

**Expenditures of**

**Great Lakes Salmon & Trout**

**Stamp Revenues**

**Fiscal Years 2000-2003**

Administrative Report 51

## Our Mission:

To protect and enhance our natural resources:  
our air, land and water;  
our wildlife, fish and forests  
and the ecosystems that surround them.

To provide a clean, sustainable environment  
and a full range of outdoor opportunities.

To insure the right of all Wisconsin citizens  
to use and enjoy these resources  
in their work and leisure.

To work with people  
so that we understand their views  
and can carry out their will.

And in this partnership with our citizens,  
consider the future  
and those who will follow us.



## Table of Contents

<b>Background of the Great Lakes Salmon and Trout Stamp Program</b>	2
<b>Reader's Guide</b>	6
<b>Contact List</b>	9
<b>Lake Michigan Evaluation, Research, and Experimental Activities</b>	12
<i>Activities Ending in FY00 and FY01</i>	
<i>Activities Continuing from FY01 through FY02</i>	
<i>Activities Beginning in FY03</i>	
<b>Lake Superior Evaluation, Research, and Experimental Activities</b>	21
<i>Activities Ending in FY00 and FY01</i>	
<i>Activities Continuing from FY01 through FY02</i>	
<i>Activities Beginning in FY03</i>	
<b>Propagation Activities (including Developments)</b>	25
<i>Activities Ending in FY00 and FY01</i>	
<i>Activities Continuing from FY01 through FY02</i>	
<i>Activities Beginning in FY03</i>	
<b>Great Lakes Salmon &amp; Trout Stamp Program Administration</b>	34
<i>Activities Ending in FY00 and FY01</i>	
<i>Activities Continuing from FY01 through FY02</i>	
<i>Activities Beginning in FY03</i>	
<b>Wisconsin Fish Production Stations</b>	35

# **BACKGROUND OF THE GREAT LAKES SALMON AND TROUT STAMP PROGRAM**

## ***Creation of the Salmon and Trout Stamp Program***

In the early 1980's, the loss of federal funding for non-native trout and salmon stocking prompted the creation of Wisconsin's Great Lakes Salmon and Trout Stamp Program. The Wisconsin Department of Natural Resources (DNR) faced the prospect of large reductions in the Great Lakes stocking program, including the elimination of coho salmon stocking. Concerned Great Lakes anglers initiated and promoted the legislation that created the Great Lakes Salmon and Trout Stamp (Salmon Stamp). Since 1982, every angler wishing to fish for salmon or trout in the Wisconsin waters of the Great Lakes must purchase a Great Lakes Salmon and Trout Stamp. Revenues from the sale of Salmon Stamps help support the DNR trout and salmon rearing and stocking program for the Great Lakes.

## ***Guidelines for the use of Great Lakes Salmon and Trout Stamp revenues<sup>1</sup>***

Wisconsin state statute 29.191(5)(e) states "The Department shall expend the receipts from the sale of Great Lakes Trout and Salmon Stamps to supplement and enhance the existing trout and salmon rearing and stocking program for outlying waters and to administer this section.<sup>2</sup>" These statutes clearly define that expenditures are (1) species limited to salmon and trout only, (2) geographically limited to the Wisconsin waters of Lakes Michigan and Superior and their tributaries, and (3) program limited to the rearing and stocking program. Projects funded by stamp monies must meet these three requirements or be related to the administration of these monies.

### **Species requirement**

Salmon and Trout Stamp revenues may only be used for projects that pertain to salmonid species. These species include Pacific salmon (coho, chinook), trout (rainbow [steelhead], brown), and chars (brook trout, splake, and lake trout). Stamp money may not be used for projects specifically directed toward warm or cool water fishes such as percids, esocids, and centrarchids.

### **Geographical requirement**

Projects that use stamp revenues must be geographically focused on the Great Lakes watershed. Specifically, the geographical scope of these projects may include tributaries accessible to Great Lakes salmon and trout, as well as Lakes Michigan and Superior themselves. Projects that pertain to trout waters other than the Great Lakes (e.g., Great Lakes tributaries inaccessible to Great Lakes salmon and trout, inland trout streams and lakes) may not use Salmon Stamp money.

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<sup>1</sup> Excerpted from Krueger, C. C. 1983. Expenditure Plan for Great Lakes Salmon and Trout Stamp Revenues. Administrative Report No. 18. Bureau of Fisheries Management, Department of Natural Resources, Madison, Wisconsin.

<sup>2</sup> Wisconsin Statues and Annotations 1999-2000 (45th Edition). State of Wisconsin, Madison WI.

## **Program requirement**

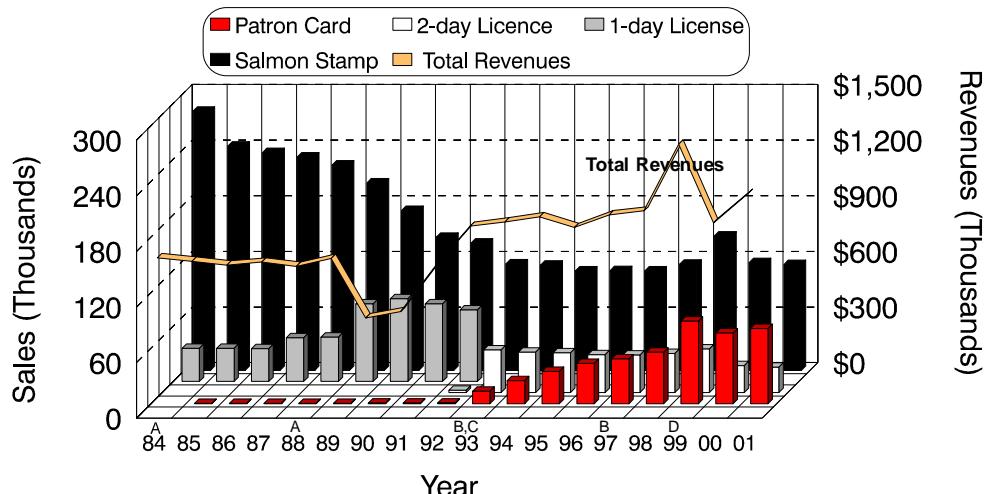
Projects funded by Salmon and Trout Stamp money must also relate specifically to the Great Lakes stocking program. The stocking program includes a variety of activities and utilizes physical facilities that require equipment, maintenance, and labor.

Activities within the stocking program may be categorized as evaluation, research, and experimental activities or propagation activities (including facility developments).

Evaluation and research activities serve as a measure of success for the stocking program. Examples of evaluation and monitoring activities include lake-wide creel surveys, species and strain evaluations (tagging and marking studies), development of management plans (annual stocking plans, species plans, long-term plans), and annual propagation planning. Experimental activities test alternative methods of propagation and evaluation. Projects include evaluation of automatic feeders, innovative hatchery incubators, alternative fish foods, artificial reef substrates for egg incubation, new creel survey methods, new fish marking methods, and gamete preservation techniques.

Propagation activities include hatchery operation costs (electricity, labor, fish food, waders, etc.), acquisition of fertilized eggs, egg incubation, fish rearing, and transportation of fish to stocking sites. Propagation activities also include the physical facilities that support the stocking program. Specifically, these facilities include raceways, rearing ponds, hatchery grounds, generators, pumps, water supply systems, vehicles, aerators, automatic fish feeders, land, engineering plans, and incubators. Salmon and Trout Stamp revenues may be used for maintenance, repair, or purchase of these facilities in order to fulfill the needs of the stocking program.

### **License Sales Contributing to The Great Lakes Salmon and Trout Stamp Account Fiscal Years 1984 - 2001**



A - 1-day license fee \$6.00 in FY84 and increases to \$6.10 in FY88, valid for both inland and Great Lakes fishing beginning in FY88.

B - 2-day License at \$7.25 (valid for Great Lakes only) replaces 1-day license in FY92 and in FY97 increases to \$9.25

C - Salmon Stamp fee increase in FY92 (from \$3.25 to \$7.25) .

D - A one-year spike in sales occurred in FY99 due to implementation of ALIS

## ***Sources of revenue for the Salmon Stamp Account***

All receipts from the sale of Salmon Stamps are placed in the DNR Fish & Wildlife Segregated Account, but reserved for eligible Salmon Stamp activities as described above. These funds are referred to as the Salmon Stamp account. Interest earned on these funds accrue to the Fish & Wildlife Segregated Account. Some revenues from the sales of patron licenses, two-day sport fishing licenses and collector stamps also contribute to the account. 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 \$0.75 for the two-day license and the patron card; it is \$0.25 for the Salmon Stamp. Calculations and references in this report exclude vendor's fees.

Funding for the Salmon Stamp account has changed over time. In 1984, the Wisconsin State Legislature approved a one-day fishing license for the Great Lakes, for a fee of six dollars. This inexpensive license allowed anglers to spend one day fishing for trout and salmon on the Great Lakes without being required to buy an annual Great Lakes Salmon and Trout Stamp. To prevent a sharp reduction in funding for the salmon and trout program, one-half of the revenues from the license supported Great Lakes salmon and trout projects. In 1988, the Legislature changed the one-day license by allowing inland fishing. Revenues from the new one-day license were split among Great Lakes salmon projects, inland trout habitat projects, and general fisheries work. In 1992, the Legislature replaced the one-day license with a two-day license for \$7.25, valid for the Great Lakes only. In 1997, the two-day license fee increased to \$9.25. By law, one-half of the revenues are placed in the Salmon Stamp account. Also in 1992, the Salmon Stamp fee was increased from \$3.00 to \$7.00. The Salmon Stamp account also receives funds from Patron License sales. For every Patron License sold, the Salmon Stamp account gets a share of the receipts. Currently, this contribution is about \$1.75 per patron license. In the past this figure was about \$3.50 per license. The value of all the individual licenses included in the patron license totals over \$218, yet resident patron licenses cost just \$110. In 1997 the Department amended its policy regarding the contribution of patron license fees to the various stamp accounts. This was an effort to more accurately reflect the percentage of patron license holders who hunt or fish for the species that are the subjects of the stamps, and to avoid potentially unfair funding restrictions. By statute, the Department is fairly narrowly restricted as to how it may spend stamp revenue, including Great Lakes trout and salmon stamp revenue. Consequently, the Department seeks to fairly represent the amount of patron license revenue that is deposited to the various stamp accounts. The formula as revised in 1997 in effect assumes that half of all patron license holders fish Wisconsin's Great Lakes waters for trout and salmon. Significantly, patron license revenue not deposited to dedicated stamp accounts is deposited to the larger fish and wildlife account and may be spent for a wide variety of conservation purposes—including enhancing the salmon rearing and stocking program for outlying waters. As a result of the 1997 change in the percentage of patron license revenue deposited to the various stamp accounts, the contribution to the Salmon Stamp account from patron license revenue was overstated in previous editions of this report. In addition, collectors can purchase souvenir Salmon Stamps from previous years. All revenues from these sales contribute to the Salmon Stamp account.

The Salmon Stamp account pays for slightly more than 50% of the total Great Lakes trout and salmon program. Fishing license fees, general tax revenue, federal funding and donations also support the program.

## ***Benefits from the Salmon Stamp program***

The Great Lakes Salmon and Trout Stamp has enabled the DNR to maintain and further develop the salmon and trout fisheries in Lakes Michigan and Superior and their tributaries.

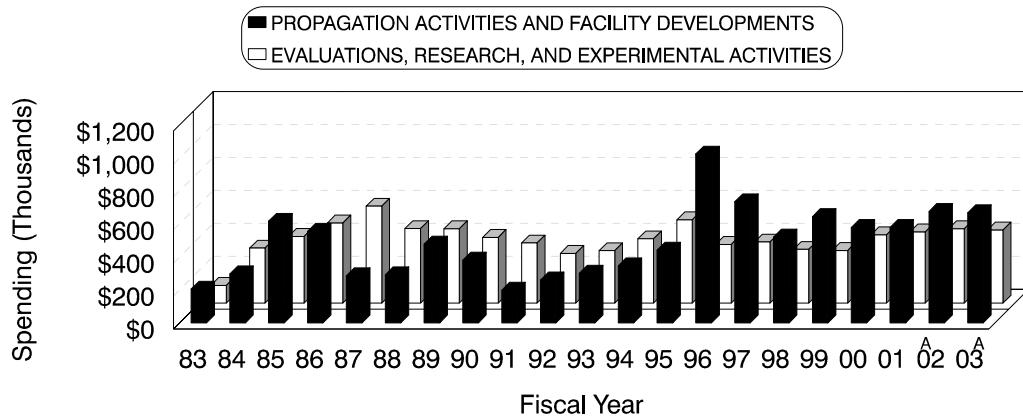
Since 1983, Salmon Stamp funds have:

- ✓ Provided over \$1.6 million for physical plant improvements at state hatcheries producing salmon and trout for the Great Lakes, including a new water supply line at the Bayfield Hatchery which produces over 1.1 million trout and salmon annually.
- ✓ Paid to produce and stock over 95 million coho & chinook salmon, brook & brown trout, splake, and steelhead.

- ✓ Allowed fish health personnel to work with other states to develop a preventative thiamine (vitamin B<sub>1</sub>) treatment to control Early Mortality Syndrome (a condition resulting in massive losses of fry shortly after hatching).
- ✓ Paid for annual creel surveys that give Wisconsin the best data on salmon and trout harvest and catch rates in the entire Great Lakes region.
- ✓ Assisted in the development and operation of the Bois Brule River Lamprey Barrier, the Root River Steelhead Facility, the C.D. "Buzz" Besadny Anadromous Fisheries Facility, and the Strawberry Creek Weir. The Bois Brule River Lamprey Barrier provides an effective, non-chemical sea lamprey control method. The other facilities enhance stocking efforts by collecting eggs from feral salmon and trout. These facilities also collect essential data on fish returns, as all salmon and trout passing through the facilities can be counted.

Creel surveys, fish counts at weirs, and other means of analysis provide crucial data to the DNR fisheries biologists. The data are used to help adapt the fish stocking program to changes in fish populations so that fishing opportunities for salmon and trout anglers remain at their optimum. An excellent example of how Salmon Stamp-funded evaluations help to optimize the stocking program is the development and implementation of the Lake Michigan Steelhead Fishery Management Plan<sup>3</sup>. In the mid-1980's, creel survey results indicated declining return rates associated with the use of the Mount Shasta strain of steelhead. This spurred an attempt to find better-performing strains of steelhead. The results of this search and subsequent evaluations led to the current stocking program of three steelhead strains (Skamania, Chambers Creek, and Ganaraska). Not only are the three strains excellent sport fish, the staggered timing of their spawning runs provide opportunities for stream anglers nine months of the year. In the recently updated and revised plan<sup>4</sup>, the Department proposes to develop one or more strains that will remain closer to shore during the summer than the present strains and provide additional fishing opportunities for near shore anglers.

### Salmon Stamp Expenditures Fiscal Years 1983 - 2003



A - Projected spending shown for FY02 and FY03.

<sup>3</sup>Wisconsin Department of Natural Resources. 1988. Lake Michigan Steelhead Fishery Management Plan. Administrative Report No. 29. Bureau of Fisheries Management, Department of Natural Resources, Madison, Wisconsin.

<sup>4</sup>Wisconsin Department of Natural Resources. 1999. Lake Michigan Steelhead Fisheries Management Plan. Administrative Report No. 44. Bureau of Fisheries Management, Department of Natural Resources, Madison, Wisconsin.

## **READER'S GUIDE**

This report summarizes public support for the Great Lakes salmon and trout fisheries program. It includes *planned* expenditures of Salmon Stamp (SS) revenues for fiscal years 2000, 2001, 2002 and 2003 as well as the total *actual* expenditures, from all sources for fiscal years 2000 and 2001. (The fiscal year runs from July 1 of one year through June 30 of the next.) In most cases, actual expenditures exceed Salmon Stamp contributions since other fishing license revenues also support this program. Expenditures are presented by project. Each project is categorized as Lake Michigan evaluation, research, and experimental activities; Lake Superior evaluation, research, and experimental activities; propagation activities (including physical facilities developments); or Great Lakes Salmon & Trout Stamp program administration (the cost of producing the Salmon Stamp and this report). Each category is further divided into three groups: (a) activities ending in FY00 and FY01, (b) activities continuing from FY01 through FY02, and activities beginning in FY03. Costs associated with travel, special services, supplies, program overhead, limited term employee (LTE) salaries and a few permanent salaries (which are directly funded by SS funds) are included. "Budgeted SS Expenditures" include only costs of supplies and LTE salaries that are allocated during project approval. "Actual SS Expenditures" include not only costs of supplies and LTE salaries, but also permanent salaries, fringe benefits and program overhead which are assigned as funds are spent. "Total Actual Expenditure" figures in Table 1 and the "Total Program Expenditures (all funding sources)" for individual projects include Salmon Stamp expenditures for all cost categories as well as expenditures from other funding sources supporting these programs. While permanent employee salaries paid by SS funds are shown in this report for each category and LTE salaries are included by project, fringe benefits for both are summarized only in Table 1 on page ten. Also in Table 1, total funding for program overhead (a prorated amount of additional costs to the fisheries program for annual leave, compensatory time and routine office and administrative costs) is shown. Actual costs for these expenses are spread across each individual project as noted above.

Sport Fish Restoration Funds support projects described in this report.



### **Providing Outdoor Recreation:**

*Our citizens and visitors enjoy outdoor recreation  
and have access to a full range of nature-based  
outdoor recreational opportunities*

### **-- Goal 4 of the DNR Strategic Plan**

A six-year plan encompassing planned expenditures for use of Salmon Stamp sale revenues in the years 1983-1988 was published in 1983<sup>5</sup>. Several summaries of expenditures of Salmon Stamp sale revenues have been published. The reports summarize the fiscal years 1983-1984<sup>6</sup>, 1985-1986<sup>7</sup>, 1987-1992<sup>8</sup>, 1993-1994<sup>9</sup>, 1995-1997<sup>10</sup>, 1996-1999<sup>11</sup> and 1998-2001<sup>12</sup>.

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<sup>5</sup> Krueger, C. C. 1983. Expenditure Plan for Great Lakes Salmon and Trout Stamp Revenues, 1983-1988. Administrative Report No. 18. Bureau of Fisheries Management, Department of Natural Resources, Madison, Wisconsin.

<sup>6</sup> Hansen, M. J. 1984. Expenditures of Great Lakes Salmon and Trout Stamp Revenues, 1983-1984. Administrative Report No. 22. Bureau of Fisheries Management, Department of Natural Resources, Madison, Wisconsin.

<sup>7</sup> Welch, D. 1987. Expenditures of Great Lakes Salmon and Trout Stamp Revenues, 1985-1986. Administrative Report No. 26. Bureau of Fisheries Management, Department of Natural Resources, Madison, Wisconsin.

<sup>8</sup> Horns, W. H., Zilker, D. A., & Perkins, L. November 1993. Expenditures of Great Lakes Trout and Salmon Revenues 1987-1992. Administrative Report No. 36. Bureau of Fisheries Management, Wisconsin Department of Natural Resources, Madison, Wisconsin.

<sup>9</sup> Lentz, D. R. 1994. Expenditures of Great Lakes Trout and Salmon Stamp Revenues 1993-1994. Administrative Report No. 37. Bureau of Fisheries Management, Wisconsin Department of Natural Resources, Madison, Wisconsin.

<sup>10</sup> Oldenburg, P. S. 1996. Expenditures of Great Lakes Salmon and Trout Stamp Revenues, Fiscal Years 1995-1997. Administrative Report No. 40. Bureau of Fisheries Management and Habitat Protection, Department of Natural Resources, Madison, Wisconsin.

<sup>11</sup> Keim, S. 1998. Expenditures of Great Lakes Salmon and Trout Stamp Revenues, Fiscal Years 1996-1999. Administrative Report No. 42. Bureau of Fisheries Management and Habitat Protection, Department of Natural Resources, Madison, Wisconsin.

<sup>12</sup> Topel, B. 2000. Expenditures of Great Lakes Salmon and Trout Stamp Revenues, Fiscal Years 1998-2001. Administrative Report No. 45. Bureau of Fisheries Management and Habitat Protection, Department of Natural Resources, Madison, Wisconsin

For specific information on Great Lakes stocking numbers, two cumulative reports, updated annually, can be obtained from Bill Horns, Great Lakes Specialist, in Madison or accessed online at the websites below: *Wisconsin's Lake Michigan Salmonid Stocking Program* and *Wisconsin's Lake Superior Salmonid Stocking Summary*.

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

Attn.: Bill Horns, Great Lakes Specialist

Wisconsin Department of Natural Resources  
Bureau of Fisheries Management and Habitat Protection  
P.O. Box 7921  
101 South Webster Street  
Madison, Wisconsin 53707  
Phone: (608) 266-8782 or (608) 266-1877  
E-mail: hornsw@dnr.state.wi.us

For more information on Great Lakes fishing and many other subjects, visit the DNR Website at:

**<http://www.dnr.state.wi.us/>**

Find the ***Fish Wisconsin*** page by clicking on

***"Outdoor Activities"***

and then

***"Fishing"***

Lake Michigan specific information is available at

**<http://www.dnr.state.wi.us/org/water/fhp/fish/lakemich>**

Thank you for your interest and feedback.

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*This publication is available in alternative format (large print, Braille, audio tape, etc) upon request. Please call (608) 267-7498 for more information.*

# CONTACT LIST

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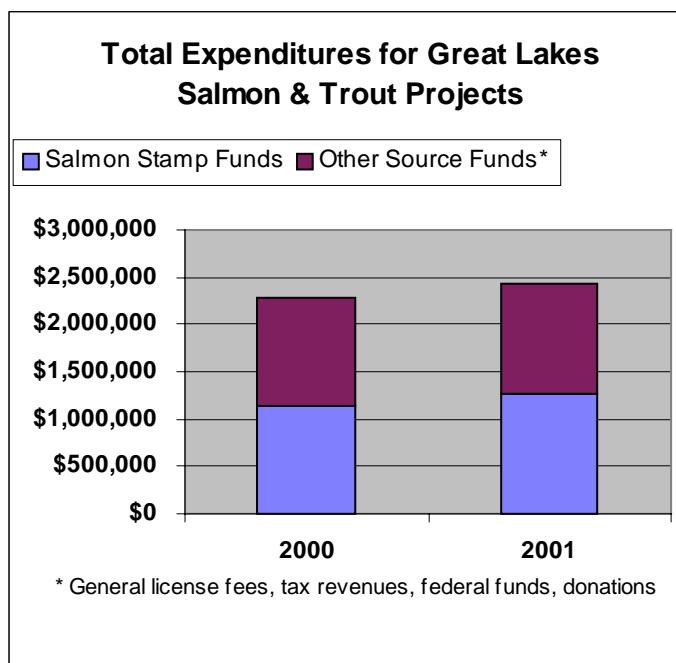
**Table 1 Expenditures of Great Lakes Salmon and Trout Stamp revenues in fiscal years 2000-2003.**

<b>Planned Expenditures</b>	<b>FY00</b>	<b>FY01</b>	<b>FY02</b>	<b>FY03</b>
<b>Evaluation, Research, and Experimental Activities</b>				
<i>Lake Michigan</i>				
<b>Evaluation, Research, and Experimental Activities</b>	\$236,381	\$228,601	\$212,049	\$200,849
<b>Permanent Salaries</b>	\$59,508	\$71,577	\$73,009	\$74,468
<i>Lake Superior</i>				
<b>Evaluation, Research, and Experimental Activities</b>	\$134,412	\$134,412	\$110,015	\$110,425
<b>Permanent Salaries</b>	\$47,660	\$60,514	\$55,669	\$57,105
<b>Propagation Activities</b>				
<b>Operations</b>	\$614,075	\$614,075	\$707,795	\$643,595
<b>Permanent Salaries</b>	\$26,806	\$30,438	\$31,047	\$31,668
<b>Program Administration</b>				
	\$13,000	\$6,000	\$13,200	\$6,000
<b>Miscellaneous Programs</b>				
	\$0	\$0	\$15,000	\$15,000
<b>Fringe Benefits</b>				
	\$76,847	\$107,504	\$101,315	\$103,341
<b>Program Overhead</b>				
	\$73,652	\$92,258	\$95,500	\$98,000
<b>Total Planned Expenditures of Great Lakes Salmon and Trout Revenues</b>	<b>\$1,282,341</b>	<b>\$1,345,379</b>	<b>\$1,414,599</b>	<b>\$1,340,451</b>

<b>Actual Expenditures of Great Lakes Salmon and Trout Stamp Revenues</b>	\$1,131,072	\$1,263,788	N/A	N/A
<b>Total Actual Expenditures for Great Lakes Salmon &amp; Trout Stamp Supported Projects (All Funding Sources)</b>	<b>\$2,277,804</b>	<b>\$2,428,912</b>	<b>N/A</b>	<b>N/A</b>

**Table 2 Annual Great Lakes Salmon and Trout Stamp account activities, fiscal years 2000-2003.**

	FY00	FY01	FY02	FY03
<b>Beginning cash balance</b>	\$955,242 <sup>13</sup>	\$859,827	\$789,186	\$567,734 <sup>14</sup>
<b>Revenues</b>	\$1,035,657	\$1,193,147	\$1,193,147 <sup>14</sup>	\$1,193,147 <sup>14</sup>
<b>Total available funds</b>	\$1,990,899	\$2,052,974	\$1,982,333 <sup>14</sup>	\$1,760,881 <sup>14</sup>
<b>Total expenditures</b>	\$1,131,072	\$1,263,788	\$1,414,599 <sup>14</sup>	\$1,340,451 <sup>14</sup>
<b>Cash balance</b>	\$859,827	\$789,186	\$567,734 <sup>14,15</sup>	\$420,430 <sup>14,15</sup>



<sup>13</sup> A spike in revenue occurred in FY 99 because of DNR conversion to the Automated License Issuance System. The resulting higher cash balance carried forward as the increased revenue was budgeted out in spending programs.

<sup>14</sup> Estimated Figures

<sup>15</sup> Currently unforeseen capital improvements or emergency spending for salmon and trout production facilities may reduce cash balances for FY02 and FY03. Statewide capital improvement needs in the fish production system are under review.

# LAKE MICHIGAN EVALUATION, RESEARCH, AND EXPERIMENTAL ACTIVITIES

## *Activities ending in FY00 and FY01*

### **Sauk and Oak Creek Habitat Improvement Project**

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Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$11,490	\$11,490	\$0	\$0
Actual Salmon Stamp Expenditures <sup>17</sup>	\$5,362	\$2,524	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$10,608	\$4,964	N/A	N/A

Contact: Brad Eggold, Fisheries Supervisor, Milwaukee.

Over the last ten years, Sauk Creek in Port Washington has become very wide and shallow. During periods of low water, many sections are difficult for trout and salmon to navigate. DNR personnel installed 25 lunker structures to provide cover and resting areas for trout and salmon, created a K-dam to provide a deeper plunge pool for fish migration, repaired 300 feet of eroding stream banks, and narrowed & deepened 2,000 feet of the stream to help migrating salmon and trout. Through the efforts of the DNR, local sports clubs, and businesses, some steelhead, chinook and coho salmon were stocked in Sauk Creek in 1996 and will be stocked again in the future. This will improve the fish homing during spawning migrations and should provide better fishing. In addition, creel survey results from 1995 and 1996 indicate that fishing pressure has increased 200 percent and harvest/catch have increased 300 percent since the improvements began.

In 2000 and 2001, WDNR personnel repaired several lunker structures that had become non-functional, repaired the K-dam, and added some riprap along a section of stream. In addition, technicians installed the Sauk Creek Rehabilitation sign donated by the Ozaukee Area Great Lakes Sportfishermen. This sign details the work noted above and was installed at the end of Sauk Creek.



**Chinook Egg Harvesting in Full Operation at Strawberry Creek Weir**

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## **Renovation of Research Vessel Perca**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$7,780	\$0	\$0	\$0
Actual Salmon Stamp Expenditures <sup>17</sup>	\$7,780	\$0	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$96,060	\$0	N/A	N/A

*Contact: Bill Horns, Great Lakes Fisheries Specialist, Madison*

DNR acquired and refitted a 45-foot aluminum research and assessment vessel, the Perca, for use on Lake Michigan and Green Bay. Some Salmon Stamp funds have been allocated to help pay for the retrofitting work. The amount of Salmon Stamp money has amounted to less than 5% of the entire cost of purchase and retrofitting. This vessel will be available for salmon and trout assessments for some years to come.



**In the Foreground is the Research Vessel Perca Tied up at the  
Sturgeon Bay Service Center Dock**

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## ***Activities continuing from FY01 through FY03***

### **Assessment of Seeforellen Strain Brown Trout**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$4,450	\$4,450	\$3,400	\$3,400
Actual Salmon Stamp Expenditures <sup>17</sup>	\$3,601	\$1,731	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$7,124	\$3,405	N/A	N/A

*Contact: Justine Hasz, Fisheries Biologist, Peshtigo.*

From 1991 to 1993, three strains of brown trout were stocked experimentally in Green Bay and Lake Michigan to increase the number of brown trout caught by anglers and to test the potential of a new strain for producing trophy-size fish. The three strains were domestic Wild Rose, feral Wild Rose, and Seeforellen.

DNR staff marked yearling brown trout (approximately 578,000 fish) with fin clips to identify ages of returning fish, to monitor their growth, and to determine the percentage of the spawning population of each age.

The relative annual survival of each strain varied. The trophy potential of seeforellen is very promising; they live longer, and most three- and four-year-old brown trout caught by anglers are members of this strain. Also, at older ages they are larger than the other strains. In 1996, the seeforellen strain broke the Wisconsin brown trout record twice, increasing the record by 2.6 pounds to 35.12 pounds.

Though this project was to be completed when brown trout from the 1991 through 1993 stockings were no longer found, it will now continue as a source of funding to allow collection of seeforellen for brood stock. Like their predecessors, the progeny have the advantage of larger growth and perform well against other strains. The current plan is to produce 25% of the brown trout stocked (about 250,000 fish) from this strain. Broodstock are being collected from the Menominee, Kewaunee and Root River trapping facilities. Fish stocked at those locations are marked with a fin clip to identify them as Seeforellen strain.

### **Lake Michigan Creel Survey**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$106,500	\$106,500	\$106,000	\$106,000
Actual Salmon Stamp Expenditures <sup>17</sup>	\$74,691	\$86,568	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$147,780	\$170,260	N/A	N/A

*Contact: John Kubisiak, Fisheries Biologist, Plymouth.*

Creel surveys are conducted to monitor the sport harvest of salmon and trout from Lake Michigan. Creel clerks conduct the surveys from March through October to determine fishing pressure, harvest, harvest size, and harvest rates of salmon and trout. Creel clerks are stationed along the Lake Michigan shore and operate on a stratified, random schedule. They count anglers, cars, and boats to determine pressure. At the same time, they interview anglers to estimate the harvest as well as measure and weigh fish. Creel clerks conduct over 13,000 interviews each year. The clerks record additional data by collecting: fin clips, Floy tags, coded wire-tagged heads from harvested fish, stomach contents for diet studies, and scales for determining the age of fish.

Starting in 2001, the creel survey collected additional data on steelhead for genetic analysis and yellow perch for age analysis. Scale samples and pieces of fin were collected from steelhead to determine the contribution

of non-hatchery steelhead to the Lake Michigan population. Yellow perch spines were collected to properly age yellow perch caught by sport fishermen.

When combined with information about the commercial and charter harvests, the creel data help to estimate total harvest. This aids in developing stocking strategies and in decisions on how to manage the Lake Michigan fishery. In addition, information from the creel surveys and index sampling helps to adapt regulations to best manage salmonid populations.

**DNR Biologist Sue Marcquenski (Foreground) and State Hygiene Lab Biologist Marty Collins (Background) Conduct Necropsies on Many of the Fish Processed Through DNR Weirs to Assess the Health of the Fish Population**



## **Analysis of Lake Michigan Sport Fishery and Creel Surveys**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$13,800	\$13,800	\$16,150	\$16,150
Actual Salmon Stamp Expenditures <sup>17</sup>	\$19,105	\$20,187	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$37,800	\$39,704	N/A	N/A

*Contact: John Kubisiak, Fisheries Biologist, Plymouth.*

The goal of this project is ensure that the Lake Michigan sport fishery operates optimally, based on survey data from moored boats, charters, and from Lake Michigan creel surveys. These valuable data help to estimate fishing effort, catch rates, species composition and size of fish harvested. Data have been used to:

- 1) evaluate the effectiveness of stocking -- either fall fingerling accelerated-growth coho salmon or spring yearling coho salmon;
- 2) streamline the creel survey so the effort is directed at sites and times anglers are present;
- 3) analyze the yellow perch component of the fishery and provide recommendations on current seasons and bag limits for this important near-shore fishery; and
- 4) guide the geographic distribution of stocking.

In the future, this project will play the important role of evaluating coho salmon rearing techniques and the need for changing salmonid stocking levels and catch limits. The effects of regulation changes and the population dynamics of Lake Michigan will be closely monitored.

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## **Lake Trout Restoration and Management**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$20,251	\$20,251	\$19,624	\$19,624
Actual Salmon Stamp Expenditures <sup>17</sup>	\$60,004	\$58,240	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$118,720	\$114,545	N/A	N/A

*Contact: Mike Toney, Lake Michigan Subteam Leader, Sturgeon Bay.*

During 2000 and 2001, lake trout work was concentrated primarily on four project segments:

- 1) Annually determine the amount of lamprey wounding and scarring on lake trout near Sturgeon Bay, Milwaukee, and in the Mid-lake Reef Complex;
- 2) Assess the continuing buildup of a mature spawning population consisting of several strains of lake trout in the Mid-lake Reef Complex;
- 3) Assess the relative survival and growth of lake trout stocked at two different sizes as yearlings (10 vs. 20/pound) near Sturgeon Bay; and
- 4) Conduct the spring lake-wide survey at Wisconsin sites from Washington Island to Sheboygan.

The USFWS Green Bay-Fisheries Resource Office (FRO) with assistance from Department staff conducted the 2000 and 2001 lamprey wounding rate assessments off Clay Banks. Lamprey work was combined with a planned project to assess lake trout abundance on historically productive reefs throughout Lake Michigan. Department staff conducted lamprey wounding rate assessments off Milwaukee and in the Midlake Reef Complex. Lamprey wounding rates remain low at all Wisconsin sites. In the historically productive Mid-lake Reef Complex, spawning surveys in 2000 on the Sheboygan and East Reefs and in 2001 on the East Reef only have documented a substantial spawning population consisting mostly of Marquette strain fish that have been stocked there annually since the early 1980's. Twelve year classes of mature fish as old as 18 years of age have been found there. The experiment to determine which strain(s) are best adapted to life and reproduction in this area is still in the early phase since most of these year classes have just reached maturity. The size-at-stocking experiment began in 1996 with the first of three successive-year-paired yearling stockings. The evaluation is still in its early phase but preliminary data indicates no consistent difference in survival or growth between the two size groups through age six. The objective of the spring lake-wide survey, jointly conducted by state, federal and tribal agencies, is to establish trends in relative abundance, survival, growth, diet and general health of lake trout and chinook. Agencies around the Lake want to detect the early signs of change in an effort to help avert catastrophes like the chinook die-off of the late 1980's. For 2000 and 2001, the Washington Island assessment was not conducted because of conflicts with other survey work done using the research vessel Barney Devine. Surveys conducted during the past three years have not found any sign of natural lake trout surviving to the yearling stage in Wisconsin waters or elsewhere in Lake Michigan. Diet data is still being summarized. No obvious health problems have been found in lake trout examined. Fish health specialists conducted various studies on lake trout samples collected through this project, including the possible link between lack of lake trout reproduction and Early Mortality Syndrome. During fall 2001, a Department Fisheries Technician from Sturgeon Bay provided onboard technical assistance to a UW-Milwaukee researcher who began a study of early life history of lake trout on the Sheboygan Reef. Evidence of lake trout eggs being deposited on very good spawning substrate on the Sheboygan Reef was found through the use of a remote-controlled underwater vehicle.

In 2002 and 2003, this project will contribute to the continuing joint state, federal, and tribal lake-wide evaluation of lake trout stocked by the U.S. Fish and Wildlife Service. Staff from Sturgeon Bay and Milwaukee will continue to conduct joint assessments, using the Barney Devine and contracted commercial boats and gear, which will concentrate primarily on the four project segments discussed above. In addition, our efforts will include continued cooperation with early life history investigations on the Mid-lake Reef Complex, being conducted jointly with the UW-Milwaukee Great Lakes Water Institute (John Janssen, principal investigator) and the University of Michigan. Samples of fish will be provided upon request to researchers nation-wide for special studies. Finally, fisheries staff from Wisconsin will join those from other agencies around Lake Michigan to critically examine lake trout rehabilitation efforts and results to date and produce a revised management plan.

## Salmon and Trout Broodstock Management and Evaluation

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Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$48,110	\$48,110	\$43,925	\$39,925
Actual Salmon Stamp Expenditures <sup>17</sup>	\$54,223	\$32,935	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$75,049	\$89,678	N/A	N/A

Contact: John Kubisiak, Fisheries Biologist, Plymouth.

regarding coho, chinook and steelhead management at the Root River Steelhead Facility.

Steve Hogler, Fisheries Biologist, Mishicot..

regarding steelhead management at Besadny Fisheries Facility.

Paul Peeters, Fisheries Biologist, Sturgeon Bay.

regarding coho and chinook management at Besadny and Strawberry Creek Facilities.

Each year salmon and trout are stocked in many locations. Those stocked in Strawberry Creek, the Kewaunee River, and the Root River provide the basis for continuation of the salmon and trout program in Lake Michigan. When fish return to those rivers as adults attempting to spawn, fertilized eggs are collected for the hatcheries to raise. This project is an assessment of biological characteristics of the stocked fingerlings, yearlings, and the mature returning adults. Annual data collected include: length, weight, age, sex, fin clip, and the percent that survive to adulthood. Various lots of chinook, coho and steelhead are marked with fin clips or tags prior to stocking to evaluate the performance of different strains or to assess alternative rearing strategies and disease treatments. Long-term trends indicate whether the desired characteristics of size, health, time of spawning run and survival are achieved.

The Strawberry Creek Weir is the primary site for the spawning of chinook salmon. The C. D. "Buzz" Besadny Anadromous Fisheries Facility, on the Kewaunee River, and the Root River Steelhead Facility are used for recovering adult coho salmon and steelhead, and serve as backup facilities for recovery of spawning chinook salmon. Annual reports are available for: 1) all species returning to the Root River Steelhead Facility (contact John Kubisiak), 2) coho and chinook salmon returning to the Besadny Facility and Strawberry Creek (contact Paul Peeters) and 3) steelhead returning to the Besadny Facility (contact Steve Hogler).



Salmon Stamp Funds Helped Pay for a Pipeline Has Been Installed to Increase Water Flow Through Strawberry Creek Weir

## **Feral Steelhead Broodstock Management Project**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$10,000	\$10,000	\$10,250	\$10,250
Actual Salmon Stamp Expenditures <sup>17</sup>	\$8,752	\$18,169	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$17,315	\$35,734	N/A	N/A

*Contact: Steve Hogler, Fisheries Biologist, Mishicot.*

This project is designed to assess the return of the three strains of steelhead that Wisconsin stocks into Lake Michigan to the Besadny Facility and to collect biological data such as length, weight, and sex. The collected data will be the basis for efficient management of the species providing anglers a continuation of a popular tributary stream and Lake Michigan fishery. Management of steelhead is part of the Lake Michigan Integrated Fisheries Plan, as well as the Steelhead Management Plan.

## **Oconto River Habitat Improvement Project**

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<b>Year</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$12,000	\$12,000	\$7,700	\$0
Actual Salmon Stamp Expenditures <sup>17</sup>	\$5,353	\$7,328	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$10,591	\$14,412	N/A	N/A

*Contact: Justine Hasz, Fisheries Biologist, Peshtigo.*

This is a pilot project on the lower Oconto River being done in partnership between the DNR and Trout Unlimited to make improvement in an area devoid of holding habitat. The project includes placing 600 large boulders, creating six current deflectors, two islands, and digging a channel adjacent to each island. When completed, this work will greatly increase the diversity of habitat and provide holding areas seasonally for trout, salmon, smallmouth bass and a wide variety of fish and aquatic life. To date, Trout Unlimited, the Hornberg Fly Fishers, and the Oconto Sportsman's Club have committed \$13,000 toward this \$19,000 project. The level of partner funding will reduce the Salmon Stamp portion proportionately. This project was completed during August of 2001.

## **Nearshore Stocking of Rainbow Trout**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$2,000	\$2,000	\$5,000	\$5,500
Actual Salmon Stamp Expenditures <sup>17</sup>	\$3,475	\$4,302	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$6,876	\$8,460	N/A	N/A

*Contact: Steve Hogler, Fisheries Biologist, Mishicot*

Changes in the nearshore environment and the strains of stocked trout and salmon have decreased the opportunity for anglers to catch these fish from piers and from along the shoreline of Lake Michigan. Forage concerns on Lake Michigan require a fish species that does not feed exclusively on alewife. Domestic rainbow trout are able to utilize all available forage and tolerate warmer nearshore temperatures better than other trout, making them an ideal choice for this type stocking program. This project is meant to utilize experimental stockings to determine the effectiveness of using rainbow trout to restore nearshore-fishing opportunities.

With the assistance of Lake Michigan anglers at public meetings, one strain of rainbow trout -- the Arlee strain -- was selected for stocking into Wisconsin's nearshore waters of Lake Michigan. Fish of this strain are

currently stocked by Illinois into Lake Michigan. The program design consists of a three-year study with 10,000 fish stocked at Kenosha, Milwaukee, Sheboygan, Manitowoc, Algoma, and Sister Bay starting in the spring of 2001. By the fall of 2001, anglers were beginning to catch Arlee in and near several Lake Michigan ports. It is hoped that in 2003 a second strain of rainbow will be added to the experimental design of this project.

Evaluation of the results of the study will continue until 2008 before a final report will be issued. Because of forage concerns on Lake Michigan, an equal number of yearlings of another stocked nearshore species will have to be cut to accommodate the nearshore rainbow. After discussions with Lake Michigan anglers, it was decided to reduce the stocking of brook trout and brown trout for the duration of this study. This will be a temporary cut until the rainbow study can be evaluated.



**Arlee Strain Rainbow Trout Just Prior to Stocking**

### **Permanent Employee Salaries - Lake Michigan**

Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures	\$56,026	\$57,938	\$73,009	\$74,468

(Editor's Note: Planned Salmon Stamp expenditures figures are offered here for reference. In actuality, permanent employee salaries are spread across the appropriate Lake Michigan projects listed above and are accounted for in the total program expenditure figures for those projects.)

Permanent employee salaries are for Fisheries Technicians at the Great Lakes Research Facility. They work on lake trout assessments, manage operations at the Root River Steelhead Facility, conduct surveys and evaluations, collect data, and manage databases.

## *Activities beginning in FY02*

None

**For more information on the Lake Michigan Fishery visit:**

<http://www.dnr.state.wi.us/org/water/fhp/fish/lakemich>

**Coho Salmon Fingerlings are  
Weighed at the Lake Mills  
Hatchery Prior to Being  
Moved on DNR Tanker**



# LAKE SUPERIOR EVALUATION, RESEARCH, AND EXPERIMENTAL ACTIVITIES

## *Activities ending in FY00 and FY01*

None

## *Activities continuing from FY01 through FY02*

### **Brule River Lamprey Barrier Operation**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$18,360	\$18,360	\$18,620	\$18,620
Actual Salmon Stamp Expenditures <sup>17</sup>	\$11,350	\$14,538	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$22,457	\$28,593	N/A	N/A

*Contact: Dennis Pratt, Fisheries Biologist, Superior.*

The sea lamprey, a parasitic species native to the Atlantic Ocean, invaded Lake Superior by the 1940's. Sea lampreys spawn and use the lake's tributary streams for reproduction and juvenile rearing purposes. Once mature, they enter the lake and begin killing fish. Each lamprey may kill 20 to 40 pounds of fish in this stage, and they represent the largest single threat to the Lake Superior fishery. Wisconsin DNR has built and maintains two sea lamprey barriers on tributaries of Lake Superior (Middle and Bois Brule Rivers). The Brule River sea lamprey barrier has trapped over 24,000 lampreys since 1986 and both barriers prevent them from reproducing in areas upstream. The Wisconsin barriers are an extremely important part of an international effort to reduce the impacts of sea lampreys on the Great Lakes fishery.

The Brule barrier supports the Lake Superior fishery in an additional way. Time-lapse video monitoring equipment counts all salmonids migrating upstream through the barrier's fishway, allowing accurate assessment of spawning runs. This information has helped the Department improve the management strategies of all Wisconsin's Lake Superior self-sustaining lake-run tributaries.

This past biennium we have used funds to upgrade some of the video equipment; repair and upgrade safety fencing; replace entrance a road gate; replace sea lamprey exclusion screens and entrance trap funnels; and upgrade and repair an access road.

### **Creel Survey and Index Sampling**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$59,880	\$59,880	\$35,160	\$35,160
Actual Salmon Stamp Expenditures <sup>17</sup>	\$54,934	\$69,202	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$107,248	\$136,104	N/A	N/A

*Contact: Steve Schram, Lake Superior Fisheries Biologist, Bayfield.*

Annual creel surveys are conducted to monitor the sport harvest of salmon and trout from Lake Superior. Creel clerks randomly survey anglers at boat landings throughout the year. When combined with information

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

about the commercial and charter harvests, the creel data help to estimate population size, to develop stocking strategies, and to decide how to manage the Lake Superior fishery. Index sampling with graded mesh gill nets during the summer monitors long term trends in the fishery. Information from the creel surveys and index sampling helps to adapt regulations to best manage salmon and trout populations. These surveys also measure the success of other Lake Superior fishery management projects, including the Brule River lamprey barrier and the lake trout rehabilitation program.

## **Lake Trout Restoration and Management**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$45,860	\$45,860	\$39,090	\$39,090
Actual Salmon Stamp Expenditures <sup>17</sup>	\$75,860	\$75,633	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$150,093	\$148,754	N/A	N/A

*Contact: Steve Schram, Fisheries Biologist, Bayfield.*

Lake trout restoration and management addresses the two critical factors regulating lake trout populations: harvest levels and sea lamprey-related fish mortality. The controls on harvest include constraints on commercial and sport fishing. Lake trout populations have responded well to these regulations. Sea lamprey-related fish mortality remains an obstacle to rehabilitation, and lamprey controls must continue.

Expenses under this project cover costs associated with the spring and fall lake trout assessments. This project evaluates the long-term trends in the lake trout population including distribution, abundance, growth and mortality rates. Also, in an effort to improve natural reproduction, almost 16 million lake trout eggs were placed in "astro-turf bundles" on Devils Island Shoal as an alternate stocking strategy. A published report on the results of this study will be forthcoming.

DNR fisheries biologists use an accurate technique for determining the age of fish. By examining otoliths, bones from the inner ear, one can determine the age of fish. Lake trout are now known to live much longer than previously thought. This information allows a more accurate analysis of lake trout population age structures and can help the DNR adjust catch regulations and stocking strategies.

Lake trout restoration and management efforts have resulted in a tremendous comeback for lake trout, and stocking in the Apostle Islands area has been discontinued. One excellent indicator of the health of the Lake Superior lake trout population is the increasing number of native lake trout caught as a percentage of total lake trout caught. For instance, in the Ashland-Bayfield area, 33.9 percent of all lake trout caught in 1985 were native lake trout. By 2000, the level had risen to 90.3 percent.

Despite the recent successes, complete restoration has not been achieved. Efforts to monitor harvest, lamprey-related mortality, age, and survival must continue to keep the Lake Superior lake trout population healthy and offer good angling opportunities.

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<sup>16</sup>LTE salaries & supplies

<sup>17</sup>LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## Management Plan for Lake Superior Tributaries

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Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$5,352	\$5,352	\$4,145	\$4,350
Actual Salmon Stamp Expenditures <sup>17</sup>	\$21,684	\$26,947	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$42,902	\$53,000	N/A	N/A

Contact: Dennis Pratt, Fisheries Biologist, Superior.

This project focuses on protecting, restoring, and enhancing the unique, self-sustaining lake-run salmon and trout fishery along the Lake Superior shoreline. The coldwater tributaries flowing into Lake Superior are unique trout resources in Wisconsin. They are the spawning and nursery areas for lake-run rainbow and brown trout as well as coho and chinook salmon. The majority of these fisheries is self-sustaining and, if managed properly, can provide stable lake and stream fisheries without expensive stocking.

During the next phase of this project, DNR staff will take steps toward the restoration of tributary fisheries. Many specific activities will contribute to this effort:

- Categorize each tributary stream section on the basis of its production of each salmon and trout species.
- Identify barriers to fish habitat development, such as lack of spawning areas and excess debris.
- Prioritize goals and objectives to protect and restore each tributary fishery.
- Develop a list of each tributary's problems and tactics to overcome them.
- Use this information to develop a basin-wide watershed management plan.

One important tributary that may be restored in the future is the Iron River. When Northern States Power Company completes removing the abandoned Orienta dam, a new lamprey barrier will be installed to prevent lamprey access to the upstream watershed. That barrier<sup>90</sup> will also block upstream passage by trout and salmon until concerns about transmittal of disease to the Iron River National Fish Hatchery and other issues have been addressed.



**DNR Propagation Technician Adds Milt to Harvested Brown Trout Eggs  
Prior to Placing Them in an Incubation Tray**

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## **Brook Trout Management Plan for Wisconsin's Lake Superior Basin**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$4,960	\$4,960	\$13,000	\$13,205
Actual Salmon Stamp Expenditures <sup>17</sup>	\$7,954	\$12,894	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$15,737	\$25,361	N/A	N/A

*Contact: Dennis Pratt, Fisheries Biologist, Superior.*

Brook trout were the only known salmonid species originally inhabiting coldwater tributaries flowing into Wisconsin's Lake Superior. Early visitors reported abundant stream populations and a unique group of brook trout they called rock trout, which were caught along the rocky shoreline of the Bayfield Peninsula and seasonally in streams, when they ascended to spawn. Many different factors led to brook trout decline in the late 1800's and early 1900's. Today, brook trout populations are very small in comparison to the years prior to the late 1800's. During the last biennium this project has funded Wisconsin's activities on the Brook Trout Subcommittee of the Great Lakes Fishery Commission leading to the development of a lake-wide rehabilitation plan to improve brook trout abundance. During this current biennium, funds will be used to develop Wisconsin's strategies that might be implemented to attempt restoration of brook trout in Wisconsin's portion of the Lake Superior drainage.

## **Permanent Employee Salaries - Lake Superior**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures	\$46,707	\$47,968	\$55,669	\$57,105

(Editor's Note: Planned Salmon Stamp expenditures figures are offered here for reference. In actuality, permanent employee salaries are spread across the appropriate Lake Superior projects listed above and are accounted for in the total program expenditure figures for those projects.)

Permanent employee salaries are for a Fisheries Biologist and a Fisheries Technician on Lake Superior. The Fisheries Biologist conducts evaluations and research to support the fish stocking program for the Lake Superior watershed. The primary responsibilities of the Fisheries Technician are to conduct creel surveys and to monitor the harvest of lake trout by commercial fishers.

## ***Activities beginning in FY02***

None

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<sup>16</sup>LTE salaries & supplies

<sup>17</sup>LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

# PROPAGATION ACTIVITIES

## *Activities ending in FY00 and FY01*

None

## *Activities continuing from FY01 through FY03*

### **Basic Hatchery Services**

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Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$37,849	\$37,849	\$49,862	\$49,862
Actual Salmon Stamp Expenditures <sup>17</sup>	\$115,274	\$87,565	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$228,074	\$172,221	N/A	N/A

*Contact:* Tom Desjardins, Natural Resources Operations Supervisor, Bayfield Hatchery  
Randy Link, Fish Propagation Supervisor, Kettle Moraine Springs Hatchery, Adell.  
Doran Arrowood, Fish Propagation Supervisor, Langlade Rearing Station, White Lake.  
regarding Thunder River Rearing Station.  
Steve Fajfer, Natural Resources Operations Supervisor, Wild Rose Hatchery, Wild Rose.  
regarding Westfield Hatchery

Funds expended in this project area are for basic operating services at Bayfield, Kettle Moraine Springs, Thunder River and Westfield Hatcheries. These expenses include: facilities and grounds maintenance; operational expenses such as telephones, electricity and heat; staff travel costs; supplies; computer equipment and costs associated with conducting public educational events and tours.



**A Sorter at Bayfield Hatchery Detects and Discards Defective Eggs**

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## Coldwater Production

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Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$466,426	\$466,426	\$461,125	\$461,125
Actual Salmon Stamp Expenditures <sup>17</sup>	\$495,173	\$595,951	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$972,661	\$1,106,540	N/A	N/A

Contact *Tom Desjardins, Natural Resources Operations Supervisor, Bayfield Hatchery.*  
*Randy Link, Fish Propagation Supervisor, Kettle Moraine Springs Hatchery, Adell.*  
*Robert Fahey, Hatchery Superintendent, Lake Mills Hatchery, Lake Mills.*  
*Doran Arrowood, Fish Propagation Supervisor,, Langlade Rearing Station, White Lake.*  
*regarding Langlade & Thunder River Rearing Stations*  
*Steve Fajfer, Natural Resources Operations Supervisor, Wild Rose*  
*regarding Westfield & Wild Rose Hatcheries*

This project covers production costs at six hatcheries. Because activities vary by hatchery, a short discussion concerning each follows.

### **Bayfield Hatchery**

Annually, Bayfield Hatchery produces up to 1.5 million fingerling and yearling trout and salmon for Lakes Michigan and Superior. These funds cover all of the hatchery's spawning, hatching, rearing and stocking costs. The majority of this funding will cover hatchery operation expenses that are directly related to Great Lakes fish propagation and stocking, such as: electricity costs; fish food; vehicle operation and maintenance; building repairs and maintenance; and supplies and equipment. In the summer of 2001, a second discharge pipeline was installed that allows for quicker discharge of wastewater from the hatchery's settling ponds. Also included is debt service on construction on a water pipeline completed in a previous biennium.

### **Kettle Moraine Springs Hatchery**

Kettle Moraine Springs Hatchery is part of the DNR's very successful steelhead stocking program. It produces three strains of steelhead: approximately 181,000 each of Skamania and Chambers Creek and 161,000 of Ganaraska per year. Salmon Stamp funds cover operational expenses that are directly related to fish propagation and stocking such as: electricity costs; fish food; vehicle operation and maintenance; building repairs and maintenance; and supplies and equipment. These funds pay for the production of steelhead and the incubation and hatching of coho eggs to be reared at Lake Mills Hatchery and Bayfield Hatchery. Also, a hatchery distribution truck is used to stock fish along the Lake Michigan shore.

During the past biennium, several initiatives have produced excellent results. The wastewater handling system was improved with the addition of a lift pump station to move a previously untreated portion of wastewater into the treatment process. Staff is refining the use of an ozone generator to remove iron, hydrogen sulfide, and related metals from well water. Also, a new high-pressure sand filtration system has replaced a labor-intensive filtration system. The Sheboygan and Ozaukee Chapters of the Great Lakes Sportfishing Clubs donated a \$7,000 egg sorter-counter to replace an eleven year old sorter they had previously donated. The old sorter will be used at the Westfield Hatchery where fewer numbers of eggs are sorted per year. Finally, a new wastewater valve box and pipeline replaced older equipment that was leaking wastewater into the fish culture water.

This project also covers expenditures for spawning, broodstock capture, and rearing of salmon and trout at sites away from the hatchery. Typically, this includes staff assistance during the capture and spawning of broodstock at the Besadny Facility and at the Root River Steelhead Facility, for rearing and imprinting fish at the Kenosha Cooperative Rearing Pond, and operation of an egg incubation facility. The egg incubation facility is also being used to isolate new strains of rainbow trout eggs and fingerlings until they are of sufficient

size to transfer to Lakewood Rearing Station. These strains are the part of the attempt to improve the nearshore fishery in Lake Michigan. (See "Nearshore Stocking of Rainbow Trout" above)

Salmon Stamp funds also pay Limited Term Employees hired to mark the three strains of steelhead with differential fin clips. Over 200,000 fish per year are clipped before stocking into Lake Michigan tributaries designated as broodstock recovery streams. Adult fish are collected from migrations of mature fish moving up these tributaries and spawned on site or held at the hatchery until they are ripe with spawn.

#### **Lake Mills Hatchery**

Salmon and Trout Stamp revenue will again be used to support the coldwater rearing program for coho salmon at Lake Mills Hatchery during the coming biennium. Expenditures cover the cost of fish food; electricity for wells, freezers, and other needs; and facility and equipment maintenance needs related to salmon production. The hatchery produces 93,000 fingerlings that are transferred to other hatcheries for rearing. Also, 100,000 fall fingerlings and 130,000 spring yearlings are stocked directly from the hatchery

#### **Langlade Rearing Station**

The primary assignment of the Langlade State Fish Rearing Station is to rear and stock brown trout. Each spring, Langlade receives small fingerlings from St. Croix Fish Hatchery and raises them until they are large enough to stock in Lake Michigan. Salmon Stamp funds help pay for the rearing and stocking of approximately 50,000 fingerling and 70,000 yearling brown trout. To prevent widespread disease, the fish are vaccinated; as a result, less than one percent are lost to disease each year. Salmon Stamp funds cover the costs of fish production, such as: fish food, electricity, pond and raceway maintenance, equipment purchase and maintenance, and stocking costs. Funds were used for the installation of riprap rock walls to stabilize ponds and improve wiring to aerators during the past biennium.



**Gary Holzbauer of Thunder River Rearing Station Loads Coho Fingerlings  
Prior to Transporting Them to Thunder River Station For Rearing**

### **Thunder River Rearing Station**

Each year, the Thunder River Rearing Station raises 240,000 brown trout to be stocked in Lake Michigan and Green Bay. These fish are hatched at Wild Rose Fish Hatchery and then transported to Thunder River. Also, beginning in 2000, 79,000 coho per year are hatched at the Lake Mills Hatchery and reared at Thunder River. Salmon Stamp funds pay for fish food, electricity, air pumps to provide adequate oxygen and to reduce ice cover. During the past biennium, an ongoing project to renovate rearing ponds was completed. Gravel was placed at the bottom of the ponds and gradients were smoothed out to improve drainage. This scenic rearing station is a favorite tour spot for school groups as well as general public.

### **Westfield Hatchery**

The Salmon Stamp program provides funds for the annual hatching and rearing of 500,000 chinook fingerlings at the Westfield Hatchery. In addition, the hatchery uses the money to rear approximately 55,000 coho salmon hatched from eggs at the Lake Mills Hatchery. These expenses include electricity costs, fish food, facility operation and maintenance, supplies and equipment. Because an artesian well is the only water source for the hatchery, rainfall is monitored carefully using a new electronic rain gauge. Funds were used during the past biennium for well development and aeration.

### **Wild Rose Hatchery**

The Wild Rose Hatchery, the DNR's largest coldwater fish hatchery, hatches and rears brown trout and chinook salmon to be stocked along the Lake Michigan shore. Salmon Stamp funds pay for some labor costs associated with hatchery production. This project funds the collection of fertilized eggs from wild seforellen brown trout captured in the Menominee River. Recently, several efforts have been aimed at reducing mortality and improving fish health. In the spring, an oxygen injection system remedies low-oxygen and high-nitrogen conditions. Since 1996, fish have been vaccinated against furunculosis; results have been very good. Sand filters keep out sand and silt to prevent gill problems and reduce egg morality during the incubation period. The Wild Rose Hatchery successfully produces 1.1 million chinook salmon smolts and 350,000 fall fingerling and 400,000 spring yearling brown trout each year. The hatchery's efforts produce great results; fish reared at Wild Rose broke the Wisconsin brown trout record twice in 1996.

The Wild Rose Hatchery was established in 1908. Most of the raceway and pond walls were built in the 1930's, and the present water supply and wastewater collection systems were built in the 1950's. Periodic maintenance has not kept pace with deterioration. The current facilities cannot meet new state standards for wells, groundwater protection, and wastewater discharge. An aquacultural engineering consultant will redesign the raceways and rearing ponds, water collection system, and the wastewater treatment system. The first phase of a groundwater survey was completed. A new high-capacity well will be needed sometime in the future to support fish production at the hatchery

## Coldwater Distribution

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Year	FY 00	FY 01	FY 02	FY 03
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$5,500	\$5,500	\$5,332	\$5,332
Actual Salmon Stamp Expenditures <sup>17</sup>	\$11,577	\$11,119	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$22,905	\$20,645	N/A	N/A

*Contact: Robert Fahey, Fish Propagation Supervisor, Lake Mills Hatchery, Lake Mills.  
Doran Arrowood, Fish Propagation Supervisor, Langlade Rearing Station, White Lake.  
regarding Thunder River Rearing Station.  
Steve Fajfer, Natural Resources Operations Supervisor, Wild Rose Hatchery, Wild Rose.  
regarding Westfield Hatchery.*

This project covers the cost of transporting fish to be stocked in Great Lakes waters from the three hatcheries listed above.



**DNR Special Transportation Vehicle Releasing Fingerlings At Sister Bay As Interested Anglers Look On**

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

## **Operate Anadromous Fisheries Facilities**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$104,300	\$104,300	\$119,776	\$119,776
Actual Salmon Stamp Expenditures <sup>17</sup>	\$88,583	\$134,505	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$175,265	\$249,744	N/A	N/A

*Contact: Mark Opgenorth, Natural Resources Operations Supervisor, Green Bay*

*regarding Besadny Anadromous Fisheries Facility*

*Richard Rebicek, Natural Resources Operations Supervisor, Eagle  
regarding Root River Steelhead Facility.*

Salmon Stamp funds directly support weirs on Lake Michigan.

### **Besadny Anadromous Fisheries Facility**

Each year approximately three and one half million high-quality eggs from spawning trout and salmon are collected at the Besadny facility by trapping adult anadromous fish. Hatcheries rear eggs until the fish are large enough to be stocked back into Lake Michigan. The Besadny facility operates in spring and late summer for steelhead and throughout the fall for other trout and salmon. The Strawberry Creek weir operates in fall for chinook salmon collection. These facilities are essential to Wisconsin's successful fish stocking program. Public education is also an important part of facility operations; informational displays and signs guide visitors. Salmon stamp funds contribute to the maintenance and operations costs of the facility. In the coming biennium, additional signs will be developed to improve the self-guided tour for visitors. Additional tours will be added and audio-video educational material will be developed.



**DNR Operations Supervisor Mark Opgenorth Lifts a Basket of Chinook Salmon in Preparation to Harvest Eggs**

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

### **Root River Steelhead Facility**

The Root River Steelhead Facility traps adult trout and salmon for collection and fertilization of eggs. Hatcheries rear the eggs until the fish are large enough to be stocked back into Lake Michigan. All of the steelhead eggs collected at Root River are reared at Kettle Moraine Springs Hatchery; all of the coho salmon eggs are hatched at Kettle Moraine Springs Hatchery and then reared at Westfield Hatchery, Thunder River Rearing Station, and Lake Mills Hatchery. The weir also captures broodfish for use at Kettle Moraine Springs Hatchery. In addition to fish collection activities, Salmon Stamp funds also cover the costs of maintaining the facility and nighttime security. This facility is essential to Wisconsin's successful fish stocking program. It is an excellent location for collecting data about Lake Michigan salmon and trout populations. Public education is also an important part of facility operations; new informational displays will guide visitors.

### **Permanent Employee Salaries - Propagation Activities**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures	\$26,349	\$27,061	\$31,047	\$31,668

(Editor's Note: Planned Salmon Stamp expenditures figures are offered here for reference. In actuality, permanent employee salaries are spread across the appropriate propagation projects listed above and are accounted for in the total program expenditure figures for those projects.)

Permanent employee salaries are for a Fisheries Technician at the Kettle Moraine Springs Hatchery whose primary duties are incubating coho eggs and propagating and rearing steelhead.



**Stocking Operations on Lake Michigan Near Algoma**

## ***Activities beginning in FY02***

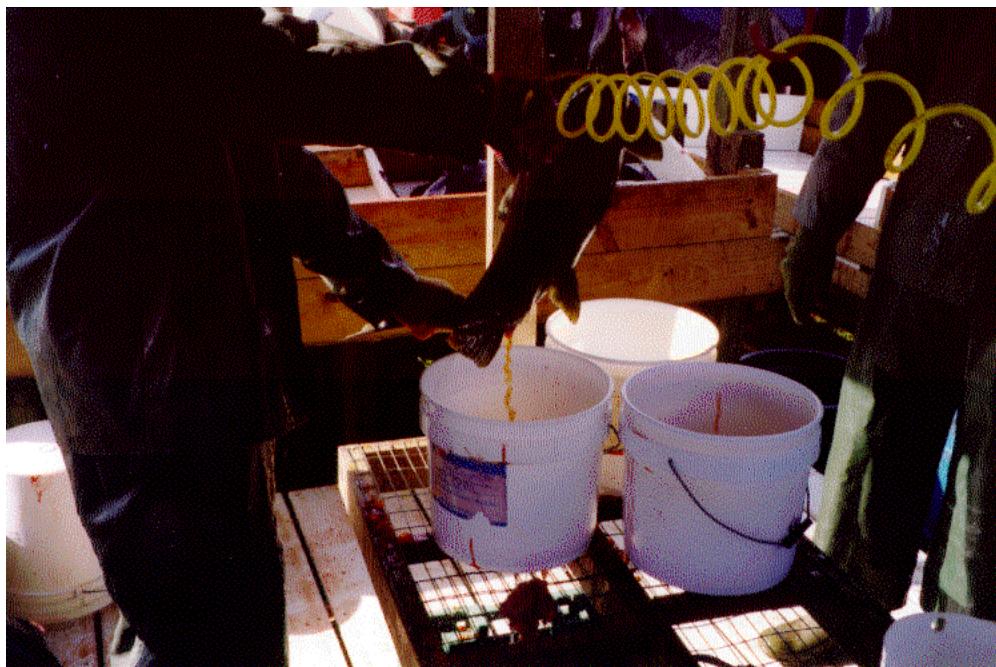
### **Nevin Hatchery Maintenance**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$0	\$0	\$14,150	\$0
Actual Salmon Stamp Expenditures <sup>17</sup>	\$0	\$0	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$0	\$0	N/A	N/A

*Contact: John Komassa, Fish Propagation Supervisor, Fitchburg.*

This project supports necessary maintenance activity in order to keep outlying rearing ponds in a proper state to raise the “Wild Rose” strain of brown trout. Specifically, it will fund of a rotary drum screen for Lima rearing ponds.



**Harvesting Chinook Eggs at Strawberry Creek**

### **Bayfield Hatchery Renovation**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$0	\$0	\$56,550	\$7,500
Actual Salmon Stamp Expenditures <sup>17</sup>	\$0	\$0	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$0	\$0	N/A	N/A

*Contact: Tom Desjardins, Natural Resources Operations Supervisor, Bayfield Hatchery*

Funds from this project will be used for general maintenance and upkeep of the Bayfield Hatchery facility. It will include installing programmable thermostats and lead to improvements to the chinook spawning area to make the area more user friendly. Pump motors will be repaired or replaced as necessary and repairs will be made to the pump control system. This work will go a long way toward helping the hatchery meet stocking goals within budget. Included in this project are \$16,200 of Salmon Stamp funds for FY 2002 that will help with cost of replacing a generator.

## **Great Lakes Aquatic Education**

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<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$0	\$0	\$15,200	\$15,200
Actual Salmon Stamp Expenditures <sup>17</sup>	\$0	\$0	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$0	\$0	N/A	N/A

*Contact: Mark Opgenorth, Natural Resources Operations Supervisor Green Bay*

The Besadny Anadromous Fisheries Facility at Kewaunee has over 100,000 visitors annually. This fact provides a wonderful educational opportunity to promote Great Lakes fisheries programs. Funds will be used to provide tours and educational experiences to school groups; sportperson groups, as well as other interested public and inter-disciplinary functions. Group size varies up to 40 people

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<sup>16</sup> LTE salaries & supplies

<sup>17</sup> LTE salaries, supplies, permanent salaries, fringe benefits & program overhead

# **Great Lakes Salmon & Trout Stamp Program Administration**

## ***Activities ending in FY00 and FY01***

None.

## ***Activities continuing from FY01 through FY03***

### **Administer the Salmon and Trout Stamp Program**

<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$6,000	\$6,000	\$6,000	\$6,000
Actual Salmon Stamp Expenditures <sup>17</sup>	\$2,435	\$2,006	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$4,818	\$3,944	N/A	N/A

*Contact: Bill Horns, Great Lakes Fisheries Specialist, Madison.*

This project covers costs associated with the judging and printing of the Great Lakes Salmon and Trout Stamp.

### **Salmon Stamp Expenditure Report And Plan**

<b>Year</b>	<b>FY 00</b>	<b>FY 01</b>	<b>FY 02</b>	<b>FY 03</b>
Budgeted Salmon Stamp Expenditures <sup>16</sup>	\$7,000	\$0	\$7,200	\$0
Actual Salmon Stamp Expenditures <sup>17</sup>	\$3,902	\$1,445	N/A	N/A
Total Program Expenditures (All funding sources) <sup>17</sup>	\$7,721	\$2,843	N/A	N/A

*Contact: Bill Horns, Great Lakes Fisheries Specialist, Madison.*

These expenses cover the costs of limited term employees to perform research, gather data, and write and assemble this Salmon Stamp Expenditure Report.

## ***Activities beginning in FY02***

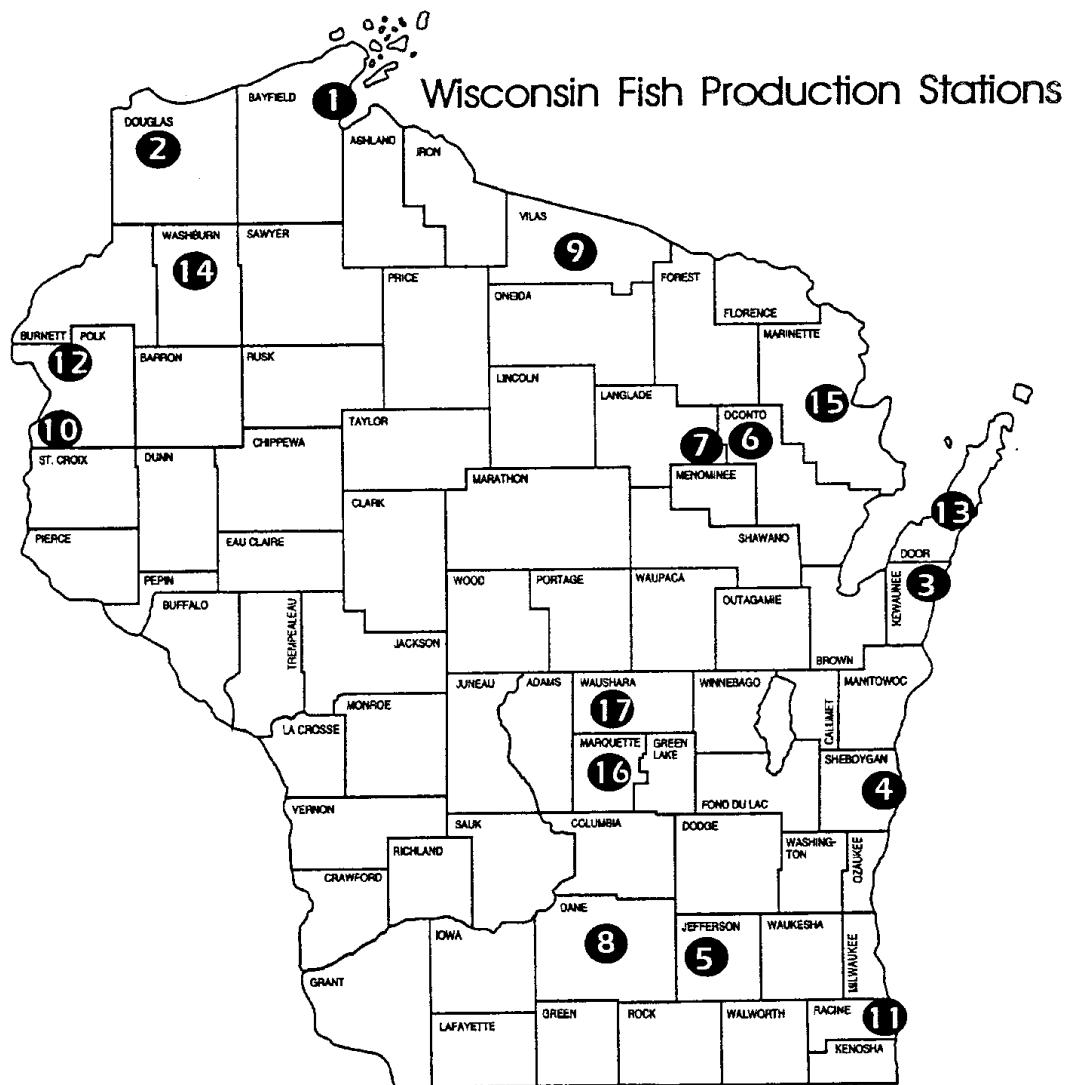
None.

### **Permanent Employee Salaries**

None.

<sup>16</sup>LTE salaries & supplies

<sup>17</sup>LTE salaries, supplies, permanent salaries, fringe benefits & program overhead



#### Facilities

- 1 Bayfield
- 2 Brule
- 3 Besadny Spawning Facility
- 4 Kettle Moraine Springs
- 5 Lake Mills
- 6 Lakewood
- 7 Langlade
- 8 Nevin
- 9 Oehmcke
- 10 Osceola
- 11 Root River Spawning Facility
- 12 St Croix Falls
- 13 Strawberry Creek Weir
- 14 Thompson
- 15 Thunder River
- 16 Westfield
- 17 Wild Rose

#### Phone

- |                |
|----------------|
| (715) 779-4021 |
| (715) 372-4820 |
| (920) 388-1025 |
| (920) 528-8825 |
| (920) 648-8012 |
| (715) 276-6066 |
| (715) 882-8757 |
| (608) 275-3246 |
| (715) 356-5211 |
| (715) 294-2525 |
| (414) 638-0134 |
| (715) 483-3535 |
| (920) 746-2860 |
| (715) 635-4147 |
| (715) 757-3541 |
| (608) 296-2343 |
| (920) 622-3527 |

#### Type of Fish Production

- |                           |
|---------------------------|
| Coldwater                 |
| Coldwater, Cool/warmwater |
| Coldwater                 |
| Cool/warmwater            |
| Coldwater                 |
| Coldwater                 |
| Coldwater                 |
| Coldwater                 |
| Coldwater, Cool/warmwater |