

# Improving Minnesota's trout fishing resource

How the DNR is using your trout and salmon stamp dollars in 1998 and 1999 to improve trout and salmon fishing and habitat



1999 Trout and Salmon Stamp painted by Stuart Nelson of Cloquet

In 1982, at the request of anglers, the DNR introduced the state's first trout stamp. Buying this stamp is required for those who wish to fish in designated trout waters, Lake Superior, or possess a trout or salmon.

The reason for a trout stamp, as opposed to a muskellunge stamp or a crappie, stamp is that trout management is far more expensive than management for most other fish species. The funds generated from trout stamp sales pay for improving, restoring, and maintaining trout stream and lake habitat, purchasing and signing stream easements, and rearing and stocking trout and salmon.

This publication explains how stamp dollars were spent in fiscal year 1998 (July 1, 1997 through June 30, 1998) and the DNR's plans for fiscal year 1999 (July 1, 1998 through June 30, 1999).

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Trout stamp requirements and activities that could be funded:

Beginning in 1982, every angler between the age of 18 and 65 was required to purchase a trout stamp in order to fish on a designated trout stream. Revenue from trout stamp sales could be spent on projects for the following purposes:

- (1) development, restoration, maintenance or preservation of trout streams; and
- (2) necessary related administrative costs in an amount not to exceed 10% on the annual deposits into the game and fish fund attributed to the sale of stamps.

In 1985, trout stamp requirements were expanded to include fishing on designated stream trout lakes and Lake Superior. The minimum age requirement for a trout stamp was reduced from 18 to 16. The name of the program was changed to Trout and Salmon Stamp Program. Revenue from trout and salmon stamp sales could be used for:

- (1) the development, restoration, maintenance, and preservation of trout streams and lakes;
- (2) rearing and stocking of trout and salmon in trout streams and lakes and Lake Superior; and
- (3) necessary related administrative costs not to exceed 10% of the annual revenue.

In 1995, the trout and salmon stamp law was changed to require all anglers between the age of 16 and 65 to have a trout and salmon stamp to possess trout or salmon, including lake trout. Previously, anglers only needed a trout stamp to fish designated trout streams, designated stream trout lakes, and Lake Superior; and did not need a trout stamp to fish for trout on a two-story lake (which contain trout and warmwater species) or on portions of streams not designated as trout streams. Anglers were not required to have a trout stamp to fish on lake trout lakes and could possess lake trout without a trout stamp.

The latest regulation requires:

“a person over age 16 and under age 65 required to possess an angling license must have a trout and salmon stamp in possession and a trout stamp validation on the angling license when issued electronically to:

- (1) take fish by angling in:
  - (i) a stream designated by the commissioner as a trout stream;
  - (ii) a lake designated by the commissioner as a trout lake; or
  - (iii) Lake Superior; or
- (2) possess trout or salmon taken in the state by angling.”

The changes were designed to make trout fishing regulations less confusing for anglers and easier to enforce for DNR conservation officers. In the past, conservation officers who found trout in an angler’s possession at road checks could not determine if the fish had been caught from waters requiring a trout stamp. This regulation change is less confusing for anglers fishing in the BWCAW. Under the old regulation a trout and salmon stamp was required to fish on a stream trout lake, but no stamp was required to fish a lake trout lake.

In 1997, changes were made on the types of projects that could be funded with the trout and salmon stamp:

“(a) Ninety percent of the revenue from trout and salmon stamps must be credited to the trout and salmon management account. Money in the account may be used only for:

- (1) the development, restoration, maintenance, and preservation of trout streams and lakes;
- (2) rearing of trout and salmon and stocking of trout and salmon in streams and lakes and Lake Superior;
- (3) acquisition of easements and fee title along trout waters;
- (4) identifying easement and fee title areas along trout waters; and
- (5) research and special management projects on Lake Superior and the anadromous portions of its tributaries.

(b) Money in the account may not be used for costs unless they are directly related to a specific parcel of land or body of water under paragraph (a) or to specific fish rearing activities under paragraph (a), clause (2). ”

A list of designated trout streams and stream trout lakes can be obtained by writing to: MN DNR, Section of Fisheries, Box 12, 500 Lafayette Road, St. Paul, MN 55155-4012 or by calling (651) 297-2804 (metro area) or 1-800-766-6000. These lists are also available on the Internet at <http://www.revisor.leg.state.mn.us/arule/6264/0050.html>.

### **Trout Stamp Costs:**

The cost of a trout stamp was \$3.00 from 1982 through 1986. From 1986 through 1997, the cost of a trout and salmon stamp was \$5.00. In 1998, the cost of a trout and salmon stamp increased to \$8.50. Projects funded with revenue from the fee increase are identified in the FY 99 project section.

### **Trout Stamp Sales:**

Numbers of trout and salmon stamps sold are based on a license year which starts on March 1 and ends on the last day in February. The number of stamps sold increased by more than 40% in 1985 after a trout and salmon stamp was required to fish on a designated stream trout lake and Lake Superior. The number of stamps sold each year increased from 1982 through 1989, followed by a decline in each of the following four years (1990-1993), followed by an increase in each of the last four years.

<u>Year</u>	<u>Total</u>	<u>Comments</u>
1982	42,412	\$3.00 fee
1983	47,339	
1984	49,288	
1985	83,173	Stamp requirements expanded to trout lakes & L. Superior
1986	87,879	\$5.00 fee
1987	89,919	
1988	93,600	
1989	97,541	

1990	93,118	
1991	87,859	
1992	85,869	
1993	84,929	
1994	90,793	
1995	91,023	
1996	95,182	Stamp required to possess a trout or salmon
1997	96,271	
1998	NA	\$8.50 fee

**Summary of Trout and Salmon Stamp Expenditures:**

Trout and salmon stamp expenditures are divided in five categories:

- (1) The development, restoration, maintenance, and preservation of trout streams and lakes;
- (2) Rearing of trout and salmon and stocking of trout and salmon in streams and lakes and Lake Superior;
- (3) Acquisition of easement and fee title areas along trout waters;
- (4) Identifying easements and fee title areas along trout waters; and
- (5) Research and special management projects on Lake Superior and the anadromous portions of its tributaries.

Below is a breakdown of Trout and Salmon Stamp expenditures for FY 98, and projects funded in FY 99 by category. Trout and salmon stamp funds not spent during the first year of the biennium (\$216,073) can be rolled over to the next year of the biennium. Unspent funds at the end of a biennium goes back into the trout and salmon stamp account for appropriation in future years.

<u>Category</u>	<u>FY98</u>		<u>FY 99</u>
	<u>Budgeted</u>	<u>Expenditure</u>	<u>Budgeted</u>
(1)	214,245	162,600	211,100
(2)	312,755	225,527	377,100
(3)	0	0	0
(4)	75,000	20,300	0
(5)	<u>50,000</u>	<u>27,500</u>	<u>59,000</u>
Total	652,000	435,927	647,200

As a result of the increase in the Trout and Salmon Stamp fee, an additional \$119,600 is available for project funding. The projects funded with this fee increase are identified in the FY 99 project section. A summary of the funded projects by category are:

<u>Category</u>	<u>FY 99 budgeted</u>
(1)	75,900

(2)	29,700
(3)	<u>14,000</u>
Total	119,600

### **Trout and Salmon Stamp Citizen Oversight Committee**

In 1994, the Minnesota State Legislature established six citizen oversight committees to make recommendations to the legislature and the commissioner of the DNR for improvements in the management and use of money in the game and fish fund (MN Statutes 97A.055 Subd.4a). The commissioner of the DNR appoints members to the Citizen Oversight Committees.

The Trout and Salmon Stamp Citizen Oversight Committee reviews the use of the money in the Trout and Salmon Stamp Fund. This committee is made up of representatives from: Trout Unlimited, Minnesota Trout Association, Lake Superior Steelhead Association, Western Lake Superior Association, and one “at large member”.

## **FY 98 Trout and Salmon Stamp Expenditures**

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Trout Stream Habitat Improvement and Maintenance - Straight River, Becker and Hubbard counties

Budgeted: \$2,068

Expenditure: \$2,000

*Contact: Park Rapids Area Fisheries Office, (218) 732-4153*

The Straight River provides a unique and valuable brown trout resource and fishery in north central Minnesota. It is capable of producing relatively high numbers of trophy sized brown trout. The Park Rapids Area fisheries office does annual habitat improvement and maintenance by installing and maintaining current deflectors and instream cover, removing beaver dams or other debris, and controlling beaver. Trout stamp funds were used in FY98 to purchase rock to replace failing log deflectors and maintain existing rock deflectors (\$1949), and traps to control beaver (\$51). An additional \$4,515 was expended on salaries, equipment rental, gas, and other miscellaneous materials and supplies. Trout stream habitat was improved or maintained on approximately 15 miles of the Straight River, from Straight Lake in Becker County to the stream's mouth at the confluence with the Fish Hook River in Hubbard County.

### **Beaver Control on Knife and Blackhoof River, St. Louis and Carlton counties**

Budgeted: \$5,067

Expenditure: \$5,290

*Contact: Duluth Area Fisheries Office (218) 723-4785*

Beaver dams can block the movements of trout as they migrate to spawning areas on the Knife and Blackhoof rivers. These rivers comprise over one-half of Minnesota's anadromous trout waters. This project located and removed 13 beaver and 18 beaver dams.

### **Beaver Control on Duluth Fish Management Area Trout Streams**

Budgeted: \$3,205

Expenditure: \$ 500

*Contact: Duluth Area Fisheries Office, (218) 723-4785*

A beaver dam can block trout migration to spawning areas and cause warming of impounded water. Duluth area trout streams were walked to locate beaver dams. One beaver and two dams were located and removed.

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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### **Trout Stream Habitat Improvement - White Pine River, St. Louis County**

Budgeted: \$1,034

Expenditure: \$ 735

*Contact: Duluth Area Fisheries Office, (218) 723-4785*

The White Pine River had 1/4 mile of channel relocated due to improvements to State Highway 33 north of Cloquet, Minnesota. Six hundred white spruce were planted on the banks to provide future shade and woody debris.

### **Barriers to Managed Trout Lakes, Cook County**

Budgeted: \$2,171

Expenditure: \$1,367

*Contact: Grand Marais Area Fisheries Office, (218) 387-3057*

Natural material barriers were repaired or rebuilt at three locations to prevent the movement of undesirable fish species into managed trout lakes (Chester, Mink, and Little Mayhew-Mayhew Lakes). One nonfunctional barrier that was causing seasonal flooding of private property was removed on Trout Lake. Some of this work was completed in FY97, using trout stamp funds rolled over from the previous fiscal year. The balance of trout stamp funds was used to cover some of the cost of stocking trout in inland lakes. Total cost of the project was \$2,485.

### **Trout Stream Habitat Maintenance - Cook County**

Budgeted: \$17,992

Expenditure: \$ 8,006

*Contact: Grand Marais Area Fisheries Office, (218) 387-3057*

Habitat improvement structures were repaired or replaced in three trout streams that supports wild brook trout - Irish Creek, Kimball Creek, and Cascade River. Overhead cover was added to enhance pool habitat created by old improvements. Total cost of the project was \$13,976. The balance of the project funds were used to cover some of the costs for the lake trout disease testing project (\$37), stocking anadromous trout in the Grand Marais area (\$114), and stocking trout in inland lakes in the Grand Marais area (\$7,812). The balance of FY 98 trout and salmon stamp money will be rolled into FY99 to fund additional habitat maintenance work on the Cascade River.

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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### **Trout Stream Habitat Improvement - Stoney Brook, Cass County**

Budgeted: \$4,343

Expenditure: \$2,937

*Contact: Brainerd Area Fisheries Office, (218) 828-2550*

Extensive habitat improvements has been done in Stoney Brook during the past 12 years to improve instream cover for adult trout, reduce erosion and improve water quality. Spring flooding during 1997 damaged a number of these structures. The purpose of this project was to repair these structures and to fortify them to reduce future damage.

The majority of the work was done in or near Fritz Loven Park on the lower end of Stoney Brook. Two luncker structures were replaced, two were moved, and four structures were installed. Fourteen luncker structures were reinforced with face logs and 400 feet of eroding stream bank behind luncker structures were repaired and protected with rip-rap. Additional work included: the removal of four log jams, removal of a beaver dam, repair of a tip deflector, and repair of a Hewitte ramp. The balance of FY 98 trout and salmon stamp money will be spent on the Stoney Brook habitat improvement project scheduled for FY 99.

### **Trout Stream Maintenance - Region V (Southeast Minnesota)**

Budgeted: \$43,118

Expenditure: \$18,800

*Contacts: Lanesboro Area Fisheries Office, (507) 467-2442*

*Lake City Area Fisheries Office, (651) 345-3365*

Maintenance of trout streams is an annual project on a portion of the approximately 150 trout streams totaling over 700 miles in SE Minnesota (Region V). The types of work performed on these streams includes stream inspections of existing structures (annually or after a flood), removal of log jams and downed trees blocking the channel, installing fence stiles, removal of beaver dams, equipment maintenance and inspecting streams for the need of future work.

This project was completed and the balance of FY 98 trout and salmon stamp money will be used to purchase materials for habitat improvement projects on Duschee Creek.

### **Trout Stream Habitat Improvement - Gilbert Creek, Wabasha County**

Budgeted: \$24,816

Expenditure: \$25,700

*Contact: Jim Wagner, Area Fisheries Supervisor, Lanesboro (507) 467-2442*

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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This project improved the stream environment for trout in 0.8 mile of Gilbert Creek in Wabasha County. The stream habitat was improved by completing the following work items:

- Stabilizing 22 eroded stream banks with rip-rap - 2,663 lineal feet;
- Installing 72 lunger structures for instream cover - 576 lineal feet;
- Removal of two beaver dams;
- Installing instream cover rocks in 22 locations;
- Removing 13 trees from the stream channel to improve stream hydraulics; and
- Sloping and seeding of stream banks on all work areas.

### **Trout Stream Habitat Improvement - Pickwick Creek, Winona County**

Budgeted: \$25,850

Expenditure: \$ 7,776

*Contact: Lanesboro Area Fisheries Office, (507) 467-2442*

This project was designed to improve the stream environment for trout in 1.25 miles of Pickwick Creek in Winona County. The project has been designed but has not been completed. Materials and supplies have been ordered for work in FY 99. The balance of the FY 98 trout and salmon stamp money will be spent on rock and lumber to construct lunger structures.

### **Trout Stream Habitat Improvement - Middle Branch Whitewater River, Winona County**

Budgeted: \$12,408

Expenditure: \$9,800

*Contact: Lanesboro Area Fisheries Office, (507) 467-2442*

This project improved the stream environment for trout in 0.3 mile of the Middle Branch of the Whitewater River in Winona County. This project was completed jointly by the Hiawatha Chapter of Trout Unlimited and the Section of Fisheries. The stream's habitat was improved by accomplishing the work items that follow:

- Stabilizing six eroded stream banks with rip-rap - 944 lineal feet;
- Installing 440 lineal feet of instream cover - log cribs and lunger structures;
- Installing four Hewitte ramps;
- Installing four current deflectors;
- Installing instream cover rocks in 31 locations; and
- Sloping and seeding of stream bank - 1,493 lineal feet.

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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### **Trout Stream Habitat Improvement - Little Jordon Creek, Fillmore County**

Budgeted: \$10,340

Expenditure: \$38,008

*Contact: Lanesboro Area Fisheries Office, (507) 467-2442*

This project is designed to improve the stream environment for trout in 1.0 mile of Little Jordan Creek in Fillmore County. The project has been designed but not completed. Materials have been purchased for the construction phase in FY 99.

### **Trout Stream Habitat Improvement - Duschee Creek, Fillmore County**

Budgeted: \$44,255

Expenditure: \$39,800

*Contact: Lanesboro Area Fisheries Office, (507) 467-2442*

This project improved the stream environment for trout in 1.51 miles of Duschee Creek in Fillmore County. The project was completed jointly by the Win-Cres Chapter of Trout Unlimited and the Section of Fisheries. The improvement to the stream was accomplished by the work items that follow:

- Stabilizing 40 eroded stream banks - 5,240 lineal feet;
- Installing 114 lunker structures - 912 lineal feet;
- Installing 14 jetted and log cribs - 275 lineal feet;
- Installing instream cover rocks in 22 locations;
- Installing and repairing three Hewitte ramps;
- Repairing seven log cribs;
- Installing 11 current deflectors;
- Installing stream side fence - 4,300 lineal feet;
- Installing two cattle waters;
- Removing two log jams;
- Installing one channel block; and
- Removing eight trees down in the stream to improve stream hydraulics.

The Win-Cres Chapter of Trout Unlimited contributed \$836 for materials and provided labor during the project. The balance of the trout and salmon stamp money was used to purchase supplies for the project planned for the FY 99 project on Duschee Creek.

### **Trout Stream Habitat Improvement - Browns Creek, Washington County**

Budgeted: \$2,068

Expenditure: \$ 970

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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*Contact: Metro East Area Fisheries Office, (651) 772-7950*

This project stabilized an eroding bank, which will reduce fine sediment in the stream and improve habitat for trout. Large boulders were placed in a row in the stream to divert the flow away from the eroding bank. The stream bank was protected by placing existing woody debris and material called "Biolog" along the toe of the slope. Native vegetation was planted on the stream bank. Total cost of the project was \$2,816.

### **Diamond Lake Reclamation - Cass County**

Budgeted: \$15,510

Expenditure: \$ 911

*Contact: Walker Area Fisheries Office, (218) 547-1683*

This project is the application of rotenone to Diamond Lake, an 82 acre designated stream trout lake, to eliminate fish species competing with trout. Bluebill Lake, (44 acres) the source of competing fish species, will also be treated with rotenone. This project is scheduled for October 1998 (FY 99). Annual stocking of rainbow trout will resume in the spring of 1999. Public notification of the reclamation was initiated during January 1998. The lake was also opened to unlimited fishing at that time.

The FY 98 expenditures were for emulsified rotenone. The necessary quantity of powdered rotenone was ordered, however the order was canceled. The plan was to purchase rotenone in FY 98 and perform the actual reclamation in FY 99 (October 1998). Rotenone has been reordered and expected delivery is October 1, 1998.

### **Lake Trout Disease Testing - Cook County**

Budgeted: \$3,780

Expenditure: \$3,600

*Contact: Grand Marais Area Fisheries Office, (218) 387-3057*

Lake trout were collected for disease testing from Gabimichigami, Gillis, Mountain, and West Pike lakes. Lake trout were tested to establish lakes as disease free so they could be used as potential sources of hatchery broodstock for Minnesota's inland lake trout stocking program. This was the second year of a three-year project. Total cost of the project was \$5,631.

### **Stocking of Anadromous Trout - Cook County**

Budgeted: \$ 0

Expenditure: \$114

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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*Contact: Grand Marais Area Fisheries Office, (218) 387-3057*

Anadromous trout were stocked in the Temperance River, a tributary to Lake Superior. Total cost of the project was \$257.

### **Stocking of Inland Trout Lakes - Cook County**

Budgeted: \$9,450

Expenditure: \$6,979

*Contact: Grand Marais Area Fisheries Office, (218) 387-3057*

Stocked brook trout, rainbow trout, brown trout, splake, or lake trout in more than 50 managed trout lakes in the Grand Marais area. Total cost of the project was \$15,680.

### **French River Hatchery**

Budgeted: \$110,775

Expenditure: \$56,061

*Contact: French River Coldwater Hatchery, (218) 723-4881*

The French River Hatchery annually produces up to 150,000 yearling rainbow and steelhead trout, 500,000 chinook salmon to pre-smolt size, and as many swim-up sized steelhead fry as possible for Lake Superior and its north shore streams. The majority of these funds were used for the cost of electricity and heat needed for the propagation and production of trout and salmon for stocking in Lake Superior. Fuel tanks for heating were not topped off at the end of FY 98 because new tanks will be installed in FY 99. A minor amount of trout stamp supported administrative and facility maintenance expenses such as, office supplies and other expenses related to equipment and grounds maintenance. The power supply for the shop, residence, and outside rearing ponds were upgraded. The balance of the FY 98 trout and salmon stamp money will be used in FY 99 to repair the driveway to the hatchery and fill the new fuel tanks.

### **Lanesboro Hatchery**

Budgeted: \$36,200

Expenditure: \$25,248

*Contact: Lanesboro Coldwater Hatchery, (507) 457-3771*

This money is used for the statewide hauling and stocking of trout in lakes, and for nursery labor. The fish transport is used to haul large loads of trout long distances. The balance of the FY 98 trout and salmon stamp money will be used in FY 99.

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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### **Peterson Hatchery**

Budgeted: \$5,250

Expenditure: \$5,000

*Contact: Peterson Coldwater Hatchery, (507) 857-2625*

Trout stamp monies were used for the cost of heating the nursery building, installation of drain lines for rearing tanks, installation of a formalin dispensing pump system in the incubations area, purchasing salt for fish hauling, purchasing a motor for a Fresh Flo aerator for a distribution tank, and for other miscellaneous materials.

### **Spire Valley Hatchery**

Budgeted: \$7,875

Expenditure: \$5,336

*Contact: Spire Valley Coldwater Hatchery, (218) 792-5164*

The replacement of waterlines from the west well to ponds 1 and 2 were rescheduled to FY 99 because the fisheries construction crew could not complete the project in FY 98. The money spent in FY 98 went for a new motor for the east well, belt feeders, stocking done by hatchery staff, and for supplies for the remodeling of pond 4.

### **Crystal Springs Hatchery**

*Contact: Crystal Springs Coldwater Hatchery, (507) 796-6691*

#### **Utility vehicle**

Budgeted: \$7,875

Expenditure: \$6,300

Purchased 4X4 utility vehicle "Mule" with dump box for hauling fish and fish food on hatchery grounds, and for stocking fish in remote locations.

#### **Dewatering unit**

Budgeted: \$6,300

Expenditure: \$ 0

A dewatering unit is needed to load lake trout from rearing raceways onto transport units. This purchase will speed up loadout operations and will reduce stress on these fish. This will improve survival of stocked fish. The funding for this work unit was rolled over to FY 99 so we could better research this purchase to make sure that we got the best value and utility possible.

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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### **Fin clipping**

Budgeted: \$6,300

Expenditure: \$1,804

This project is for the cost of clipping the fins of 180,000 lake trout to be stocked in Lake Superior.

### **Central Office - Coldwater Production Supervisor**

Budgeted: \$120,000

Expenditure: \$115,085

*Contact: French River Coldwater Hatchery, (218) 723-4881*

Total FY 98 budget for fish food for the coldwater fish production program and annual NPDES permit maintenance was \$150,000, of which 77% came from trout and salmon stamp funds. Fish food costs are reduced by combining the order of the five coldwater hatcheries. A necessary cost of operating trout hatcheries is the maintenance of National Pollution Control Discharge Elimination System (NPDES) required by the Minnesota Pollution Control Agency and the associated cost of monitoring discharge water and sludge. Four of the five Minnesota DNR trout hatcheries are required to maintain these permits.

An accounting of the \$115,000 in trout stamp funds allocated to the coldwater production supervisors' office is as follows: \$107,752 was used to purchase trout feed and cover freight charges to deliver fish food to the hatcheries; \$5,005 was used to pay the annual fees of the four NPDES permits held by the trout hatcheries; \$488 was used to cover the lab analysis cost on Peterson Hatchery sludge in order to renew that NPDES permit; and \$1,840 was used to cover the cost of repairs of the distribution tanks on the transport trailer.

### **Easement Identification and Posting - Region V (Southeast Minnesota)**

Budgeted: \$75,000

Expenditure: \$20,300

*Contacts: Lanesboro Area Fisheries Office, (507) 467-2442*

*Lake City Area Fisheries Office, (651) 345-3365*

Objective: the objective of this project was to locate and post all fishing easements currently held by the Department of Natural Resources, Section of Fisheries, on trout streams in Region V.

Trout anglers and the DNR had concerns that these easement areas were difficult to locate. Signs were posted at the upper and lower property lines and at all public roads that crossed the stream within the easement reaches. All access areas were also marked to identify the legal entry point to

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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easements that did not have a road right-of-way access.

Status: The posting of easements is completed. Part of balance of the project money will be used for the printing of a new easement brochure. This brochure will have maps showing easement areas, public land, and the location of past habitat improvement projects for all the trout streams in Southeast Minnesota. This brochure should be available in FY 99.

### **Elastomer Marking of Rainbow Trout**

Budgeted: \$2,000

Expenditure: \$1,500

Contact: Lake Superior Area Fisheries Office, (218) 723-4785

Objective: The objectives of this study are to determine the short-term and long-term retention rates of elastomer tags in the post-ocular tissue of rainbow trout.

Fluorescent elastomers are a new technology available for marking fish. If retention rates are high, (90% or better), we will consider eliminating paired-fin clips of Kamloops and possibly hatchery-reared steelhead. Fin clips used on rainbow trout are extremely complex and the options we have for future assessment projects are limited by the unavailability of distinct marks. Use of elastomer markers would allow more marking options for rainbow trout/steelhead in Lake Superior. Other species could also be marked with elastomers for a variety of studies. This will be a joint project that involves personnel from Lake Superior Research, the French River Coldwater Hatchery and Duluth Area Fisheries.

Status: Tagging phase of the project has been completed and evaluation of returns of marked trout will be monitored. Anticipate spending \$500 in FY 99.

### **Coaster Brook Trout Survey**

Budgeted: \$9,500

Expenditure: \$9,500

Phase 2 continued in FY 99

Contact: Lake Superior Area Fisheries Office, (218) 723-4785

Objective: The objective of this project is to determine if remnant stocks of coaster brook trout still exist along the Minnesota shoreline of Lake Superior

We anticipate sampling four to six streams along the Minnesota shoreline for brook trout. In each stream, we will attempt to collect 30 fish from both above and below the natural barrier to migration. The MN DNR, with assistance from Trout Unlimited members will use electrofishing

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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gear to collect the brook trout. Biological information such as age, growth, sex, and estimated number of spawners will be determined. Genetic analysis conducted by the Great Lakes Science Center will be used to determine the within and among stream variability of the sampled brook trout. We will also attempt to collect brook trout from potential hatchery sources to compare their genotypes with that of the brook trout collected above and below barriers. This will allow us to determine if the origin of brook trout found below the barrier came from above the barrier (resident brook trout), a wild lake stock (coasters), or a hatchery source.

### **Lake Superior Salmonid Diet Survey**

Budgeted: \$17,500

Expenditure: \$ 3,700

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

**Objective:** The objective of this study is to collect and analyze stomach samples from salmonids harvested in the sport fishery (creel surveys), charter fishery (charter docks), and routine assessment nets.

We will compare the information collected in 1997-1998 to a small study that was done by our staff in 1992, and to a lake-wide study conducted by Connors et al. in 1987. As stated in the Lake Superior Management Plan, diet information for all species is critical to better understand the community dynamics in the lake. This information is important for any future bioenergetics or community-based modeling.

**Status:** Creel clerks collected stomachs starting in July 1997 and will continue through the 1998 summer fishery. Selected charter captains also volunteered to collect stomachs in 1998.

Stomachs have been collected during both the 1997 and 1998 assessment seasons. All stomachs have been inventoried and information is being analyzed. Anticipated spending in FY 99 is \$10,000. We anticipate generating a report by July 1999.

### **Evaluation of Spawning Lake Herring Stocks**

Budgeted: \$10,000

Expenditure: \$6,800

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

**Objective:** The objectives of this study are to collect information on harvest, fishing effort, and biology of spawning lake herring stocks.

We will monitor relative abundance indices of lake herring stocks vulnerable during spawning in

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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early November. A long term outcome is to determine if future contraction or expansion of fishing effort is advisable and how this might impact the availability of lake herring for use as forage by predators in Lake Superior. Changes in Game and Fish Rules 6260:1800 grant authority to the DNR to open commercial lake herring harvest in November. Information collected on lake herring during the November closed spawning season will help to determine future management decisions regarding allowable commercial activity, harvest and potential impact on the fish community.

Status: Data was collected in fall of 1997 and will be reported in the Status of the Commercial Stocks Report - 1997, which will be available December 1998. Anticipate spending \$1,000 in FY 99.

### **Synthesis Paper on Minnesota Atlantic Salmon Program 1980-1993**

Budgeted: \$5,000

Expenditure: \$ 0

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

Objective: The objective of this project is to summarize the information collected on the Atlantic salmon program and compile it in the form of a synthesis paper.

The Section of Fisheries has spent 13 years and more than \$1 million on an experimental Atlantic salmon stocking program for the Minnesota waters of Lake Superior. The program was discontinued in 1993. Information collected on the program from a variety of sources (creel surveys, trap returns, angler reports, hatchery reports, etc.) will be compiled. A final paper that summarizes the entire program, including how the fish performed, why it was discontinued, etc. will be valuable. Anglers still recommend that the program be reinstated and other agencies in the lower Great Lakes have expressed interest in starting an Atlantic salmon program in their waters. A synthesis paper would provide information for these interests and become a record of our previous efforts. We anticipate the report would be published in the Sections Fish Management Series and potentially a peer-reviewed journal.

Status: This project was delayed due to staff time committed to working on the status of chinook salmon in the Minnesota waters of Lake Superior and re-evaluating the chinook salmon program. This project is rescheduled for FY 99.

### **Age and Growth Analysis of Historical Lake Trout Data Based on Otoliths**

Budgeted: \$3,000

Expenditure: \$3,000

## **FY 98 Trout and Salmon Stamp Expenditures (contd.)**

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*Contact: Lake Superior Area Fisheries Office,*

Objectives: The objectives of this project are to begin to update the age section of our long term lake trout data base.

Otoliths will be used to age lake trout and construct length at age keys, growth histories, mortality estimates, age frequencies, etc. from recent historical collections of lake trout otoliths. For most years, information on lake trout is incomplete because basic age and growth analysis has not been done due to lack of time and personnel. Past aging was based only on annual fin clips which needs verification. No age or growth data are available on native lake trout. This information will be critical to determine total allowable catch in new age-based models that are now being developed.

Status: This project began in February 1998 and has carried into FY 99. Data is being incorporated into the historical lake trout database. Anticipate spending \$5,000 in FY 99 ( will use excess money saved from diet study and lake herring study)

### **Age and Growth Analysis of Historical Lake Trout Data Based on Scales**

Budgeted: \$3,000

Expenditure: \$3,000

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

Objectives: The objective of this project is to age as many lake trout as possible based on historical scale collections.

Where possible, using scales, we hope to construct length at age, growth histories, mortality estimates, age frequencies from historical lake trout data collections. In many situations, information on lake trout is incomplete because basic age and growth analysis has not been completed. Much of the aging has not been done on native lake trout. Because scales were the only structures collected after 1990, they are the only aging structure we have available for this work.

Status: Project began in February 1998 and has carried into FY99. Data is being incorporated in historical lake trout database.

## **FY 99 Funded Trout and Salmon Projects**

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### **Straight River Fencing Project, Becker County**

Budgeted: \$2,000

*Contact: Park Rapids Area Fisheries Office, (218) 732-4153*

This project involves moving a fence back from the stream to exclude livestock, provide drinking water, and reshape and protect eroding stream banks, on the Straight River, Becker County.

### **Habitat Maintenance on Trout Streams, Park Rapids Fisheries Area**

Budgeted: \$4,600

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contact: Park Rapids Area Fisheries Office, (218) 732-4153*

This project involves the repair and maintenance of existing habitat improvement structures, maintaining stream flow by removing beaver dams, and controlling beaver numbers on area trout streams.

### **Morrison Brook Culvert Replacement Project - Itasca County**

Budgeted: \$10,000

*Contact: Grand Rapids Area Fisheries Office, (218) 327-4430*

This is a cooperative project with the Itasca County Highway Department to replace four culverts over Morrison Brook. The DNR will purchase and install rip-rap at the four culvert crossings.

### **Beaver Control on the Knife River and Blackhoof River - St. Louis, and Carlton counties**

Budgeted: \$10,900

*Contact: Duluth Area Fisheries Office, (218) 723-4785*

Beaver and beaver dams will be removed to ensure that spawning habitat is available for anadromous brown trout and steelhead trout on the Knife River in St. Louis County and the Blackhoof River in Carlton County.

### **Beaver Control on Trout Streams in Lake, St. Louis, and Carlton Counties**

Budgeted: \$7,300

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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*Contact: Duluth Area Fisheries Office, (218) 723-4785*

Beaver and beaver dams will be removed on trout streams that are degrading trout habitat.

### **Habitat Maintenance - Morrison Brook, Aitkin and Itasca counties**

Budgeted: \$4,600

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contact: Aitkin Area Fisheries Office, (218) 927-3751*

Contract for the control of beaver and removal of beaver dams from Morrison Brook

### **Trout Stream Habitat Improvement - Stoney Brook, Cass County**

Budgeted: \$5,700

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contact: Brainerd Area Fisheries Office, (218) 828-2550*

Stoney Brook is a designated trout stream in Cass County. This project involves doing habitat improvement work on a segment of Stoney Brook on which an angling easement was recently acquired.

### **Trout Stream Habitat Maintenance - Region V (Southeast Minnesota)**

Budgeted: \$53,100

*Contacts: Lanesboro Area Fisheries Office, (507) 467-2442*

*Lake City Area Fisheries Office, (651) 345-3365*

Objective: Identify and plan future habitat improvement projects, perform periodic inspections and maintenance on previous habitat improvement work, and write project proposals and completion reports for the Lake City and Lanesboro Areas.

### **Trout Stream Habitat Improvement - Duschee Creek (B-1), Fillmore County**

Budgeted: \$37,800

*Contacts: Lanesboro Area Fisheries Office, (507) 467-2442*

Objective: This project will improve the lower 0.56 mile of Duschee Creek in Fillmore County by installing instream structures, stabilizing eroded banks, and removing trees and log jams. The goal of this project is to provide overhead cover for trout and increase the overwintering

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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population of trout greater than 10 inches by 300%. This project adjoins a habitat improvement project that was completed in 1997.

### **Trout Stream Habitat Improvement - Duschee Creek (B-2), Fillmore County**

Budgeted: \$35,900

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contacts: Lanesboro Area Fisheries Office, (507) 467-2442*

Objective: This project will improve the lower 1.54 mile of Ducheek Creek in Fillmore County. This habitat improvement project will reduce stream bank erosion, reduce stream siltation and improve natural reproduction. Overhead cover will provide areas for trout to escape predators. The goal of this project is to increase the overwintering population of trout greater than 10 inches by 300%.

### **Trout Stream Habitat Improvement - Middle Branch Whitewater River, Olmsted County**

Budgeted: \$8,900

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contact: Lanesboro Area Fisheries Office, (651) 345-3365*

This project will improve 0.40 mile of the Middle Branch of the Whitewater River in Olmsted County. The goal of this project is to increase the overwintering population of trout greater than 10 inches by 300%. This will be accomplished by installing instream structures, cover rocks, and stabilizing eroded steam banks. This will be a joint project with Hiawatha Chapter and the Win-Cres Chapter of Trout Unlimited. The DNR will furnish rock for rip-rap and materials for instream structures. The Trout Unlimited Chapters will furnish labor, equipment rental, and small items like wire, nails and grass seed. This project will be supervised by the DNR.

### **Trout Stream Habitat Improvement - Pickwick Creek, Winona County**

Budgeted: \$16,200

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contact: Lanesboro Area Fisheries Office, (651) 345-3365*

This project will improve 0.80 mile of Pickwick Creek in Winona County by installing instream structures, cover rocks, and stabilizing eroded steam banks. The goal of the project is to increase the overwintering population of trout greater than 10 inches by 300%. This project is directly upstream from a habitat improvement project done previously. This will be a joint project with

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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the Win-Cres Chapter of Trout Unlimited. They will furnish labor to construct and install structures. The DNR will furnish materials, labor and equipment to complete this project.

### **Lake Reclamation - Pleasant Lake, Crow Wing County**

Budgeted: \$11,100

*Contact: Brainerd Area Fisheries Office (218) 828-2550*

Pleasant Lake is a designated stream trout lake in Crow Wing County. This project will remove undesirable, competing fish species from the lake using powdered rotenone in the fall of 1998. The lake will be restocked with brook trout in 1999. Pleasant Lake was last reclaimed in 1957.

### **Shoreline Erosion Control Project - Willard Lake, Cass County**

Budgeted: \$3,000

*Contact: Walker Area Fisheries Office, (218) 547-1683*

Willard Lake is a designated stream trout lake in Cass County. Sand and other sediments have been washing into Willard Lake at the public access. This project involves filling in a 4-foot gully at the access. This project is in cooperation with Cass County because the access is located on county-administered land.

### **Crystal Springs Hatchery**

Budgeted: \$26,100

*Contact: Crystal Springs Coldwater Hatchery (507) 796-6691*

Hatchery lighting - \$1,800

Vacuum pump repairs - \$10,000

Surge protectors - \$10,000

Raceway #1 floor repairs - \$4,300 [*This project was funded from the increase in the trout and salmon stamp fee in 1998.*]

### **Spire Valley Hatchery**

Budgeted: \$17,400

*Contact: Spire Valley Coldwater Hatchery (218) 792-5164*

Pond #4 remodeling.

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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### **French River Hatchery**

Budgeted: \$128,400

*Contact: French River Coldwater Hatchery, (218) 723-4881*

\$17,400 - repair outside pond building [*This project was funded from the increase in the trout and salmon stamp fee in 1998.*]

\$24,400 - Kamloop and steelhead rainbow trout grow out

\$56,400 - Kamloop rainbow trout and chinook salmon nursery -

\$14,300 - Hatching and incubation

\$15,900 - Headquarters operations

### **Lanesboro Hatchery**

Budgeted: \$57,200

*Contact: Lanesboro Coldwater Hatchery (507) 457-3771*

Trout stocking into lakes statewide, and labor cost for incubation, nursery , and growout activities.

### **Bulk Feed Order for the Coldwater Hatcheries**

Budgeted: \$ 128,000

*Contact: French River Coldwater Hatchery, (218) 723-4881*

Purchase of fish feed for rearing trout and salmon at five state coldwater hatcheries. Payment of NPDES annual fees at four state trout hatcheries.

### **Lake Trout Egg Take - Gillis Lake, Cook County**

Budgeted: \$6,700

*Contact: Grand Marais Area Fisheries Office, (218) 387-3056*

Gillis Lake is located in the BWCAW and is the source of the lake trout broodstock used for stocking inland lake trout lakes. This egg take is needed to maintain genetic variability in the broodstock held in the coldwater hatchery.

### **Disease Testing of Lake Trout in Potential Egg Take Lakes, Cook County**

Budgeted: \$2,300

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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*Contact: Grand Marais Area Fisheries Office, (218) 387-3056*

Three lakes have been identified as potential lakes for collecting gametes for a new source of inland lake trout as a backup for the Gillis Lake strain. Three consecutive years of clean disease testing is required prior to bringing fertilized eggs into a state coldwater hatchery. The lakes being tested are Gillis, Gabimichigami, and Mountain lakes. This is the final year of a three year project.

### **Lake Trout Fin Clipping**

Budgeted: \$3,000

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

Objective: Fin clip all lake trout stocked in the Minnesota waters of Lake Superior so they can be identified as a hatchery product.

In the past, the Federal hatcheries would raise, fin clip, and stock one-half of Minnesota's lake trout quota for Lake Superior. Recently the federal hatchery experienced a disease problem and the MN DNR can no longer accept those lake trout for stocking Minnesota waters of Lake Superior. We anticipate that Minnesota can rear an additional 25% of the lake trout quota. This will increase the number of yearling lake trout produced by MN DNR coldwater hatcheries from 180,000 to approximately 270,000. This work unit is necessary to cover the additional cost of fin clipping lake trout to be raised in Minnesota because of the disease problem in the federal hatcheries. Cost of fin clipping has been increased accordingly. This project is essential if we stock additional fish.

### **Chinook Salmon Fin Clipping**

Budgeted: \$8,000

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

Objective: The objective of this project is to fin clip all hatchery reared chinook salmon so their contribution to the Minnesota fishery and their return to the French River trap can be monitored.

In the winter of 1998 the chinook salmon program was re-evaluated and the decision was made to obtain chinook salmon eggs from a different source other than the French River run. Part of the program is to evaluate the return of these hatchery reared chinook to the fishery and to the French River Trap. To identify chinook reared in the hatchery a distinct fin clip will be given to all fish stocked in 1999.

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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Status: Chinook salmon will be clipped over the winter of 1999 and will be completed by April 1999.

### **Synthesis Paper on Steelhead Smolt Program Returns 1989 - 1992**

Budgeted: \$3,000

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

Objective: The objective of this project is to summarize the return of steelhead smolts stocked from 1990 - 1993 to the creel and to the French and Knife River traps.

This work will summarize the first phase (1989 - 1992 year classes) of steelhead smolts stocked into Lake Superior. Returns to the creel and to the French and Knife River traps will be determined. Both anglers and the MN DNR are extremely interested in the results of this program as there has been heavy pressure to initiate a large scale steelhead smolt stocking program from some steelhead anglers. We are committed to follow through on the present project and have continued to stock steelhead smolts with financial assistance from the Lake Superior Steelhead Association and input from the Smolt Focus Group. We anticipate producing a final report by September 1999 and distributing it to all interested parties. These results will be very important to the future of the steelhead management program in Minnesota.

### **Minnesota Coaster Brook Trout Study**

Budgeted: \$4,000

*Contact: Lake Superior Area Fisheries Office, (218) 723-4785*

This is a continuation of the brook trout study that was funded last fiscal year. See the FY 98 section of this report for details.

Status: Brook trout samples from above and below barriers and samples from the hatchery have been collected and shipped to the Great Lakes Science Center for genetic analysis. Genetic results are expected during the winter/spring of 1999 and a report should be available by the summer/fall of 1999.

### **Update Total Allowable Catch (TAC) Models of Lake Trout**

Budgeted: \$3,000

*Contact: Don Schreiner, Lake Superior Area Fisheries Supervisor, Duluth (218) 723-4785*

Objective: The objective for this project is to update the total allowable catch model for lake trout

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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using both new input data that has become available over the last 5 years and adapt all the data to an updated model being produced by the Lake Superior Technical Committee (LSTC).

Approximately 5 years ago the Lake Superior Technical Committee constructed models to determine total allowable catch (TAC) of lake trout from each statistical district in Lake Superior. These models were completed for the three statistical districts in Minnesota (MN). The models were originally constructed as a method to allocate harvest among the sport, commercial and tribal fisheries during treaty negotiations in Michigan (MI) and Wisconsin (WI). Last year some modifications were made to the model when WI renegotiated their treaty. It seemed to work well for eastern WI waters but not for western WI waters. In conversations with WI biologists they felt that more preparation time would have been extremely helpful before they entered the negotiations to update and modify their models. The LSTC as a group has taken on the task of updating the model and using the most recently available data. This project will allow us to partially complete our requirements and participate in this process.

Status: Expect to incorporate most recent data into historical data base during the winter of 1999.

### **Fall Anadromous Creel Survey**

Budgeted: \$14,000

*[This project was funded from the increase in the trout and salmon stamp fee in 1998.]*

Contact: Lake Superior Area Fisheries Office, (218) 723-4785

Objective: This survey will be conducted to evaluate the fall anadromous chinook salmon fishery for 1998. This is a timely survey because of the need to re-evaluate the chinook salmon program. We have not conducted a fall creel survey since 1994 when budgets started getting tight. Based on the strong 1994 year class that we have seen in the lake fishery, the 1998 fall anadromous fishery should be well represented if the 1994 year class is a result of stocked fish. If the year class is represented by wild fish, then the fall run may not be as large as historical runs since these fish were probably produced in Michigan, Wisconsin, and Ontario. Information from this creel survey will be combined with previous surveys to act as a benchmark for the revised chinook salmon program that will be implemented in the fall of 1998.

Status: Anglers were surveyed between October 1 and November 6, 1998. A report will be completed by July 1, 1999.

### **Genetics Study of Anadromous Rainbow Trout**

Budgeted: \$20,000

Contact: Fisheries Research Supervisor, St. Paul (651) 296-3325

## **FY 99 Funded Trout and Salmon Projects (contd.)**

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This three year project will use the more sensitive micro satellite markers (similar to DNA fingerprinting) to test for hybridization between “Kamloops” and steelhead rainbow trout. This project will be done by Minnesota Sea Grant.

### **Woody Debris as a Limiting Factor for Steelhead Parr in Minnesota**

Budgeted: \$15,000

Contact: Senior Research Biologist, Duluth, (218) 723-4785

Objective: Test the hypothesis that survival of steelhead to age 1 + is limited by the woody debris volume functioning as overhead cover in the rearing stream.