

## Communications and Public Outreach

### *Overview*

The success of any program, no matter the topic, is dependent on communication. This especially holds true in the realm of resource management where there exists a wide array of user groups each with definitive interests. For the DFW, informing anglers in the management, distribution, and propagation of species is critical to the successful management of the state's natural resources. This consistent interaction serves to affirm the DFW's dedication to building and maintaining partnerships with a variety of user groups. Public outreach and partnerships are not only crucial to the success of specific programs but to the future of the DFW as a whole since the DFW operates on dedicated funding generated from the sale of hunting and fishing licenses.

Administratively, the DFW's Bureau of Information and Education is responsible for the dissemination of the majority of information from the DFW, however, all staff, as well as volunteers, hold a responsibility of providing accurate and detailed information to the general public relative to DFW programs. The distribution of information is handled across a variety of forums; including the media, public input and outreach, Internet, programs, publications, and volunteer involvement.

### *Media*

#### News Releases

The majority of information relative to updates and changes to the management, distribution and propagation of species is disseminated through news releases. Information for news releases is provided to the Bureau of Information and Education personnel who edit the information into a format suitable for publication. Releases are then transferred to the Department's Press Office for review and ultimately the information is disseminated to 72 newspapers and outdoor writers. Press releases are forwarded to Department employees and DFW listserv members. The listserv is a database of persons, voluntarily registered through the DFW's website, who receive email notification when the DFW issues press releases or other informational reminders. There are separate listserv databases for various aspects of DFW program interests.

#### Television

In 2002 and 2003 the DFW, using marketing programs developed by the Recreational Boating and Fishing Foundation (RBFF), aired 30 second segments on local cable channels reminding viewers of recreational boating opportunities. The segments also included designated free fishing dates.

#### Radio

As with television, the DFW also aired marketing programs developed by RBFF on local radio stations.

## Official Public Notices

Potential regulation changes to the Fish Code require two official public notifications in newspapers serving affected areas. The notifications are solicited for no fewer than 3 business days. Affidavits of the notifications, along with public comments are presented to the Fish and Game Council and the Department of Legal Affairs in the adoption phase of the code.

**Opportunity – Investigate ways to further use multi media sources to reach large target audiences to further emphasize the work being carrying out by the DFW and recreational opportunities available across the State. Look to partner with other agencies such as the Division of Parks and Forestry and NJ Travel and Tourism.**

## ***Internet***

### Division Web Page

The DFW was one of the first of the Department's agencies to join the world wide web with its web page making its debut in 1996. Since its initial debut, this award-winning site has gone through many facelifts. The fishing page is the most popular with 9,000 – 10,000 visits each month. The webpage provides up to date information on DFW programs, stocking information, how to and places to fish. The DFW also provides the purchase of fishing licenses through its web site and beginning in 2005 will go to a fully automated point of sale system.

**Opportunity – Reconfigure the Bureau's current fishing and Bureau page to a more topic based approach. Also, reformat the information provided to improve the ease at which information can be acquired.**

### Freshwater Listserve

The Bureau of Information and Education maintains a listserv membership for specific program areas. At no cost, interested parties can subscribe to the program through the DFW's website. Members are automatically sent via e-mail DFW press releases as they become available. The freshwater listserv currently serves approximately 1200 members.

## ***Public Input***

### Public Trout Meeting

Each year the Bureau of Freshwater Fisheries holds a public meeting at the Pequest Trout Hatchery in Warren County. Information concerning the production, allocation and stocking of trout for the upcoming season is disseminated and feedback from the public is solicited through comment, and a question and answer period. Attendance at the meeting is related to the number of issues and potential controversies occurring within a given year. The proposed allocation and spring stocking schedule is submitted to the Fish and Game Council for approval.

### Public Hearing for Fish Code

As part of the rule making process for the adoption of the amendments to the annual fish Code a public meeting is scheduled in the late summer of each year. Proposed amendments to the Fish Code are presented and a public comment period follows. The public hearing is scheduled within the 60 day public comment period but no earlier than 15 days after the proposal appears in the New Jersey Register. Public comments, oral or written are recorded and submitted as part of the adoption phase of the rule.

### Freshwater Fisheries Forums

Initiated in 2003, the Freshwater Fisheries Forums were established to further increase public input on freshwater research, management and culture programs. Two forums are held each year, one in the north, in December, and the other in the south, in February, permitting anglers throughout the state an opportunity to comment. The forums consist of a broad range of topics relative to the state's aquatic resources and include an extensive open panel discussion

## ***Public Outreach***

### Open House

Each year the DFW holds a two-day Open House at the Pequest Trout Hatchery. The event is historically scheduled the weekend prior to the opening day of trout season. Various facets of the DFW are represented and the event takes on a carnival air. Tours of the hatchery are provided as well as many displays depicting DFW programs and on-going research. The Bureau of Freshwater Fisheries gill net maze is an extremely popular attraction and the Jr. biologist quiz adds a learning component about the state's fisheries resources for the state's junior anglers.

**Opportunity – The Open House has become a popular family event and is usually not attended by the more avid anglers. Scheduled for the first weekend in April the weather is usually uncooperative and greatly effects turnout. Investigate moving the event to coordinate with the Free Fishing Days and use the opportunity to solicit future potential anglers. In addition, provide scheduled programs throughout the day on the basics of fishing.**

### Sportsmen's Shows

The DFW of Fish and Wildlife sends representatives to a number of scheduled sportsmen shows across the state each year. The shows permit face to face interaction between the DFW and its large constituent base. The DFW also uses this opportunity to sell licenses at the convenience to the sportsmen.

### Trout Stocking Hotline

Initiated in 1993 the trout stocking hotline was developed in order to provide anglers with the day to day schedule during the spring and fall stocking period. Callers select the

week and the list by waterbodies being stocked each day is given. The hotline now provides stocking information for fall and winter periods. The hotline successfully provides anglers access to stocking information at any time of day particularly to those who do not have Internet access. The hotline also reduces staff time in responding to the numerous phone calls about stocking locations. Updates to the hotline can be made from remote from field locations.

#### Personal communications with staff

The Bureau of Freshwater Fisheries prides itself with the ease at which its large constituent base can reach personnel. Direct numbers to staff and associated facilities appear on the web page. Many personnel have continual direct communications with contacts with numerous organizations. This serves to further the excellent partnerships which have developed over the years and enhance the management of the state's resources. Field offices maintain an open door approach for anglers to stop by and interact with staff.

#### Written communication

As the DFW works with many facets of its user base so written communication is presented in many forms. Press releases provide current information to newspapers and writers who then relay the information to their subscribers. Survey results, technical reports, and statewide management plans provide results of on-going research, insight to management decisions, and provide the future focus and strategy in the management of the state's aquatic resources. The articles written for the digest and the website relay this information as it becomes available in addition to providing information on recreational opportunities across the state. DFW staff also responds to thousands of letters each year submitted by sportsmen, landowners, municipalities, environmental organizations, other agencies, and the general public.

### ***Publications***

#### NJ Fish and Wildlife Digest

The award-winning digest includes regulations, program updates, informational articles, and results of on-going research. The publication also includes upcoming DFW events. Four issues, each pertaining to different focus areas are prepared for publication each year. The issue pertaining to freshwater fishing is released in December of each year. The digest is distributed free of charge when purchasing a license and upon request. Over 185,000 copies of the freshwater issue are distributed each year making it the largest distributed document within the Department. In 1995, in an effort to off shoot rising printing costs commercial advertisements were added to the digest format. Presently, the advertising covers the entire cost of printing the digest and further demonstrates the way the DFW continues responsible fiscal management.

#### Places to Fish

Perhaps one of the most popular and informative documents currently provided by the DFW relative to freshwater fishing opportunities is Places to Fish. The brochure

provides information on over 200 public waterbodies across the state by county. The tabular format provides easy reference on the location, size and ownership of waterbodies. It designates the waterbodies stocked with trout, as well as an index of the opportunities each waterbody has for a number of popular game species. Waterbodies are considered for inclusion in the document based on the amount of available access as well as the amount of fishing pressure the waterbody is deemed able to handle.

### Pamphlets

The DFW also provides for distribution a number of small pamphlets directed at specific program and access areas. Topics include but are not limited to trophy trout lakes, Delaware River access sites, Pequest Trout hatchery operations and educational programs.

**Opportunity** – Prepare a pamphlet directed at trout fishing opportunities across the entire state. Using GIS maps developed for this plan include maps with location of trout stocked waters, wild trout streams and trout conservation areas. Include general regulation and special regulation areas.

### *Angler Surveys*

Angler surveys are an extremely valuable tool for providing communication between natural resource managers and recreational users. The surveys are accomplished in a variety of formats depending on the intent of the survey. Surveys have been used to measure angler use, effectiveness of regulations, species harvest and angler preferences and attitudes. Surveys are accomplished in a variety of formats depending on the type of information sought.

### Signs & Kiosks

Signs and kiosks posted along waterbodies and at the entrance of access areas provide anglers with stocking information, access location, regulation information, research studies and consumption advisories. Used with discretion so as not to detract from the aesthetics of the area they provide a service to anglers in alerting them to information specific for the waterbody, particularly when regulations are different from the statewide regulations.



Informational signs are extremely valuable for research projects where angler participation is critical to the success of the study such as growth and harvest studies where anglers are needed to report their catch.

**Opportunity** – Identify waters with high recreational use and construct, install and keep current informational kiosks at these locations to inform anglers, and other recreational users of recreational opportunities and the rules and regulations protecting our natural resource areas.

Difficulties do arise when posted signs are in direct contradiction of one another, which most often occurs with trout stocked waters signs and landowner placed no trespassing signs. A number of trout stocking points are privately owned. The DFW will stock private property provided angling access is provided to the general public. However, due to liability concerns a number of these areas are also posted as “No Trespassing” by the same owners. Although the DFW promotes an “Ask First” ethic, the contradicting signs can be problematic, particularly for anglers unfamiliar with a particular stream segment. Contacting the respective landowner is often difficult since the location of the residence is not always obvious.



**Opportunity – Investigate modifying trout stocked water signs to depict access is allowed strictly for the purposes of fishing. Discontinue stocking in areas where access issues continue to be problematic.**

Signs can also be used to advertise DFW programs, recreational opportunities and events. In 2003, the Bureau of Information and Education acquired a digital color image system which produces large scale vinyl decals. This equipment has proven to be invaluable as a marking tool to the DFW. Combined with the Recreational Boating and Fishing Foundation’s Water Works Wonder campaign hatchery trucks were outfitted with large-scale postings promoting fishing. The trucks are highly visible as they travel thousands of miles across the state along scheduled stocking routes.



**Opportunity – Continue to investigate ways to use current equipment and vehicles to promote DFW activities.**

## ***Programs***

### State Record Fish

The State of New Jersey currently has state records documented for 30 species of freshwater fish. Fish must be caught by legal methods within the State and its boundary waters. Fish are based on weight. Anglers who have caught a potential state record must have the fish weighed on a certified scale with a valid certification. The fish must be submitted to state fisheries biologists for species verification. An application, requesting general information about the angler and fish, in addition to location and signature and scale certification of the business weighing the fish. The application is then submitted to the DFW for review. Current state records for trout species include:

Brown trout	21 pounds 6 ounces	Round Valley Reservoir
Rainbow trout	13 pounds 0 ounces	Lake Hopatcong
Brook trout	7 pounds 3 ounces	Rockaway River
Lake trout	32 pounds 0 ounces	Round Valley Reservoir

### Skillful Angler Awards Program

Developed in 1983 the skillful anglers awards program provides a way for recognizing fish which may not contend with current state records but are nonetheless significant catches by anglers. The program not only recognizes the skills of the angler but also the success of DFW stocking and management programs.

The program is administered by the DFW's Bureau of Information and Education. There are minimum weights assigned to each particular species which must be caught by hook and line. An application must be submitted for review and includes information relative to the angler and the date and location where the fish was captured. Signature of the business or agency weighing the fish is also required. If any doubt exists as to the proper identification of the fish a statement from a state fisheries biologist must be included. Each angler successfully meeting the requirements is issued a bronze pin and a certificate from the DFW. The largest fish in each category each year is awarded an engraved fillet knife.

For the 2004 fishing season the DFW's Skillful Angler Awards Program was modified to include a catch and release category, based on fish length, and a junior category for anglers under the age of 16. The minimum weight for lake trout was increased from 8 pounds to 12 pounds. The minimum requirements for the Skillful Angler Awards Program for New Jersey's coldwater species are as follows:

<b>Species</b>	<b>Adult Weight (lbs., ozs.)</b>	<b>Junior Weight (lbs., ozs.)</b>	<b>Catch and Release (inches)</b>
Brook trout	3	2	19
Brown trout	8	5	25
Rainbow trout	5	3 lbs., 8 ozs.	23
Lake trout	12	8	31

It is acknowledged, with the exception of lake trout or browns from large reservoirs, fish caught meeting the above size requirements are typically a result of the stocking of broodstock from the Pequest hatchery.

**Opportunity – Investigate a catch and release and a junior component to compliment the current Skillful Angler Awards program.**

#### Free Fishing Days

The DFW offers one weekend each year in which licenses are not required to fish in the state. The purpose of the program is to provide an opportunity for residents which may have an interest in fishing but want to try it before actually having to purchase a license. The days are usually scheduled in June.

**Opportunity – Investigate the feasibility of adding additional free fishing days during the fall of each year.**

#### Educational Programs

The Bureau of Information and Education provides numerous education programs throughout the year to the general public and through schools. The programs cover a variety of topics including but not limited to basic fishing, fly fishing for beginners, intermediate fly fishing, and fly tying for beginners. Assistance with these programs is coordinated through the DFW's extensive volunteer program and organized sportsmen groups. This coordination not only cuts program costs considerably it also furthers important partnerships between the DFW and interest groups. The focus of many of the programs is also to introduce people of all ages to the recreational sport of fishing in the State of New Jersey.

#### Children's Derby Program

Of particular success of the DFW's educational programs is the Children's Derby program coordinated through the Hackettstown hatchery. In 2005, 117 events were held reaching out to over 25,000 children and their parents. The program's focus is to introduce children and their families to fishing and increase awareness of local fishing opportunities. The program is coordinated through local municipalities, law enforcement agencies and special interest groups. DFW personnel present information on DFW activities and general fish identification and handling. An added bonus to the program is children assist staff in stocking fish into their local waters. The DFW's law enforcement officers also participate in a number of the derby programs with its Hooked On Fishing Not On Drugs campaign.

#### Volunteer Program

The DFW would not be able to run a number of its programs if it was not for the dedicated support of its extensive volunteer force. Volunteers are used in just about every facet of DFW operations including, but not limited, to clerical, educational programs, stocking, deer check, field sampling, and habitat improvement projects. The

program continues to foster a good working relationship with sportsmen and the general public. Currently, the Wildlife Conservation Corp has 1200 members.

### Workshops

Occasionally, the DFW will partner with other agencies and conservation groups to host workshops on specific topic areas. One of the most successful is the Stream Habitat Workshop typically held in November. The DFW partners with other government and non-government agencies for the one-day workshop. There is a half-day classroom instruction on types of stream bank stabilization techniques and in-stream habitat enhancement. The afternoon session is hands on and entails installing actual structures and learned techniques on a nearby stream. The workshop is designed to provide insight to conservation organizations, municipal officials, and landowners that may be interested in instituting similar rehabilitation projects.

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## Funding

### *Overview*

Unlike other Divisions within the Department of Environmental Protection, the majority of the DFW's budget is supported through dedicated funds generated from the sale of hunting and fishing licenses. Through its 125-year history, the DFW had not received State treasury funds for general operations. However, in 2005 due to a continued long term decline in its funding base the State Legislature appropriated \$ 4.2 million to the DFW.

Due to its dedicated funding base, the DFW receives Federal monies from excise taxes of manufacturers of hunting and fishing equipment. Although the DFW operates on funding derived from the State's over 200,000 licensed sportsmen the protection and management of the state's natural resources are a benefit to each and every one of the state's 8 million residents. Recreational activities focused around the state's natural resources generate over \$2.2 billion dollars to the state's economy each year (USFWS 2001).

The propagation, management and protection of the State's aquatic resources are supported by the Hunters and Anglers Fund, comprised of license and stamp sales, the Federal Sportfish Restoration Program, and additional grants received for specific research projects. The sale of freshwater fishing licenses and trout stamps generates over \$4 million dollars annually to the DFW's Hunters and Anglers Fund.

### *Revenue Sources for the Division of Fish and Wildlife*

The DFW unlike other Department of Environmental Protection agencies is funded through dedicated funds generated from the sale of hunting and fishing licenses and permits. Revenues generated from license and permit sales comprise over 70% of the DFW's budget. In addition, the DFW receives Federal Aid monies generated from excise taxes on hunting and fishing equipment (Dingell-Johnson Act (1950)). This "user-pays" system has made great strides in financing the management of New Jersey's fish and wildlife resources, not only to the benefit of licensed hunters and anglers but to every one of the state's over 8 million residents. In addition, wildlife associated recreation generates \$2.2 billion dollars into the state's economy each year, with an estimated 300,000 freshwater anglers (resident , non-resident and unlicensed anglers) generating \$138 million dollars alone.

Two DFW programs, Marine Fisheries and the Endangered and Nongame Species Program, receive money from alternate funding sources. The Endangered and Nongame Species Program is funded only through a check-off on state income tax return forms, Federal grants, and the sale of Conserve Wildlife license plates. Although New Jersey's endangered and nongame wildlife generates millions in ecotourism, there is no stable, dedicated source of funding to ensure their protection.

The Marine Fisheries Program receives only a small fraction of its total funding from commercial license and landing fees. The marine fish and shellfish programs, which help generate billions in economic benefits to the state, are supported with only a \$1.3 million state appropriation. They are the only DFW program areas which receives general treasury funds on an annual basis. During 2001, the Marine Fisheries Administration budget totaled approximately \$3.0 million. This includes \$1.3 million in state appropriation, \$1.6 million in Federal grants and \$250,000 in finfish and shellfish license fees. Of the 14 Atlantic coastal states, New Jersey is third in recreational importance and sixth in commercial importance when ranked in value of its fisheries. However, it ranks 12<sup>th</sup> in the amount of State funding for marine programs.

### ***Hunter and Angler Fund***

Over 70% of the DFW's annual budget is generated from the sale of hunting and fishing licenses and permits. Revenues collected are deposited in a dedicated account known as the Hunter and Angler fund. The sale of freshwater fishing licenses and trout stamps currently generates over \$4 million dollars annually, while hunting licenses and permits generate approximately \$4.5 million.

#### Freshwater Fishing License

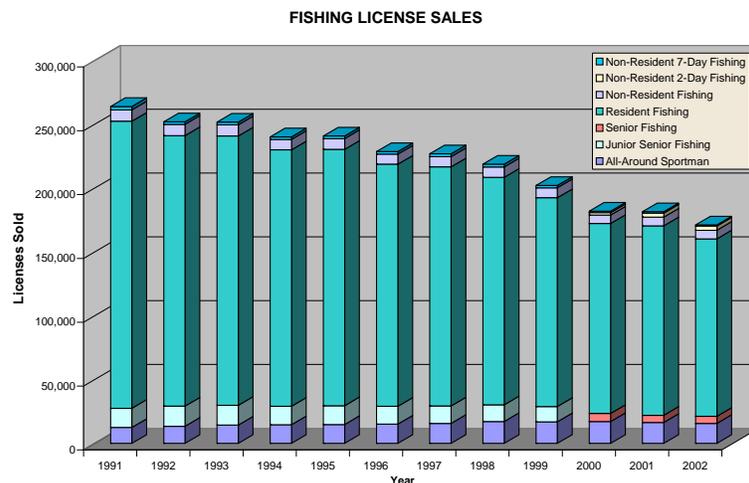
The requirement to purchase a license to fish in freshwater in New Jersey began in 1915, with a \$1.15 license which allowed residents to hunt or fish within the state. In 1933, a separate fishing license was offered at \$2.15, a one-dollar savings from the combination hunting and fishing license being offered at \$3.15. Over the last 89 years there have been 16 increases in the cost of an angling license and a vast array of various licenses offered (Table 10). Although sportsmen were solicited each time for support and necessity for the added costs, each increase often resulted in a decline in the number of persons purchasing a license. The most recent change in licensing requirements in 2000 was no exception when a resident angling license increased from \$16.00 to \$22.50. At the same time the license age was increased to 16 which also effects current license sales figures.

TABLE 10.— Cost of resident freshwater fishing licenses and trout stamps by year .

<b>Year</b>	<b>Cost of Resident License (US \$)</b>	<b>Trout Stamp</b>	<b>Comment</b>
1915	1.15		Hunting & fishing license
1922	1.65		Hunting & fishing license
1932	3.15		Hunting & fishing license
1933*	2.15		Fishing license
1948	3.15		
1953	3.15	1.00	
1961	4.15	2.00	
1972	6.25	2.00	
1976	7.25	4.00	
1981	9.50	4.00	
1983	11.25	4.75	
1985	12.25	5.25	

1991	12.25	6.25	
1992	15.00	7.00	
1994	16.50	7.75	
2001	22.50	10.50	

Since 1991 there has been a 41% decline in fishing license sales. Considering within this same time frame New Jersey anglers have benefited from successful management and stocking programs which have led to opportunities for walleyes, tiger muskies, northern pike, and muskellunge, in addition to an already successful trout stocking program, makes this decline even more disturbing. Fishing literally in New Jersey has never been better, yet participation continues to decline. A survey of anglers, completed in August of 2004, indicated that time constraints, either family or work related, were the primary reasons people did not purchase a license in 2003. Only 2% of anglers indicated that cost was the reason they did not purchase a license in 2003. The survey also indicated that 40% of anglers fished less than 20 times a year, with 22% fishing 9 days or less. As anglers find less and less time to fish the cost of a license may influence their decision to purchase a license in the future.



Currently, the DFW is implementing a Point-Of-Sale computerized licensing purchasing system. The system will result in a computerized database of its license buyers. This information will prove invaluable in targeting programs, marketing and general information to its constituents.

**Opportunity** – Coordinate with the Bureau of Information and Education to develop and implement an advertising and public relations campaign to increase participation in coldwater fishing.

**Opportunity** – Investigate ways to increase angler participation by providing innovative license purchasing opportunities.

Presently, anyone 16 years of age and older must have a valid license to fish (with a handline, rod and line, or bow and arrow) in New Jersey's publicly and privately owned

freshwater ponds, lakes, rivers, streams, and canals. In addition to a fishing license, a trout stamp is required of residents (16 – 69 years of age) and nonresidents (age 16 and older) in order to take, attempt to take, possess or kill trout. Exceptions to these licensing requirements include residents age 70 and older, farmers, eligible National Guard personnel, residents afflicted with total blindness, and individuals fishing at licensed fishing preserves. Licenses are valid from time of issue through the end of the calendar year and may be purchased from regional DFW offices, designated agents (sporting goods stores) or over the internet. Current licensing requirements and fees are summarized in Table 11. Changes to licensing requirements and fees requires legislative action.

TABLE 11.— New Jersey freshwater fishing license and trout stamp requirements and fees, in effect during 2005. Licenses and stamps are valid from date of purchase to December 31<sup>st</sup>, unless otherwise indicated.

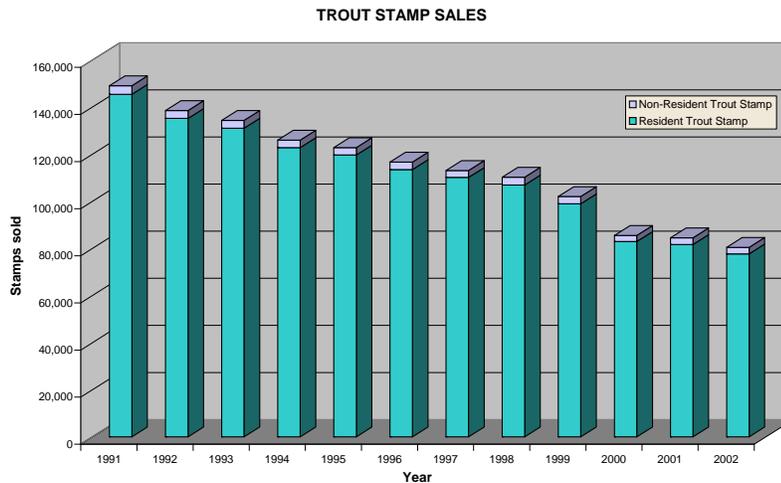
Residency	Age	Fishing License	Trout stamp
Resident (must have lived in the state for 6 months immediately prior to the time of application)	under 16 years	not required	not required
	16 – 64 years old	\$22.50	\$10.50
	65 – 69 years old	\$12.50	
	70 years and older	not required	not required
Resident (All-Around Sportsman <sup>1</sup> )	16 years old and older	\$72.25	\$10.50
Non-resident	under 16 years	not required	not required
	16 years old and older	\$34.00	\$20.00
Non-resident (Vacation)	2-Day	16 years old and older	\$9.00
	7-Day		\$19.50

<sup>1</sup> Includes resident fishing, firearm hunting, and bow & arrow hunting licenses (trout stamp not required for age 70 and older).

### Trout Stamp

In addition to a fishing license, a trout stamp is required of residents (16 – 69 years of age) and nonresidents (age 16 and older) in order to take, attempt to take, possess or kill trout. Trout stamps, as with fishing licenses are issued through the end of the calendar year and may be purchased from regional DFW offices, designated agents (sporting goods stores) or over the internet. The state currently sells over 77,000 trout stamps each year, indicating that over 60% of licensed anglers fish for trout.

Initiated in 1953, the revenue from trout stamp sales was designed to offset the additional costs of raising and stocking trout. Since a number of anglers do not fish for trout a separate stamp was warranted. Currently trout stamp sales generate approximately \$850,000 in revenue each year and are used to offset the \$1.5 million costs incurred with the raising and stocking of 770,000 trout each year. As with license sales, there has been a steady decline in the numbers of trout stamps sold over the past ten years.



**Opportunity** – Prepare a publication identifying the extensive trout fishing opportunities that exist within the state. To offset costs investigate possible funding sources such as commercial entities, private grants, Department of Tourism to assist with publishing costs.

### ***Federal grants***

#### **Sportfish Restoration Program**

In addition to license revenues the DFW receives Federal monies each year. For the Bureau of Freshwater Fisheries this money is allocated through the Federal Aid in Sport Fish Restoration Program. The program, established from an amendment to the Dingell-Johnson Act of 1950, provides states funds for the management, conservation and restoration of fishery resources. The Sport Fish Restoration program is funded by revenues collected by the manufacturers of fishing rods, reels, creels, lures, who pay an excise tax on these items to the U.S. Treasury. An amendment in 1984, Wallop-Breaux, added new provisions to the Act by extending the excise tax to previously untaxed items of sport fishing equipment. Each state's share is based upon the number of license anglers (60%), and land and water area (40%). No state receives more than 5 percent or less than 1 percent of each year's total apportionment. The program is a cost-reimbursement program, where the state covers the full amount of the approved project then applies for reimbursement for up to 75% of project expenses.

The Bureau of Freshwater Fisheries currently receives approximately \$800,000 dollars through the Sportfish Restoration program. Of this amount, \$600,000 is allocated to support put and take, and delayed take fisheries programs (F-50-D). The remaining \$200,000 supports current research and management programs (F-48-R). Sportfish Restoration programs run on a five-year grant cycle.

**GRANT F-48-R-18** (covering the period November 1, 2003 - October 31, 2004)  
**Investigations and Management of New Jersey's Freshwater Fisheries Resources**

<b>Project I</b>	<b>Investigations and Management of Anadromous Fisheries</b>		
<u>Job No. I-1:</u>	<u>Delaware River American Shad Population Estimate</u>		
Annual Job Costs:	State	Federal	Total
	\$5,250	\$15,750	\$21,000
<u>Job No.I-2:</u>	<u>Delaware River Juvenile American Shad Outmigration</u>		
Annual Job Costs:	State	Federal	Total
	\$4,000	\$12,000	\$16,000
<u>Job No.I-5:</u>	<u>American Shad Restoration in the Raritan River</u>		
Annual Job Costs:	State	Federal	Total
	\$8,500	\$25,500	\$34,000
<u>Job No.I-7</u>	<u>Inventory and Status of Anadromous Clupeid Spawning Migrations in New Jersey Freshwaters</u>		
Annual Job Costs:	State	Federal	Total
	\$4,750	\$14,250	\$19,000
<b>Project II</b>	<b>Investigations and Management of Coldwater Fisheries</b>		
<u>Job II-2:</u>	<u>Classification of New Jersey Trout Waters</u>		
Annual Job Costs:	State	Federal	Total
	\$1,250	\$3,750	\$5,000
<u>Job II-6:</u>	<u>Development of a Coldwater Fisheries Management</u>		
Annual Job Costs:	State	Federal	Total
	\$1,125	\$3,375	\$4,500
<u>Job II-7:</u>	<u>Inventory of Trout Production Streams</u>		
Annual Job Costs:	State	Federal	Total
	\$3,750	\$11,250	\$15,000
<u>Job II-8:</u>	<u>Round Valley Reservoir-Nutrient and Plankton Study</u>		
Annual Job Costs:	State	Federal	Total
	\$13,000	\$39,000	\$52,000
<u>Job II-9</u>	<u>Fish Habitat Improvement in New Jersey Streams</u>		
Annual Job Costs:	State	Federal	Total
	\$1,500	\$4,500	\$6,000
<b>Project III</b>	<b>Investigations and Management of Warm and Coolwater Fisheries</b>		
<u>Job III-1</u>	<u>Inventory of New Jersey Lakes</u>		
Annual Job Costs:	State	Federal	Total
	\$10,000	\$30,000	\$40,000
<u>Job III-10</u>	<u>Fish Habitat Improvement in New Jersey Lakes</u>		
Annual Job Costs:	State	Federal	Total
	\$1,000	\$3,000	\$4,000

***GRANT F-50-D-19*** (covering the period January 1, 2004 - December 31, 2004)  
**Fish Culture and Stocking Program**

<b>Project I</b>		<b>Delayed Take Stocking</b>		
<u>Job No. I-1:</u>		<u>Delayed Take Stocking</u>		
Annual Job Costs:	State	Federal	Total	
	\$122,000	\$366,000	\$488,000	
<b>Project II</b>		<b>Put and Take Fisheries</b>		
<u>Job No. II-1:</u>		<u>Put and Take Fisheries - Pequest</u>		
Annual Job Costs:	State	Federal	Total	
	\$61,744	\$185,233	\$246,977	
<u>Job No. II-2:</u>		<u>Children's Derby Program</u>		
Annual Job Costs:	State	Federal	Total	
	\$16,256	\$48,767	\$65,023	

***Miscellaneous Grants***

Other Federal grants

In addition to monies received annually through the Sportfish Restoration Program the DFW also submits proposals for other federally funded grants for specific research projects. In 2004, the Bureau of Freshwater Fisheries received a \$200,000 grant, from the State Wildlife Grants program, to investigate the status and distribution of non-game fishes within the State. This project will assist in defining the distribution of approximately 40 species of nongame species. These species also include trout associated species such as slimy sculpin, longnose dace, and blacknose dace. The Bureau also submitted a proposal and received a \$100,000 grant, from the Wildlife Conservation and Restoration Program, to document the presence of eggs and larval forms of the Federally endangered shortnose sturgeon within the Delaware River.

In 2001, the Bureau of Freshwater Fisheries received a grant from a Reverted Sportfish Restoration Account to characterize New Jersey's wild brook trout populations using molecular genetics. The project was one of only 27 proposals funded out of 168 submissions. The intent of the study is to determine if genetically unique populations of wild brook trout occur in New Jersey. If genetically unique populations are found to exist then management strategies can be developed and implemented to preserve, conserve and restore this valuable resource. The 250 blood samples collected are being analyzed using micro-satellite DNA technology.

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***Other Federal Grants***

<b>Shortnose sturgeon</b>			
Annual Job Costs:	State	Federal	Total
	\$25,000	\$75,000	\$100,000
<b>Nongame Fishes</b>			
Annual Job Costs:	State	Federal	Total
	\$50,000	\$150,000	\$200,000
<b>Brook Trout Genetics Study</b>			
Annual Job Costs:	State	Federal	Total
	\$6,750	\$20,250	\$27,000

Other State grants

In 2000, the Bureau of Freshwater Fisheries received a \$18,000 grant from the GEMS Ground Water Damages Account to initiate the brook trout genetics project. This grant is still active.

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***Other State Grants***

<b>Brook Trout Genetics Study</b>		
Annual Job Costs:	State	Total
	\$18,000	\$18,000

## Program Goals and Strategies

### *Overview*

Despite the long history and evolution of trout management with the State of New Jersey there has never been a long term, strategic plan formulated to address the myriad of issues surrounding the state's fragile coldwater resources. The lack of long range goals and objectives leads to a "reactionary" approach to fisheries management. The first phase of implementing a strategic approach to effective management, regardless of topic area, is the identification of specific goals. Identified below are goals as they relate to the DFW's activities on coldwater management. Strategies for achieving the desired goals are then established with specific opportunities identified for implementation. These opportunities are identified throughout the plan and are a fitting example of the variety of issues facing the state's aquatic resources today. A timeline for the implementation of specific strategies and opportunities is found in the operational section.

### ***GOAL 1      Protect, restore, and enhance coldwater fish habitat and ecosystems.***

**Strategy 1.1** Continue to inventory and classify waters according to their suitability for trout, and provide recommendations for surface water classification changes to the Department of Environmental Protection.

Opportunity – Interpolate data collected for Incidence of Occurrence development to determine if any modification to the Incidence is required to reduce the sampling distance from 182 meters to 150 meters. The reduction of sampling distance would allow for consistent sampling protocols between various research projects. (Classification)

**Strategy 1.2** Identify and protect important coldwater fish habitat and ecosystems.

Opportunity – Identify habitats and ecosystem types that support wild trout and are in danger of being lost or drastically altered. Explore ways to protect landscapes in which wild trout occur through links with management initiatives for other biotic resources (plants, birds, herptiles, etc.). (Wild Trout Management)

Opportunity – Determine if there are linkages between wild trout populations and topographic characteristics (gradient and elevation), soils, land-use, physicochemical characteristics, and other features to develop a tool for identifying potential or historical wild trout habitat. (Wild Trout Management)

Opportunity – Prioritize trout production streams for the purpose of acquisition and/or easements to provide to the NJDEP Green Acres Program. (Wild Trout Management and Habitat Management)

Opportunity – Use existing or available water chemistry and geology data to identify trout streams that are potentially high in productivity and may have the potential to provide a more desirable fishery in terms of fish size or quantity through specialized management. (Habitat Management)

**Strategy 1.3** Continue to interact with other state agencies on operational, regulatory, and land-use issues to ensure adequate consideration is given to coldwater fish resources. To this end, continue to participate in the review of Land Use Applications that have the potential to impact wild trout populations.

Opportunity – The DFW should work closely with the N. J. Division of Parks and Forestry to determine if operational changes regarding the hypolimnetic aeration system at Swartswood Lake would result in an improvement in summer trout habitat. (Habitat Management)

**Strategy 1.4** Develop and implement a habitat improvement and restoration program.

Opportunity – Investigate the feasibility of using Natural Resources Damages money to fund a staff position dedicated to the restoration and enhancement of coldwater fish habitat. (Habitat Management)

Opportunity – Identify land-use changes that have historically and currently affect wild trout with the intention of improving and restoring healthy wild trout populations. (Wild Trout Management)

**Strategy 1.5** Continue to develop partnerships with fishing and conservation oriented organizations to increase conservation and restoration efforts on streams and lakes that provide trout fishing opportunities.

**Strategy 1.6** Monitor changes in water quality on specific waterways where summer trout habitat may be in jeopardy due to declining water quality

Opportunity – The amount of available summer trout habitat reaches critical levels on some designated lakes and annual monitoring activities are essential. Historical data (temperature and dissolved oxygen profiles) for each lake should be compiled into a report and thereafter a yearly report prepared and disseminated. Open and candid communication with angling organizations, agencies, lake owners and other stakeholder groups concerned about water quality issues is desirable.

**Strategy 1.7** Monitor and develop management strategies for coldwater fisheries in large reservoirs.

Opportunity – The status of the forage base (alewife) at Merrill Creek Reservoir is a concern. Methods for examining alewife population dynamics, and its relation to primary and secondary productivity, should be explored to determine appropriate management strategies. (Fish Regulations)

**GOAL 2**      ***Conserve and enhance wild trout populations at optimal levels.***

**Strategy 2.1** Routinely monitor fish populations, including wild trout, in order to keep management strategies current, aid in the identification of resource problems and issues, and demonstrate agency commitment to the management of aquatic resources.

Opportunity – Prioritize and establish a monitoring schedule for wild trout populations. (Wild Trout Management)

Opportunity – Prepare and implement a research project to document the growth on naturally occurring brook, brown, and rainbow trout populations throughout the entire state. (Life History)

Opportunity – Maintain an inventory of wild trout populations (and their aquatic habitats) in a computerized database so species distributions can be mapped and information readily retrieved. (Wild Trout Management)

Opportunity – Identify habitats and ecosystem types that support wild trout and are in danger of being lost or drastically altered and explore ways to protect the landscapes in which wild trout occur through links with other wildlife (plants, birds, herptiles, etc.). (Habitat Management)

Opportunity – Investigate the feasibility of testing wild trout populations for the presence of pathogens known to be a concern to coldwater trout species. These include but are not limited to IPN (infectious pancreatic necrosis), VHS (viral hemorrhagic septicemia), and IHN (infectious hematopoietic necrosis) viruses, *Aeromonas salmonicida* (furunculosis), *Renibacterium salmoninarum* (bacterial kidney disease), *Yersinia ruckeri* (enteric redmouth), and *Myxobolus cerebralis* (whirling disease) (Fish Health)

**Strategy 2.2** Develop management strategies to assure the protection of the State's valuable wild coldwater fish populations.

Opportunity – Develop and implement a plan specific to management of brook trout, New Jersey's state fish and only native salmonid. (Wild Trout Management)

Opportunity – Determine if populations of wild (heritage) brook trout inhabit New Jersey waters and develop strategies to conserve and protect this native fish and its habitat. (Wild Trout Management)

**Strategy 2.3** Evaluate current management practices which may negatively impact wild trout populations.

Opportunity – Through review of scientific literature and field sampling the impacts of stocking cultured trout in small trout production streams should be investigated to determine if alternative stocking practices are warranted. (Cultured Trout Management)

**Strategy 2.4** Protect wild trout populations through the use of established fishing regulations.

Opportunity – Determine if the statewide *General Trout Regulation* governing approximately 140 trout production streams (not covered by special regulations) provides a satisfactory level of protection from over-exploitation by anglers. (Fishing Regulations)

Opportunity – Evaluate trout production streams currently regulated as *Wild Trout Streams*, *Trout Conservation Areas*, and *Fly Fishing Only Areas* to determine if existing fishing regulations provide for appropriate level of recreation that is consistent with maintaining viable wild trout populations. (Wild Trout Management)

**GOAL 3**     *Provide and promote a diversity of recreational angling opportunities for trout statewide.*

**Strategy 3.1** Develop a systematic plan for monitoring and evaluating angler usage, catch, fish population changes, and management strategy effectiveness on waters providing trout fishing opportunities.

**Strategy 3.2** Increase the diversity of angling opportunities for salmonid species within the state.

Opportunity – Investigate if additional opportunities for the stocking of lake trout exist within the state. (Cultured Trout Management)

Opportunity – Investigate opportunities for stocking additional species or hybrids of trout to provide unique fishing opportunities within the state. (Cultured Trout Management)

Opportunity – In addition to the Manasquan River, explore the possibilities of stocking other waters, such as Toms River and the Raritan River, to expand fishing opportunities for sea run brown trout. (Cultured Trout Management)

**Strategy 3.3** Continue to maintain and improve angler access to trout fishing waters through land acquisitions and easements, parking lots, boat ramps, and other facilities

**Strategy 3.4** Survey anglers on a regular basis (e.g. every five years) to determine angler preferences, attitudes, and satisfaction regarding trout fishing in New Jersey.

**Strategy 3.5** Explore opportunities and methods for increasing angler reports to accurately assess the success of recreational fishing opportunities.

Opportunity – Continue to publicize the sea run trout program through articles, updates and news releases. (Cultured Trout Management)

Opportunity – Visibly tag a proportion of sea run brown trout stocked in the Manasquan River to encourage angler reports of catches. (Cultured Trout Management)

Opportunity – Institute a lottery or reward system to encourage reports of catches. (Cultured Trout Management)

**GOAL 4**      *Maximize the recreational use of trout through the appropriate use of fishing regulations.*

**Strategy 4.1**    Develop management objectives and evaluation procedures for all regulations, that will allow managers to determine success and effectiveness.

Opportunity – Management goals and measurable objectives need to be established for streams governed by the *General regulation, Fly Fishing Only, Trophy Trout Lakes, Seasonal Trout Conservation, Year Round Trout Conservation Area, and Wild Trout Stream* regulations. This information would assist managers in evaluating regulation success on designated waters and justify future management decisions. (Fishing Regulations)

Opportunity – Management goals and measurable objectives need to be established for lakes governed by the *Holdover Trout Lakes* regulation. Evaluation procedures (the collection of data to evaluate lake suitability, regulation effectiveness, and determination of stocking rates) are needed in order to assist managers in evaluating regulation success on individual waters and justify management decisions. (Fishing Regulations)

Opportunity – Other lakes that support trout year round may be suitable for *Holdover Trout Lake* regulations. Specific criteria, which would assist managers in selecting additional lakes for inclusion under the *Holdover Trout Lake* regulation, need to be established. (Fishing Regulations)

Opportunity – Management goals, measurable objectives, and evaluation procedures need to be established that would assist managers in evaluating success of the regulation governing water having closed in-season stocking dates. (Fishing Regulations)

**Strategy 4.2**    Review existing special regulations to determine appropriateness and potential for streamlining and/or designating additional waters.

Opportunity – The desirability and suitability of continuing the *Fly Fishing Only* regulation should be explored. It is possible that another special regulation (*Seasonal or Year Round Trout Conservation Area, or a Wild Trout Stream*) might be appropriate. Angler preferences and the need to provide fly fishing anglers with adequate spatial segregation from other types of anglers are factors that should also be taken into consideration. (Fishing Regulations)

Opportunity – Other trout maintenance and trout production streams that support trout year round may be suitable for inclusion under the *Year*

*Round Trout Conservation Area* regulation. In particular the section of the Musconetcong River currently regulated as a *Seasonal Trout Conservation Area* may warrant further consideration. Specific criteria, which would assist managers in selecting additional stream segments for inclusion under the *Year Round Trout Conservation Area* regulation, need to be established.

(Fishing Regulations)

Opportunity – Other trout maintenance and trout production streams that support trout year round may be suitable for inclusion under the *Seasonal Trout Conservation Area* regulation. Specific criteria, which would assist managers in selecting additional stream segments for inclusion under the *Seasonal Trout Conservation Area* regulation, need to be established. (Fishing Regulations)

Opportunity – Specific criteria, which would assist managers in selecting additional trout production streams for inclusion under the *Wild Trout Stream* regulation, need to be established. (Fishing Regulations)

Opportunity – The Blewett Tract (0.5 miles long) is located within the *Fly Fishing Only* stretch of the Big Flatbrook and is currently singled out for gear restrictions year round. The benefit of having this gear exclusion applicable to a half mile section of the brook for the first 9 days of the spring season is questionable. Consideration should be given to modifying the Blewett Tract regulation to be consistent with the *Fly Fishing Only* regulation on the adjacent sections of the Big Flatbrook. (Fishing Regulations)

Opportunity – The Claremont stretch on the S/Br. Raritan River supports a reproducing brook and brown trout population. Existing data should be re-examined to determine if it would be more appropriately regulated as a *Wild Trout Stream*. (Fishing Regulations)

Opportunity – The minimum size and daily creel limit established for *Wild Trout Streams* should be evaluated to determine if the long-term survival of these wild trout populations is being impacted on designated streams. (Fishing Regulations)

**Strategy 4.3** Review and modify existing regulations to determine if changes are necessary to further enhance fishing opportunities while providing protection to the resource.

Opportunity – There is speculation that few trout attain the 15-inch minimum harvestable size on designated *Seasonal Trout Conservation Area* and *Year Round Trout Conservation Areas* waters. Data should

be collected that would assist managers in evaluating and determining if a lower minimum size would be appropriate. (Fishing Regulations)

Opportunity – The daily creel limit in effect on opening day and six weeks thereafter is currently six per day on waters designated *Seasonal Trout Conservation Area* waters. A reduced creel limit during this period should be considered to improve trout availability during the remainder of the year when special regulations are in effect. (Fishing Regulations)

Opportunity – Some streams that are not trout-stocked or regulated as a *Wild Trout Stream* contain wild trout populations. The harvest of these wild trout is currently governed by the statewide general regulation. The need to have more stringent regulations governing the harvest of wild trout in these trout production streams should be explored. (Wild trout Management)

Opportunity – Other states have special trout regulations that curtail harvest initially and liberalize harvest later in the season to extend the fishery (delayed harvest). The desirability of instituting a similar regulation on select trout streams should be explored. (Fishing Regulations)

**Strategy 4.4** Develop a systematic plan for monitoring and evaluating the outcome and effectiveness of regulatory changes.

**GOAL 5**     *Enhance and expand recreational angling opportunities for trout through the use of cultured trout*

**Strategy 5.1** Continue to utilize cultured trout in waters where wild trout populations are not present or able to sustain a coldwater fishery at desired levels, to create or enhance short and long-term angling opportunities for trout.

Opportunity – The Pequest River stretch consistently harbors large trout (which probably escape from the hatchery but continue to linger because of the hatchery discharge to the Pequest), particularly in the fall. This situation may present a unique opportunity for development of a management strategy that would capitalize on this fishery. (Fishing Regulations)

Opportunity – Several streams (or stream reaches) covered by the “closed in-season stocking dates” regulation experience late spring and summer water temperatures that can negatively affect trout survival. Trout stocked in these waters during the latter part of the spring in-season stocking period (Weeks 6 and 7) may be underutilized if temperature and stress related mortalities occur. (Fishing Regulations)

**Strategy 5.2** Optimize the use of available cultured trout, currently at maximum production levels, to maximize benefits to anglers.

Opportunity – The benefits of re-allocating trout from large marginal/non-trout lakes and reservoirs, where angler returns and interest is greatly reduced, to smaller non-trout lakes where angler returns are much higher should be investigated. (Cultured Trout Management)

Opportunity – Identify current trout stocked waters having limited access, thereby offering only limited fishing opportunities and determine if stocking should be discontinued or if access issues can be rectified. (Cultured Trout Management)

**Strategy 5.3** Develop management objectives and evaluation procedures for various stocking programs, that will allow managers to determine success and effectiveness.

Opportunity – Management goals and objectives need to be established for put and take and put, grow and take stocking management strategies. (Cultured Trout Management)

Opportunity – Management goals, measurable objectives, and evaluation procedures need to be established for the Sea Run Brown Trout program. (Cultured Trout Management)

Opportunity – Continue to monitor these coastal waters for the presence of sea – run trout populations through angler reports and proven sampling methods. (Cultured Trout Management)

**Strategy 5.4** Develop specific criteria for incorporating waters into established stocking programs.

Opportunity – Specific criteria for adding waters to the DFW’s trout stocking waters needs to be developed. (Cultured Trout Management)

**Strategy 5.5** Evaluate the number and frequency of stockings, particularly on low usage trout-stocked waters, to fine-tune stocking in order to provide more attractive fisheries and increase angler effort.

Opportunity – The frequency of stocking during the spring stocking period should be examined to determine if it provides for the most quality and satisfying angling experience possible. (Cultured Trout Management)

**Strategy 5.6** Investigate ways to further enhance current stocking programs to provide more attractive fisheries and increase angler effort without increasing hatchery production needs.

Opportunity – In order to improve angler satisfaction, investigate the feasibility of stocking broodstock into identified lakes each spring to generate increase interest in angling activity of these waters. Specific waters receiving broodstock would change each year. Consider the feasibility of stocking the larger fish during week 2 or 3 of the in-season period to generate renewed interest when typically angler interest in trout begins to decline. (Cultured Trout Management)

Opportunity – Investigate the feasibility of increasing the current allotment of brown trout, at the expense of brook and rainbow stockings on trout maintenance waters currently regulated as Year Round Conservation Areas. (Cultured Trout Management)

Opportunity – Investigate the feasibility of stocking holdover lakes earlier in the pre-season period to promote fishing during the pre-season closure period. Although some illegal harvest may occur, recreational benefits may outweigh original concerns. (Cultured Trout Management)

Opportunity – To improve angler satisfaction, investigate the feasibility of stocking a higher percentage of brown trout, at the expense of brook and rainbow stockings, particularly in the larger trout maintenance waters. (Cultured Trout Management)

Opportunity – Special regulated waters have grown in popularity, increasing angling pressure, investigate the feasibility of increasing the number of in-season stockings on these waters. (Cultured Trout Management)

**Strategy 5.7** Utilize current technological advances for the most efficient use of Bureau resources as they relate to fish culture activities.

Opportunity – The database currently used for the management of the state's stocking points and load sheet development, as well as, the program used for determining trout allocations are programmed in dBase III. The program is outdated and certain aspects are no longer operational. The program needs to be re-written into Access or another comparable program. (Cultured Trout Management)

Opportunity – Phone lines currently used to monitor and operate wells are aging and may not be reliable in the future. The purchase of a broad spectrum radio well communication system should be investigated to replace existing communication system. (Culture)

**GOAL 6**     *Educate and communicate with the public to increase awareness of the values and needs of coldwater fishes and promote recreational fishing opportunities.*

**Strategy 6.1** Increase public awareness of the state's valuable coldwater resources and current threats to these resources through available multimedia resources. Emphasis should be placed on an ecosystem approach and the role of indicator species to assess aquatic ecosystem health.

Opportunity – Develop a program that involves land owners, local communities, and school systems in stewardship activities that promote awareness of the value of our aquatic resources. (Wild Trout Management)

Opportunity – Utilize multiple forms of media such as the Freshwater Fisheries Digest, videos, brochures, summit meetings, and the Internet to educate the public. (Communication)

Opportunity – Increase publications and availability of information on the importance of habitat and indicators of stream health. (Communication)

**Strategy 6.2** Develop and implement marketing strategies designed to increase angler participation.

Opportunity – Use data as it becomes available from Point Of Sale technology to target anglers who ceased to purchase a fishing license. Send promotional materials to solicit renewed interest in angling opportunities within the state. (Communication)

Opportunity – Investigate ways to further use multi media sources to reach large target audiences to further emphasize the work being carrying out by the DFW and recreational opportunities available across the State. Look to partner with other agencies such as the Division of Parks and Forestry and the NJ Travel and Tourism. (Communication)

**Strategy 6.3** Determine ways to use current DFW programs and activities to increase angler participation.

Opportunity – Investigate the feasibility of adding additional free fishing days during the fall of each year. (Communication)

Opportunity – The Open House has become a popular family event and is usually not attended by the more avid anglers. Scheduled for the first weekend in April the weather is usually uncooperative and greatly effects turnout. Investigate moving the event to coordinate with the Free Fishing Days and use the opportunity to solicit future potential anglers. In addition, provide scheduled programs throughout the day on the basics of fishing. (Communication)

Opportunity – Investigate ways to increase angler participation by providing innovative license purchasing opportunities. (Funding)

Opportunity - Investigate a catch and release and a junior component to compliment the current Skillful Angler Awards program. (Communication)

**Strategy 6.4** Increase public awareness of the extensive variety of recreational fishing opportunities across the state.

Opportunity – Prepare a pamphlet identifying the extensive trout fishing opportunities that exist within the State. Using GIS maps developed for this plan, prepare maps with location of trout stocked waters, wild trout streams, trout conservation areas, general regulation areas, and special regulation areas. (Communication)

Opportunity – Reconfigure the Bureau’s fishing and Bureau page on the DFW’s web site to a more topic based approach. Also, reformat the information provided to improve the ease at which information can be acquired. (Communication)

Opportunity – Investigate the feasibility of establishing and maintaining kiosks at high use trout fishing areas (i.e. Round Valley Reservoir, WMA’s on major rivers such as the Musconetcong Pequest, Flatbrook, etc.) as a means of educating trout anglers and the general public about trout resource and informing them about DFW activities. (Communication)

Opportunity – Better utilize “trout stocked water” signs to depict access for the purposes of fishing. Discontinue stocking in areas where access issues continue to be problematic. (Communication)

Opportunity – Continue to investigate ways to use current equipment and vehicles to promote DFW activities. (Communication)

**Strategy 6.5** Continue to develop partnerships with fishing and conservation oriented organizations, and others to increase conservation efforts and promote

trout fishing (i.e. through special events, programs, workshops, handicap access, etc.)

Opportunity – Continue with Restoring Our Streams workshop on an annual basis. (Habitat)

**Strategy 6.6** Investigate opportunities to partner with manufacturers and stores in producing and distributing informational material pertaining to resource conservation and fishing opportunities in New Jersey.

**Strategy 6.7** Increase angler awareness to scientific literature as it relates to specific management decisions and strategies.

Opportunity – Anglers have expressed interest in reviving the barbless hook restriction. Efforts to educate anglers as to the lack of a scientific basis for this restriction is warranted. (Fishing Regulations)

Opportunity – Trout anglers periodically request that additional streams be regulated as fly fishing only based upon their perception that fish mortality will be reduced. Anglers, particularly those who fly fish for trout, should be made aware of hooking mortality studies that demonstrate that mortality differences between lures and flies is insignificant and the basis for the *Fly Fishing Only* regulation is social not biological. (Fishing regulations)

**Strategy 6.8** Promote the value of trout fishing in terms of benefits to individual anglers, and to local/regional economy.

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## Operational Plan

### *Overview*

The success of any strategic plan is measured by the implementation of identified goals and strategies. A well developed operational component is an integral component to any successful strategic planning document regardless of topic area. The operational segment serves as a work plan for prioritizing goals and strategies, identifying steps for implementation and a time frame of completion. The failure of many strategic documents is that they often lack well developed work plans which identify the steps necessary to achieve desired goals as well as establish reasonable time frames for completion.

Depicted below is the Bureau's proposed work plan for implementing the goals and strategies established within this plan. The work plan provides the framework of Bureau activities, as they relate to the State's coldwater resources, for the next five years. It also identifies long range activities which may be implemented at any time depending on available resources. It should be noted that the activities included within this work plan are in addition to the countless activities which are carried out day to day in the overall management of the state's coldwater resources.

The first phase of implementation of a strategic plan relative to the state's coldwater resources is the adoption of the plan itself. Adoption of the Coldwater Fisheries Management Plan also includes the adoption of several policies outlined within the document. These include the Fish Health Policy, Pequest Hatchery Access Policy and Wild Trout Policy.

Schedule for the Adoption of the Coldwater Fisheries Management Plan:

❖	Action	Schedule
✓	Complete draft of the Coldwater Management Plan	January 2004
❖	Review by Division Administration	January 2004
❖	Review by Fish Committee	January 2004
❖	Review by Fish and Game Council	February 2004
❖	Release to general public	February 2004
❖	Public comment period	Feb – May 2005
❖	Incorporate comments and finalize plan	May– Dec 2005
❖	Adoption Coldwater Management Plan	January 2006

Action: The Coldwater Plan was released to the public in a draft format to solicit input from the various angler groups, conservation organizations and interested stakeholders prior to being finalized. This allowed the general public to play a major role in the direction of the management of the State's coldwater resources in the future. Due to the enormity of the document the original 3 month public comment period proved

insufficient and was extending several times. Closing on April 30, 2005, the public ultimately had one year to comment on the various aspects of the plan.

## CY 2004

Opportunity – In order to improve angler satisfaction, investigate the feasibility of stocking broodstock into identified lakes each spring to generate increased interest in angling activity in these waters and trout fishing in general. Specific waters receiving broodstock would change each year. Consider the feasibility of stocking the larger fish during week 2 or 3 of the in-season period to generate renewed interest when typically angler interest in trout begins to decline. (Cultured Trout Management)

**Strategy 5.6** Investigate ways to further enhance current stocking programs to provide more attractive fisheries and increase angler effort without increasing hatchery production needs.

Waterbodies Involved: Statewide

❖	Action	Schedule
❖	Prepare Recommendations	January 2004
❖	Obtain Council Approval	February 2004
❖	Implementation	April 2004

Action: In 2004 the DFW initiated the Bonus Broodstock Program for the 2004 spring trout season. Nine small impoundments, geographically distributed throughout the state, were selected to receive an additional 35 to 50 large brood stock in addition to the typical 2 % load allocation. The program was well received and has been continued with nine new lakes selected each year.

Opportunity – Special regulated waters have grown in popularity, increasing angling pressure, investigate the feasibility of increasing the number of in-season stockings on these waters. (Cultured Trout Management)

**Strategy 5.6** Investigate ways to further enhance current stocking programs to provide more attractive fisheries and increase angler effort without increasing hatchery production needs.

Waterbodies Involved: Pequanock River, Musconetcong River, Raritan River S/Br, Claremont and Ken Lockwood Gorge sections, Pequest River, Paulinskill E/Br, and Toms River

❖	Action	Schedule
❖	Prepare Recommendations	January 2004
❖	Obtain Council Approval	February 2004
❖	Implementation	April 2004

Action: As year round trout conservation areas have grown in popularity among anglers, in 2004 the DFW increased the number of in-season stockings for these special regulated waters from two in-season to three in-season stockings each spring.

**Opportunity** – Investigate the feasibility of increasing brown trout hatchery production, at the expense of brook and rainbow, for stocking trout maintenance waters currently regulated as Year Round Conservation Areas. (Cultured Trout Management)

**Strategy 5.6** Investigate ways to further enhance current stocking programs to provide more attractive fisheries and increase angler effort without increasing hatchery production needs.

Waterbodies Involved: Paulinskill River E/Br, Raritan River S/Br, Claremont and Ken Lockwood Gorge sections, and Toms River

❖	Action	Schedule
❖	Prepare Recommendations	January 2004
❖	Obtain Council Approval	February 2004
❖	Alter hatchery species composition	February 2004
❖	Implementation	April 2005

Action: In response to requests from anglers for more brown trout in 2003 the Pequest trout hatchery altered its current culture operations and increased brown trout production by 25,000. Anglers reaped the benefit of these changes in 2005 when the browns were stocked as part of an additional change to increase the number of in-season stockings of trout within designated year round trout conservation areas.

**Opportunity** – Reconfigure the Bureau's fishing and Bureau page on the DFW's web site to a more topic based approach. Also, reformat the information provided to improve the ease at which information can be acquired. (Communication)

**Strategy 6.4** Increase public awareness of the extensive variety of recreational fishing opportunities across the state.

❖	Action	Schedule
❖	Prepare new information for web site	January 2004
❖	Provide information to I & E staff	February 2004
❖	Implementation	March 2004

Action: In 2004 the Bureau of Freshwater Fisheries reconfigured the DFW's freshwater fishing page on the DFW's website. The more topic based approach and new format was well received by anglers and will serve as a template for further changes on other pages. Although a good start there is still a considerable amount of work still needed in

providing anglers easy access to many of the fishing opportunities which exist throughout the state.

Opportunity – The Open House has become a popular family event and is usually not attended by the more avid anglers. Scheduled for the first weekend in April the weather is usually uncooperative and greatly effects turnout. Investigate moving the event to coordinate with the Free Fishing Days and use the opportunity to solicit future potential anglers. (Communication)

**Strategy 6.3** Determine ways to use current DFW programs and activities to increase angler participation.

❖	Action	Schedule
✓	Consult with Bureau of I & E staff	Complete

Action: In 2004 the DFW re-scheduled the open house to the third weekend in May in an effort to draw more public attendance. Although the weather was considerably better the competition with other events such as sporting events, graduations etc.. failed to increase public attendance and the event was poorly attended. In 2005, the event was returned to the weekend before the opening day of trout season.

Opportunity – Investigate if there are additional opportunities for the stocking of lake trout within the state. (Cultured Trout Management)

**Strategy 3.2** Increase the diversity of angling opportunities for salmonid species within the state.

Waterbodies Involved: Monksville Reservoir

❖	Action	Schedule
✓	Lake Inventory Report for Monksville Reservoir	Completed
✓	Council Approval of Recommendations	October 2003
❖	Necessary Fish Code Changes	2004
❖	Initial Stocking of fingerlings	November 2004
❖	Monitor success	2005 – 2008

Action: In November of 2004, lake trout were introduced into Monksville Reservoir. This is the same year that trout stocking was discontinued at Monksville Reservoir. It is too soon to determine if lake trout are better suited for current reservoir conditions and if they will fare better among other top predator species present such as muskellunge and walleyes.

**Opportunity** – Investigate a catch and release and a junior component to compliment the current Skillfull Angler Awards program. (Communication)

**Strategy 6.4** Increase public awareness of the extensive variety of recreational fishing opportunities across the state.

Action: For the 2004 fishing season the DFW's Skillful Angler Awards Program was modified to include a catch and release category, based on fish length, and a junior category for anglers under the age of 16. The minimum weight for lake trout was increased from 8 pounds to 12 pounds.

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## CY 2005

**Opportunity** – The benefits of re-allocating trout from large marginal/non-trout lakes and reservoirs, where angler returns and interest is greatly reduced, to smaller non-trout lakes where angler returns are much higher should be investigated. (Cultured Trout Management)

**Strategy 5.2** Optimize the use of available cultured trout, currently at maximum production levels, to maximize benefits to anglers.

Waterbodies Involved: Spruce Run Reservoir, Lake Hopatcong, Monksville Reservoir, and Manasquan Reservoir

❖	Action	Schedule
❖	Complete necessary field data collection	2004 - 2005
❖	Analyze data	
❖	Prepare Recommendations	
❖	Necessary Fish Code Changes, if required	
❖	Implementation	Spring 2006

Action: Through a formal rule making process trout stocking was discontinued at Monksville Reservoir in 2004. In December of 2004, the DFW's Bureau of Freshwater Fisheries released for public comment a proposal for significant changes to the DFW's trout program (See Appendix A). This proposal included discontinuing trout stocking on seven large lakes Lake Hopatcong (Sussex/Morris), Spruce Run Reservoir (Hunterdon), Manasquan Reservoir (Monmouth), Pompton Lake (Passaic), Canistear Reservoir (Sussex), Cranberry Lake (Sussex) and Mountain Lake (Warren). These large lakes, over 100 acres, yield lower return rates for trout. In addition, Pompton Lake, Cranberry Lake, and Mountain Lake have limited public access. After a four month public comment period the proposal was amended to continue the stocking of trout in Lake Hopatcong. Trout stocking was discontinued on the remaining six lakes beginning in 2006. All six lakes are stocked with other warmwater fish species by the DFW, and provide excellent fishing opportunities for these other species.

**Opportunity** – Maintain an inventory of wild trout populations (and their aquatic habitats) in a computerized database so species distributions can be mapped and information readily retrieved. (Goals)

**Strategy 2.1** Routinely monitor fish populations, including wild trout, in order to keep management strategies current, aid in the identification of resource problems and issues, and demonstrate agency commitment to the management of aquatic resources.

❖	Action	Schedule
❖	Creation of database	Completed

❖	QA/QC of data within database	December 2005
❖	Field collection and data manipulation	Ongoing

Action: Preliminary QA/QC of the database has been completed. In January 2006 regional biologists will review drainage information for the final QA/QC of the database to be complete.

**Opportunity** – Phone lines currently used to monitor and operate wells are aging and may not be reliable in the future. The purchase of a broad spectrum radio well communication system should be investigated to replace existing communication system (Culture)

**Strategy 5.7** Utilize current technological advances for the most efficient use of Bureau resources as they relate to fish culture activities

Action: Listed as a long range item in the draft CWP the DFW received last minute funding from capital monies originally earmarked for other improvements. Several boat ramp improvements projects encountered obstacles preventing their implementation.. Through the Legislature’s Joint Budget and Appropriations Committee \$ 100,000 of the funds were redirected to the Pequest Hatchery. A new broad spectrum radio communication system was installed in November 2005 to replace the failing well monitoring system.

**Opportunity** – The database currently used for the management of the state’s stocking points and load sheet development, as well as, the program used for determining trout allocations are programmed in dBase III. The program is outdated and certain aspects are no longer operational. The program needs to be re-written into Access or another comparable program. (Cultured Trout Management)

**Strategy 5.7** Utilize current technological advances for the most efficient use of Bureau resources as they relate to fish culture activities

Action – In 2005, the outdated DbaseIII trout stocking program was replaced with a Microsoft Access driven program.

**Opportunity** – Prepare a pamphlet identifying the extensive trout fishing opportunities that exist within the State. Using GIS maps developed for this plan, prepare maps with location of trout stocked waters, wild trout streams, trout conservation areas, general regulation areas, and special regulation areas. (Communication)

**Strategy 6.4** Increase public awareness of the extensive variety of recreational fishing opportunities across the state.

❖	<b>Action</b>	<b>Schedule</b>
❖	Prepare necessary GIS map overlays	Complete
❖	Design and prepare text for brochure	March 2005
❖	Investigate funding sources for publication	May 2005
❖	Print and Distribute	March 2006

Status – No progress has been made on a trout fishing brochure. Fiscal constraints prevent the design and printing of such a document and in December 2004 the Bureau of Freshwater Fisheries lost its GIS staff person.

## CY 2006

Opportunity - Continue to document brook trout distribution in New Jersey, with particular focus on subwatersheds where the brook trout status is currently classified as unknown according to EBTJV classification.

**Strategy 1.1** Continue to inventory and classify waters according to their suitability for trout, and provide recommendations for surface water classification changes to the Department of Environmental Protection.

Opportunity - Sample stream segments in 6<sup>th</sup> level HUC units where self-sustaining populations of brook trout are present, but the extent of their occurrence is uncertain.

**Strategy 1.1** Continue to inventory and classify waters according to their suitability for trout, and provide recommendations for surface water classification changes to the Department of Environmental Protection.

Opportunity – Better utilize “trout stocked water” signs to depict access for the purposes of fishing. Discontinue stocking in areas where access issues continue to be problematic. (Communication)

**Strategy 6.4** Increase public awareness of the extensive variety of recreational fishing opportunities across the state.

Waterbodies Involved: Statewide

❖	Action	Schedule
❖	Consult with Bureau of Law Enforcement	January 2004
❖	If feasible, devise new signs	February 2004
❖	Print and Distribute new signs	March 2004
❖	Address particular access issues which arise	Ongoing

Opportunity – Determine if populations of wild (heritage) brook trout inhabit New Jersey waters and develop strategies to conserve and protect this native fish and its habitat. (Goals)

**Strategy 2.2** Develop management strategies to assure the protection of the State’s valuable wild coldwater fish populations.

Waterbodies Involved: Mason's Run, Forked Brook, Kurtenbach's Brook, Independence Creek, Halfway House Brook, Cresskill Brook, Havemayer Brook, Crooked Brook, Preakness Brook, Oakdale Creek, Hacklebarney Brook, Kruegers Creek, Rocky Run, Turkey Brook, Trib to S/Br Raritan

(S. of Hoffmans), Mud Pond Outlet Stream, Hibernia Brook, Burnt Meadow Brook, Lake Stockholm Outlet Stream, Van Campens Brook, Cooley Brook, and Flanders Brook.

❖	Action	Schedule
✓	Collect blood samples	Completed
❖	Prepare & process samples for genetic analyzer	July 2005
❖	Analyze Data	March 2006
❖	Prepare draft report	March 2006
❖	Review by scientific community	

**Opportunity** – Prioritize and establish a monitoring schedule for wild trout populations. (Wild Trout Management)

**Strategy 2.1** Routinely monitor fish populations, including wild trout, in order to keep management strategies current, aid in the identification of resource problems and issues, and demonstrate agency commitment to the management of aquatic resources.

❖	Action	Schedule
❖	Establish Schedule	November 2006

**Opportunity** – Determine if the statewide *General Trout Regulation* governing approximately 140 trout production streams (not covered by special regulations) provides a satisfactory level of protection from over-exploitation by anglers. (Goals)

**Strategy 4.3** Review and modify existing regulations to determine if changes are necessary to further enhance fishing opportunities while providing protection to the resource.

**Opportunity** – Determine if current regulations on designated *Seasonal* and *Year Round Trout Conservation Areas* waters provide appropriate protection for these popular recreational areas. (Trout Regulations)

**Strategy 4.3** Review and modify existing regulations to determine if changes are necessary to further enhance fishing opportunities while providing protection to the resource.

**Waterbodies Involved:** Pequannock River, Musconetcong River, Raritan River S/Br, Claremont and Ken Lockwood Gorge sections, Pequest River, Paulinskill E/Br, and Toms River

❖	Action	Schedule
❖	Field Sampling of Conservation Area Waters	Summer 2006
❖	Data Analysis	Winter 2006
❖	Necessary Fish Code Changes, if warranted	2007
❖	Implementation, if feasible	Spring 2008

**Opportunity** – Management goals, measurable objectives, and evaluation procedures need to be established for the Sea Run Brown Trout program. (Cultured Trout Management)

**Strategy 5.3** Develop management objectives and evaluation procedures for various stocking programs, that will allow managers to determine success and effectiveness.

❖	Action	Schedule
❖	Analyze data and angler reports	December 2005
❖	Review of data and current program	February 2006
❖	Development of objectives and evaluation	December 2006

## CY 2007

Opportunity – The Claremont stretch on the S/Br. Raritan River supports a reproducing brook and brown trout population. Existing data should be re-examined to determine if it would be more appropriately regulated as a *Wild Trout Stream*. (Fish Regulations)

**Strategy 4.2** Review existing special regulations to determine appropriateness and potential for streamlining and/or designating additional waters.

Opportunity – Identify current trout stocked waters having limited access, thereby offering only limited fishing opportunities and determine if stocking should be discontinued or if access issues can be rectified. (Cultured Trout Management)

**Strategy 5.2** Optimize the use of available cultured trout, currently at maximum production levels, to maximize benefits to anglers.

Waterbodies Involved: Shadow Lake, Blue Mountain, Blair Lake, Stony Lake

❖	Action	Schedule
❖	Complete necessary field/data collection	2007
❖	Analyze data	
❖	Prepare Recommendations	
❖	Necessary Fish Code Changes, if required	
❖	Implementation	

Opportunity – Specific criteria for adding waters to the DFW's trout stocking waters needs to be developed. (Cultured Trout Management)

**Strategy 5.4** Develop criteria for incorporating waters into established stocking programs.

Waterbodies Involved: Statewide

❖	Action	Schedule
❖	Establish Criteria	February 2007

## CY 2008

Opportunity – Conduct an angler preference survey.

**Strategy 3.4** Survey anglers on a regular basis (e.g. every five years) to determine angler preferences, attitudes, and satisfaction regarding trout fishing in New Jersey.

Opportunity – Management goals and measurable objectives need to be established for lakes governed by the *Holdover Trout Lakes* regulation. Evaluation procedures (the collection of data to evaluate lake suitability, regulation effectiveness, and determination of stocking rates) are needed in order to assist managers in evaluating regulation success on individual waters and justify management decisions. (Fish Regulations)

**Strategy 4.1** Develop management objectives and evaluation procedures for all regulations, that will allow managers to determine success and effectiveness.

Opportunity – Other lakes that support trout year round may be suitable for Holdover Trout Lake regulations. Eligibility criteria, which would assist managers in selecting additional lakes for inclusion under the *Holdover Trout Lakes* regulation, needs to be established. (Fish Regulations)

**Strategy 4.2** Review existing special regulations to determine appropriateness and potential for streamlining and/or designating additional waters.

Opportunity – Through review of scientific literature and field sampling the impacts of stocking cultured trout in trout production streams should be investigated to determine if alternative stocking practices are warranted. (Cultured Trout Management)

**Strategy 2.3** Evaluate current management practices which may negatively impact wild trout populations.

## CY 2009

Opportunity – Management goals and measurable objectives need to be established for streams governed by the *Fly Fishing Only, Seasonal Trout Conservation, and Year Round Trout Conservation Area*, regulations. This information would assist managers in evaluating regulation success on designated waters and justify future management decisions. (Fish Regulations)

**Strategy 4.1** Develop management objectives and evaluation procedures for all regulations, that will allow managers to determine success and effectiveness.

Opportunity – Several streams (or stream reaches) covered by the “closed in-season stocking dates” regulation experience late spring and summer water temperatures that can negatively affect trout survival. Trout stocked in these waters during the latter part of the spring in-season stocking period (Weeks 6 and 7) may be underutilized if temperature and stress related mortalities occur. (Fish Regulations)

**Strategy 5.1** Continue to utilize cultured trout in waters where wild trout populations are not present or able to sustain a coldwater fishery at desired levels, to create or enhance short and long-term angling opportunities for trout.

## Long Range

Opportunity – Determine if there are linkages between wild trout populations and topographic characteristics (gradient and elevation), soils, land-use, physicochemical characteristics, and other features to develop a tool for identifying potential or historical wild trout habitat. (Wild Trout Management)

**Strategy 1.2** Identify and protect important coldwater fish habitat and ecosystems.

Opportunity – Identify habitats and ecosystem types that support wild trout and are in danger of being lost or drastically altered. Explore ways to protect landscapes in which wild trout occur through links with management initiatives for other biotic resources (plants, birds, herptiles, etc.). (Wild Trout Management)

**Strategy 2.1** Routinely monitor fish populations, including wild trout, in order to keep management strategies current, aid in the identification of resource problems and issues, and demonstrate agency commitment to the management of aquatic resources.

Opportunity – Investigate opportunities for stocking additional species or hybrids of trout to provide unique fishing opportunities within the state. (Cultured Trout Management)

**Strategy 3.2** Increase the diversity of angling opportunities for salmonid species within the state.

Opportunity – Management goals and measurable objectives need to be established for streams governed by the *General regulation, Trophy Trout Lakes, and Wild Trout Stream* regulations. This information would assist managers in evaluating regulation success on designated waters and justify future management decisions. (Fish Regulations)

**Strategy 4.1** Develop management objectives and evaluation procedures for all regulations, that will allow managers to determine success and effectiveness.

Opportunity – Investigate the feasibility of using Natural Resources Damages funds to fund a staff position dedicated to the restoration and enhancement of coldwater fish habitat. (Habitat Management)

**Strategy 1.4** Develop and implement a habitat improvement and restoration program.

Opportunity – The Pequest River stretch consistently harbors large trout (which probably escape from the hatchery but continue to linger because of the hatchery discharge to the Pequest), particularly in the fall. This situation may present a unique opportunity for development of a management strategy that would capitalize on this fishery. (Fish Regulations)

**Strategy 5.1** Continue to utilize cultured trout in waters where wild trout populations are not present or able to sustain a coldwater fishery at desired levels, to create or enhance short and long-term angling opportunities for trout.

Opportunity – The desirability and suitability of continuing the *Fly Fishing Only* regulation should be explored. It is possible that another special regulation (*Seasonal* or *Year Round Trout Conservation Area*, or a *Wild Trout Stream*) might be appropriate. Angler preferences and the need to provide fly fishing anglers with adequate spatial segregation from other types of anglers are factors that should also be taken into consideration. (Fish Regulations)

**Strategy 4.2** Review existing special regulations to determine appropriateness and potential for streamlining and/or designating additional waters.

Opportunity – The Blewett Tract (0.5 miles long) is located within the *Fly Fishing Only* stretch of the Big Flatbrook and is currently singled out for gear restrictions year round. The benefit of having this gear exclusion applicable to a half mile section of the brook for the first 9 days of the spring season is questionable. Consideration should be given to modifying the Blewett Tract regulation to be consistent with the *Fly Fishing Only* regulation on the adjacent sections of the Big Flatbrook. (Fish Regulations)

**Strategy 4.2** Review existing special regulations to determine appropriateness and potential for streamlining and/or designating additional waters

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