

Expenditures of Inland Water Trout Stamp Revenues

Fiscal Years 2004-2007



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Administrative Report No. 60

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

The Benefits of Paying to Play

Inland Trout Stamp Revenue Expenditures 2004 - 2007

Trout anglers have helped subsidize the inland waters trout stamp program for over 30 years. With their continuing support, the program is as strong as ever.

The inland waters trout stamp program was created in 1977 to provide additional funding for improving and restoring trout habitat. 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) until the trout stamp program began in 1977. Wisconsin is now envied by other states because of the amount and dedication of the trout stamp funds for habitat improvement. All trout stamp funds are used for restoring and maintaining trout habitat, with a very small amount for printing the stamps and producing these reports. Some money (< 10%) was used for trout stream surveys in FY 1998 –2004, but none has been used for surveys since then.

The cost of the trout stamp has increased from \$2.50 during 1978-1983, 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 varies from year-to-year and currently averages

about 136,000 stamps annually over the last 10 years. In addition, Patron License holders (currently about 57,000) support the Inland Waters Trout Stamp program (Table 1). DNR biologists and technicians have used the money to improve an average of 25 miles of stream and 1 spring pond per year. This has resulted in about 750 miles of stream improved out of a total of 10,300 miles of trout stream in Wisconsin. In addition, many miles of previous habitat work is maintained each year and about 750 miles



Trout anglers continue to reap the benefits of the inland trout stamp program.

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* | 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 |

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

of trout stream are kept free of beaver dams in northern Wisconsin. It is important to note that many of the DNR personnel working on trout habitat projects are not paid by trout stamp funds. Therefore a significant amount of non-trout stamp dollars support trout habitat work. An average of \$237,000 per year from 2004 to 2007 was spent on inland trout habitat from general fishing license fees (Table 2). 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 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.

Research and management evaluations have proven the positive results of stream improvement. Numerous DNR Technical Bulletins <<http://dnr.wi.gov/org/es/sci->

Table 2. Expenditures of inland waters trout stamp revenue and general license fees supporting trout habitat work in fiscal years 2004-2007. Salaries and fringe benefits are also included in projects costs in the first three lines.

| Expenditures | FY 04 | FY 05 | FY 06 | FY 07 |
|---------------------------------|-------------|------------------|------------------|------------------|
| Habitat Restoration | \$1,225,056 | \$1,106,537 | \$1,180,650 | \$1,574,829 |
| Trout Surveys | \$87,252 | \$0 ¹ | \$0 ¹ | \$0 ¹ |
| Stamp Printing and Reports | \$5,407 | \$2,657 | \$7,470 | \$2,705 |
| Permanent Salaries | \$295,500 | \$295,800 | \$316,200 | \$351,800 |
| Fringe Benefits | \$120,594 | \$120,716 | \$141,025 | \$156,903 |
| Total Expenditures ² | \$1,347,716 | \$1,109,194 | \$1,188,120 | \$1,577,534 |
| General License Fees | \$276,168 | \$185,476 | \$271,302 | \$215,790 |

¹ Trout surveys were funded with SFR (Sport Fish Restoration) in FY05-07.

² salaries and benefits are only included once

ence/publications/tb.htm#fisheries> and Research Reports <<http://dnr.wi.gov/org/es/science/publications/rr.htm#fisheries>> document increased numbers and size of trout in improved areas. Many anglers seek out streams with habitat work, knowing that good fishing will likely be found there. Recognizing this need, a private book (Todd Hanson, 2008, Improved Trout Waters of Wisconsin, Where Am I Publications, Madison, WI) was published recently that shows the location of all habitat work.

This document summarizes expenditures of the Inland Waters Trout Stamp (IWTS) fisheries program for fiscal years 2004-2007. Each fiscal year runs from July 1 of one year through June 30 of the next. Actu-

al expenditures may exceed Inland Waters Trout Stamp contributions since other fishing license revenues and federal funds also support this program. In the past decade, the Department has expanded the use of trout stamp money to other aspects of trout stream habitat management. 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 improving trout populations. Federal Sport Fish Restoration (SFR) money has been used to do trout surveys since 2004. Other federal and state funds

Table 3. Annual Inland Waters Trout Stamp account activities, fiscal years 2004-2007

| | FY 04 | FY05 | FY06 | FY07 |
|------------------------|-------------|-------------|------------------------|------------------------|
| Beginning cash balance | \$227,522 | \$6,072 | \$44,683 | \$639,166 |
| Revenues | \$1,126,266 | \$1,147,805 | \$1,782,603 | \$1,495,230 |
| Total available funds | \$1,353,788 | \$1,153,877 | \$1,827,286 | \$2,134,396 |
| Total expenditures | \$1,347,716 | \$1,109,194 | \$1,188,120 | \$1,577,534 |
| Cash balance | \$6,072 | \$44,683 | \$639,166 ¹ | \$556,862 ¹ |

¹ Cash balance increased in FY06 and 07 because of a fee increase and heavy equipment pool rebate. The balance was spent down by FY08.

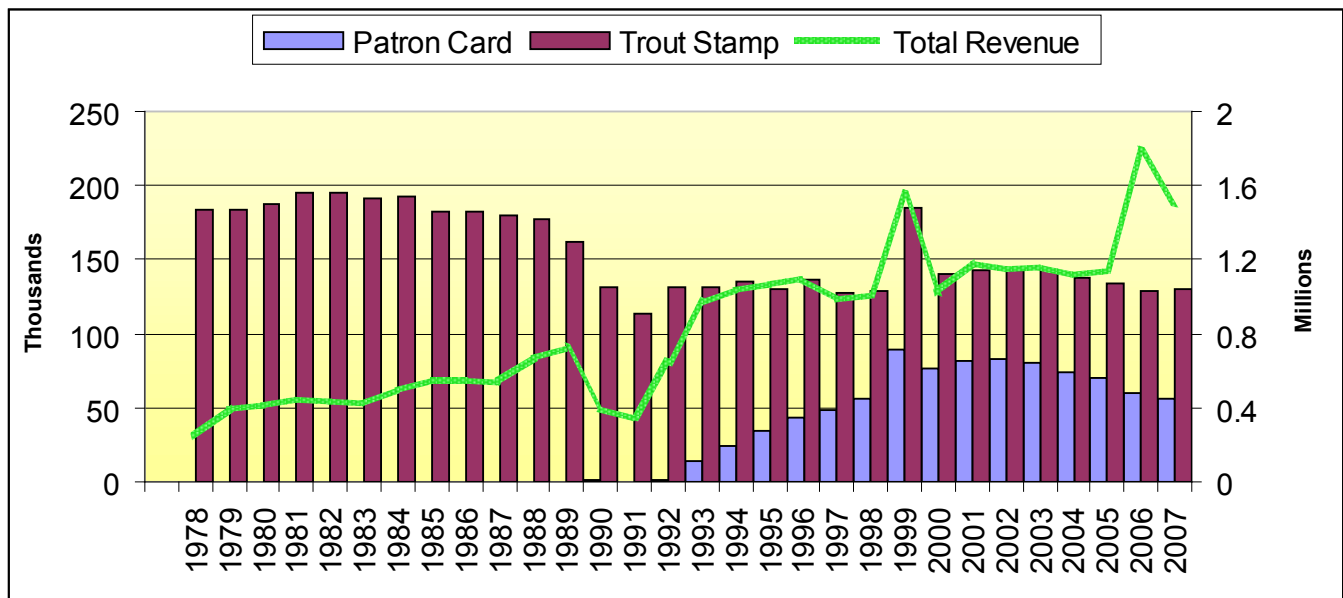


Figure 1. Trout stamp, patron sales and total license revenue from 1978 - 2007. The spike in sales in 1999 was due to implementation of the Automated License Issuing System (ALIS). The spike in revenues in 2006 was due to the fee increase and a rebate from the surplus in the heavy equipment pool.

also support other parts of Wisconsin inland trout management program. In 2004-2007 about \$1,600,000 per year was spent for inland trout propagation and stocking, and about \$700,000 per year was spent on trout surveys. With continued public support, these funds will provide for increased trout fishing opportunities and increased quality of trout habitat into the future.

Guidelines for the use of Inland Waters Trout Stamp revenues

Wisconsin State Statute 29.191(4)(e) states: “The Department shall expend the receipts from the sale under this subsection of inland waters trout stamps on improving and maintaining trout habitat in inland trout waters, conducting trout surveys in inland trout waters and administering this subsection.” In addition to applying to 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 is limited to not more than 10% of the habitat management budget.

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.

Surveys authorized must be limited to trout surveys of inland waters. Surveys funded to date include those designed to plan and evaluate habitat improvement projects, wild trout stocking, trout genetics and regulations.

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). However, Inland Waters Trout Stamp revenues are not the only source of funds for the Inland Waters Stamp account. Some revenues from the sales of patron licenses and collector stamps also contribute. 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.

Currently the cost of each Inland Waters Trout Stamp is \$10.00. At present, the IWTS Account receives about \$3.40 for

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

| Year | Permanent FTEs |
|---------|----------------|
| FY 2004 | 12.55 |
| FY 2005 | 11.0 |
| FY 2006 | 12.39 |
| FY 2007 | 11.44 |

each Patron License sold. 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. License sales that contribute to the Inland Waters Trout Stamp Account are shown in Figure 1 and in Table 1.

General fishing license fees, federal Sport Fishing Restoration (SFR) funding and donations also support the inland trout program.

Three previous Inland Waters Trout Stamp Expenditure reports have been published.

They cover the fiscal years 1998-2001, 2000-2003, and 2002-2005.

Our partners have requested that we include information in this report on the time spent by permanent employees on trout stamp funded work. Table 4 shows person-hours (FTE = full time equivalents) of time spent on habitat projects in each fiscal year. The information was taken from the computer database (PALS) of hours recorded



Restoration of the South Branch Oconto River included a cooperative effort between the DNR, USFS and the Menominee River Indian Tribe. The stream channel was narrowed from 40 to 20-feet wide and the depth increased from approximately 6 to 18-inches.

on time sheets and coded to specific trout stamp funded projects. It only includes FH employees. There are 9.34 permanent positions funded by the trout stamp, but in actuality our finance systems charges the trout stamp account with up to 9.34 FTE of work done by any fisheries management employee doing trout stamp work. 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. By law, permanent staff hours spent working on non-trout projects cannot be billed to the IWTS account. LTEs (Limited Term Employees) are not included in this total.

TROUT HABITAT IMPROVEMENT PROJECTS FUNDED BY TROUT STAMP FROM 2004 -2007

These project reports were taken from annual progress reports and edited for this report. Projects are listed within regions, by locations and year(s) under the following three categories:

- Habitat Development,
- Habitat Maintenance, and
- Beaver Control

HABITAT DEVELOPMENT

NORTHEAST REGION

- ◆ Swede John Creek – Marinette County’ North Branch of the Oconto River – Oconto County
Fiscal Year 2006 & 2007
Contact JUSTINE HASZ



Stream restoration activities were completed during 2006 on the 1,000 foot stretch of river below Hemlock Dam. Approximately 100 boulders and 25 digger logs were installed in this restored stretch of stream. Stream restoration activities were completed on the 1,300 foot stretch of river above Knowles Dam. Approximately 50 boulders and 12 digger logs were installed. The dam removal projects on the North Branch Oconto River were completed by removing sand from a trap, pulling out a work pad, restoring a stream side wetland, and mulching and seeding the disturbed area for total stream improvements of 2.1 miles. Work activities on Swede John creek included replacing two culverts with improved dimensions and placement. The stream channel was directed away from the road shoulder and new cobble was applied. A total of 1,777 feet (0.3 miles) of stream was improved. In 2007, 150 feet of newly established stream channel was armored with 50 cubic yards of screened rock. Trout Unlimited contributed funds towards these trout habitat improvements.

- ◆ Wedde Creek – Marquette County and Whitcomb Creek – Waupaca County
Fiscal Year 2004
Contact RONALD BRUCH

Brushing of tag alder was conducted on Wedde Creek to promote native grass growth and stabilize the bank. Brushing was also conducted on approximately 2650 feet along Whitcomb Creek. Brush bundles were installed to collect sediment and narrow the stream.

- ◆ Chaffee Creek – Marquette County; Willow Creek & Kaminski Creek – Waushara County
Fiscal Year 2007
Contact DAVE BARTZ or RON BRUCH

In 2006, brush was removed and 6 overhead bank structures were installed on Chaffe Creek which improved approximately 2000’ of stream. In 2007, 1.5 miles of trout stream on the Willow, Chaffee and Kaminski Creeks was improved. Spawning habitat was created and enhanced on Chaffee Creek by installing 20 Christmas tree/brush bundles, log wings and 4 vortex weirs. Eight jetted bank structures were also installed on the Chaffee Creek. Two warmwater wildlife ponds were disconnected

from the stream with a channel restoration project on Kaminski Creek. An old concrete structure was removed to restore flow of spring to Willow Creek. The work done on Chaffee Creek was a cooperative project that involved Fox Valley Technical College input, TU assistance and department expertise in trout habitat development.

◆ North Branch Oconto River – Oconto County
Fiscal Year 2004 & 2005
Contact CLIFFORD SEBERO

The Knowles and Hemlock Dams were removed from the North Branch Oconto River. The Knowles and Hemlock Dams were two logging era dams built in the late 1800s which impounded upstream waters affecting over 2 miles of trout habitat. The 1.5 to 2 foot dams had deteriorated to the point of only having rubble, boulders and some cribbing left in the actual river bed. However the dam or dikes still remain. Rock and log cribbing along with both earth berms (dikes) were removed. Boulders and several digger logs were installed in the location of the dams. A sand trap was built below the Hemlock Dam.

◆ Shawano and Waupaca County streams
Fiscal Year 2005
Contact DAVID BARTZ

Our goal for this project was to complete an inventory of all past habitat development projects in Upper Fox River Basin. Inventory methods included use of GIS, photo documentation, and estimates of total bank cover/structure per site. The following streams were inventoried:

Shawano County - South Branch Embarrass River, Middle Branch Embarrass River, Wilson Creek, North Branch Embarrass River; Waupaca County - Radley Creek, Waupaca River, Peterson Creek, Nace Creek. From these inventories we were able to identify and prioritize which past habitat projects needed maintenance. High priority maintenance projects were identified during the inventory and scheduled for maintenance.

◆ Millhome Creek – Manitowoc County
Fiscal Year 2006 & 2007
Contact STEPHEN SURENDONK

This project aims to restore the headwaters of Millhome Creek, a coldwater Class I brook trout stream. Infrastructure from an historic fish hatchery operation will be removed and the headwaters of Millhome Creek and the associated spring ponds will be restored to provide spawning and nursery habitat for brook trout.

In 2006, many activities occurred in this Millhome Creek project. Trout stamp dollars (\$3765) were used as match to obtain a Coastal Zone Management grant that allowed this project to continue. Most of the concrete remnants from the old hatchery were removed and the stream banks were stabilized and reseeded with grass. The spring house and raceways were removed and the area reseeded with grass. It was determined that Millhome Creek was likely a series of springs and seeps that flowed in the valley that eventually coalesced to form the creek rather than a defined stream channel that flowed through the valley. Surveys were conducted to assess fish populations of Millhome Creek before work was begun and following the removal of the spring house and concrete. It appeared that in the spring of 2006 young of year brook trout were present in areas that were recently restored. The scope of the project was adjusted to include the suggested spring pond dredging to reflect the natural series of springs and seeps.

In 2007, permits were denied for additional instream and wetland work and staff vacancies halted any additional work. A team of DNR staff evaluated the remaining options for this project and determined that a private consulting firm would be utilized to develop a management plan that would reconnect water flow through this system during 2007-2008.

◆ Leers Creek – Waupaca County
Fiscal Year 2005
Contact DAVID BARTZ

Stream mapping and designing were completed for a project which will narrow and deepen the channel, create pools, and expose gravel in 2,200 feet of stream. Trout and Index of Biotic Integrity (IBI) surveys were completed for information to complete the environmental assessment.

◆ Waupaca River – Waupaca County
Fiscal Year 2004
Contact ROSS W LANGHURST (retired)

Restoration took place on 3,000 feet of large trout water of the Waupaca River with placement and construction of bank covers, boulder clusters, island meanders for fingerlings and spawning gravel habitat areas. This project had cooperation and support from DOT, local landowners and NER Fish Operations.

◆ Wild Rose Habitat – Waushara County
Fiscal Year 2006
Contact JOHN NELSON

This project allowed for the hiring of limited term employees associated with the Wild Rose habitat crew working on habitat projects throughout the region. These LTE's performed maintenance of habitat structures, brushing (approx. 8 mi.), rock hauling, bank cover construction and other habitat projects. Streams covered were Chaffee, Lawrence, Radley, South Branch of the Oconto and Jones Creek.

◆ Austin/Magdanz Creeks - Waushara County
Fiscal Year 2004
Contact LINDA HYATT

A culvert with 5 feet of head acting as a dam impacted roughly a mile of stream creating a 70 acre impoundment. The impounded water warms downstream waters including the Walla Walla Creek. The culvert was removed in 2004 and trout now can migrate into 8 miles of restored natural meandering stream.

NORTHERN REGION

◆ Lake Superior South Shore Streams
Fiscal Year 2006 & 2007
Contact STEPHEN T SCHRAM





Before and after photographs of spawning habitat restoration on the Bark River, Bayfield County.

We worked with United State Fish and Wildlife Service, Natural Resources Conservation Service and Douglas County Land Conservation Department to both fund and replace a culvert on Cutler Creek, a historical fish block, restoring spawner access to the 750 foot reach upstream of the road crossing. The trout habitat crew manually restored approximately 6100 feet of critical spawning habitat on tributaries to the Bark River, approximately 2000 feet of a tributary to the Onion River, over 2600 feet on the East Fork and over 2300 feet of the West Fork of the Flag River during the 2005 – 2006 time period. Spawning habitat restorations in this fiscal year cost approximately \$6,046 per mile. The habitat crew also monitored and maintained the past habitat work. An example of results include a redd survey of the one mile section completed in a previous year on Four Mile Creek. Historically less than a dozen pairs had been documented spawning in the area before the habitat restoration project compared to fall spawning activity of over 500 redds post improvement. The trout habitat crew manually or partially restored 5109 feet on the East Fork Flag River and over 3703 feet of the West Fork of the Flag River, 1400 feet of the East Fork of the Brule River, 4355 feet of an unnamed tributary to East Flag River and 3100 feet of an unnamed tributary to the East Fork of the Cranberry River during the 2006 – 2007 time period. This type of restoration work is accomplished by uncovering the original stream bed features in sand buried stream reaches. The habitat crew cuts stream side alder and hand removes small woody debris and beaver dam footprints that are holding this excess sand bed-load in place. Spawning habitat restorations in this fiscal year cost approximately \$6,042 per mile. The habitat crew also monitored and maintained the past habitat work (approximately fifteen miles). One example of the positive impact of this type of habitat restoration can be seen on the Onion River where the annual fall juvenile trend monitoring station revealed a steady and sustained improvement in salmonid production after stream restoration work. This fiscal year we also requested the use of herbicides to suppress stream side alder re-growth on reaches passing through the Bayfield County forest. Preliminary results are positive. Successful suppression of alder would reduce the reaches attractiveness to beaver while speeding riparian forest recovery. This project also supports a portion of the effort to remove beaver and dams in conjunction with USDA – APHIS. I conducted a Brule River Sportsmen’s Club trout stream habitat tour on August 19 where we inspected examples of past trout habitat work (LWD additions, spawning gravel adds and buried stream channel restoration).

◆ Turtle Creek – Barron County
Fiscal Year 2005
Contact BRYON LUND

Habitat development was completed on roughly 1 mile of Turtle Creek and included narrowing the stream from 45 to 22 feet, building a handicap fishing area, installing 60 feet of cover, 16 rock plunge pools, 4 channel blocks, 5 wing dams, brushing of two access roads and created one spawning area. Partner contribution consisted of \$2577.39. Estimated cost for work completed was \$22,200 per mile.

◆ Cap Creek – Bayfield County
Fiscal Year 2004
Contact FRANK PRATT JR

About 2000’ of free-flowing stream channel was rerouted from a man-made channel back into its original location, and three excavated fish hatchery ponds were filled. The target species, wild brook trout, showed an immediate positive response in the Upper Namekagon system by gathering in large numbers (hundreds) in the Namekagon River at the mouth of Cap Creek during winter 2003-2004 (we have underwater photographs), where increased spring-water flow created a thermal refugium. Brook trout spawned in Cap Creek, as evidenced by observations of age-0 brook trout in Schultz Springs. Expect a follow-up project to fine-tune channel recovery in 4-6 years.

◆ South Fork White River – Bayfield County
Fiscal Year 2004 – 2007
Contact SCOTT TOSHNER & TERRY MARGENAU

The South Fork of the White River is cold water headwater tributary to the White River, a premier trout stream to both Bayfield County and the State of Wisconsin. A majority of the South Fork 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 reach 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 had been restored. However, long stretches of remote, historically impounded reaches still remained artificially wide, shallow, and void of cover.

Work in FY 2004 utilized 60, 16 foot, large diameter pine logs installed in natural orientations and clusters to help improve channel complexity, depth, substrate composition, and cover in 1 mile of remote, of currently unimproved section of the South Fork. Logs were manually floated from accessible landings sites to the treatment areas and secured via naturally disguised wooden posts bored through the log and jetted 6 feet into the substrate. Previously improved areas were similarly treated with log clusters to further improve cover complexity and channel morphology. Manpower was supplied by the WDNR and Wild Rivers Chapter of Trout Unlimited personnel. Of the project expenditures to date, \$1,200 was funded from Trout Stamp and \$800 through funds from Bayfield County Conservation Aides. Estimated cost was \$4,000/mile of stream habitat improved.

Work in FY 2005 utilized 60, 16 foot, large diameter pine logs installed using similar methods to FY 2004. Manpower was supplied by the WDNR and Wild Rivers Chapter of Trout Unlimited personnel. Work in FY05 completed a two-year project which utilized 120 large diameter logs to create nearly 40 woody clusters and deflectors. Bayfield County Conservation Aide Funds contributed \$1600 of the project expenditures to date. A project completion map will be completed in FY06. Estimated cost for work completed was \$4,230/mile.

Work in FY 2006 primarily focused on project planning, procurement of 5,000 board feet of rough sawn oak lumber, hauling and stockpiling 500 yards of large rip-rap, and clearing nearly 3 miles of access road and 30,880 square feet of riparian area. In total, 70 luncker structures (550 ft) were built and transported to riparian areas targeted for development. The exotic shrub Common Buckthorn (*Rhamnus cathartica*) dominated riparian areas slated for clearing and accounted for 70 percent of the brush removed. All buckthorn encountered was either hand pulled or cut then stem treated with a 50% solution of glyphosate. Development work completed in FY 06 included excavation of a large sediment trap on the downstream end of the project area, restoring 150 feet of badly slumping banks with heavy rip-rap channel constrictors, installation of 200 feet of boom covers, and reconstruction of nearly 150 feet of inside bend and/or wing dams.

Work was completed in FY 2007. This was the first phase of a two-phase project on the South Fork of the White River. The segment completed in the first phase included a very difficult to reach area (approx 2 miles from parking area) in central Bayfield County. A total of 1,000 ft was restored for an estimated cost of \$200,000/mile. Included in the restoration were installation of 8 skyhook covers, 5 wing deflectors, and the removal of 4 old cement bulk heads from old hatchery dams. These activities resulted in a general narrowing of stream width from 16- to 6 feet width. Final seeding and mulching of stream banks occurred in spring 2007. The site was included in a tour that included the Northern Region Management Team along with DNR Secretary Scott Hassett.

◆ North Fork Clam River – Burnett County
Fiscal Year 2004
Contact BRYON LUND

The Clam River was improved with two covers. One 90 ft. jetted cover was put in on a nice deep bend, and a 60 ft. bend was improved with a crib cover. Hauled 150 yards of field rock to the site. Forty feet

of rip rap was placed along the Clam River. Roughly 800 feet of stream was affected without the use of heavy equipment. Estimated cost was \$32,667/mile of stream improvement.

◆ Bois Brule River – Douglas County
Fiscal Year 2004 & 2005
Contact DENNIS M PRATT

In 2004, the large woody cover project on Little Bois Brule River was completed and improved trout habitat on about 1000 feet of stream. Besides creating extensive overhead cover, log additions scoured deep holes exposing gravel substrate that spawning steelhead utilized in the spring of 2004. A salmonid spawning habitat enhancement project (300-foot section) on the East Fork Bois Brule River was completed. We removed a problem road culvert during the U.S. Highway 2 reconstruction project with a deeply buried box culvert and restored approximately one half mile of buried stream bottom up-stream of this previously perched culvert.

In 2005, the Large Woody Cover project on Bois Brule River (fifty log groupings) in the Rainbow Bend to Spring Lake reach was completed improving trout habitat on about 1000 feet of stream. A salmonid spawning habitat enhancement was extended, an additional 35 feet on the East Fork Bois Brule River. Buried stream bottoms were restored by manually uncovering approximately 2500 feet on Cutler Creek (Bois Brule watershed), over 6000 feet of Wilson Creek (Bois Brule watershed), 3600 feet of Fourmile Creek (Sioux River watershed), 1000 feet of Stone's tributary (Bois Brule watershed), 3000 feet of Vietmeyer tributary (Bark River watershed), 2500 feet of West Flag River (Flag River watershed), 2000 feet of the Tributary to the East Fork Cranberry River (Cranberry River watershed). We also monitored and maintained past habitat work. Results from a redd survey of the one mile section completed on Fourmile Creek indicate success where historically less than a dozen pairs had been documented spawning in the area before the habitat restoration project compared to fall spawning activity increasing to 516 redds in 2004 with excellent fry survival into the summer of 2005.

◆ Brule Creek – Douglas County
Fiscal Year 2004 – 2006
Contact MICHAEL VOGELSANG, JR

In 2004, year one of the Brule Creek Rock Dam Project was completed that started in August, 2003. This stream channel renovation project involved 2700 feet of stream. It was completed by contracted excavator services (Mac VanSkyhawk Excavating – 56.5 hours) and WDNR personnel. This activity began at the upstream end of the project boundary (Elvoy Creek mouth) and proceeded downstream. Sixteen pools, one island, ten runs and seven riffles were created or enhanced in the process. Four hundred and nine boulders and sixty-two whole cover logs were distributed within the restored stream channel for trout cover. All fill areas were seeded and faced with a four-foot wide strip of erosion control matting.

In 2005 another portion of the Brule Creek Project was completed by contracted excavator services (Mac Van Skyhawk Excavating – 29 hours). This was the third consecutive project that was completed on the lower Brule Creek.

In 2006, the fourth consecutive project that was completed on the lower Brule Creek. This stream channel renovation project was completed by contracted excavator services (Mac Van Skyhawk Excavating – 29 hours) and WDNR personnel. This activity began at the end of the 2005 project (CTH "A" Bridge) and continued downstream for 2300 feet to the mouth of the Brule River. Eleven pools, eight island, twelve runs and eight riffles were either created or enhanced in the process. Three hundred and fifty boulders and fifty-three whole 16 foot cover logs were distributed within the restored stream channel for trout cover. An additional one hundred boulders were used for the stabilization of the islands and fill areas. All fill areas including the equipment access were properly groomed, seeded and

fertilized. The proper erosion control measures were also applied during the project. The narrowing of the stream channel in conjunction with the creation of a more sinuous channel configuration resulted in a number of positive physical changes for the trout fishery. The result was an increase in the available living space for trout due to an increase in channel length and depth. The average channel width decreased from 74 to 42 feet and the mean depth increased from 1.2 to 2.1 feet. The channel length increased from 2300 to 2450 feet. The total project cost including full time employee wages was \$19,100. The Northwoods Chapter of Trout Unlimited donated \$2000 towards the project.

◆ Antigo area streams – Langlade and Lincoln Counties
Fiscal Year 2006 & 2007
Contact MICHAEL VOGELSANG, JR

In 2006, the Spring Brook project was completed on 0.25 mile of stream in Langlade County. Channel shaping was completed, 130 boulders, 2 boomcovers, and 30 half logs were added to the stream. The cost was \$35,000/mile.

The Prairie River project was completed on 3/8 mile in Lincoln County. Channel shaping using a tracked excavator was done and 240 large boulders and 4 woody debris structures were placed in the stream. The cost was \$26,000/mile.

In 2007, habitat development was performed on the Middle Branch Embarrass River (NWNW & NENW 35-T30N-R11E). This work consisted of installing brush bundles, channel shaping, and adding boulders on a 0.38 mile length of stream.

The North Branch Prairie River (SWSW & SESW 20-T33N-R8E) was also improved. A 0.5 mile stretch of stream was improved through channel shaping, addition of brush bundles, woody debris, half logs, and boulders.

◆ East Branch Eau Claire River and Spring Brook – Langlade County
Fiscal Year 2005
Contact PETER SEGERSON

Working with Trout Unlimited, a public fishing easement was arranged with 3 landowners along ½ mile frontage of the East Branch of the Eau Claire River west of Hwy 45. The channel was shaped, 300' of boomcovers constructed, and boulders were placed to provide cover. A small habitat demonstration project was created at the Kretz Memorial Forest on Spring Brook. Kretz Memorial Forest is a demonstration forest visited by woodland owners interested in forest land stewardship. The channel was shaped, 120' of boomcovers were placed, and boulders were placed. Four small brook trout stream projects were completed on TU easements on the headwaters of the Middle Branch of the Embarrass River in Langlade Co. Antigo TU has secured public fishing easements on 4 adjacent 40-acre parcels. Project activity included brush bundling to shape the channel, culvert removal, machinery ford construction, woody debris placement in the channel, half logs, and 2 jetted-post style boomcovers.

◆ McGee Lake – Langlade County
Fiscal Year 2007
Contact MICHAEL VOGELSANG, JR

McGee Lake was chemically renovated to eliminate illegally introduced and non-native largemouth bass and green sunfish/bluegill hybrid populations in fall (November) of 2006. Several cages containing minnows were set at key points around the shoreline during several weeks following to determine effectiveness of the rotenone. In all cases it appeared that the chemical was effective all over the lake's

surface, and a complete kill occurred. Adult brook trout were transferred back into the lake from the outlet stream below during August. Fishing regulations have also been enacted which prohibit angling for the next several years, allowing the lake to re-establish its brook trout population.



Habitat restoration on the Prairie River, Lincoln County.

◆ Polar & Woodboro Springs – Langlade Counties
Fiscal Year 2006 & 2007
Contact MICHAEL VOGELSANG, JR

The 0.7 acre Woodboro Springs dredge project was completed in 2005 and trout were observed spawning in the spring pond in October 2005. Polar Springs dredging was started and good progress was made.

The dredging of Polar Springs was completed in 2006. Approximately 20,000 cubic yards of loose flocculent silt and organic material were removed from Polar Springs restoring approximately 0.25 acres of spawning area. An access road was constructed along with a sediment retention pond to contain the dredge spoils. Winter dredge maintenance was also performed. The cost of dredging Polar Springs was \$31,000/acre.

◆ Sullivan Springs – Langlade County
Fiscal year 2007
Contact MICHAEL VOGELSANG, JR

Dredging of Sullivan Springs was initiated in 2007. An access road was constructed and a dike was created for effluent settling pond. There were 16 days of dredging, removing approximately 5,000 cubic yards of sediment.

◆ Trout & Maxwell Springs – Langlade County
Fiscal Year 2004 & 2005
Contact PETER SEGERSON

In FY 2004, the 1.7 acre Trout Springs pond was rehabilitated by hydraulic dredging and the outlet channel was cleared of debris and obstructions to fish movement. One culvert was removed and another culvert was replaced. Numerous young-of-year brook trout were observed using the Trout Springs outlet channel. Maxwell Springs hydraulic dredging is well underway and will likely be completed by June 2005.

In FY 2005, the 3.1 acre Maxwell Spring pond was rehabilitated by hydraulic dredging. Winter maintenance of the spring pond dredge and related equipment was covered by this activity.

◆ Prairie River – Lincoln County
Fiscal Year 2005
Contact PETER SEGERSON

A 3/4 mile stretch of the main stem Prairie River was enhanced for trout habitat. We added 300 boulders, 26 large pieces of woody debris, and 3 instream islands added to the channel to provide cover.



Spring pond dredging on Northern Sullivan Springs in Oconto County.

◆ Osceola Creek - Polk County
Fiscal Year 2006
Contact TERRY MARGENAU

An unauthorized 4 foot rock structure that prevented upstream fish passage, impounded several large springs and covered the native stream bed with silt and muck was mechanically removed from Osceola Creek, a Class II brook trout stream in July and August of 2006. Approximately 450 cubic yards of non-native sediment was dredged upstream of the structure to prevent the material from washing downstream when the structure was removed. The dredge material was then stockpiled and hauled offsite and incorporated in a fallow agricultural field at the Lotus Lake State Fisheries Area. Upon removal of the structure, the stream naturally headcut to the original streambed. Approximately 150 feet of streambanks were resloped and stabilized using field stone and seeded and mulched with native streambank grasses. The removal of this structure has restored upstream fish passage for 5.0 miles of stream, of which 3.5 miles is currently classified as trout water.

◆ Osceola Creek - Polk County
Fiscal Year 2007
Contact TERRY MARGENAU

This project consisted of restoring 1000 feet of a native brook trout stream within a former millpond impoundment. A total of 600 feet was completed at an estimated cost of \$300,000/mile. Specific work included 3 sky hook covers (100 ft), 4 rock plunge pools, 3 wing deflectors (24 ft), planted 900 trees (w/ cooperation from Osceola high school students), and excavated, rocked, covered, resloped, reseeded, and mulched banks. These efforts narrowed the stream width from an average of 10- to 6 feet.

◆ South Fork Main Creek – Rusk County
Fiscal Year 2004
Contact JAMES LEALOS

As an extension to a previous maintenance/development project, over 0.5 miles of the instream habitat of South Fork Main Creek was improved. The stream is within the S.F. Main Creek State Fishery Area and the shoreline is open to the public through a permanent conservation easement. The project involved installation of LUNKER type instream overhead cover, boulder retard structures, as well as rock current deflectors and a minor amount of rock shoreline stabilization and channel clearing. This project was completed exactly as planned by late August, 2003, despite the fact that biologist Jim Lealos had retired the previous June. Another 0.5 mile of South Fork Main Creek was improved by installing a livestock crossing, excluding livestock from the stream corridor by fencing, and installing boulder retards, current deflectors and LUNKER structures in appropriate locations.

SOUTH CENTRAL REGION

◆ Tributary to Lodi Spring Creek – Columbia County
Fiscal Year 2007
Contact TIM LARSON (retired)

This project improved 800 feet of stream by placing rip-rap along both banks, installing 11 LUNKERS and 5 weirs. The total cost of the improvements was roughly \$42,000 of which DNR contributed \$30,000, TU contributed \$6,000 and the County Land Conservation District gave \$6,000 through a



DNR grant. In addition TU funded a high quality foot bridge which the public requested, as the project is near the Village of Lodi and a hiking trail may be developed in the future.

◆ Primrose Branch – Dane County
Fiscal Year 2005
Contact DONALD BUSH

This project was completed in partnership with Dane County Land Conservation Department. In total, this project placed 181 LUNKER structures, sloped and shaped 20,000 lineal feet of streambank, seeded 17.4 acres of critical bank, and added 68 instream weir and habitat features.

◆ West Branch Sugar River – Dane County
Fiscal Year 2004
Contact DONALD BUSH

As part of a larger ongoing project, 2,250 feet of the banks of the West Branch Sugar River between CTH “G” and Primrose Center Rd were rip-rapped. Over the course of this project general streambank sloping, shaping, and seeding occurred on 11,550 feet of the West Branch Sugar River in this stretch and 172 LUNKER structures were placed.

◆ Token Creek – Dane County
Fiscal Year 2004 - 2007
Contact DONALD BUSH or KURT WELKE

The U.S. Army Corp of Engineers selected Token Creek as a 206 ecosystem restoration area. This project involves removing a dam from Token Creek to eliminate the fish barrier and re-meandering the stream over a 4-5 year period to establish an active brook trout fishery. The project also funds work on re-directing the headwater spring flow (from Culver springs) from its current impounded state into a free-flowing cascade into Token creek via re-shaping of existing berms.

In FY 2004, numerous site visits were conducted to evaluate dam removal options, channel reconstruction logistics, placement of the required sediment traps, as well as work on the spring breaching aspects of the project. The entire project area was inspected to formulate options and identify problems. Effort was spent in arranging contract work to breach the spring ponds in Culver springs, and to stabilize the banks once the pond levees were broken and direct spring flow returned to Token Creek. In FY 2005, work began at Culver Springs to remove the pond berms around the springs.

In FY 2006, the Culver Spring pond and berm complex was rehabilitated through removal of existing pond berms which has resulted in free flowing spring discharge at the headwater of Token Creek. The site was cleared of nuisance trees and undergrowth and banks stabilized, seeded, and mulched. A 3000 cu. yard capacity silt trap was created within the Dane County Token Park in order to capture sediment that was mobilized from dam removal. Polymer stations were established above the silt trap to encourage particle deposition within the trap.

In FY 2007, pond sediments above the previous dam were about ten feet thick. The channel was dug down five feet for a distance of a little over three hundred feet. Channel deepening followed the meanders that had formed since the dam was removed. New stream banks were sloped at four to one, seeded, and mulched. Once work was completed, the head cut in the stream moved an additional 300 feet upstream, so we effectively managed the head cut for a distance of over 600 feet. In addition



A restored trout stream in the South Central Region.

we shallowed the slope on the previous dam berms and reinforced the stream channel at the previous dam for a distance of 150 feet.

◆ Grant, Iowa, & Richland Counties
Fiscal Year 2004 – 2007
Contact GENE VAN DYCK

In FY 2004, we cleared trees and brush off one mile of stream banks along Willow creek, Richland County. We completed implementation of intensive instream trout habitat improvement on 0.38 mile of Big Spring Creek, Iowa County with an emphasis on bank sloping, bank rip rapping, pool creation by using upstream “V” deflectors and wedge dams and channel narrowing. Restoration of the Little Green River headwaters spring area was completed including the recovery and development of 600 feet on meandered and improved stream thread in the bed of the old Mt. Hope rearing pond. We developed a small springhead pool to create a brook trout spawning area and planted brook trout spawners from Ash Creek into improved area. We tailored and prepared part of the area for future development of a disabled access trail and overlook platform. We prepared 0.5 miles of intensive trout habitat improvement on the Blue River in Iowa County to commence in July 2004. We prepared 0.2 miles of intensive trout habitat improvement on Big Spring Creek in Iowa Grant County to commence in July 2004. All pre-habitat improvement surveys have been undertaken on the Blue River and on Big Spring Creek. An initial follow up survey has been undertaken on the part of Big Spring Creek developed in the summer of 2003.

In FY 2005, approximately 1.125 miles of Big Spring Creek were cleared of trees and brush from both sides of creek. Additional instream restoration included bank sloping, riprapping, placing LUNKER bank covers, accompanying deflectors and upstream rock and wood "V" drop structures with the DNR crew. Wood and structures were purchased and built by T. U. Total Big Spring Creek expenditures were approximately \$25,000, mostly from Trout Stamp funds. Work on Willow Creek included clearing 0.25 miles of stream banks of brush costing roughly \$2,000. Along the Blue River intensive instream habitat work was conducted including significant bank slopping and riprap on 0.67 miles of stream thread and placing LUNKER bank covers and accompanying deflectors and upstream "V" rock drop structures. This was a cooperative project with total expenditures equaling roughly \$54,000. DNR fish expenditures to this point have been mileage and time for fish management to help plan and supervise the project.

In FY 2006, \$6,000 was given to a local Trout Unlimited Chapter to use as part of local cost share against grant money on a \$65,000 intensive trout habitat improvement project on the Blue River in Iowa County on a perpetual DNR Fisheries Management easement. The Blue River project involved intensive habitat improvements along 0.75 mile of stream costing \$86,200/mile, including labor. Roughly \$9,000 was spent on the removal of brush and trees from 1.5 miles of Mill Creek, Smith Hollow Creek and 0.75 miles of Camp Creek in Richland County. Brushing was also conducted on Ley Creek in Iowa County.

In FY 2007, WDNR participated in the implementation of a cooperative intensive habitat development project on the Blue River in Grant County with Trout Unlimited on a DNR easement area. Materials were stockpiled for a project on 4,000 feet of stream in 2007-08. WDNR participated with Richland County in a \$3,000 instream habitat protection project on Willow Creek on DNR Fish Management land. WDNR worked with Trout Unlimited in planning continued habitat improvement projects on the Blue River, Grant County and Big Spring Creek in Grant and Iowa Counties.

◆ Hefty Creek – Green County
Fiscal Year 2004
Contact DONALD BUSH

Approximately 4,000 feet of streambank along Hefty Creek was restored to grassland by removing trees and brush. The landowner has been provided fencing materials to manage his dairy herd according to the easement guidelines.

◆ Gordon Creek – Iowa County
Fiscal Year 2007
Contact BRADD SIMS

Intensive instream habitat work was completed on Gordon Creek in Iowa County. In total, 1300 feet of stream bank was sloped, 800 feet of bank was rocked, 3.3 acres of bank seeded, and 3 wedge dams were installed.

◆ Ley Creek – Iowa County
Fiscal Year 2005 & 2006
Contact BRADD SIMS

In FY 2005, 3,400 feet of intensive instream habitat work was completed on Ley Creek in Iowa County. Both banks were sloped at 3-4:1 for 3,250 feet. The waterway entrance was lined with rock to prevent erosion and back cutting. Rip rap was placed three to four feet up both banks for 3,400 feet. Along 15 sites, 39 LUNKER structures and three wedge dams were installed. Banks were seeded and plants established. Two cattle/equipment crossings were completed.

In FY 2006, the Ley Creek project was completed which included, sloping, rocking, and seeding 7,400 feet of stream bank. Additionally, 70 LUNKER structures and 18 wedge dams were installed at 35 sites. Cost of project was \$57,498 per mile without labor.

◆ East Branch of the Pecatonica River – Lafayette County
Fiscal Year 2006
Contact ROBERT HANSIS

The main intent of this project is to return the quarter mile stretch of the East Branch of the Pecatonica River and its riparian flood plain to as close to its pre-European settlement condition as possible. During FY 2006, pre-project fisheries and habitat sampling were conducted along with nutrient flux sampling in stream done by UW Center for Limnology. Morphological surveying was conducted along with seed bank studies, plant surveys, and soil borings and analysis.

◆ Steiner Branch – Lafayette County
Fiscal Year 2004
Contact BRADD SIMS

This project was a continuation of previous work on Steiner Branch in Lafayette County to stabilize streambanks and create instream habitat which was partially funded from Environmental Damage funds and USDA funds. A total of 6,397 feet of bank was sloped completely 4,061 feet of which was sloped and seeded with toe protection, while 347 feet of the bank was sloped and seeded only. In-stream habitat improvement consisted of 42 LUNKER structures and three wedge dams. Cost was \$33,581 per mile.

◆ Honey Creek – Sauk County
Fiscal Year 2004 – 2006
Contact TIM LARSON

In FY 2004, a habitat improvement project on Honey Creek, which supports about 4 miles of Class II trout water, was hampered by higher than normal rainfall in the spring. Despite inclement weather, 2,800 feet of stream (both banks) received bank tapering and rip-rapping, along with the installation of 12 LUNKER structures and 5 upstream Vortex weirs.

In FY 2005, the original project was completed.

In FY 2006, an additional habitat improvement project along 2,200 feet of Honey Creek was completed. The work completed included bank tapering, channel narrowing and deepening, placing 10 LUNKER structures and six vortex weirs. The banks were rip-rapped for both erosion control and fish habitat.

SOUTHEAST REGION

◆ Bluff/Whitewater Creek – Jefferson County
Fiscal Year 2004
Contact RANDY SCHUMACHER



This is a continuing trout habitat development project to increase cover and restore a previously ditched stream. Brush bundles, 51 LUNKER structures, 6 boom covers, and 1,607 tons of rock have been installed along 1,100 feet (1/5 mile) of stream to narrow the channel, increase flow rate, and provide cover. In FY 2004, seven LUNKER structures, two wing deflectors, and 269.8 tons of rock were installed along 100 feet (0.02 miles) of stream bank at a cost of \$48.00 per foot. Additionally, 100 feet (0.02 miles) of streambank was seeded, fertilized, and mulched.

◆ Onion River, Nichols Creek, Scuppernong Creek, and Bluff Creek – Sheboygan County
Fiscal Year 2004 – 2007
Contact JOHN NELSON

The purpose of this project was to restore habitat in the Onion River and its tributaries, including Nichols Creek, Ben Nutt Creek and Mill Creek. During winter of 2004, approximately 500 feet of alder thickets along Nichols Creek were brushed. Working with Trout Unlimited, habitat development was conducted on 2400 feet of the Onion River between CTH “U” and Winooski Road. We installed 68 LUNKER units, three brush bundles, four cross stream log plunge pools, three root wads, at least 100 boulders, built 17 point bars to narrow the stream and repaired 3 older LUNKER structures. Roughly 200 feet of overhead canopy was also cleared on the Onion River.

In FY 2005, a total of 89 LUNKER units, 35 point bars, 53 rock and log weirs, and 22 pools were constructed and installed in the Onion River with the assistance of a Trout Unlimited contractor. In Nichols Creek, four LUNKER units, five rock weirs, and three large point bars were installed the Village of Cascade.

In FY 2006, working with the Lakeshore Chapter of Trout Unlimited we installed approximately 80 LUNKER units, created 15 rock wiers and placed several digger logs. We also removed the tree canopy along roughly 1500 feet of the stream to create more stable banks. We repaired four old bank covers on Ben Nutt Creek and installed 20 new LUNKER units and four rock wiers.

In FY 2007, 4,000 feet of streambank was brushed back an average of 25 feet to open the canopy on Mill Creek and Ben Nutt Creek. Additionally, 30 LUNKER structures were installed in Ben Nutt Creek.

◆ Genesee Creek – Waukesha County
Fiscal Year 2004 & 2005
Contact SUE BEYLER

The removal of Genesee Roller Mills dam provided the WDNR an opportunity to rehabilitate a portion of Genesee Creek and develop a unique trout fishery in Southeastern Wisconsin. In FY 2004, project planning was completed, the impoundment was drawn down, and dam removal was planned for FY 2005.

During FY 2005, this project was completed and results have been excellent. The Genesee Roller Mills dam is gone and the site of the old dam has been restored to the point where it is hard to tell there was once a dam present. The stream has meandered through the bed of the old flowage and has almost completely restored itself. Using environmental damage compensation (EDC) funds, biologists have been employed to minimize streambank erosion. Native brown trout have recolonized the stream at the site of the former warmwater flowage. EDC funds have been used to purchase and plant native streamside vegetation such as blu-flag iris, cardinal flower and blue vervain. Perhaps most important, our work has solidified a great working relationship with Carroll College, a major landowner along the stream. This relationship may, eventually, lead to a fishing easement on Carroll property and a quality fishery for native trout in SE Wisconsin. The entire dam removal project was significantly more than \$11,800 contained in this project. Funds from several disciplines and sources were combined to do the project. This was an integrated resource management project among several department disciplines and Carroll College of Waukesha, Wisconsin. Overall more than 500 feet of trout stream was directly gained as well as over two miles of stream above the former dam is now open to fish passage.

◆ Scuppernong River, Scuppernong Springs Recreational Area – Waukesha County
Fiscal Year 2004, 2006 & 2007
Contact SUE BEYLER

Scuppernong Springs is a recreational area within the Kettle Moraine State Forest--Southern Unit. Historically, it was closed to fishing. We have removed two headwater dams that impounded about 8 acres of trout water and springs. Through several trout stamp projects, we have been restoring the banks and instream habitat to provide habitat for native brook trout. Wild brook trout were field transferred from Rosenow Creek (same watershed) and have successfully reproduced and developed into a fishable population. Working with the Forest, restrictions against fishing have been removed and special fishing regulations are in place.

Specific work completed during FY 2004 includes the placement of approximately 500 feet of brush bundles in the stream between the headwater springs and the “Railroad tressel” bridge within the Scuppernong Springs Nature Area and one inactive beaver dam was removed.

In FY 2006, two clear-span, handicapped-accessible pedestrian bridges were built over the Scuppernong River. One bridge replaced a large culvert that was impounding stream flow. This culvert was installed over 100 years ago and made by placing end-to-end two steam boilers from old locomotive train engines! The bridges were 18 and 24 feet in length. We worked on each bridge with assistance from regional parks staff. The bridges serve to link nature and fishing access trails adjacent to the stream. We also brushed and applied herbicide to 300 feet (both banks) of stream thread.

In FY 2007, brush bundles and biologs were installed along 500 feet of stream in the Scuppernong Springs Nature Area. Further downstream, 1000 feet of ditched stream was restored to its natural streambed by excavating the original streambed. Funding for the mapping and excavation was provided by the Friends of the Kettle Moraine State Forest.

WEST CENTRAL REGION



◆ Central Wisconsin River Basin
Fiscal Year 2004 – 2006
Contact JASON SPAETH

During FY 2004, the Central Wisconsin Basin trout habitat improvement crew performed habitat improvement projects along 14,438 feet (2.73 miles) of the Plover River in Marathon County, Flume Creek and the Tomorrow River in Portage County as well as the Big Roche-A-Cri Creek in Adams County. We accomplished 7,038 feet (1.33 miles) of improvements on the Plover River. The work that was completed included the installation of twenty wing deflectors totaling 4,535 feet in length. Prior to the habitat improvement project, the average width of the river was 88 feet and the average depth was 1.2 feet. After project completion, the average stream width was 36.9 feet and the average depth was around three feet. Other work performed included the installation of 6 wishbone shaped islands totaling 1,541 feet in length, extending three natural islands by lengthening and widening them. We also installed two sets of sky-hook boomcovers totaling 16 structures 128 feet in length. We installed 800 large boulder retards were installed strategically throughout the work site to provide mid-channel cover for fish. Twenty digger logs were installed to create pool habitat as well as one large root wad. Much woody debris was also installed throughout the work area to provide cover for fish.. Seven springs were cleaned out that were clogged with fallen tag alder, or grass. Fountain Lake Creek with water temperatures

twenty degrees cooler enters the Plover River half way through the work area. There are many old beaver dams and lodges throughout the area. Many of these dams were removed by hand to increase the flow of the water and the amount of water entering the Plover River. Nine plunge pools were also installed using small boulders. The final improvement was the installation of a sediment trap to collect sediments washing downstream. Seeding and mulching of all disturbed areas was completed.

We accomplished 2,500 feet (.47 miles) of improvements on Flume Creek in Portage County. The work performed included the brushing of the stream bank for 2500 feet, the installation of 46 brush bundles, 3 digger logs, 5 root wads and 20 half logs. Other work that was done included the installation of 2 plunge pools, the installation of 106 boulder retards, four wing deflectors using streambed materials. Ten Springs were cleaned out, raked and brush removed. Overhead covers were installed to create desirable cover for trout. Ninety one mini-LUNKER structures were also installed. Two k-dams were installed in strategic locations to provide overhead cover and pool cover for trout. The final improvements were the installation of four sediment traps to collect sediments washing downstream from the work being performed as well as the seeding and mulching of all disturbed areas.

We brushed 4,300 feet (0.81 miles) of the Tomorrow River in the Richard Hemp Fishery Area. Prior to brushing, the stream was choked with tag alder making the stream very difficult for anglers to access. Five brush bundles were installed to narrow and deepen the stream channel as well as increase water flows. Other accomplishments on the Tomorrow River include the installation of 42 mini-LUNKER structures, providing overhead cover for trout and the installation of fifteen boulder retards.

We installed 365 Christmas trees on the Big Roche-A-Cri Creek in Adams County. Six Christmas tree bundles totaling 600 feet in length were installed in the stream channel to narrow the width and increase flow. The bundles overtime will fill in with sediment and become the stream bank.

In FY 2005, roughly 4300 feet of habitat work was completed on the Tomorrow River within the Tomorrow River Richard Hemp Area. Work included brushing both banks, installing fourteen brush bundles which narrowed the stream channel and increased flows and installing 20 half logs and 10 digger logs. Upstream of highway 153, habitat development was completed on 4,782 feet along the Plover River. Fourteen wing deflectors were installed totaling 3,441 feet, two islands were built totaling 193 feet, and one existing inland was lengthened. Additionally, along a 509 foot length of stream, 300 boulder retards, 2 digger logs, 12 large root wads, and many logs for cover were installed. Five springs were cleaned out with brushing and digging and three plunge pools were created using small boulders. Prior to the work completed in 2006, the Tomorrow River near U.S. Hwy. 10 averaged 63 feet in width, 1.25 feet in depth. Following the FY 2006 work completed on 2,200 feet of stream the average width was 43 feet and depth was 3.0 feet. Ten wing dams using streambed materials totaling 2185 feet in length and averaging 19 feet in width, 16 LUNKER structures totaling 128 feet in length, 8 sky-hook boomcovers totaling 64 feet in length, 180 boulder retards for mid-channel cover, and 8 full log covers were installed. To collect sediment washing downstream from the habitat improvements and highway construction, two sediment traps were dug.

Roughly 6970 feet of stream work was completed on Emmons Creek. Both banks were brushed for 4300 feet, 34 Christmas tree bundles were installed, along with 20 half logs and 12 digger logs. Two sediment traps were installed, 3 springs were cleaned out, 3 beaver dams were removed, 3 log clusters were installed and an old fallen dam was removed alleviating the source of a great amount of silt deposition. WDNR hauled 30 loads (10 -15 cubic yards per load) of field stone to be placed on installed jetted overhead bank covers and installed 50 boulder retards.

◆ Fordham Creek – Adams County and Emmons Creek – Portage County
Fiscal Year 2007
Contact ROBERT HUJIK

From 2004 – 2007, approximately 6,970 feet of trout habitat development was conducted on Emmons Creek. During FY 2007, we brushed the entire stream bank, installed brush bundles and jetted overhead bank covers totaling 2,295 feet in length. We placed 200 boulder retards, root wads and half logs

to increase mid channel cover. Three k-dams and 5 plunge pools were installed. Approximately 2070 feet of habitat improvement were done on Fordham Creek in Adams County. We jetted 10 sections of overhead bank covers totaling 500 feet and installed Christmas tree bundles to increase water flows and scour sediments.

◆ Crawford, La Crosse, Monroe, and Vernon Counties
Fiscal Year 2004 – 2007
Contact DAVID VETRANO

During FY 2004, work was completed on the following streams. During the first two weeks of FY04 the trout stream habitat crew finished the Big Spring project. Big Spring is located in the South Central Region and the project was funded by Trout Stamp funds from that region. On Sugar Creek, the Prairie Rod and Gun Club matched \$458 of Crawford County Aide money to total \$916. This money was used to purchase 117 cubic yards of riprap rock for the Sugar Creek project. The cost to haul and stockpile this rock was approximately \$487. Additional rock had been previously stockpiled. The stream work will be performed in FY05. We began a cooperative project on Springville Branch Creek with Vernon County NRCS and USFWS on Springville Branch Creek within the Vernon County Duck Egg property. A \$15,000 grant from the USFWS purchased 2,587 cubic yards of riprap rock and 147 cubic yards of breaker rock. DNR crews hauled and stockpiled the rock with plans for the stream work to occur in FY05. The cost to haul and stockpile the rock was approximately \$9,364. On Coon Creek, a cooperative project with the Chaseburg Rod & Gun Club in the Village of Chaseburg, restored 525 feet of this sand bed stream. The Chaseburg Rod & Gun Club purchased the rock for this project. Extensive stream work included the installation of rock weirs, rock riffles, boulder retards, root wads, cross-channel logs and 12 LUNKER structures. Also on Coon Creek, upstream just above Coon Valley, work was performed to stabilize 540 feet of stream banks along the property line of state owned land. In addition to bank stabilization, digger logs, boulder retards, a rock weir and a machinery crossing was installed. The estimated cost for both Coon Creek projects is \$114,167 per mile. Coles Valley Creek is a cooperative project with Monroe County NRCS, the Sparta Rod and Gun, USFW and EQIP funds. Intensive stream restoration was performed along 2,805 feet of this sand bed stream. Work included bank stabilization along with the installation of rock weirs, rock wing deflectors, boulder retards, cross channel logs, root wads and 61 LUNKER structures. The estimated cost per mile is \$83,461.00. Morris Creek – This is another cooperative project with Monroe County, the Norwalk Rod and Gun Club and WHIP funds. Work performed on this 955-foot stream stretch included bank stabilization along with the installation of rock weirs, rock wing deflectors, boulder retards, cross channel logs, root wads, and 13 LUNKER structures. The estimated cost per mile is \$54,481. At the request of the landowner a machinery crossing was installed on Farmers Valley Creek, a sand bed stream. The construction of the crossing has created a riffle area along with a plunge pool below, which improved approximately 30 feet of stream. With the machinery crossing installed, access to both sides of the stream will allow riprap rock to be stockpiled for future stream work. Future work is planned in cooperation with Monroe County NRCS who has applied for and received WHIP funds. The estimated cost to install this machinery crossing is \$1,714. On Nederlo Creek a landowner of a recent easement purchase requested the construction of a machinery crossing to allow access to both sides of his property. The crossing was installed on 24 feet of stream length and included stream bank sloping. The estimated cost to install this machinery crossing is \$975. Burns Creek and Little Burns Creek in La Crosse County were prepared for work because the LCD had some funds that needed to be used for stream bank stabilization by the end of 2003 or they would lose the money. The \$11,995 of LCD money purchased 1,647 cubic yard of riprap rock. Trout Stamp funds totaling approximately \$5,732 were used to haul and stockpile this rock along Burns and Little Burns Creeks. Future stream work is planned in cooperation with the La Crosse County NRCS who has applied for and received WHIP funding. Farm field run-off was scouring a ditch as it entered the stream bank of Spring Coulee Creek on an easement property. The ditch and approximately 40 feet of stream banks were rocked and sloped to stabilize the banks. The estimated cost for this project was \$313.

During FY 2005, work was completed on the following streams. Sugar Creek was a cooperative project with the Prairie Rod and Gun Club. The club donated money to purchase rock and lumber

for LUNKER structures and donated labor to build 20 LUNKER structures. The club also applied for and received County Aide money from Crawford County. Partner contributions totaling approximately \$10,819, plus \$47,006 of Trout Stamp money improved approximately 2,850 feet of easement property on Sugar Creek. Twenty LUNKER structures, 5 rock weirs, numerous cross channel and in-stream logs and boulder retards were installed to create cover for trout. The stream banks were riprapped and sloped and one beaver dam was removed. The estimated cost per mile is \$98,756.00. Two projects were completed on Mormon Coulee Creek which totaled 4,636 feet of stream improved. Coulee Region Trout Unlimited donated money and labor to build 20 LUNKER structures. They also applied for and received La Crosse County Aide money and funds from a River Protection Grant. Funds from TU totaled \$13,717 and along with \$31,584 of Trout Stamp funds were used to complete the project. Thirty-one LUNKER structures were installed along with 31 rock weirs. Numerous root wads, cross channel logs and boulder retards were installed. Four machinery crossings were installed and 3 beaver dams were removed. The estimated cost per mile is \$51,594. A machinery crossing was installed last fiscal year on Farmers Valley Creek which allowed access to both sides of the stream. This year Monroe County NRCS used USFW, LCD and WHIP funds to improve 915 feet of stream along this DNR easement property. The County hired a contractor to perform the work and as a partner, Trout Stamp funds purchased \$2,644 of lumber to construct LUNKER structures. Twenty-four LUNKER structures, 6 rock weirs, cross-channel logs, another machinery/cattle crossing and boulder retards were installed. Many LUNKER structures are constructed and will be installed with more work scheduled for next year. The estimated cost per mile for this project is \$103,118. An easement landowner requested the construction of a machinery crossing to allow access to both sides of his property along Tainter Creek in Vernon County. The crossing was installed on 24 feet of stream length and included minimal stream bank sloping. The estimated cost to install this machinery crossing is \$ 639. On Burns Creek extensive stream work was performed on 2,712 feet of this sand bed stream in La Crosse County. In FY05 there were 11 LUNKER structures installed along with 7 rock weirs, one machinery crossing, cross-channel logs and boulder retards. Stream bank sloping and extensive riprapping will insure stream bank stability. The approximate cost per mile for this project is \$95,277.

In FY 2006, a total of 5,827 feet (1.1 miles) of trout habitat restoration was completed on Burns Creek, Leon Creek, Dutch Creek, Bohemian Valley Creek, Springville Branch, Sugar Creek, and Little Burns Creek. This work included 4 machinery crossings, the installation of 28 LUNKERS instream structures, 42 rock vortex weirs, 78 instream logs (large woody debris), many boulder retards, hundreds of feet of riprap and bank sloping. Partners involved in this project included but were not limited to the Prairie Rod and Gun Club, Coon Valley Conservation Club, Coulee Region Chapter of Trout Unlimited, La Crosse County NRCS & LCD, Monroe County NRCS, Vernon County NRCS and Crawford County NRCS. Partner contributions included labor to build LUNKER structures and/or funding from grants and/or club donations. Partner funding was used to purchase materials and/or to pay for vehicle and equipment costs. The cost per mile averaged \$104,714.

In FY, 2007, restoration work was performed on Plum Creek, Sugar Creek and Springville Branch Creek totaling 1.58 miles (8,345 feet) of stream length. Total structures installed were 2 machinery crossings, 27 LUNKER structures, 39 rock weirs, 65 in-stream logs/root wads and several boulder retards. The average cost per mile of stream restored was \$80,048.

◆ Plum Creek – Crawford County
Fiscal Year 2006
Contact DAVID VETRANO

This project is a cooperative project with the USFWS to restore brook trout habitat on Plum Creek in Crawford County. A total of 750 feet (0.14 mile) of Plum Creek trout habitat was restored. The work included the installation of 11 LUNKER structures, 10 rock vortex weirs and 24 instream logs. Cost per mile for the project was \$82,345. An additional 1,830 feet of Plum Creek was restored in FY07 for a total project length of 2,580 feet. A stream survey conducted in plum Creek in August 2006 found abundant brook trout YOY as well as excellent numbers of adult brook trout up to 13 inches in a previously restored stream section.

◆ Eau Galle River – Dunn County
Fiscal Year 2004
Contact ROBERT HUJIK

This cooperative project with the US Army Corps of Engineers entailed reconstructing a flood channel to a natural meandering river channel. A sheet-pile weir was removed and a lower rock weir was constructed up stream of the old sheet-pile weir. Over 11,200 tons of rip-rap and breaker rock was used in the old flood channel to construct a 10-15 foot wide meandering river channel. Crews placed 35 LUNKER structures (built by the local high school) along 2100 feet of newly constructed channel. Springs along the margins were incorporated into the channel to ensure cold water entering the river. Local sportsman clubs donated over \$11,700 to the project.

◆ South Fork Kinnickinnic River – Pierce County
Fiscal Year 2007
Contact ROBERT HUJIK

Working with the city of River Falls, DNR crews removed sections of an abandoned sewer pipe and manhole covers on or near the surface of the riverbed with a jack hammer attached to an excavator. DNR crews then carefully restored each waterfall, and restored fish habitat in two locations, excavating and installing a series of plunge pools and boulder clusters. Access into the canyon was difficult and required building access roads and ramps to get heavy equipment and construction material in and out of the canyon and over water falls without creating damage. Three separate sections of the 16 inch cast iron, cement encased pipeline that laid on or near the surface of the riverbed, along with five manholes were removed with a jack hammer attached to an excavator. Three manholes had to be removed from several different waterfalls and each waterfall had to be carefully restored to a desirable state. Fish habitat was restored in two locations and consisted of the excavation and installation of a series of plunge pools and boulder clusters. Special DNR equipment such as a tracked dump truck made removal of debris efficient. City of River Falls paid for the project which was completed in October 2006.

◆ Lower Chippewa basin
Fiscal Year 2004 – 2007
Contact ROBERT HUJIK

During FY 2004, trout habitat restoration occurred on the North Branch Gilbert Ck and Kinnickinnic River. The North Branch Gilbert Ck project consisted of removing 13000 cubic yards of soil from 3300 ft of entrenched stream bank. Banks were sloped 4:1 to improve stability of the banks during high water events. Crews and volunteers built and installed 65 LUNKER structures to improve trout cover. This high gradient stream (37 ft/mile) required crews to place 21 grade control structures and plunge pools, which further provide extensive aerated pool cover for trout. Approximately 5500 tons of rip-rap was used to armor the streambanks and construct the plunge pools. The rip-rap was covered with soil, sodded along the stream edge, seeded and mulched. Extensive volunteer effort of over 1800 hours provided additional labor during the project. Local sportsman clubs donated over \$37000. Total cost of the project was \$65000, with cost per foot estimates at \$18.39 per foot of restoration. The Kinnickinnic River project was a cooperative cost share project with the Natural Resource Conservation Service to reduce erosion and enhance trout habitat on 2056 feet of degraded stream. Riverbanks were shaped to gentle slopes to resist undercutting. Crews placed 4400 tons of mixed and large boulder rip-rap to armor the banks and provide additional habitat. Cost per foot of the project was approximately \$25.41. Pre-restoration surveys were conducted on Gilbert Creek, while post-restoration surveys were conducted on Arkansaw and Elk creeks.

During FY 2005, trout habitat restoration work was completed on the following streams. Tiffany Creek was restored along 2,650 feet of both banks. Prior to the project, we removed and disposed of approxi-

mately 350 box elder trees. Work included 28 LUNKER Structures, 4 cross log structures, 10 plunge pool grade controls, and 2 Grade Crossings. In addition 2 dry runs, 200 feet each, were stabilized to prevent erosion. We used 2588 tons of shot rock, 3610 tons of rip rap, 160 tons of clean breaker rock, and 1500 lbs of BLM #4 grass seed mixture. In addition we graded and moved 13,000 cubic yards soil. The entire project cost \$115,974. Funding came from St. Croix County Land Conservation Department (\$114,650), DNR Trout Stamp (\$324) and Ojibseau Trout Unlimited - Habitat Materials (\$1,000). Cost per foot expense was \$37.05 and cost per mile was \$195,624. Assisting and cooperating groups included St. Croix County Sportsman's Alliance, Ojibseau Trout Unlimited, Kiaptuwish Chapter Trout Unlimited, Village of Glenwood City, St. Croix Horticulture Club, St. Croix Historical Society, and the St. Croix County Fair Board. This is the second year of a massive trout habitat restoration project on Gilbert Creek. Total project length was 1870 feet on both banks, including 220 feet on a spring run tributary. Prior to the project we removed 300 box elder trees. We installed 37 LUNKERS, 3 cross log structures and 8 grade control structures. We used 3,467 tons of rip rap, 800 tons clean breaker rock, and 1300 lbs. BLM # 4 grass seed for the project. In addition we graded and removed 15,400 cubic yards of soil. Total funding was \$66,626. Project monies came from Dunn County Fish and Game (\$10,000), Friends of Trout Unlimited grant (\$7,000), T.U. Embrace -A- Stream Grant (\$2,700), Trout Stamp (\$20,900), Kiaptuwish Trout Unlimited (\$1,700), Ojibseau Chapter Trout Unlimited (\$24,326-River Grant). Cost per foot was \$35.62 and cost per mile was \$188,073. Assisting and cooperating groups included Dunn County Fish and Game, Ojibseau Trout Unlimited, Isaac Walton League, Pheasants Forever, Menomonie School System, Kiaptuwish Trout Unlimited, Elmwood Rod and Gun Club, Rush River Eau Galle Sportsmen, University of WI Stout, University of WI Eau Claire, City of Menomonie, University of Minnesota, Minn. Outdoors for Tomorrow, WI Prairie Enthusiasts, Boy Scouts of America, and Friends of Trout Unlimited.

During FY 2006, trout habitat restoration work was completed on the following streams. The Eau Galle River project entailed narrowing the channel from an average of 90 feet to 20 feet using large riprap and excavated channel fill. LUNKER structures were constructed and installed by volunteers to provide overhead trout cover along 1,917 feet of both banks. The habitat structures installed included 26 LUNKER structures and boulder retards. 3,100 tons of quarry rock and boulder rip-rap. Total cost per foot was \$13.40. The partner contributors and funding sources included Twin City Trout Unlimited - \$10,000 plus labor, Rush River / Eau Galle Sportsmen - \$5,000 plus labor, Kiaptuwish Trout Unlimited - \$5,700 plus labor, Ojibseau Trout Unlimited - \$5,000, Trout Stamp - labor only. On North Branch Gilbert Creek, Dunn County the project involved the grading, riprapping and seeding to turf grass of streambanks to halt excessive erosion. LUNKER structures were placed within the channel to provide overhead trout cover while grade control plunge pools were added for channel stability and deep water habitat. Roughly 2,117 feet along both banks were developed with 21 LUNKER structures, 9 grade control plunge pools, 4340 tons of quarry rock, boulder riprap, and small clean breaker gravel for spawning. Total cost per foot was \$29.66. Partner contributors and funding sources included Ojibseau Trout Unlimited - \$10,000 plus labor, Dunn County Fish and Game Assn. - \$ 8,800 plus labor, WI Coon Hunters Assn. - \$4,000, Friends of Trout Unlimited - \$3000, T.U. Embrace-a-stream Grant - \$7,000, WI River Grant - \$ 23,000, and Trout Stamp - \$ 7,000. This winter project involved the removal of approximately 750 invasive box elder trees from the riparian corridor of Middle Gilbert Creek, Dunn County, to establish grass and forbs establishment prefatory to channel restoration and trout habitat enhancement. Work was conducted on 950 feet of both banks at a cost of \$0.55 per foot. Partner contributors and funding sources included Twin Cities Trout Unlimited - Labor, Ojibseau Trout Unlimited - Labor, Dunn County Fish and Game Assn. - Labor, Kiaptuwish Trout Unlimited - Labor, and Trout Stamp - \$530. The South Fork Kinnickinnic River, Pierce County project was the first year of a two year project that will take place over a 8,800 foot length of stream. The stream at this site is highly aggrading with an extremely heavy bedload of sand and fine sediment. Work was conducted along 3,698 feet of both banks and included the installment of 41 LUNKER structures, 13 plunge pool weirs, boulder current retards, and gravel riffle establishment. Roughly 9,320 tons of riprap, breaker, and gravel was used. Total cost per foot was \$38.76. Partner contributors and funding sources included St. Croix - Pierce Kinnickinnic Priority Watershed Project - \$123,680, Kiaptuwish Trout Unlimited - Labor, Ojibseau Trout Unlimited - Labor, Twin Cities Trout Unlimited - Labor, and Trout Stamp - \$19,676.

During FY 2007, work was conducted on Gilbert Creek (4300 ft). We constructed 8 plunge pools and installed 75 LUNKER structures. Approximately 1000 hrs of volunteer time was documented for seeding and mulching completed work. Partners contributed over \$100,000 to the project. During spring of 2007 we completed approximately 6000 feet on the S Fk of Kinnickinnic River. We installed 80 LUNKER structures and created 6 plunge pools. Funding for this project came from Priority Watershed monies. We also prepared the site and had rock hauled for the Pine Creek project that began July 2007.

◆ Tomorrow River – Portage County
Fiscal Year 2005
Contact JASON SPAETH

Utilizing a US Fish and Wildlife Service Challenge Grant, 4300 of the Tomorrow River near CTH I was improved. Work included 106 mini-LUNKER structures totaling 486 feet in length, 7 jetted overhead structures totaling 350 feet in length, 7 wing current deflectors totaling 214 feet in length, 10 log retarders creating mid-channel cover, 1 k-dam, 1 wedge dam, and 21 full log covers. We also cleaned out 8 springs, created 3 riffles totaling 4 feet in length, and added 178 boulder retarders. Total cost of the project was \$8000 for a total cost per mile of \$9,877.

◆ Pine Creek – Trempealeau County
Fiscal Year 2004 – 2007
Contact DAN HATLELI

In FY 2004, 30 brush bundles (10'-40'), 6 rock current deflectors, 1 grade control and 1 jetted overhead bank cover were installed in Pine Creek, Trempealeau County. In fall/winter 2003 and spring 2004, trails were cleared for access of heavy equipment to the stream bank. Clearing was done on 39 acres of DNR property and 143 acres of easement property. A Bobcat 331 excavator, Caterpillar 307 excavator and small bulldozer were used to plow snow and move cut materials. Approximately 1800 cubic yards of rock rip-rap was hauled from a stockpile on DNR property near Osseo to the project site in winter, spring and early summer 2004. A crawler loader, one single, one dual, and three tri-axle dump trucks, and one rubber tired and two crawler loaders were used at various times to haul and load the rock. A ford crossing was constructed on DNR property in early summer 2004 to provide access to both sides of the stream. A Caterpillar 320 excavator, 1 – 3 tri-axle dump truck(s) and a bulldozer were used. Once the ford crossing was completed, a small crawler loader and tracked dump truck were used to load and haul rock to spots with difficult access. Four LUNKER units, one grade control/current deflector, and 300 yards of rock were installed in early summer of 2004 before the end of the fiscal year. A Bobcat 331 excavator and Caterpillar 307 excavator were used to place face rock on and back fill structures and landscape banks. Banks were raked and seeded upon completion. All equipment listed above, except Bobcat 331 excavator, was loaned from WCR Regional Field Operations. Cost per mile of habitat restoration is difficult to estimate at this time because only a small amount of actual in-stream work was accomplished. Most work involved making access to the stream and hauling rock.

In FY 2005, habitat restoration occurred along 1122 feet of bank along Pine Creek. Included in the restoration work were 594 feet of rock rip-rap to stabilize banks and cover over-head bank covers, 1 – 35 foot brush bundle, 1 brush wing current deflector, 1 log plunge pool, 1 rock wing current deflector, 9 boulder retarders, 4 rock grade controls, 11 LUNKER units (88 feet of overhead bank cover), and 10 riffles (138 feet of gravel riffle). A Caterpillar 307 excavator and Bobcat 331 excavator were used to slope banks and install habitat devices. A tracked loader was used to haul rock from dumping piles to areas where the excavators were working. All sloped banks were raked and seeded immediately upon completion of work. Over the winter of 2004-2005, two 10-yard dump trucks hauled 600 yards of rock rip-rap from the Jackson County iron mine to the work site. From this dumping site, a tracked dump truck hauled 300 yards of rock to specific locations along the banks of the creek. A Bobcat 331 mini-



Before and after photographs of trout habitat restoration on Pine Creek, Trempealeau County.

excavator was used to remove 12 tracked dump truck loads of cut brush from sites along the creek. In summer 2005, work continued along an additional 600 feet of Pine Creek. This work included placement of 300 yards of rip-rap, installation of 2 LUNKER units (16 feet of overhead cover), five rock plunge pools, 6 riffles (65 feet of gravel riffle), two brush bundles (30 feet), and four half-logs. Two 10-yard dump trucks hauled 300 yards of rip-rap from the Jackson County iron mine to Pine Creek. A tracked dump truck hauled 200 yards from the dumping site to specific locations along the banks where the Caterpillar 307 excavator was working.

In FY 2006, 1007 feet of stream bank rip-rapping, 3 brush bundles (112' total), 7 rock wing current deflectors, 6 brush wing current deflectors, 7 rock grade controls, 2 riffle head/grade controls, 6 riffles (124' total), 8 pools (145' total), 10 half-log overhead covers (39' total), 1 bank log overhead cover (19' total), 6 boulder retards, 1 cross channel log, 1 overhead bank cover (8' total), and 1 machinery ford crossing were installed along 1,000 linear feet (2,000 feet including both banks) of Pine Creek, Trempealeau County. Approximately 2100 cubic yards of rock rip-rap were hauled to the project site from July 1, 2005 to June 30, 2006. A crawler loader and three tri-axle dump trucks were used at various times to haul and load the rock. A tracked loader was used to load rock into a tracked dump truck. The truck hauled the rock to stream bank sites as needed. A bobcat 331 mini-excavator and Caterpillar 307 excavator were used to install rip-rap and other in-stream habitat devices, and landscape banks. Banks were raked and seeded upon completion. All equipment listed above, except Bobcat 331 excavator, was loaned from WCR RFO. Cost per mile of habitat restoration is approximately \$95,000. In FY 2007, 790 feet of stream bank rip-rapping, 9 rock wing current deflectors, 3 rock weirs, 3 riffle head/grade controls, 3 riffles (87' total), 3 pools (67' total), 1 half-log overhead cover (8' total), 2 bank log overhead cover (16' total), 12 boulder retards, and 2 root wads were installed along 880 linear feet (includes both banks) of Pine Creek, Trempealeau County. In this same segment, a 1250 square foot cattle crossing/watering area and associated approach, and a 3100 square foot machinery crossing and associated approach were created. Both were fenced. In fall/winter 2006, approximately 600 cubic yards of rock rip-rap were liberated from the Jackson County Iron Mine pit site and 300 cubic yards of it hauled to the project site. In May 2007, another 240 cubic yards were hauled to the project site. Prior to June 30, 2007, an additional 200 feet of bank was sloped, rip-rapped, and seeded. Within this 200 feet, 2 rock weirs, 2 pools (22' total), and 1 cover log (8' total) were installed. A crawler loader and three tri-axle dump trucks were used at various times to haul and load the rock. A tracked loader was used to load rock into a tracked dump truck. The truck hauled the rock to stream bank sites as needed. A bobcat 331 mini-excavator and Caterpillar 307 excavator were used to install rip-rap and other in-stream habitat devices, and landscape banks. Banks were raked and seeded upon completion. All equipment listed above, except Bobcat 331 excavator, was loaned from West Central Region Regional Field Operations. Additional work included 3 work days for full-time Fish Biologist and Fish Technician to review and develop work activities and meet with landowners. Because this project completion will span numerous fiscal years, materials purchased and rock hauled during one year may be used to complete work in another fiscal year. Thus, cost per mile of completed stream work/mile is hard to estimate.

TROUT HABITAT MAINTENANCE

NORTHEAST REGION

Location Marinette & Oconto Counties
Fiscal Year 2004 – 2007
Contact MICHAEL DONOFRIO OR CLIFFORD SEBERO

In 2004, inspections were conducted on several past stream projects in Marinette and Oconto Counties. Inspection of tag alder encroachment was conducted on the North Branch Beaver. Inspecting for



Beaver dams damage trout streams by blocking spawning migrations, altering water temperature regimes, and changing stream morphology.

alder removal and sand trap redredging was conducted on Eagle Creek. Inspection for maintenance activities was also conducted on the South Branch Oconto River.

In 2005, several stream bank brushing projects were conducted on previous habitat project sites to remove the encroachment of tag alder. Forty cubic yards of rock was hauled into the 1st South Branch of the Oconto River (Oconto County) during the winter of 2004-2005. The original project at this site was 20 years ago and included the placement of bank covers. Due to age the bank covers were in need of some additional rip rapping. Local chapters of Trout Unlimited helped move rock in June of 2005 to back fill several bank covers.

In 2006, 12 project streams were inspected and repaired in Marinette and Oconto Counties. The sand trap on Eagle Creek was checked and material was removed from. The banks were also improved in the erosion area. These efforts improved 0.5 mile of Eagle Creek downstream of the sand trap. We met with the Forest Service and submitted an FY07 proposal to dredge the Sullivan Springs Pond.

In 2007, 12 project streams in Marinette and Oconto Counties were inspected to determine the extent of trout habitat maintenance needed and the necessary maintenance was completed. Two previously installed bank covers were re-tapered on Eagle Creek followed by seeding and mulching. Additionally, 1300 feet of the stream was brushed. Rip rapping of several previously built bank covers was conducted on the 1st South Branch Oconto River. Material and tools were provided by DNR and labor was supplied by Trout Unlimited.

◆ Lawrence Creek – Marquette County and other streams – Marquette, Waupaca and Waushara counties

Fiscal Year 2007

Contact RON BRUCH

At Lawrence Creek, bank structures were rebuilt, the original channel was restored at one location and encroaching brush was removed. Additional work included brushing and maintenance along 6.1 miles of stream bank on 11 streams total in Marquette, Waupaca and Waushara Counties. An additional 1.1 miles of stream was maintained/brushed with help from Trout Unlimited and Fox Valley Tech students. Twenty overhead bank structures were maintained/rebuilt on these waters. Streams worked on were Kaminski, Little Silver, Willow, W.Br. White River, Mekan River, Soules, Lunch Creeks (Waushara) Radley Creek (Waupaca) Tagatz, Chaffee and S.Branch Wedde (Marquette)

◆ Wolf and Upper Fox Basin

Fiscal Year 2006

Contact RONALD BRUCH

Maintenance and repairs were completed on 8 structures spanning 300 feet along Radley creek which impacted 300 feet of stream. Intensive collaborative maintenance work was completed on the Waupaca River trout habitat project involving the WDNR, Trout Unlimited and Rawhide Boys Camp. All hand labor was conducted by Rawhide Boys Camp. Fencing was maintained by the landowner. Along the South Branch of the Embarrass River intensive maintenance efforts included rebuilding two overhead bank covers (100 feet total) and rock placement/backfill of four other bank covers (200 feet total), which impacted 2000 feet of stream. Brushing projects on Radley Creek (2500 feet), Whitcomb (2000 feet), Willow Creek, and Jones Creek were completed. Several streams were inspected for potential brushing projects and maintenance of past habitat development projects. Streams inspected included: Peterson Creek (2 sites), Whitcomb Creek (2 sites), and Radley Creek (2 sites). Several workdays were coordinated for Trout Unlimited and Rawhide Boys Camp to assist with maintenance of trout habitat structures on the Waupaca River. Rawhide Crew completed maintenance on four overhead bank covers by hand placement of rock on washed out structures that were inaccessible to heavy equipment. Trout Unlimited completed workdays on Whitcomb Creek.

NORTHERN REGION

◆ Iron River, South Fork of White River, Big Brook – Ashland and Bayfield Counties

Fiscal Year 2004 & 2005

Contact SCOTT TOSHNER

I inspected a total of 9 wing dams, 2 artificially constructed undercut banks, and 6 log deflectors as part of a channel restoration on the Iron River in 1998. All devices were maintaining their structural integrity and found to be functioning as intended. In addition, approximately 21 log clusters comprised of 63 large tree trunks placed downstream of the intensive treatment area in FY 2002 were also inspected. Log clusters were only marginally effective at creating scour pools and overhead cover in a wide, shallow section of the Iron River that supports little cover and poor habitat complexity.

A FY 2003 reclamation of a severe 10,000 sq. ft. washout on state owned lands in the White River Fishery Area proved effective at stabilizing highly erodible and poorly vegetated slopes at the headwaters of an unnamed tributary to the White River. In addition to periodic inspections of the site, reforestation plans scheduled for implementation by the Wild Rivers Chapter of Trout Unlimited are currently being developed to further aid the site's long-term stability and aesthetics. A 3,500 foot section of

intensive habitat development completed in the mid 1990's on the South Fork of the White River was inspected with most structures found to be in reasonably good condition and functioning as intended. Low water levels and bed-cutting on lower end of the project site however, has caused stream levels to drop as much as three inches below the planking of the lowermost boomcovers. Logs clusters placed immediately downstream of these structures in FY 2004 were ineffective at creating a head sufficient to submerge exposed planking. In addition, boom covers and wing dams placed in the late 1960's and early 1980s are beginning to fail. Intensive habitat work aimed at replacing and or repairing all failing structures will be proposed during the upcoming 2005-2006 planning process. Twenty-one log deflectors forming 6 clusters were inspected in FY 2004 and found to be providing complex pool habitat in a 200 foot channelized, formerly wide and shallow section of the Little Brule River. Trout stamp maintenance funds were also used to cover expenses for coordinating an APHIS beaver control program which successfully removed 71 beaver, 44 beaver dams, and conducted reconnaissance activities on over 96 miles of high quality trout water. Estimated cost for maintenance/inspections was < \$31/mile of stream. Reconnaissance activities on nearly 120 miles of high priority trout water in FY05 resulted in the removal 88 beaver and 67 beaver dams.

◆ Turtle, Five Mile, Engle, and Hickory creeks; Yellow and Clam rivers - Burnett, Washburn, Polk, and Barron counties
Fiscal Year 2004 & 2005
Contact BRYON LUND

In 2004, maintenance work on Turtle Creek (Barron County) was conducted, including channel digging (deepening) and fixing brush mats by filling with rock. Eight different drop pools were made, and two different covers were put in to control erosion. A 70 foot channel block was needed in one area, and quite a bit of rock was hauled. The stream was also brushed upstream for about 1 mile, for a total of 1.5 miles of stream maintained. We brushed the banks of the Yellow River from 20 1/2 Ave upstream 2 miles along with 40 ft of riprap repair. Two different beaver dams were removed on Five Mile creek and one on Engle Creek. Estimated cost for maintenance was \$5,428/mile of stream.

In 2005, drainage tubes from a spring pond were repaired on 2 different occasions from beaver damage. Two beaver dams were removed from Engle Creek and one from Hickey Creek. Approximately 1.3 miles of the Yellow River were brushed and repairs were made to a wing deflector involving 40' of rock structure place to fix erosion behind the structure. We placed 200 ft of rock rip rap for erosion control on the banks of the Clam River. An area 75' X 100" of erosion area caused by ATVs was inspected and a plan was made for repairs by an ATV club. An 80' cover was installed on the Clam River and approximately one mile was brushed. Estimated cost for maintenance work completed was \$5,286/mile.

◆ Yellow River, North Fork Clam River - Burnett County; McKenzie Creek - Polk County
Fiscal Year 2007
Contact TERRY MARGENAU

Maintenance was completed on 1,400 feet of stream in McKenzie Creek. Specific work included: brushing and mowing 1,400 ft, clearing 100 ft of trail along Yellow River of damaged trees, repaired 16 feet of covers on North Fork of the Clam River, removed a beaver dam on Engle Creek, and initiated removal of old covers on Big Brook. Estimated cost was \$20,000/mile of stream maintained.

◆ McKenzie Creek - Polk County
Fiscal Year 2006
Contact TERRY MARGENAU

Roughly 0.25 miles of McKenzie Creek was brushed and approximately 2 miles of stream was checked for cover damage, erosion, and areas in need of brushing.

SOUTH CENTRAL REGION

- ◆ Black Earth Creek & Story Creek – Dane County
Fiscal Year 2006 & 2007
Contact KURT WELKE

In FY 2006, Black Earth creek received maintenance brushing from approximately 0.5 mile east of Sherbel Rd. downstream for approximately 1 mile west of Sherbel Rd. Mature box elder, willow, and cedar trees were felled and grubbed and the understory mown followed by mulching and seeding areas prone to erosion. Work was performed on both banks east of Sherbel Rd, and largely confined to the south bank adjacent the existing rail line downstream (west) of Sherbel Rd.

In FY 2007, a heavy equipment crew brushed about 4000 feet of stream bank along Story Creek within the Brooklyn Wildlife Area in Oregon Township, southern Dane County. Fourteen LUNKER structures were repaired by adding new face rock and re-armorizing the banks above and below the structures. An additional 500 feet of rip-rap was added to provide stability to the eroding banks. Two ford crossings were also reinforced. \$2900 was spent on rock and \$4000 was spent on equipment and mileage. Trout habitat maintenance, tree removal and brushing activities were performed on Black Earth Creek east of Sherbel Rd. An approximate 40 foot wide corridor along both banks was established that allows fisherman access as well as establishing a secure firebreak. Additionally, all fee owned or eased parcels along Black Earth Creek were inventoried and prioritized for future maintenance work.

SOUTHEAST REGION

- ◆ Bluff Creek – Walworth County
Fiscal Year 2007
Contact DOUG WELCH

Bluff Creek is a fine Class II brown trout stream where we have accomplished several LUNKER-type habitat projects over the last 10 years. There is no doubt that the trout population has responded to this habitat work. Currently there is little reproduction of brown trout although stocked wild fingerlings survive well. Most of the stream, including the important headwater spring complex, is located within the Kettle Moraine State Forest--Southern Unit. In FY 2007, 1620 feet of stream was brushed along both sides, and herbicide was applied to stumps of invasive buckthorn to prevent regrowth.

WEST CENTRAL REGION

- ◆ Central Wisconsin River Basin
Fiscal Year 2004 – 2007
Contact JASON SPAETH

In FY 2004, Christmas tree bundles were placed in 600 ft of the Big Roche-A-Cri to catch sediment, narrow the stream width, and increase flows. We brushed 500 ft on the Plover River in an area that habitat improvements were completed 15 years prior. Two culverts were removed on Koepsel and Silent Springs and the bank was reshaped increasing the flow of cold spring water into the Plover River. We went into a Fountain Creek site, where we did a brushing project in the summer of 2001 and seeded all of the brush bundles that have filled in with silt and sand.

In FY 2005, we brushed 2800 feet of stream on each bank of the Plover River at South Pole Road, installed 10 brush bundles, 10 digger logs and cleaned out 11 springs.

In FY 2006, 4782 feet of stream was maintained along the Plover River near Townline Road. We created 14 wing deflectors totaling 3,441 feet and 2 islands totaling 193 feet. We installed 300 boulder retards, 2 digger logs, 12 large root wads, and many logs for cover. We cleaned out (brushed and dug out) 5 springs and created 3 plunge pools using small boulders. Along Brewer Creek, we brushed 3700 feet (0.71 miles) of stream on both banks and installed 16 Christmas tree bundles totaling 1600 feet using 450 Christmas trees. We installed 5 digger logs, 1 log cluster, and 11 half logs. Along Fountain Creek, we rebrushed 4775 (0.90 miles) of stream on both banks.

In FY 2007, brushing was completed along 2,550 feet of stream on each bank on Brewer Creek in Adams County to provide angler access. The work that was done includes the installation of up to 20 brush bundles as well as the installation of 5-7 jetted overhead bank cover series totaling 350 feet, to provide overhead cover for fish. Half logs and other woody debris were placed instream to add fish cover. Along One-Mile Creek in Juneau County, 4,000 feet of trout habitat maintenance was carried. Work included brushing and brush bundling of the stream bank for the entire 4000 feet on each bank and the installation of root wads and other woody debris to provide cover for fish. Previous trout habitat development projects were maintained along 4000 feet of the Plover River where washouts had occurred. Wing Deflectors were rebuilt, seeded and sodded to prevent further erosion. All disturbed or bare ground areas were seeded and mulched. Roughly 1000 feet of Emmons Creek was also brushed.

◆ Crawford, La Crosse, Monroe, and Vernon Counties
Fiscal Year 2004 - 2007
Contact DAVID VETRANO

During FY 2004, maintenance was conducted on Sugar Creek. Heavy rainfalls in the spring produced several major floods, especially in the Sugar Creek watershed. Three logjams were removed along with debris deposited on the stream banks. A feeder stream was repaired which was severely blown out below a box culvert. Five machinery crossings were cleaned out with deposition of sediment ranging from 1-3 feet. Three of the five crossings were temporarily fixed with additional work still required. No work was performed on a sixth crossing which will take extensive work. The additional work on these crossings will be performed after the sediment has dried which will occur in FY2005. Further upstream, rock deposition from floodwater was damming up the stream in a pastured area not allowing cattle to return to the barnyard. The stream rock and trees were moved along with the stream banks and cattle crossing reshaped, thus allowing the cattle to cross the stream and to alleviate future flooding problems. Funds spent for the entire Sugar Creek maintenance project were approximately \$2,498.00.

During FY 2005, the work that was performed this fiscal year included the excavating and hauling of sediment that was deposited in 3 machinery crossings in Sugar Creek from excessive flooding in FY 2004. More than 1,000 cubic yards of sediment was hauled to upland sites. The cost for hauling this sediment, reshaping the approaches and stream banks, adding breaker run, seeding and mulching, totaled \$8,737.00. It should be noted that no maintenance work was needed on any of the 1+ miles of habitat restoration work other than the silt removal on stream crossings.

During FY 2006, 2 machinery crossings and streambank riprap was maintained on 150 ft. (.03 mile) of Farmers Valley Creek. On Burns Creek and Coon Creek, 6 beaver dams were removed and 11 beaver trapped and removed. Estimated cost per mile was \$77,440.

During FY 2007, maintenance was performed on a machinery crossing on Richland Creek and a stretch of stream channel was cleaned out and deepened from deposition of rocks and boulders due to a dry run blow out after a heavy rainfall on Reads Creek. Stream bank brushing was performed on Sugar Creek, Mormon Coulee Creek and Bohemian Valley Creek. The total length of stream maintained and brushed was 2.09 miles (11,055 feet) at a cost of \$2,582.00 per mile of stream. Eight beaver dams were removed which impacted approximately 0.92 miles (4,850 feet) of stream length.

- ◆ Lower Chippewa basin
Fiscal Year 2004
Contact ROBERT HUJIK

Crews Removed brush and invasive Box elder trees from 2700 ft of stream bank on the Kinnickinnic River using heavy equipment. The area was seeded with prairie plants and mulched to prevent erosion. The project cost was \$1.21 per stream foot.

BEAVER CONTROL

NORTHEAST REGION

- ◆ Marinette and Oconto county streams
Fiscal Year 2004 – 2007
Contact MICHAEL DONOFRIO

This is a continuing project which controls beaver populations on 51 trout streams in Marinette and Oconto Counties. The project protects 405 miles of trout stream.



Breaching a beaver dam on the “Three Forks”, a tributary to the East Flag River, Bayfield County.

In Fiscal Year (FY) 2004, over 50 beaver had been removed on the 373.3 miles of trout stream designated under the Beaver Control Project. All beaver dams on private properties had been removed.

In FY 2005, beaver were trapped and removed and dams dismantled on Federal, State, County and private lands in both Marinette and Oconto Counties. During the fall of 2004 flights over the two counties allowed for the identification of newly built beaver dams for future trapping and dam removals.

In FY 2006, flights for beaver activity and beaver trapping in Marinette County occurred on 67 stream miles of the Big Wausaukee River, Eagle Crk, Little S Br Pike R, Sidney Cr, Swede John Cr, Miscauno Creek. Dams were blasted on the L. S. Br Pike R and Miscauno Creek affecting 20 stream miles. Flights for beaver activity and beaver trapping in Oconto County occurred on 80 stream miles including Battle, Forbes, Hay, Knowles, L Waupee, McCaslen, Spring and Waupee creeks as well as 1st S Br Oconto, N Fk Thunder and S Fk Thunder River. Dams were blasted on the N Fk Thunder and Spring Cr affecting 14 miles of stream. The total stream miles for flights, blasting and trapping in Oconto and Marinette counties was 155 miles. We also conducted flights, trapped beaver, and blasted dams on Shawano Cr in Forest County.

In FY 2007, 41 beaver and 40 dams were removed from these streams under the beaver control project. An ATV with the value of \$6973 was donated from Trout Unlimited to assist with operations on this project and other trout stream related projects.

◆ Fox and Wolf basin
Fiscal Year 2005 – 2007
Contact DAVID BARTZ

In 2005, 16 beaver complaints were investigated, 9 beaver trapped, and 7 dams were blown. In 2006, 12 problem beaver were removed. Four complaints were responded to on the Willow, Wedde Creek and Pine River and one dam on Willow Creek was blasted. In 2007, historical sites on Wedde, Chaffee creeks and Pine River in Marquette and Waushara counties were inspected and 3-4 small “check” dams were removed. One adult beaver and a large dam on Willow Creek in Waushara County were also removed.

NORTHERN REGION

◆ Throughout selected watersheds in northern Wisconsin
Fiscal Year 2004 – 2007
Contact LARRY CLAGGETT

This cooperative agreement with APHIS - Wildlife Services for beaver control and dam removal has been working well and is cost effective with about 70% of the funding from the federal budget. This impacts approximately 1500 miles of trout stream every year. This is a major accomplishment and success for our trout management program and helps maintain natural and stocked trout populations in streams otherwise impacted by beaver.

◆ Ashland, Bayfield, Price and Sawyer Counties
Fiscal Year 2004
Contact THOMAS SOMMERFELDT

Provided beaver and beaver dam control on 55 miles of specified trout water in Price, Sawyer, Ashland, and Bayfield counties through a cooperative contract with the US Forest Service. Supplemental re-

removal work occurred on such streams as Foulds Creek, Elk River, Newman Creek, Long Lake Branch, Spring Brook, Marengo River, and 18-Mile Creek. A total 132 beaver were eliminated and 85 beaver dams were removed during the 2003 field season as part of this cooperative contract with the USFS. Some fall aerial reconnaissance flights were also included as part of this project. In addition, the project also has supplied traps, supplies, and LTE dollars for DNR and USFS personnel to do some additional targeted beaver control work on problem areas as they occur.

◆ Lincoln & Langlade Counties
Fiscal Year 2004 – 2007
Contact PETER SEGERSON

In 2004, we removed 115 active beaver dams from selected trout water in Lincoln and Langlade counties. Additionally, 16 inactive dams were removed and 30 beaver were trapped. Nearly all sites were checked by foot or canoe. Flights were flown to help DNR and APHIS beaver trappers coordinate their efforts.

In 2005, we were able to check 15 sites on trout water and remove 58 active dams and 11 inactive dams. All spring pond sites were checked and 18 beavers were trapped.

In 2006, there were 11 beavers caught by conibear trapping. We removed 36 active dams and 4 inactive dams. More than 150 sites were checked by foot or canoe in Langlade and Lincoln Counties.

In 2007, fall and spring airplane surveys were made to identify beaver activity. All 175 sites were checked at least once in this fiscal year. All targeted spring ponds were inspected and beaver dams were removed and beaver trapped. There were 12 beaver trapped and 44 active dams were removed.

SOUTH CENTRAL REGION

◆ Grant, Iowa, & Richland Counties
Fiscal Year 2004 – 2007
Contact GENE VAN DYCK

In FY 2004, one beaver dam and colony on Trout Creek, Iowa County was removed. We removed one beaver colony and eight dams on the Blue River in Grant County. We removed one beaver colony and 12 dams on Elk Creek in Richland County.

In FY 2005, on Big Spring Creek, 7 to 10 beaver dams were removed with back hoes while undertaking tree and brush removal.

In FY 2006, roughly \$1,500 to \$1,700 was spent on removing five beaver dams from Melancthon Creek and one dam from Mill Creek in Richland County.

In FY 2007, seven beaver and five beaver dams, which were obstructing the upstream movement of brook trout to their spawning areas, were removed from Melancthon Creek in Richland County.

◆ Columbia & Sauk County streams

Fiscal Year 2004 – 2007

Contact TIM LARSON

In FY 2004, 18 beaver on Jennings, Rowan and Hinkson Creeks were removed. Nine dams, which were impacting about 3 miles of streams and preventing upstream fish movement, were removed from Jennings, Rowan, Hinkson and Dell Creeks.

In FY 2005, 18 beaver and 5 beaver dams were removed from Rowan, Hinkson, and Jennings Creeks. All work was conducted by contract trappers. No activity noted on Sauk County trout streams.

In FY 2006, contract trappers removed 14 beavers and their associated dams from Rowan, Hinkson, Rocky Run, and Jennings Creeks.

In FY 2007, with the help of APHIS a private trapper removed 9 beaver and 4 dams, one of which was substantially large from Jennings Creek which cleared blockage from a road culvert.

WEST CENTRAL REGION

◆ Central Wisconsin River Basin

Fiscal Year 2004 & 2005

Contact JASON SPAETH

The Central Wisconsin River Basin contains four hundred ninety two miles of trout water. Beaver, are common occurrences throughout the basin damming trout streams and changing a streams characteristics. In FY 2004, crews removed 10 beaver dams from Emmons and Big Roche Cri creeks which improved 19 miles of Class I and Class II trout streams. In FY 2005, crews removed four beaver dams and trapped six beaver from three streams in the Central Wisconsin Basin improving approximately 25 miles of stream.

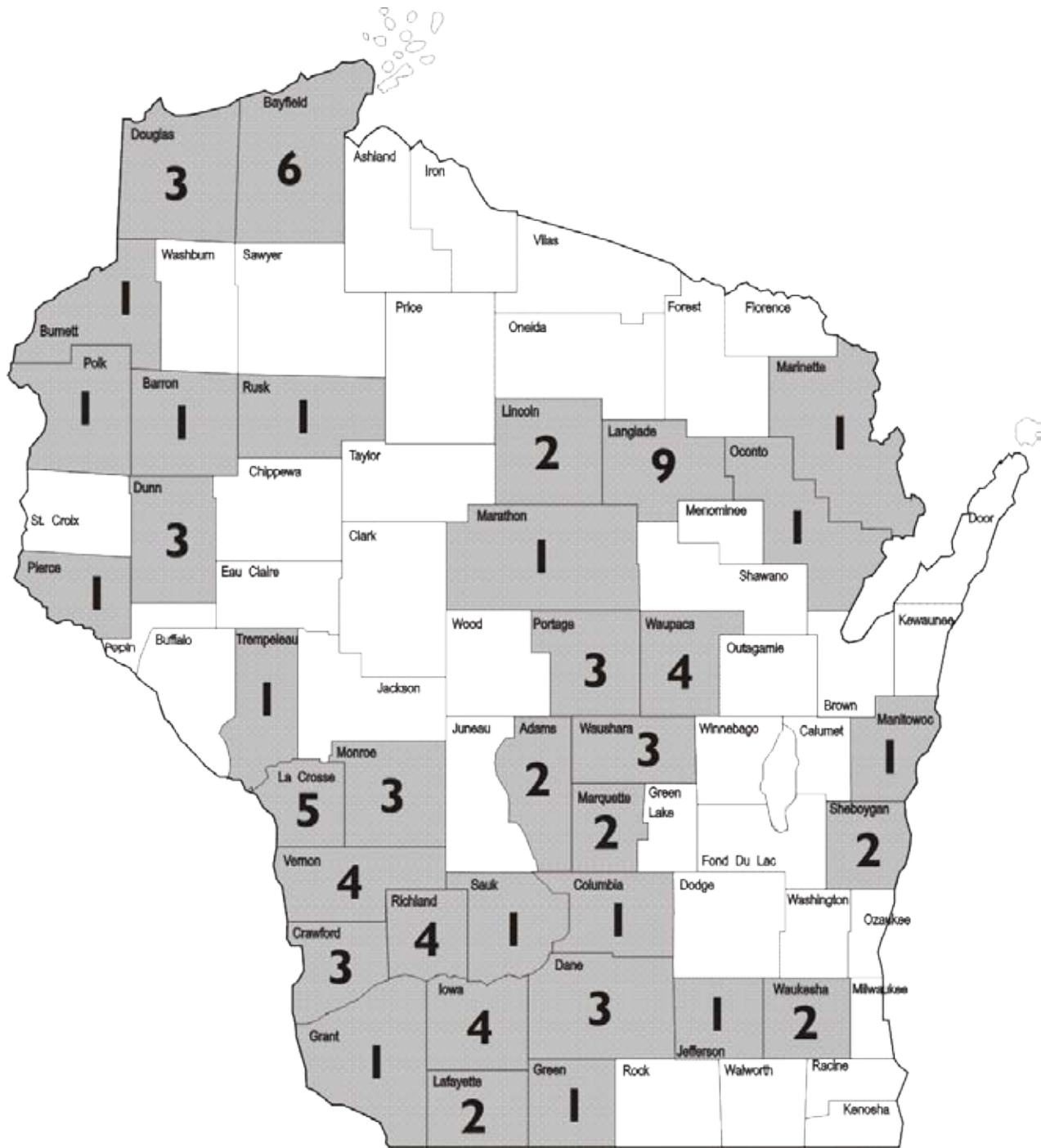
◆ Lower Chippewa basin

Fiscal Year 2004 & 2005

Contact ROBERT HUJIK

During FY 2004, a total of 41 beaver and 27 beaver dams removed in 11 stream systems in Chippewa, Eau Claire, Dunn, St. Croix and Pierce Counties. Beaver control efforts helped protect approximately 110 miles of high quality trout streams in these counties.

During FY 2005, a contract was set up with APHIS to conduct one month of beaver control in the lower Chippewa River basin. In spring 2005, 16 beaver and 3 beaver dams removed in 10 stream systems in Chippewa, Eau Claire, Dunn, St. Croix and Pierce Counties. Beaver control efforts helped protect approximately 170 miles of high quality trout streams in these counties. Additional monitoring of beaver activity was done by the APHIS trapper at no additional cost to the Department. Past and continuing beaver control efforts have shown success in keeping beaver populations at minimum levels in these stream systems.



The number of streams and spring ponds restored by county during 2004-2007. Waters worked on in multiple years are only recorded once.

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If you have any questions concerning specific projects in this report, please contact the personnel listed by phone or e-mail that are responsible for that specific project.

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

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<http://www.dnr.wi.gov>



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