more natural reproduction by brook trout.

## VILAS COUNTY

### Trout Springs (7)
**Fiscal Year:** 2011
**Justification and Purpose:** Rehabilitate this spring pond complex by hydraulic dredging approximately 60,000 cu yds of sediment. Create more depth and overhead cover by undercutting banks and placing underwater woody cover; flushing gravel spawning areas. About 20% of the littoral zone will not be dredged
**Technique or Structure:** Spring Pond Dredging
**Partners:** Trout Unlimited
**Comments and Accomplishments:** Project was completed on time. Two of the largest ponds were dredged to a depth of approximately 8 feet. The outlet streams of both ponds were also deepened. The dredge spoil area was groomed, seeded, and mulched.

*East Fork Flag River, Bayfield County: Tag alder cutting and selective instream wood removal in FY 2011 to achieve the 2011 goal of reducing riparian tag alder density and exposing spawning substrates*




## LAKE SUPERIOR FISH TEAM

2011 Estimated Expenses: $13,631
2012 Estimated Expenses: $17,568

**Justification and Purpose:** Sediment deposition from legacy land use and ongoing streamside alder growth and collapse have reduced the spawning habitat available to brook trout and Lake Superior migratory fishes. Habitat modifications are intended to increase fish spawning potential by promoting channel scour and exposing gravel and cobble.

## BAYFIELD COUNTY

### East Fork Flag River (1)
**Project length:** 1,000 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, bank stabilization

### East Fork Flag River (2)
**Fiscal Year:** 2012
**Project length:** 10,150 Feet
**Technique or Structure:** brushing, instream, various , bank stabilization

### East Fork Flag River (3)
**Fiscal Year:** 2012
**Project length:** 2,700 Feet
**Technique or Structure:** brushing, instream, various
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Flag River (4)
**Site:** 7500 ft Headwater downstream/3700 ft Lower Habitat Reach
**Project length:** 7,500 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, bank stabilization
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Fourmile Creek (5)
**Project length:** 13,900 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, bank stabilization
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Little Pine Creek (6)
**Site:** Above Highway G
**Project length:** 1,300 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, bank stabilization
**Comments and Accomplishments:** Exposed spawning substrates

### Little Sioux River (7)
**Site:** Little Sioux Road
**Project length:** 1,800 Feet
**Fiscal Year:** 2012
**Technique or Structure:** instream, various, brushing
**Partners:** Trout Unlimited - Wild Rivers Chapter
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Little Sioux River (8)
**Site:** Sand Bluff
**Project length:** 500 Feet
**Fiscal Year:** 2012
**Partners:** Trout Unlimited - Wild Rivers Chapter
**Technique or Structure:** instream, various
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Saxine Creek (9)
**Project length:** 2,430 Feet
**Fiscal Year:** 2012
**Technique or Structure:** instream, various
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Unnamed (10)
**Site:** 800 ft Headwaters/2700 ft Upper habitat reach
**Project length:** 3,500 Feet
**Fiscal Year:** 2011
**Technique or Structure:** bank stabilization, instream, various
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Unnamed (11)
**Project length:** 1,800 Feet
**Fiscal Year:** 2011
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Unnamed (12)
**Project length:** 1,500 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, bank stabilization
**Comments and Accomplishments:** Reduced alder density

### Tributary to Bark River (13)
**Project length:** 2,800 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, bank stabilization
**Comments and Accomplishments:** Reduced alder density

### Tributary to Bark River (14)
**Project length:** 2,800 Feet
**Fiscal Year:** 2012
**Technique or Structure:** instream, various, brushing
Comments and Accomplishments: Reduced alder density

### West Flag River (15)
**Site Description:** Headwaters
**Project length:** 1,300 Feet
**Fiscal Year:** 2012
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### West Flag River (16)
**Project length:** 6,600 Feet
**Fiscal Year:** 2012
**Technique or Structure:** instream, various, brushing

**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

## DOUGLAS COUNTY

### Cutler Creek (17)
**Project length:** 2,000 Feet
**Fiscal Year:** 2012
**Technique or Structure:** instream, various
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Jerseth Creek (18)
**Project length:** 3,100 Feet
**Fiscal Year:** 2012
**Technique or Structure:** instream, various, brushing
**Comments and Accomplishments:** Exposed spawning substrates

### Rocky Run (19)
**Site description:** 749 ft Above Highway H
**Project length:** 2,987 Feet
**Fiscal Year:** 2011
**Technique or Structure:** bank stabilization, instream, various
**Partners:** Brule River Sportsmen's Club
**Comments and Accomplishments:** Exposed spawning substrates

### Rocky Run (20)
**Project length:** 2,238 Feet
**Fiscal Year:** 2012
**Technique or Structure:** brushing, instream, various
**Partners:** Brule River Sportsmen's Club
**Comments and Accomplishments:** Exposed spawning substrates

### Stone's Tributary (21)
**Project length:** 1,350 Feet
**Fiscal Year:** 2012
**Technique or Structure:** bank stabilization, instream, various
**Comments and Accomplishments:** Exposed spawning substrates; reduced alder density

### Unnamed (22)
**Project length:** 2,000 Feet
**Fiscal Year:** 2011
**Technique or Structure:** bank stabilization, instream, various
**Comments and Accomplishments:** Exposed spawning substrates

### Wilson Creek (23)
**Site Description:** Mouth to upper Highway P crossing
Project length: 5,600 Feet
**Fiscal Year:** 2011
**Technique or Structure:** bank stabilization, instream, various
**Comments and Accomplishments:** Exposed spawning substrates

## LA CROSSE FISH TEAM

2011 Estimated Expenses: $204,973
2012 Estimated Expenses: $295,185

## BUFFALO COUNTY

### Eagle Valley Creek (1)
**Site Description:** Easement
**Project Length:** 3,200 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Work conducted on John Stettler property, approximately 0.5 mile of stream frontage. Easement granted in 2010. Eagle Creek is Class III trout water. Evaluation of the WI Priority Watershed Program for Improving Stream Habitat and Fish Communities (1994) documented a much improved aquatic system with substantially reduced bank erosion and improved bank vegetation. However, there was no no-

tice of a rebound in the trout fishery. Later surveys conducted in 2001 and 2007 found natural reproduction of brook trout in the upstream segment and adults ranging from 4 – 14 inches downstream. Brown trout are the only species stocked to Eagle Creek. Our intent is to compliment riparian improvements with instream habitat restoration through installation of numerous bank structures for overhead cover, rip-rapping and sloping to stabilize banks and cover structures, placing brush bundles, current deflectors, and grade controls where needed, and creating spawning areas.
**Technique or Structure:** boulder retards (13), riprap, rock vortex weirs (9), half logs/whole logs (63), large woody debris (15), LUNKER structure (27)
Partners: NRCS and Trout Unlimited
Comments and Accomplishments: Approx. 1/2 of the total stream frontage on the Stettler Property was completed. The other half will be completed in 2014.

### Swinns Valley Creek (2)

**Site Description:** Perpetual fishing easement held by Arcadia Sportsmen's Club.
**Project Length:** 1,800 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Stabilize eroding stream banks, remove box elder trees, debris. Improve instream trout habitat.
**Technique or Structure:** Jetted trout structures (13 @216 total feet), Deflector logs (53), Rock Weirs (5), Log v-dam (1), Mid channel boulder clusters (16), Mid channel boulders on posts (39), Turtle hibernaculum (1), Rip rap (3,600 Feet), Tree/stump removal (3,500 feet), Bank shaping seeding/mulching (3,600 feet), Angler parking areas (2)
**Partners:** NRCS, TU, Arcadia Sportsmen's Club, Associated R/G Clubs of Trempealeau County.

### Waumandee Creek (3)

**Site Description:** Easement
**Fiscal Year:** 2011
**Project Length:** 8,272 Feet
**Technique or Structure:** boulder retards (61), wing dams (10), riprap, bank stabilization, LUNKER structure, instream, various, rock vortex weirs, large woody debris, plunge pools (68), channel shaping (22)
**Partners:** NRCS

## CRAWFORD COUNTY

### Knapp Creek (4)

**Site Description:** DNR Easement
**Project length:** 1,505 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The stream banks are unstable and constricted with trees. Cover for trout is lacking in-stream.
**Technique or Structure:** large log jam removed (1), Beaver Dam Removal (1), plunge pools (6), boulder retards (6), brushing (1), LUNKER structure (4), rock vortex weirs (1), bank stabilization (5), cross-channel logs (4), riprap (5)
**Comments and Accomplishments:** Restoration work for this project included a section on Knapp Creek where several stream banks have been eroding. Numerous in-stream structures were installed. The stream banks were sloped and stabilized with riprap rock. A major beaver dam and a large log jam were also removed.

*Stabilizing a stream bank using large riprap rock and then sloping the stream bank on the Knapp Creek project located in Crawford County.*

### Sugar Creek (5)

**Site Description:** DNR Easement
**Project length:** 85 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** An easement landowner requested that we repair an eroding stream bank where he has been losing his pasture fence for several years.
**Technique or Structure:** Riprap (1), cross-channel logs (2), bank stabilization (1), boulder retards (6)
Comments and Accomplishments: A small section of stream was sloped and riprapped. Large boulders were used in-stream and at the base of the riprap to create cover for trout.

### Sugar Creek (6)

**Project length:** 800 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** An easement landowner requested that we repair his machinery crossing crossable after it was damaged from a previous flood and a beaver dam was backing up water.
Technique or Structure: Beaver Dam Removal (2), remove sediment from machinery crossing (1), bank stabilization (2)
**Comments and Accomplishments:** A machinery cross-

ing was repaired after flooding had washed away part of the crossing, deposited sediment on the banks and deposited sediment in the approaches. Over 100 cubic yards of sediment were removed and trucked to an upland site. Two beaver dams and a food cache were also removed from this stretch of stream.

### South Fork Sugar Creek (7)

**Site Description:** DNR Easement
**Project length:** 40 Feet
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal
**Justification and Purpose:** An easement landowner requested that we repair his machinery crossing after being damage from floods.
**Comments and Accomplishments:** Repaired machinery crossing to allow easement landowner to access residence.

### Tainter Creek (8)

**Site Description:** DNR Easement
**Project length:** 45 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** A machinery crossing needed to be installed to allow for access to both sides of the project area.
**Technique or Structure:** Installed a machinery crossing (1)
**Partners:** Prairie Rod and Gun Club
**Comments and Accomplishments:** A machinery crossing was constructed creating access to both sides of Tainter Creek. This will allow for future stream work to be performed in cooperation with the Prairie Rod and Gun Club which has been receiving County Aide Grants on an annual basis. Plans are to haul and stockpile riprap rock in the fall and winter.

## JACKSON COUNTY

### French Creek (9)

**Site:** Easement
**Project Length:** 2,170 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** French Creek is an 8.3 mile coldwater tributary to the Trempealeau River located in Springfield Township, Jackson County near the village of Taylor.
**Technique or Structure:** brushed, rocked, sloped, raked and seeded (2170 feet, both sides), cover logs (36), mid channel boulders (30), riffles (5, 52' of total riffle), plunge pools (6, 107' of pool total), rock wing deflectors (10), and grade controls (6), riprap (1500 cubic yards)
Partners: Trout Unlimited, Robert and Vernon Hulett and family (landowners), Jackson County Wildlife Fund
**Comments and Accomplishments:** Project is complete. All devices indicated were installed. The majority of the stream thread was narrowed to improve flow and water temperature characteristics and expose preexisting gravel.

### Halls Creek

**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (4)
**Comments and Accomplishments:** Dams were removed and monitored for reconstruction after removal.
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (2)
North Fork Buffalo River
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (8)

*North Branch Trempealeau River, Jackson County. The banks have been sloped, rocked, and planted with grass mix to minimize erosion. Large woody cover (trees) were added to the stream for additional habitat.*

### North Branch Trempealeau River (10)

**Project Length:** 1,400 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** North Branch Trempealeau River is a Class I trout water. Project area includes 52 acres of State owned property and an adjoining ¾ mile of water downstream held in public easement. This entire area was subject to past WDNR trout habitat restoration efforts (approximately 20 years ago). These efforts focused mostly on stabilizing eroded corners and incorporating overhead trout cover into these corners. Much of this work is in dire need of repair or replacement. Also, past storm events toppled trees over much of the stream corridor creating obstacles to angling efforts without providing any substantial habitat benefits. Our intent is to clean up these areas, restore or repair past habitat devices, incorporate additional habitat structures for YOY and adult trout, aquatic invertebrates, and forage fish, and stabilize more length of stream bank.

**Technique or Structure:** 12 log clusters (overhead cover, invert attachment surface), 2 rock weirs
**Comments and Accomplishments:** Removed trees and brush along 1400′ (2800′ both banks) of stream bank. Cut logs for later use as habitat structure. Burned brush and excess trees. Narrowed stream channel an avg. of 2 – 4 ft. Rip rapped and sloped 800′ (1600′ both banks) of stream bank. 12 log clusters installed for cover (avg. 3 logs/cluster). 2 rock weirs constructed w/ associated pools. Planted grass seed on 800′ (1600′ both banks) of sloped stream bank
**Justification and Purpose:** Beaver activity has continued to increase in our area's Class I and Class II trout streams. In spite of our past removal efforts, beaver activity is increasing and requiring more time and effort to control. BRF wildlife and fish staff is receiving more landowner and angler complaints concerning their activity, and survey and property management crews have observed increased beaver activity in our area streams.

**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (2)
Sand Creek
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (1)
**Comments and Accomplishments:** Dams were removed and monitored for reconstruction after removal.

*North Branch Trempealeau River, Jackson County. The banks have been sloped, rocked, and planted with grass mix to minimize erosion. Large woody cover (trees) added to the stream for overhead habitat.*

### South Fork Buffalo River
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (2)
South Fork Trempealeau River
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (2)
**Comments and Accomplishments:** Dams were removed and monitored for reconstruction after removal.

**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (2)

### Tank Creek
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (1)
**Comments and Accomplishments:** Dams were removed and monitored for reconstruction after removal.

## LA CROSSE COUNTY

### Bohemian Valley Creek (Coon Creek) (11)
**Site Description:** DNR Easement
**Project length:** 30 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** An easement landowner requested that a beaver dam be removed because it was backing up water at the base of his machinery crossing.
Technique or Structure: Beaver Dam Removal
**Comments and Accomplishments:** The beaver dam was removed.

### Bohemian Valley Creek (Coon Creek) (12,13,14)
**Site Description:** DNR Easement
**Justification and Purpose:** An easement landowner made the request for his machinery crossing to be repaired after being damaged by a flood.
**Project length:** 65 Feet, 75 Feet, 60 Feet
**Fiscal Year:** 2012
**Technique or Structure:** bank stabilization (2), brushing, cross-channel logs (2), plunge pools (2), remove sediment from machinery crossing (1),
**Comments and Accomplishments:** Trees along the stream banks were removed to open up the floodway. Cross channel logs were incorporated on a stretch well above and at the base of the crossing to hopefully prevent any further maintenance. Sediment was removed from the crossing, the approaches and the stream banks.

### Mormon Coulee Creek (15)
**Site Description:** DNR Easement
**Project length:** 80 Feet
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal
**Comments and Accomplishments:** The large log jam was removed and the original stream channel was restored.

## MONROE COUNTY

### Sand Creek
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (1)

## TREMPEALEAU COUNTY

### Borst Valley (16)
**Site Description:** Easement
**Project Length:** 550 Feet
**Fiscal Year:** 2011
**Project Number:** 153-1
**Technique or Structure:** large woody debris (68), wing dams (10), rock vortex weirs (6), plunge pools (22), boulder retards (61), riprap, LUNKER structure (15), instream, various (15), channel shaping, bank stabilization

**Site Description:** Perpetual Fishing Easement with Elk R/G
**Project Length:** 4,000 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Stabilize eroding stream banks, improve in-stream trout habitat.
**Technique or Structure:** Rip-rap (2700 feet), Bank shaping(2700 feet), Seeding/mulching(2700 feet), Tree removal (4000 feet), Stump removal(2700 feet), Deflector logs (24), Root wads (9), LUNKERS (2 @ 16 total feet), Trout structures (8 @ 112 total Feet), V-dams/plunge pools (6), Rocked waterway (1 @ 75 feet), Mid-channel boulders clusters (14), Mid-channel boulders on posts (33)
**Partners:** NRCS, Elk R/G Club, Associated Clubs of Trempealeau County.

**Justification and Purpose:** Beaver activity has continued to increase in our area's Class I and Class II trout streams. In spite of our past removal efforts, beaver activity is increasing and requiring more time and effort to control. BRF wildlife and fish staff is receiving more landowner and angler complaints concerning their activity, and survey and property management crews have observed increased beaver activity in our area streams.

### Buffalo River
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (1)

### North Branch Elk Creek (17)
**Site Description:** Engevold perpetual fishing easement held by Elk R/G Club
**Project Length:** 200 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Restrict cattle access to stream, stabilize eroding stream banks.
**Technique or Structure:** Bank Sloping (400 feet), Rip rap (400 feet), Cattle crossing (1), Deflector Logs (7), Log V-dam (1), fencing (800 feet)
**Partners:** NRCS, ELK R/G Club, Associated Clubs of Trempealeau County.

### North Fork Buffalo River
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (6)
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (1)

### South Fork Buffalo River
**Fiscal Year:** 2011
**Technique or Structure:** Beaver Dam Removal (1)

### Traverse Valley Creek (18)
**Site Description:** Perpetual fishing easement TU- clear waters
**Project Length:** 600 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Repair 2010 flood damage.
**Technique or Structure:** Rip rap (600 feet), Bank shaping (600 feet)
**Partners:** NRCS, Elk R/G Club, Associated Clubs of Trempealeau County.

### Traverse Valley Creek (19)
**Site Description:** Leroy Sobotta perpetual fishing easement Arcadia Sportsmen
**Fiscal Year:** 2011
**Technique or Structure:** Bank shaping (800 feet), Rip rap (1000 feet), LUNKERS (5), Deflector logs (6), Weirs (2)

### Unnamed Trib to Lakes Coulee Creek
**Fiscal Year:** 2012
**Technique or Structure:** Beaver Dam Removal (1)

## VERNON COUNTY

### Billings Creek (20)
**Site Description:** DNR Easement
**Project length:** 730 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Trout stream maintenance is needed to make the repairs for the damage that occurred from the flood of June 2008.
**Technique or Structure:** machinery crossing installed (1), boulder retards (5), digger logs (6), cross-channel logs (6), plunge pools (8), riprap (10), bank stabilization (10)
**Partners:** FEMA & WEMA
**Comments and Accomplishments:** Eroded stream banks were stabilized with riprap and sloped as needed. In-

stream structures were restored and new structures were created.

## Coon Creek (21)

**Site Description:** DNR State Property – Neprud
**Justification and Purpose:** This is a continuing cooperative project with the Vernon County NRCS and Coulee Region TU on the DNR Neprud property. This stretch of stream had very little cover for trout and the stream banks were severely eroding. The floodway was confined by excessive growth of unwanted trees along with decades of stream bank deposition.
**Project length:** 1,356 Feet
**Fiscal Year:** 2011
**Technique or Structure:** bank stabilization, brushing, machinery crossing
**Partners:** Coulee Region TU and Vernon County NRCS
Comments and Accomplishments: This fiscal year trees were removed along the stream corridor and the stream banks were shaped to open up the floodway and to allow for stream work to be performed next year. A machinery crossing was installed to provide access for future stream work.

## Coon Creek (22)

**Project length:** 3,445 Feet
**Fiscal Year:** 2012
**Partners:** Vernon County NRSC, Coulee Region TU, Blackhawk Chapter TU
**Technique or Structure:** bank stabilization (5), brushing (1)
**Contractor:** Lambert Forest Products was contracted to remove 18 acres of undesirable trees along the stream corridor.
**Comments and Accomplishments:** With this continuing project, again extensive tree removal of undesirable tree species was required. Fortunately we were able hire Lambert Forest Products at a cost of $3,700.00 to remove approximately 18 acres of trees to be used for biomass fuel. The cost for DNR to remove these trees would have been 3 to 4 times this amount. Some trees were saved to be used for in-stream logs. A high, steep bank prevented access to the back portion of the State property. Extensive soil removal and shaping created an access road along this high bank with the excess soil being used to build up a low area for this road. On the upland side of the low area, additional road material was used from the spoils created from the construction of an upland scrape. The scrape will create habitat for reptiles, amphibians and other wildlife. Additional tree removal was performed in this back portion where Lambert Forest Products could not access due to the high bank. Additional stream bank sloping was performed on 1,880 feet of stream length with over 3,000 cubic yards of riprap rock being hauled and stockpiled this fiscal year. Coulee Region TU and the Blackhawk Chapter of TU made generous donations to purchase part of this rock. The rock will be placed along with installing in-stream structure in FY13. These two TU Chapters also helped with a Lunker building work day to construct Lunker structures. Thirty Lunkers were constructed with 20 of these structures planned to be installed in the Spring Coulee Creek portion of this project in FY13.

## Coon Creek (23)

**Project Length:** 1,245 Feet
**Fiscal Year:** 2012
**Technique or Structure:** bank stabilization (1), boulder retards (12), large woody debris (19), rock vortex weirs (1), riprap (5)
**Partners:** Coulee Region TU, Blackhawk Chapter TU and Vernon County NRCS
**Comments and Accomplishments:** This fiscal year a total of 1,245 feet of stream length was restored on Coon Creek. The high stream banks of this project constituted extensive work for removing the soil along with shaping and placing riprap according to NRCS guidelines on 1,575 feet of stream bank. In-stream cover consisted of the installation of rock weirs, boulder retards and log structures.

## Coon Creek (24)

**Project Length:** 3,200 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** This is a cooperative project with the Vernon County NRCS and a landowner with a DNR easement. This stretch of Coon Creek has several actively eroding stream banks and contains very little in-stream cover for trout. Excessive growth of box elder and other unwanted trees has prevented soil holding grasses from becoming established. The near vertical stream banks do not allow the stream to be connected to the flood plain, so with each high water event, large quantities of sand and sediment are added to the stream.
**Technique or Structure:** brushing
**Partners:** Vernon County NRCS, Easement Landowner
Comments and Accomplishments: Work that was completed in FY12 included the removal of 7 acres of undesirable trees along the stream corridor to open up the floodway and allow for future stream work in FY13. Work in FY13 will include stream bank sloping, shaping and riprapping along with creating in-stream cover for trout.

## Creek 8-8 (Rundahl Creek) (25)

**Project Length:** 3,100 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** This is a cooperative project with the Vernon County NRCS and a landowner with a DNR easement. This stretch of Rundahl Creek has several actively eroding stream banks and contains very little in-stream cover for trout. Excessive growth of box elder and other unwanted trees has prevented soil holding grasses from becoming established. The near

vertical stream banks do not allow the stream to be connected to the flood plain, so with each high water event, large quantities of sand and sediment are added to the stream.
**Technique or Structure:** boulder retards (10), large woody debris (32), LUNKER structure (6), rock vortex weirs (8), riprap (14), brushing (1), machinery crossing installed (3), instream, various (1), bank stabilization (1)
Partners: Vernon County NRCS, Easement Landowner
Comments and Accomplishments: Work that was completed in FY12 included the removal of 7 acres of undesirable trees along the stream corridor to open up the floodway and allow for stream work to be performed. In FY13 the stream work included stream bank sloping, shaping and riprapping along with in-stream work which included the installation of Lunker structures, rock weirs, cross channel logs, root wads and machinery crossings. Back waters and small scrapes were constructed to create habitat for forage species, reptiles, amphibians and other wildlife. The total amount of stream length restored was 3,100 feet. The majority of the work was completed in FY12 with only a small portion being completed in FY13. All of the work completed in FY12 and FY13 is being reported in the Project Activity Report for FY12. The estimated cost per mile of stream restored is $80,193.

## Elk Creek (26)

**Site Description:** DNR Easement
**Project length:** 175 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** An easement landowner made the request for his machinery crossing to be repaired after being damaged by a flood.
Technique or Structure: bank stabilization (3), boulder retards (1), riprap (1)
**Comments and Accomplishments:** A machinery crossing was maintained by removing streambed deposition to lower the water level of the crossing. The stream banks were sloped by removing existing soil to increase the flood capacity. Approximately 150 cubic yards of deposition was removed and hauled outside the floodplain. A small section was riprapped with large boulders to stabilize the bank and create cover for trout. The crossing and the stream work was previously constructed by a contractor who was hired by the landowner and funded by the Vernon County NRCS.

## Reads Creek (27)

**Site Description:** DNR Easement
**Project length:** 2,350 Feet
**Fiscal Year:** 2012
**Project Number:** 91
**Technique or Structure:** Riprap (7), machinery crossing installed (1), instream, various (1), channel shaping (4), cross-channel, logs (5), plunge pools (14), bank stabilization (6), rock vortex weirs (11)
Partners: FEMA & WEMA
**Comments and Accomplishments:** Sections of the damaged stream channel were reconstructed. Log jams and trees deposited from the flood were removed. Eroded stream banks were stabilized with riprap and sloped as needed. In-stream structures were repaired or replaced and new structures were created.

## Seas Branch Creek (28)

**Site Description:** DNR Easement
**Project length:** 1,285 Feet
**Fiscal Year:** 2012
**Partners:** FEMA & WEMA
**Technique or Structure:** rock vortex weirs (8), channel shaping (3), bank stabilization (7), riprap (11), plunge pools (11), machinery crossing installed (2), instream, various (1), boulder retards (12)
**Comments and Accomplishments:** Sections of the damaged stream channel were reconstructed. Log jams and trees deposited from the flood were removed. Eroded stream banks were stabilized with riprap and sloped as needed. In-stream structures were repaired or replaced and new structures were created.

## Spring Coulee Creek (29)

**Site Description:** DNR State Property – Neprud
**Project Length:** 550 Feet
**Fiscal Year:** 2011
**Partners:** Coulee Region TU and Vernon County NRCS
Technique or Structure: riprap, brushing, plunge pools (2), rock vortex weirs (2), bank stabilization, cross-channel logs (2)
**Comments and Accomplishments:** This fiscal year a total of 550 feet of stream length was restored. The high stream banks of this project constituted extensive work for removing the soil to create a 4:1 slope along with shaping and riprapping the stream banks. Excess soil was used to construct the base for a 1,750 foot access road for the back portion of this project where future work will be performed on Coon Creek. Extensive tree removal was also required. In-stream cover consisted of the installation of 2 rock weirs, several boulder retards along with 12 channel logs. A small backwater pool was constructed to create habitat for forage species, reptiles, amphibians and other wildlife.

## Spring Coulee Creek (30)

**Site Description:** DNR Easement
**Project length:** 12 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** An easement landowner made the request for a beaver dam to be removed. The water impounded by the dam was damaging in-stream structures.
**Technique or Structure:** Beaver Dam Removal
**Comments and Accomplishments:** The beaver dam was removed and the section of stream was resored to its natural state.

### Spring Coulee Creek (31)
**Site Description:** DNR Easement
**Project length:** 45 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** An easement landowner made the request for his machinery crossing to be repaired after being damaged by a flood.
**Technique or Structure:** removed deposition from machinery crossing (1), bank stabilization (2)
Comments and Accomplishments: A machinery crossing was maintained by removing deposition and reshaping the approaches, the stream bed and the stream banks. This allowed the landowner to utilize the crossing.

### West Fork Kickapoo River (32)
**Site Description:** West Fork Sportsmen Club Easement
**Project length:** 175 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Stream bank deposition was confining the floodway and diverting floodwater into crop fields. The purpose of this project was to open up the floodway and reunite it with the stream.
Technique or Structure: bank stabilization
**Comments and Accomplishments:** Over than 1,000 cubic yards of deposition was removed from the stream bank to open the floodway. The spoils were used to create a berm to prevent flood water from entering the easement landowner's agriculture field.

**ST. CROIX FISH TEAM**

2011 Estimated Expenses: $49,476
2012 Estimated Expenses: $36,401

## BARRON COUNTY

### Engle Creek Spring Pond (1)
**Project Length:** 10 Feet
**Fiscal Year:** 2012
**Project Number:** 31
**Technique or Structure:** Beaver Dam Removal (1)
**Comments and Accomplishments:** A beaver dam was removed from the Engle Creek spring pond and discharge pipes were cleaned out to allow water to discharge into Engle Creek.

### Turtle Creek (2)
**Project Length:** 3,500 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various
**Justification and Purpose:** This portion of Turtle Creek is lacking the pool habitat and overhead cover which are critical for adult trout. This project will increase pool area, overhead cover, and enhance spawning habitat. In addition, this project adds an additional 3,500 feet of stream habitat restoration activities to work conducted in 2002-2006. In total over 2 miles of stream habitat restoration activities will be completed upon completion of this project on this portion of Turtle Creek. This portion of stream is also located in the Barron County Forest and receives extensive angling by the public. Trout densities have increased 5-fold from prior stream habitat restoration activities in this portion of stream.

## BAYFIELD COUNTY

### Area Wide
**Fiscal Year:** 2012
**Technique or Structure:** Culvert Measurement
**Justification and Purpose:** Poorly designed or installed culverts pose several problems. Culverts often act as barriers to passage of aquatic organisms, fragmenting habitat and potentially isolating populations from critical spawning, rearing, or feeding habitats. Poorly designed or installed crossings can also cause stream banks to erode, contributing sediment to streams. They frequently wash out, damaging habitat downstream and adding expense to town road budgets. Crossings act as both chronic and acute sources of nonpoint source sediment pollution throughout the basin, which several agencies have identified as a major concern in the Upper St. Croix River basin. By gathering culvert assessment data, crossings that are posing a problem can be identified and ranked, thus enabling a more efficient use of public dollars for repair/replacement. In 2013-14 biennium we plan to share the data with local units of government and conservation groups to begin

the process of repairing or replacing these culverts.
**Comments and Accomplishments:** This project included assessing road crossings of trout streams within the Upper St. Croix watershed in Bayfield and Douglas Counties. Information collected at each site included things like culvert type, condition, velocities, and drop to outlet pool, among other variables. Poor crossing design and installation can act as a barrier to aquatic organisms, fragment stream habitat, and increase sedimentation. In the 2012 fiscal year 124 crossings were evaluated on 37 streams in Bayfield and Douglas Counties, of which 23 culverts were perched. Utilizing fish passage models, crossings posing a problem can be identified and ranked, thus enabling more efficient use of public dollars for repair/replacement.

## DOUGLAS COUNTY

### Area wide

**Project Length:** 90 miles
**Fiscal Year:** 2012
**Justification and Purpose:** The White and Iron River systems support popular fisheries for a variety of trout species. Recent monitoring and angler complaints suggest fisheries and habitat quality in both systems are declining. Increased costs, added workloads, limited budgets and insufficient staff have resulted in an increased number of beaver dams on high priority trout waters with a long history of beaver control. Left unchecked, stream and riparian habitat degraded by beaver activity will be cost prohibitive if not impossible to restore. Furthermore, the White River supports a trophy brown trout fishery which is dependent on free access to important spawning tributaries. Increasing numbers of beaver dams on these tributaries only serve to further reduce trout production in a system where trout abundance already appears to have declined.
**Technique or Structure:** Beaver Removal (26), Beaver Dam Removal (33)
**Partners:** APHIS
**Comments and Accomplishments:** Beaver control on the Iron River and its tributaries was discontinued after FY11 due to the lack of APHIS and WDNR personnel necessary to accomplish this additional workload. As such, beaver control activities were largely restricted to time and expense used to administer the existing beaver control program on the White River watershed and 4 other high priority inland trout streams in Bayfield and Douglas Counties. Efforts resulted in reconnaissance of nearly 90 miles of high quality trout water and the removal of 26 beaver and 33 dams.

### Iron River & Tributaries (3)

**Project Length:** 12 miles
**Fiscal Year:** 2011
**Justification and Purpose:** The Iron River watershed is located in Northwestern Bayfield County. The Iron River and the East Fork of the Iron River are the systems major arteries. The major arteries are fed by several high quality coldwater tributaries and as whole the system supports over 55 miles of Class I and Class II trout water. The system contains a diverse array of lotic habitats and supports popular, self-sustaining fisheries for brook, brown and rainbow trout. To date little beaver control has been conducted on this system due to the high percentage of private land in the watershed and insufficient Department (WDNR) and Federal (APHIS) resources necessary to implement effective control on a system of this size. Currently, APHIS and WDNR staffs have successfully controlled beaver on over 200 miles of inland and Lake Superior tributaries in Bayfield and Douglas Counties. Unfortunately, this workload combined with limited APHIS budgets and manpower prevents expanding this program to other high quality trout waters. Recent monitoring in the Iron River watershed found declining trout populations and streams heavily impacted by beaver. This project earmarks monies to fund a contract with APHIS to initiate beaver control on coldwater tributaries in the Iron River watershed. The watershed supports popular fisheries for brook, brown and rainbow trout. Recent monitoring and angler complaints suggest fisheries and habitat quality are declining due to decades of unchecked beaver activity. Without additional funding, limited staff and budgets prevent expanding beaver control to other valuable trout resources. Left unchecked, stream and riparian habitat degraded by beaver activity in the watershed will be impossible to restore due to remote and difficult access and the extent of private land control. As such implementing beaver control on this system may be the most practical and cost-effective way to maintain habitat quality on stream stretches not currently impacted by beaver and allow habitat degraded by beaver activity to restore itself.

Summary of beaver control efforts on 14 high priority trout waters in Bayfield and Douglas Counties, Wisconsin. Table includes results of work conducted from July 1, 2011 - June 30, 2012.

| County | Waterbody | Miles Checked | No. Beaver Removed | No. Dams Removed |
|---|---|---|---|---|
| Bayfield | 18 Mile Creek | 13.4 | 2 | 1 |
| Bayfield | 20 Mile Creek | 9.2 | 1 | 1 |
| Bayfield | Bigbrook Creek | 6.5 | 9 | 2 |
| Bayfield | Caps Creek | 4.6 | 3 | 5 |
| Bayfiled | Iron River | 1.0 | 0 | 2 |
| Bayfield | East Fork of Iron River | 4.0 | 0 | 0 |
| Bayfield | Muskeg Creek | 0.0 | 0 | 0 |
| Bayfield | Middle Creek | 0.0 | 0 | 0 |
| Bayfield | Schacte Creek | 0.0 | 0 | 0 |
| Bayfield | Long Lk Branch | 12.0 | 2 | 13 |
| Bayfield | Marengo River | 12.2 | 3 | 5 |
| Bayfield | Whtie River & Tribs | 16.0 | 6 | 4 |
| Douglas | Ounce River | 10.5 | 0 | 0 |
| Douglas | Ox Creek | 0.0 | 0 | 0 |
| Total | | 89.4 | 26 | 33 |

**Technique or Structure:** Beaver Removal (14), Beaver Dam Removal (18)
**Partners:** APHIS
**Comments and Accomplishments:** Beaver control efforts on the Iron River watershed in Bayfield County primarily concentrated on Shacte and Middle Creeks and the headwater section of the East Fork of the Iron River. Work involved landowner contacts on stream corridors targeted for control and aerial reconnaissance of the nearly 55 miles of stream resources within this watershed. Work in FY11 resulted in the control of beaver on nearly 12 miles of high quality trout water and the removal of 14 beaver and 18 dams (Table 1). Work in FY12 calls for maintenance trapping and dam removal on stream corridors where control has been exercised thus far but no further expansion is planned due to an inability to hire additional staff. Monies targeted for the Iron River in FY12 therefore will be used to supplement increased control efforts on the White River watershed and 4 other high priority trout streams in Bayfield and Douglas Counties.

## South Fork White River (4)

**Project Length:** 2,700 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** The South Fork of the White River is cold headwater tributary to the White River and premier trout stream to both Bayfield County and the State of Wisconsin. The South Fork supports viable sport fisheries for both brown and brook trout and is also known to support spawning migrations of brown trout from the White River's mainstem. The entire stream thread lies within the White River Fishery Area, which was established in 1961 to insure public access to this unique resource and to protect this sensitive watershed from logging and development pressures. Prior to acquisition by the state, much of the South Fork's 2.3 miles of stream thread was impounded by a series of artificial lakes maintained by previous proprietors for trout propagation and private fishing. Through WDNR efforts ranging from dam removal, dredging, and intensive channel work much of the stream has been restored. Although past restorations efforts included stream brushing much of the streams riparian corridor is densely vegetated by the exotic shrubs common buckthorn (Rhamus cathartica) and glossy buckthorn (Rhamnus frangula). The invasive shrubs dominate the riparian vegetative community resulting in allelopathic elimination of native forest species. The dominance of these shrubs in the riparian flora is reducing vegetative diversity and inhibiting regeneration of large woody species native to lowland forests and beneficial to stream ecosystems. The dense buckthorn canopy is also resulting in an overly shaded stream environment with reduced productivity as overly shaded stream threads lack aquatic vegetation that provide important cover for juvenile trout and non-game fish species.
**Technique or Structure:** Reforestation (Planting), Foliar Treatments, Bushing and Cut-stump Treatments
**Comments and Accomplishments:** Work in FY11 involved restoration of riparian zones along stream corridors intensively improved since the mid 1990's. Work primarily involved foliar treatments to control buckthorn regeneration in areas intensively brushed and treated in FY10. In addition to the 1,600 feet of stream corridor intensively brushed in FY10, an additional 900 feet of stream corridor experiencing satellite infestations of buckthorn was also treated. All buckthorn saplings were foliar sprayed with a 2% solution of Garlon while all native species were preserved. Prior to this effort the invasive species, common buckthorn, Rhamus cathartica and glossy buckthorn Rhamnus frangula dominated the riparian zones along this section of stream, resulting in allelopathic elimination of native forest species. In order to enhance regeneration of large woody species important to stream ecosystems, a total of 1,000 tamarack, Larix laricina, saplings and 500 burr oak, Quercus macrocarpa, saplings were planted in the treatment areas. Work in FY 12 calls for follow up foliar treatments to control buckthorn regeneration in areas treated in FY10 and FY11. Expansion of this successful control effort to adjacent stream corridors will depend on manpower and funding constraints.

## South Fork White River (5)

**Project Length:** 2,900 Feet
**Fiscal Year:** 2012
**Technique or Structure:** Reforestation (Planting), Foliar Treatments, Bushing and Cut-stump Treatments
**Partners:** Wildlife Management
**Justification and Purpose:** The South Fork of the White River is cold headwater tributary to the White River and premier trout stream to both Bayfield County and the State of Wisconsin. The South Fork supports viable sport fisheries for both brown and brook trout and is also known to support spawning migrations of brown trout from the White River's mainstem. The entire stream thread lies within the White River Fishery Area, which was established in 1961 to insure public access to this unique resource and to protect this sensitive watershed from logging and development pressures. Prior to acquisition by the state, much of the South Fork's 2.3 miles of stream thread was impounded by a series of artificial lakes maintained by previous proprietors for trout propagation and private fishing. Through WDNR efforts ranging from dam removal, dredging, and intensive channel work much of the stream has been restored. Although past restorations efforts included stream brushing much of the streams riparian corridor is densely vegetated by the exotic shrubs common buckthorn (Rhamus cathartica) and glossy buckthorn (Rhamnus frangula). The invasive shrubs dominate the riparian vegetative community resulting in allelopathic elimination of native forest species. The dominance of these shrubs in the riparian flora is reducing vegetative diversity and inhibiting regeneration of large woody species native to lowland forests and beneficial to stream ecosystems. The dense buckthorn canopy is also resulting in an overly shaded stream environment with reduced productivity as overly shaded stream threads lack aquatic vegetation that provide im-

portant cover for juvenile trout and non-game fish species.am quality and seems contrary to the Department priority of invasive species control.

**Comments and Accomplishments:** Work in FY12 involved restoration of riparian zones along stream corridors intensively improved since the mid 1990's. Fisheries work conducted included foliar treatments to control buckthorn regeneration in a 2,700 foot stretch of stream corridor intensively brushed and treated in FY10 and FY11 and manual brushing and treatment on an additional 400 ft of stream corridor in January 2012. The project was cooperatively expanded in FY12 to include mechanical brushing of a 1.8 acre area of dense buckthorn stands adjacent to the project area by Wildlife Management. All buckthorn saplings were foliar sprayed with a 2% solution of Garlon while all native species were preserved. Cut stumps remaining from manual clearing in a 400 foot of stream corridor not previously brushed were treated with a 25% solution of Garlon 4 and mineral oil. Prior to this effort the invasive species, common buckthorn, Rhamus cathartica and glossy buckthorn Rhamnus frangula dominated the riparian zones along this section of stream, resulting in difficult angler acess, excessive shading and allelopathic elimination of native forest species. In order to enhance regeneration of large woody species important to stream ecosystems, an additional 250 tamarack, Larix laricina, red pine, pinus resinosa and jack pine, pinus banksiana saplings were planted in the treatment area. Work in FY 13 calls for follow up foliar treatments to control buckthorn regeneration in areas treated in previous fiscal years and areas cooperatively treated with wildlife management in January of 2012. Expansion of this successful control effort to adjacent stream corridors will depend on manpower and funding constraints.

*LUNKER structure deployment on the North Fork Clam River, Burnett County.*

### South Fork White River (6)

**Project Length:** 2 Miles
**Fiscal Year:** 2011
**Technique or Structure:** brushing, channel constrictors, instream, various, overhead bank covers (2)
**Justification and Purpose:** Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability.
**Comments and Accomplishments:** Surveillance of intensive habitat work completed on a 1 mile section of South Fork since the mid 1990's resulted in the repair of two slumping boomcovers and reconstruction of their adjacent wing dams. All other structures were found to be in excellent condition and functioning as intended.

### South Fork White River (7)

**Project Length:** 1 Mile
**Fiscal Year:** 2012
**Technique or Structure:** Extend Upstream Rip-rap (1), Rock, Sod & Seed Two Repaired Lunker Structures (2)
Justification and Purpose: Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability.
**Comments and Accomplishments:** In addition to the final rocking and seeding of two slumping boomcovers repaired in FY11, surveillance of intensive habitat work completed on a 1 mile section of South Fork since the mid 1990's found all structures in excellent condition and functioning as intended. Surveillance efforts of habitat work completed on a 0.5 mile section of the Iron River during the late 1990's was found to be functioning as intended and in good condition. Post evaluation surveys on improved sections of the Iron River suggest trout density nearly doubled following habitat restoration activities.

## BURNETT COUNTY

### North Fork Clam River (8)

**Site Description:** This section of the North Fork of the Clam River is located on state owned land at the old Rockaway Farm
**Project Length:** 2,025 Feet
**Fiscal Year:** 2012
**Technique or Structure:** channel shaping (4), boulder retards (12), riprap (3), large woody debris (3), plunge pools (4), LUNKER structure (5), channel constrictors (2), brushing

**Justification and Purpose:** The Clam River is located in the heart of the McKenzie Creek Fish and Wildlife area and the Clam River Fishery area. This area receives considerable recreational angling from the Twin Cities Metro Area. Habitat in the form of pool area and overhead cover is lacking in various portions of the stream. This focus is on increasing habitat for adult trout by providing and enhancing spawning and nusery habitat for brook and brown trout. The Brill River provides an opportunity for new trout angling in the Barron County area. We have been approached by the local conservation club with interest in gaining easements and assessing trout habitat work.
**Comments and Accomplishments:** The stretch of the North Fork of the Clam River located at the old Rockaway Farms location in Burnett County was completed in 2012. The work on this stretch included five lunker structures totalling 190 feet in length, four plunge pools varying in depth, riprapped banks to prevent erosion, constricting the channel to increase flows, as well as placing boulders and woody debris to provide fish cover. The Brill River portion of this project was dropped due to lack of interest
**Justification and Purpose:** Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability
**Technique or Structure:** brushing

### North Fork of the Clam River (9)
**Site Description:** east of Hwy. H to Heart Lake Rd.
**Project Length:** 3,920 Feet
**Fiscal Year:** 2012

### North Fork of the Clam River (10)
**Site Description:** west of Hwy. H
**Project Length:** 5,100 Feet
**Fiscal Year:** 2012

### North Fork of the Clam River (11)
**Site Description:** south of Heart Lake Rd
**Project Length:** 7,000 Feet
**Fiscal Year:** 2012

**Comments and Accomplishments:** The entire section of the North Fork of the Clam River was brushed from bank to bank. A five foot strip of the bank was also brushed on the south side of the river.

## POLK COUNTY

### Clam River (12)
**Project Length:** 2,000 Feet, 2
**Fiscal Year:** 2011
**Justification and Purpose:** The Clam River is located in the heart of McKenzie Creek Fish and Wildlife Area. This area receives considerable recreational angling from the Twin Cities Metro Area. Habitat in the form of pool area and overhead cover is lacking in this portion of stream. Annual maintenance of previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed.
Technique or Structure: brushing, channel constrictors, instream, various, overhead bank covers (2)
**Comments and Accomplishments:** Amount of maintenance work completed was limited because of loss of permanent trout habitat technician. As such trout habitat work was conducted largely by a crew of seasonal employees.

## WASHBURN COUNTY

### Beaver Brook (13)
**Fiscal Year:** 2011
**Justification and Purpose:** Annual maintenance of previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed.
**Technique or Structure:** brushing, channel constrictors, instream, various, overhead bank covers (2)
**Comments and Accomplishments:** Amount of maintenance work completed was limited because of loss of permanent trout habitat technician. As such trout habitat work was conducted largely by a crew of seasonal employees.

### Beaver Brook (14)
**Project Length:** 10 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability.
**Technique or Structure:** bank stabilization
**Comments and Accomplishments:** Sand bags were installed to force the creek back into original creek channel.

### Dogtown Creek (15)
**Site Description:** Dogtown Creek south of Namekagon Trail
**Project Length:** 575 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability.
**Comments and Accomplishments:** Bank to bank brush-

ing was conducted on this entire stretch of Dogtown Creek.

### Five Mile Creek (16)
**Project Length:** 2,500 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Annual maintenance of previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed.
**Technique or Structure:** brushing, channel constrictors, instream, various, overhead bank covers (2)
**Comments and Accomplishments:** Amount of maintenance work completed was limited because of loss of permanent trout habitat technician. As such trout habitat work was conducted largely by a crew of seasonal employees.

### Five Mile Creek (17)
**Site:** North of Nancy Lake Rd.
**Project Length:** 300 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability.
**Technique or Structure:** Brushing
**Comments and Accomplishments:** This section of Fivemile Creek was brushed from bank to bank.

### McKenzie Creek (18)
**Project Length:** 1 Mile
**Fiscal Year:** 2011
**Justification and Purpose:** Annual maintenance of previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed.
**Technique or Structure:** brushing, channel constrictors, instream, various, overhead bank covers (2)
**Comments and Accomplishments:** Amount of maintenance work completed was limited because of loss of permanent trout habitat technician. As such trout habitat work was conducted largely by a crew of seasonal employees.

### Sawyer Creek (19)
**Project Length:** 4,740 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** Annual maintenance on previously completed trout habitat projects is necessary to insure the aesthetics, function, and longevity of structures installed. Unmaintained devices also pose a threat to public safety and department liability.
Technique or Structure: brushing
**Comments and Accomplishments:** Bank to bank brushing was completed on this entire stretch of Sawyer Creek.

## UPPER CHIPPEWA FISH TEAM

2011 Estimated Expenses: $14,027
2012 Estimated Expenses: $10,294

## PRICE COUNTY

### Foulds Creek (1)
**Site Description:** former trout habitat improvement area on National Forest
**Project Length:** 2,000 feet
**Fiscal Year:** 2011
**Technique or Structure:** brushing and brush bundles, cover structure maintenance
**Partners:** U.S. Forest Service
**Justification and Purpose:** Trout habitat improvement projects were completed on Foulds Creek in the late 1970s and early 1980s. Since that time, cover structures fell into disrepair, and much of the improvement area became over-grown with tag alder. This stream is on the Chequamegon-Nicolet National Forest and has a good naturally- reproducing population of brook trout.
Comments and Accomplishments: Maintenance and repair was completed along a 2000-foot stretch of the intensive improvement area on the upper end of Foulds Creek. A U.S. Forest Service crew was contracted to refurbish the cover structures, add brush bundles, and re-establish a defined stream channel through thick emergent vegetation.

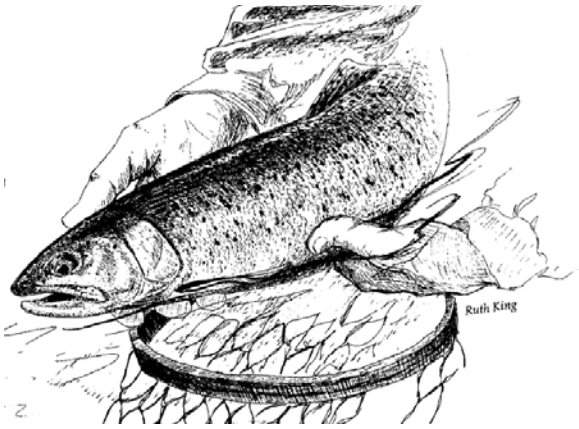
### Newman Creek (2)

**Site Description:** former trout habitat improvement area on National Forest
**Project Length:** 600 feet
**Fiscal Year:** 2012
**Technique or Structure:** brushing and brush bundles, channel constrictors
**Partners:** U.S. Forest Service
**Justification and Purpose:** Trout habitat improvement projects were completed on Foulds Creek in the late 1970s and early 1980s. Since that time, cover structures fell into disrepair, and much of the improvement area became over-grown with tag alder. This stream is on the Chequamegon-Nicolet National Forest and has a good naturally- reproducing population of brook trout. Comments and Accomplishments: The U.S. Forest Service was contracted to complete Newman Creek maintenance work, but personnel issues prevented project completion in FY12. The work was carried over to FY13, when a contracted work crew was able to provide brushing and brush bundles along a 600-foot stretch in the middle portion of this 3.1-mile-long trout stream.

## RUSK COUNTY

### South Fork Main Creek (3)

**Site Description:** riparian corridor near Nessa Road
**Project Length:** 5,800 feet
**Fiscal Year:** 2011
**Technique or Structure:** fencing repair
**Justification and Purpose:** Fence repairs were necessary to curb ongoing damage to water quality and habitat. Restricting livestock to designated stream crossings protects WDNR's investment in easements and in-stream habitat structures that secured public access and enhanced fishing opportunities in a high-quality brook trout fishery.
**Comments and Accomplishments:** A contractor repaired two cattle crossings and cattle exclusion fencing on both banks along a 0.8-mile segment of South Fork Main Creek near Nessa Road, and along a 0.3-mile reach near Bridge Road.



## INLAND FISH TEAM

2011 Estimated Expenses: $42,807
2012 Estimated Expenses: $33,282

## SHEBOYGAN COUNTY

### Onion River (1)

**Project Length:** 500 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** This stretch of stream was previously diverted away from a cattle operation. The stream course had since stabilized and this project enhanced instream habitat
**Technique or Structure:** Lunker structures (20) and cross channel flow diverters (2).
**Comments and Accomplishments:** Lunker structures were used to create bank cover on 4 bends in 500 feet of the Onion River through state owned easement. Two cross channel rock weirs were created to direct stream flow into the structures and pool habitat was enhanced downstream of the weirs.
**Partners:** Trout Unlimited – Lakeshore Chapter and Michels Corporation.

## WALWORTH COUNTY

### Bluff Creek (2)

**Project Length:** 1,000 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The primary problem with boom covers and lunkers is the loss of face rock, and in some cases the subsequent erosion inland, of rock and soil fill. The early structures built in the 80's were boom covers jetted into the stream bottom when heavy equipment was not available, so all rock placement was done by hand. As a result, smaller fieldstone face rock was used. These smaller, more round stones were easily knocked off the structures, and in some cases the backfill has gone with it. When heavy equipment became available, lunker construction was used, and larger, flatter, quarried limestone was used for face rock. This improvement greatly increased the stability and longevity of more recent habitat
**Technique or Structure:** Riprap, instream, various, bank stabilization
**Comments and Accomplishments:** We installed 60 feet of biolog in the upper reaches of the stream using 16 earth anchors and a 4 foot heavy duty steel driver to divert flow into the habitat improvement area. During downstream reconnaissance we discovered that brush had been cut and thrown into the stream below CHY P. This material has trapped silt and increased aquatic vegetation. We shifted our emphasis toward getting some of this brush out of the stream and planned accordingly. This work will be

### Van Slyke and Potawatomi Creeks (3)

**Project Length:** 2,000 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The combined length of both streams is about 2.6 miles. The streams converge in section 14 and flow into Geneva Lake in the Village of Fontana. Instream obstructions are slowing the current and causing silt to accumulate on the beds of both streams. Bank cover is thick and overgrown with woody vegetation causing excessive shading and impacting the streams' productivity. Some streambank erosion is also occurring. Removal of obstructions will restore natural flow and facilitate movement of brown trout and forage fish, including the least darter and banded killifish (species of concern), up and down the stream. Relocation of rock, logs, and woody material will stabilize the banks, reduce erosion and sedimentation, and provide feeding and cover habitat for brown trout and associated fish. Streambank brushing will improve light infiltration
**Technique or Structure:** half logs/whole logs (20), large woody debris (10), instream, various, brushing
**Comments and Accomplishments:** We plugged an underground diversion above Main Street on Van Slyke Creek using sand bags and rock. This re-routed flow back to the main channel where it belongs. We removed log jams and excess in-stream vegetation below Main Street in Van Slyke Creek. We installed 20 half logs in Van Slyke Creek between Main Street and Mill Street. This helped stabilize the stream banks and greatly improved cover, resting, and feeding habitat.

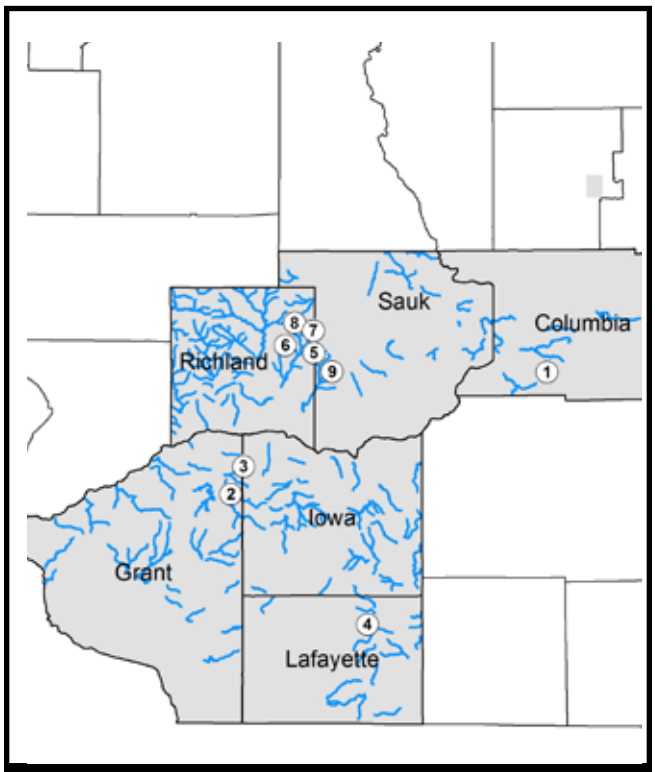
*The Scuppernong River project restored a stretch of river to its original channel. Biologs and erosion control mats are used to stabilize the new stream banks.*

## WAUKESHA COUNTY

### Scuppernong River (4)

**Project Length:** 5,000 Feet
**Fiscal Year:** 2011-2012
**Justification and Purpose:** The project re-established over 1 mile of native stream bed. An Environmental Assessment was written by WDNR staff. A GPS survey was performed by a private contractor. Stream realignment work was completed by The Inland Fisheries Management Team - Waukesha. Waukesha County has a limited amount of trout waters and excessive amounts of anglers resulting in a net increased importance for local coldwater streams. Each year thousands of anglers fish this small trout stream located in the heart of the Kettle Moraine State Forest – Southern Unit. The Scuppernong River trout stream has breathtaking views of one of the largest continuous prairie restoration projects in the state and is located just miles from state forest campgrounds. This project has resulted in critical habitat enhancements on the realigned portions of the Scuppernong River and contributes to the Kettle Moraine Master Plan's goals and objectives. The Scuppernong River Realignments Phase 2 has resulted in increased brook trout production and restored trout habitat.
**Technique or Structure:** Mining the original stream bed using GPS locations and 1941 aerial photos.
Comments and Accomplishments: This project is a complete success as the original stream bed was located as indicated by archeological finds of the freshwater mussel the slipper shell, an endangered resource. Although the river is now flowing down the original channel,

much future work is needed to restore connectivity of coldwater tributaries throughout this watershed.
**Partners:** SEWTU – Southeastern Wisconsin Trout Unlimited.




## WEST FISH TEAM

2011 Estimated Expenses: $101,422
2012 Estimated Expenses: $114,850

## COLUMBIA COUNTY

### Rowan Creek (1)

**Site Description:** This site accessed from the parking lot/entrance at the end of East St., off of Tomlinson Rd. just east of US-51 on the southeast side of Poynette, WI.
**Project Length:** 2,800 Feet
**Fiscal Year:** 2012
**Justification and Purpose:** The opening up of the riparian corridor along Rowan Creek will allow for the infiltration of sunlight that will promote grass cover which will act as a better filter for surface sediment runoff, will discourage beaver activity, will provide better access for fishing and will promote greater fish productivity within the stream. The bank tapering will provide flood relief for the 3-5 year or greater flood events. The narrowing of the stream channel below the bank full height will allow the stream to scour out the fine sediments, exposing more rocky substrate that is more conducive to fish spawning and macroinvertebrate production and will provide greater depth for fish cover. The placement of rock rip rap will stabilize the stream banks and prevent further erosion and channel movement. The installation of the instream habitat will increase fish cover and fish size structure. This segment of Rowan Creek is heavily fished and the habitat improvements will improve its accessibility and the quality of the fishery.
Technique or Structure: plunge pools (2), bank stabilization (1), boulder retards (15), instream, various (3), cross-channel logs (4), riprap (1), brushing (1), LUNKER structure (25), cross-channel logs (1)
**Partners:** Work was accomplished by SCR Operations Trout Habitat crew out of Fitchburg using Trout Stamp funds.
**Comments and Accomplishments:** The first 1,300 feet of stream work consisted of brushing the stream corridor and a couple of touch-up repairs to previous habitat work. The final 1,500 feet of stream work was the current (new) habitat improvement work. "Instream, various" designation here includes a machine crossing, a back eddy/pool created by rock structure protruding into stream, and seeding and mulching of disturbed areas once project was complete. Riprap and larger rock were used continuously in bank stabilization throughout the 1,500 feet of new habitat improvement for this project.

## GRANT, LAFAYETTE and RICHLAND COUNTIES

### Area-wide

**Fiscal Year:** 2011 & 2012
**Justification and Purpose:** Failure to keep the trees and brush off of our public trout fishing areas results in the following negative impacts: Fishability becomes very difficult particularly for fly fishers and spin fishers. Fishability becomes very difficult particularly for older or disabled anglers. Growth of trees negatively impacts the biological productivity of the stream leading to diminished trout populations. Growth of trees reduces the growth of grass and sedge ground cover and accelerates bank erosion, increases instream sedimentation, widens and shallows stream channels, all resulting in diminished trout populations. Growth of brush results in colonization of the area by beaver resulting in continuous building of dams and the resulting negative impacts on the cold water environment and trout populations. Maintaining previously cleared banks not only maintains a high quality aquatic environment including trout populations as well as fishability but reduces the cost of the clearing time and costs by ~90%.
Technique or Structure: brushing
**Comments and Accomplishments:** Trees and brush were cleared during the winter months.

## GRANT COUNTY

### Big Spring Br (2, 3)

**Site:** Fish Management Easement
**Project Length:** 3,500 Feet
**Fiscal Year:** 2011 & 2012
**Justification and Purpose:** The Department owns a

perpetual fishing easement on Big Spring Branch on property owned by David and Maria Drews. In-stream habitat on this stream is limiting for trout. Installation of weirs, Lunker structures, deflectors, and rip rap will improve in-stream habitat and reduce erosion which will benefit trout and other aquatic organisms.
**Technique or Structure:** LUNKER structure, boulder retards, wing dams, rock vortex weirs, riprap, bank stabilization, instream, various, plunge pools
Partners: NRCS, WHIP Grant
**Comments and Accomplishments:** This stretch of stream is on pasture land. The stream is deeply entrenched in 10 ft. to 12 ft. high banks. The banks are generally at a 1 to 1 slope or steeper where stable, but much of the banks are vertical and actively eroding. Mature box elder tress were located along a fair amount of the stream banks. There were a fair number of log jams in the stream that were backing up water and causing the stream bed to silt in. These trees were cut and the log jams removed about 5 years ago. This action did not result in any significant stabilization of the banks. This project covered 3,233 feet of thread and 6,466 feet of stream banks of Big Spring Br. and started in the fall of 2011 and extended into the fall of 2012. The final product included:

- Approximately 4,500 feet of stream banks were sloped and seeded. This includes the sloping and seeding of banks that were also rip rapped. The areas rip rapped were generally sloped 1.5:1. The areas not rip rapped were sloped between 1.5:1 and 3 or 4:1 site dependent. Ideally all of the sloping that was not rip rapped should have been sloped at least 3:1 but given 12 foot high banks, the volume of spoil that would need to be removed would have made any project fiscally impossible.
- 3,180 feet of stream bank was rip rapped.
- 10 sets of 3 8 foot LUNKER units were installed in 10 of the rip rapped sections.
- 9 current deflectors were used to direct water from the inside bend to the outside bend. 6 of these deflects were rock and 3 were logs.
- 8 drop structures were used. 6 were "V" structures and 2 were cross channel logs. 6 of the 8 drop structures were placed at the bottom ends of long riffles to create downstream plunge pools. The other 2 were placed at the head end of riffles to create upstream pools as well as to keep the riffles clean.
- 3 log shelters were installed
- 2 sets of 3 boulder retards were used
- 2 off channel backwaters were enhanced with protective rock and logs were placed in them.
- 2 Cattle/Machinery Crossings

## LAFAYETTE COUNTY

### Steiner Br (4)

**Project Length:** 1,075 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** Steiner Branch is the only stream in Lafayette County supporting a population of native brook trout. This project was designed as a brook trout project. The Steiner Branch is located on state fee title property with all portions of the trout fishery open for public access. Habitat is the limiting factor for the stream to support additional adult trout. The middle and lower portions of the Steiner Bank have high unstable banks which need to be improved.
**Technique or Structure:** bank stabilization (1,075 ft)
**Comments and Accomplishments:** Bank sloping and seeding was completed for 1,075 feet of stream banks. Rock was installed along 950 feet of stream bank. One stream crossing, 3 cross log pools, and 3 rock weirs were installed. About 915 tons of rocks were installed during project completion. Rock was used for upstream weirs, one crossing, and stabilizing banks.

## RICHLAND COUNTY

### Smith Hollow Creek (5)

**Site:** Banks of trout stream on Fee Title Fish Land
**Project Length:** 2,640 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** This is a very heavily fished trout water in southern Wisconsin. The stream segments were historically pastured. Trees and brush are growing up on the banks interfering with fishing as well as deteriorating the stream banks and instream trout habitat. Beaver are also moving in and damming the stream because of the available dam material and food supply.
**Technique or Structure:** brushing
Comments and Accomplishments: Brush maintenance and a very limited amount of small tree removal were undertaken on 2,640 feet of Smith Hollow Creek as planned.

### Willow Creek (6)

**Site Description:** Banks of trout stream on Fee Title Fish Land
**Project Length:** 2,640 Feet
**Fiscal Year:** 2011
**Technique or Structure:** instream, various, brushing
**Justification and Purpose:** This is Class 1 Brown trout water. This stream and this piece of water is one of the most heavily fished waters in the State receiving pressure by anglers from all over the southern part of the state and central U.S. A couple of years ago we cleared all of the trees and brush off of this reach of the stream. The area immediately upstream of this reach has been developed over the past 30 years. The proposed stretch was severely damaged by the severe floods of the past 2 years. Vertical banks 8′ to 10′ high are actively eroding throughout this entire reach. This is not only damaging the habitat throughout this stretch but also the downstream waters. It also is severely damaging the reproduction in and below this reach. Additionally, the landowner adjacent to the easement is developing a large

shallow water scrape in the wetland. If the banks in the area of the wetlands and scrape aren't stabilized, within 2 years the stream will erode into the wetland and empty the scrape ruining the project and area. There is approximately 1 mile of stream thread to be worked on in this reach. These are very heavily fished trout waters in southern Wisconsin. The stream segments to be cleared historically were pastured but no longer are. Trees and brush are growing up on the banks interfering with fishing as well as deteriorating the stream banks and instream trout habitat. Also beaver are moving in and damming the stream because of the available dam material and food supply.

**Comments and Accomplishments:** Because of permitting problems, time and cost the intensive part of this project never began. The planning, money and implementation of this intensive project on Willow Creek was devoted to a different project on Willow Creek. However, the brushing, tree removal and beaver and beaver dam removal effort were undertaken. Brush and trees were cleared from about 0.5 miles of tributary ditches and spring ribs by the SCR Operations Crew. APHIS was used to remove the beavers.

### Willow Creek (7)

**Project Length:** 175 Feet
**Fiscal Year:** 2011
**Justification and Purpose:** The stream needed stabilization.
**Technique or Structure:** riprap, bank stabilization
**Partners:** NRCS, Adjacent Landowner
**Comments and Accomplishments:** Both the upper end and the lower end of the bank needed to be stabilized. We completed the riprap on the remainder of the bank located at the upstream and downstream ends for a total of 175 feet of bank.

### Willow Creek (8)

**Project Length:** 6,120 feet
**Fiscal Year:** 2012
**Justification and Purpose:** The lower half of the stretch of stream needed to be stabilized. Eroding banks had developed since the time that DNR Fish Management worked on this stretch of stream in the 1970s. The 1970s project was basically a rip rap project that did not include any intensive habitat improvements. The upper half was to be more intensive and was to include various fish habitat structures in addition to the bank stabilization and rip rapping.
Technique or Structure: bank stabilization, boulder retards, wing dams, plunge pools, instream, various, rock vortex weirs Riprap, LUNKER structure
**Comments and Accomplishments:** This project on Willow Creek took place throughout the mid to late summer and early fall of 2012.

- 4,081 feet of stream banks were sloped and seeded. About half of this was standalone sloping and seeding. The other half was sloped, rip rapped and seeded.
- 4,397 feet of stream bank were rip rapped. About half of these were newly eroding banks that were sloped, rip rapped and seeded. The other half was repair of historic rip rap in need of repair and maintenance.
- 5 sets of 3 8 foot LUNKER units were installed in 5 of the rip rapped sections.
- 15 current deflectors were used to direct water from the inside bend to the outside bend.
- 10 "V" drop structures were installed. About ½ were placed at the bottom ends of long riffles to create downstream plunge pools. The other ½ were placed at the head end of riffles to create upstream pools as well as to keep the riffles clean.
- 3 log shelters were installed
- 1 off channel backwaters was enhanced with protective rock
- 7 Riffles were fortified for temporary crossing to get the rock etc. to the banks where needed. 2 of these crossing were permitted, developed to specs. and left and to be used by the landowner in the future.

## SAUK COUNTY

### Bear Creek (9)

**Site Description:** Bear Creek, Lower Fargen stretch includes phase I and phase II which were completed in late summer 2011 from the Sprecher property line to the Schluter property line.
**Project Length:** 5,590 Feet
**Fiscal Year:** 2011, 2012
**Justification and Purpose:** The opening up of the riparian corridor along Bear Creek will allow for the infiltration of sunlight that will promote grass cover which will act as a better filter for surface sediment runoff, will discourage beaver activity, will provide better access for fishing and will promote greater fish productivity within the stream. The bank tapering will provide flood relief for the 3-5 year or greater flood events. The narrowing of the stream channel below the bank full height will allow the stream to scour out the fine sediments, exposing more rock substrate that is more conducive to fish spawning and macroinvertebrate production and will provide greater depth for fish cover. The placement of rock rip rap will stabilize the stream banks and prevent further erosion and channel movement. The installation of the in stream habitat will increase fish cover and fish size structure. This segment of Bear Creek is heavily fished and the habitat improvements will improve its accessibility and the quality of the trout fishery on this DNT public easement. This is a cooperative project involving the Aldo Leopold Chapter of Trout Unlimited, Sauk County LCD, Sauk County NRCS and Richland County NRCS Dept."
**Technique or Structure:** digger logs (9), cross-channel logs (10), riprap (51), bank stabilization (1), boulder retards (62), rock vortex weirs (6), LUNKER structure (50)

**Contractor Comments:** Private vendor Holtz Lime and Gravel LLC (Darrel Schlieckau)
**Partners:** Sauk County Land Conservation Department, Trout Unlimited – Aldo Leopold Chapter
**Comments and Accomplishments:** Note: The "bank stabilization" criteria in the list below is used to describe the sloping of the banks back to a 4-1 slope, and a value of 1 was entered to show this technique was used throughout the project. The "riprap" criteria was used to describe the number of times riprap was added to stabilize the banks. Riprap was added in 51 places to stabilize a total of 4,570 feet of stream bank. "Digger logs" in this project refer to log deflectors anchored into the bank. Once the sloping, grading, and in-stream work were complete, the impacted area was seeded and mulched, and by spring 2012 the area was re-vegetated.

## STATEWIDE BEAVER CONTROL

**Fiscal Year:** 2011 & 2012
The primary means of removal of beaver and beaver dams from selected coldwater streams in Northern Wisconsin is through a Cooperative Services Agreement with USDA-APHIS-Wildlife Services (WS). Costs are shared between the agencies. Other agencies, particularly the US Forest Service and a number of counties also cost share with WS for beaver and beaver dam removal from streams. These removals allow the specified streams to remain free-flowing and either protect or rehabilitate naturally the stream channels and hydraulic and physical characteristics maintaining coldwater stream ecosystems.
The cooperative services contract time periods correspond to the Federal fiscal year and run from October 1 to the following September 30. As such it spans two DNR fiscal reporting years. Most of the work is conducted in the North Administrative District (NAD) although some work is done in the northern portion of the Western Administrative District and Eastern Administrative District. There is also a small amount of work conducted in the Southern Administrative District through a designated funding of $5000 annually.
WS maintains complete records of the number of beaver and beaver dams removed from selected streams in each county. These records are reported monthly as well as annual summaries.

Numbers of beaver and dams removed annually has changed over time as more effective control was achieved on named trout streams. These results are trout stream specific. WS beaver and beaver dam removal operations are also seasonal and are conducted primarily during the months of April through mid-October on a calendar year basis. Effort is also not consistent across counties. While individual streams are named in a separate document, a summary of trout stream miles on which removal efforts are conducted by county is as follows: Ashland-41, Barron-41, Bayfield-183, Burnett-22, Chippewa-66, Douglas-49, Dunn-84, EauClaire-23, Florence-93, Forest-250, Iron-41, Langlade-69, Lincoln-109, Marinette-94, Oconto-57, Oneida-39, Pierce-50, Polk-26, Price-37, Rusk-5, Sawyer-26, St. Croix-26, Taylor-7, Vilas-61, Wahburn-18, The total stream miles on specified trout streams statewide is 1517. This includes trout streams designated by both DNR and the US Forest Service; a coordinated effort between our two agencies to avoid duplication of effort for the same purpose of coldwater stream habitat protection.

For FY11 (July 1, 2010 through June 30, 2011) WS removed 699 beaver and 524 dams from trout streams.
For FY12 (July 1, 2011 through June 30, 2012) WS removed 320 beaver and 424 dams from trout streams.
Not all streams named had beaver and dams removed. All of the streams listed however were checked at least once by WS, DNR Fisheries and/or USFS staff utilizing fixed wing aircraft, foot travel or public reports of beaver dam presence. A complete report of beaver and beaver dams removed from specific trout streams during this reporting period is available as a PDF file as needed.

## CONTACTS

If you have any questions concerning specific projects in this report, please contact one of the people listed in that Fish Team.

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### Statewide Beaver program

Vacant

## ACKNOWLEDGEMENTS

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It is important to the Wisconsin Department of Natural Resources' Fisheries Management program that you find this document useful. To better meet this goal, direct your suggestions for improving this report to:

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For more information on trout fishing and other subjects, visit the DNR Web site at:

**dnr.wi.gov**

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