New York State Department of Environmental Conservation

Division of Fish, Wildlife and Marine Resources

Bureau of Fisheries

Annual Report of Highlights and Accomplishments
for
State Fiscal Year 2000/2001

October 24, 2001

Introduction

The New York State Department of Environmental Conservation, Division of Fish, Wildlife and Marine Resources, Bureau of Fisheries delivers a very diverse program and annually conducts a wide array of activities to accomplish its mission:

> ***Conserve and enhance New York State's abundant and diverse populations of freshwater fishes while providing the public with quality recreational angling opportunities.***

This report for state fiscal year 2000/2001 (April 1, 2000 through March 31, 2001) is an effort to highlight many of the findings and accomplishments of activities and efforts carried out by Bureau of Fisheries staff. This report is not inclusive of all Bureau staff activities conducted during 2000/2001. It is a compilation of information that describes activities which were conducted that resulted in significant findings during 2000/2001 or activities from previous years for which results became available during 2000/2001. Information contained in this report was provided by the Regional Fisheries Units, Fish Hatcheries, Great Lakes Fisheries Units, and Central Office staff.

The information is arranged by fishery type (e.g. coldwater stream, warmwater lake) or focus area (e.g. creel and angler surveys, public access) and further by Unit within the Bureau (e.g. Region 1 Fisheries Unit, Adirondack Hatchery, Lake Erie Fisheries Unit) responsible for the accomplishment(s) or findings.

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Warmwater Lakes and Ponds

Region 1

Fort Pond Walleye Program

The Regional Fisheries Unit Completed a two-night electrofishing survey of Fort Pond in Montauk to assess the status of the stocked walleye in the pond. The primary goal of the walleye stocking in Fort Pond is to thin out the superabundant white perch to prevent perch competition with, and predation on, the largemouth bass and smallmouth bass in the pond and to promote better growth of the white perch. This was the first year since stocking began in 1997 that walleye from previous years' stockings were captured during the fall assessment. This was also the first year that we received confirmed reports of anglers catching walleye over the 18 inch minimum size limit.

While walleye holdover was demonstrated for the first time, it is still too early to conclude that the walleye are having an effect on the white perch population. The catch of desirable size white perch ($\geq$ 8 in) increased from 1999 and the catch rate of young of the year white perch declined. However, this cannot be definitively attributed to walleye predation.

Fort Pond is part of a statewide study to assess the relative success of pond fingerling walleye (stocked in June at 1.5 inches in length) and advanced fingerling walleye (stocked in September at 5 inches in length). All advanced fingerlings are marked with fin clips so that they can be identified. This was the fourth year of a planned five year study. During the survey, 35 walleye were caught. Of these, 20 were advanced fingerlings stocked in September 2000, and one was a pond fingerling from the June 2000 stocking. Twelve of the remaining 14 walleye were unmarked fish, probably pond fingerlings from the 1999 stocking and the remaining two had left ventral fin clips indicating that they were stocked as advanced fingerlings in 1997, 1998 or 1999. The final determination will come from aging the fish via scale samples. The data collected and samples taken have been transferred to Cornell University for analysis and inclusion in the statewide study.

Lake Ronkonkoma Walleye Assessment

The Regional Fisheries Unit completed a two night electrofishing survey of Lake Ronkonkoma to assess the status of the walleye that have been stocked in the lake since 1994. Like Fort Pond, the primary goal of the walleye stocking is to control overabundant forage fish (yellow perch and white perch) and shift the fish community from forage fish dominance to predator dominance. Seven walleye over 12 inches were collected which is the most holdover walleye collected since the walleye stocking program began. In addition this is the first year that anglers have reported catching walleye over the 18 inch minimum legal size. Anglers reported catching walleye up to 24 inches and catches of walleye over 20 inches have been confirmed by Fisheries Staff. Despite the increase in catch of holdover walleye, no discernable changes have been observed in the forage fish community size distribution or abundance.

Lake Ronkonkoma is part of a statewide study to assess the relative success of pond fingerling walleye (stocked in June at 1.5 inches in length) and advanced fingerling walleye (stocked in September at 5 inches in length). All advanced fingerlings are marked with fin clips so that they can be identified. This was the fourth year of a planned five year study. During the survey 30 walleye were caught. Of these 23 were advanced fingerlings stocked in September 2000. Six of the remaining seven walleye were unmarked fish, stocked as pond fingerlings in 1999 or earlier. The remaining walleye, the only one collected over 11 inches, had a left ventral fin clip indicating that it was stocked in 1996 or 1997. The final determination will come from aging the fish via scale samples. The data collected and samples taken have been transferred to Cornell University for analysis and inclusion in the statewide study.

Lake Ronkonkoma Beach Seining

Summer beach seine sampling of Lake Ronkonkoma was conducted on August 10th. Seines were hauled at seven sites around the shoreline to assess the abundance of juvenile gamefish and other littoral zone fishes. On average, largemouth bass were caught at a rate of 5.7 fish per haul and smallmouth bass were caught at a rate of 1.4 fish per haul. The

catch of both species was dominated by young-of-the-year fish indicating reproductive success. White perch were captured at a rate of 4 fish per haul. Other species found in the survey include: black crappie, bluegill, pumpkinseed, yellow perch, golden shiner, and banded killifish. Catch rates were highly variable from site to site with the highest catches coming from one site with abundant submerged aquatic plants. Catch rates at two sites may have been negatively biased due to debris that obstructed the seine.

Lake Ronkonkoma 2000 Water Chemistry Monitoring

The Regional Fisheries Unit completed monthly water chemistry sampling on Lake Ronkonkoma from May through October. The purpose of this sampling program is to detect and document ecosystem-level changes in Lake Ronkonkoma associated with the stocking of walleye. In addition to providing a secondary sport fishery, walleye should restore the balance between forage fish, zooplankton, and algae and ultimately improve water quality. Water samples collected this summer were analyzed at the Suffolk County Department of Health lab and the Fisheries Unit will receive a report on parameters including total phosphorus, total dissolved phosphorus, and chlorophyll A concentration. Zooplankton samples were sent to the Cornell Biological Field Station for analysis of size distribution and species composition. Based on the data immediately available, water clarity was slightly higher during midsummer than in previous years and dissolved oxygen was available at greater depths. However, this summer was unusually cool and it is by no means clear that a significant change has occurred.

Upper Twin Pond Survey

On May 23, 2000, the Fisheries Unit completed an electrofishing survey of Upper Twin Pond in Wantagh. In 1.83 hours of electrofishing on time, 319 fish were captured, including 238 bluegill, 48 largemouth bass, 24 pumpkinseed, 7 back crappie, 1 rainbow trout and 1 redfin pickerel. Carp and American eel were also noted as being present. Upper Twin Pond has been surveyed with electrofishing gear every two years since 1992. During this year's survey, the bluegill Proportional Stock Density (PSD) was 2, which was significantly different than the prior PSD average of 39 (standard error of 6.4). The pumpkinseed PSD of 15 was close to the mean of 16 (standard error of 0.9). Normally, the extremely low bluegill PSD would be a concern; however, the unusually cold spring weather in this year might have effected the bluegills and kept larger bluegill from moving into the shallows. The CPUE of stock sized bluegills (211 bluegill per hour) was the highest ever sampled at Upper Twin Pond. At the same time, CPUE of quality sized bluegill (4.8 bluegill per hour) was the lowest ever sampled at Upper Twin Pond. Because pumpkinseed PSD was unaffected, it is not believed that exploitation played a significant role in lowering the bluegill PSD. The largemouth bass PSD of 27 was within the expected range for Upper Twin Pond (PSD mean of 35 with a standard error of 5.4). CPUE of stock size largemouth bass (14.2 bass per hour) was greater than the mean of 7.9 bass per hour (standard error of 2.7). This continued a increase in stock size CPUE from 1998. CPUE of quality size largemouth bass (3.8 bass per hour) was significantly greater than the mean of 2.4 bass per hour (standard error of 0.6). It is not clear if the increase was due to the implementation of the no-kill bass regulation for Nassau County waters in 1999 or if the increase was from the high CPUE of stock size bass captured in 1998. Upper Twin will continue to be monitored every two years to determine the effectiveness of the Nassau County no-kill bass regulation.

Silver Lake, Staten Island

On June 14 and 15, Regional Fisheries Staff assisted Region 2 in electrofishing Silver Lake on Staten Island. Because of the steep banks and fenced off area, the Army National Guard helped launch the boat into the water by using a crane. They did an excellent job of placing the boat into the lake. One problem encountered was that the steep drop off of the banks of the lake prevented effective electrofishing more than 6 to 10 feet from the bank. The 14' regional electrofishing boat had short anode wires (2.5 feet) and could only put out 220 volts into the water. Scappers reported seeing many large fish (primarily thought to be bass) swimming under and away from the field, so electrofishing CPUE of large bass might have been lower due to the equipment used. Future surveys should be done with a boat that has longer anode wires and a rectifier box that can

handle higher voltages to handle lower conductivity waters. Many large bass (to 4 pounds) and panfish (bluegill, pumpkinseed, rock bass and yellow perch) were captured.

Belmont Lake Survey
On June 22, 2000, the Fisheries Unit completed a two night electrofishing survey of Belmont Lake in Belmont Lake State Park. In 3.17 hours of electrofishing 310 fish representing 10 species were captured. Sample of 20 carp and 14 bluegill were kept for contaminant analysis. At the present time there is a health advisory on Belmont Lake recommending that no more than one meal per month of carp be consumed. This advisory is based on Chlordane contamination. Chlordane had been banned in New York for 16 years and the lake has been dredged since the advisory was first put in place. Retesting the fish will determine if the health advisory is still warranted. In addition to the carp and bluegill, other species collected included largemouth bass, chain pickerel, yellow perch, pumpkinseed, brown bullhead, brown trout and grass carp.

Region 3

Walton Lake
Grass carp were intoduced at a rate of 10/vegetated acre into this 120-acre lake in 1987 to control Eurasian milfoil, with the specific objective of reducing the vegetation biomass by 75%. Rooted aquatic vegetation, water clarity, and centrarchid fish populations have been monitored since the introduction. This initial stocking, and a second in 1989, resulted in an estimated abundance of 15 to 19/vegetated acre and a biomass reduction of about 30% within two years. A third stocking increased the density to an estimated 21 to 27/vegetated acre and complete removal of remaining milfoil. In comparison, grass carp nearly eradicated rooted aquatic vegetation when stocked at 15/vegetated acre in at least five other regional waters.

From 1988 to 1999, secchi disk readings remained consistent at 9.0 to 11.0 feet, suggesting macrophyte reduction did not result in increased algae blooms.

DEC personnel conducted a qualitative aquatic vegetation survey of the lake on August 11, 2000 and noted an algae bloom was occurring and recorded a secchi disk reading of 7.0 ft. As in the previous two years, aquatic macrophytes and filamentous algae were virtually absent and water lily and spadderdock beds in the shallows were less dense than prior to 1998.

Swinging Bridge Reservoir
This reservoir was an experimental stocking target for walleye with the objective of establishing a self-sustaining population. 20,000 pond fingerlings were stocked annually from 1993 - 1997, with an additional 5,000,000 fry stocked in 1998. In October 2000, two nights of boat electrofishing were conducted, totaling 4.2 hr of “on” time. A total of 73 young-of-year (YOY) walleye were collected, along with 37 older walleye. All young-of-year were wild fish.

Six fine-mesh midwater gillnets (stretch mesh 3/4 “ - 1.5") were set overnight in October, collecting a total of 188 alewife (150 in 1" mesh alone). These results are in the range of past alewife-targeted netting efforts in this reservoir, indicating that the alewife population abundance was not in a depressed condition at this time.

An ichthyoplankton sample was collected in early May 2001 to try to determine walleye reproductive success this past spring. Results indicated an average of 4.7 walleye YOY/haul, 37.4 yellow perch/haul, with some unexpected large-sized zooplankton (for an alewife lake) collected as well. Additionally, four fine mesh gillnets were set for a period of two hours, with no alewife collected.

This apparent documentation of successful walleye recruitment to the fry stage for the second year in a row is both exciting and perplexing, in that it appears the original objective of the experimental walleye stocking program has been met, in spite of an historically abundant alewife population which shouldn’t allow for walleye fry survival. Future sampling will continue to document the status of this developing walleye population, while simultaneously attempting to document the dynamics of the alewife/walleye interactions that have allowed for two apparently successful years of walleye recruitment.

Region 5

Fern Lake Surveyed
Fern Lake in the Town of Black Brook, Clinton County, was surveyed to assess its current fish population. Preliminary results indicate a diverse fish fauna with a plentiful population of quality-size largemouth and smallmouth bass.

Long Lake Surveyed
Long Lake (4,020 acres), Town of Long Lake in Hamilton County, was electrofished using the new Region 5 shocking boat. Daytime electrofishing produced nearly 50 smallmouth and largemouth bass ranging from 4-20" and six northern pike. Smallmouth bass were common around rocky habitat bordering islands in the northern half of the lake. Largemouth bass were associated closely with cover types such as fallen trees or docks in the shallower southern half of the lake. Long Lake has long shoreline segments that lack adequate cover for bass, but where such cover exists large individual fish are present. Large numbers of 2-5" yellow perch were observed in the southern end of the lake. Brown bullhead were abundant in bays with muck or silt substrates. Redbreast sunfish were common in rocky areas and pumpkinseed were fairly common in beds of aquatic vegetation. This electrofishing effort completes an effort initiated in 1998. Scale aging and a report are planned.

Cossayuna Lake Surveyed
A routine electrofishing survey was conducted on Cossayuna Lake, Washington County. Large numbers of juvenile bass, adult bass up to 4 pounds, various panfish and two tiger musky were captured and released.

Region 6

Black Lake
Black Lake has bass fishery that has declined since the 1980s and a 15" minimum size limit was established in 1996 to improve the size structure. Sampling during the spring with electrofishing showed **improvements** in largemouth bass sizes (as % > 15" and >18"), and cooperating anglers who kept fishing diaries have reported similar trends. Gill net catches of walleye and lake sturgeon indicatre that restoration efforts for these 3 specie appear to have been successful. An angler creel census in 1996 provided an initial and very thorough impression of the overall fishery, and this should be repeated in the 2002 fishing season.

Perch Lake
With the end of the Federal Aid project, the check station at Perch Lake was not manned during the 1999-2000 ice fishing season. Permits are still required and a self-permitting system was implemented for this season. Permit sign-ins totaled 1585 of which 1289 (80%) completed the full sign-in/sign-out procedure and provided harvest information. Total reported northern pike harvest was 1562 fish (1.2/angler-day). Reported yellow perch harvest was 1571 fish (1.2/angler-day). Effort and pike harvest showed no evidence of recovery from the low levels evident during the last two years. Yellow perch fishing continues near the level it has been since 1996.

Region 7

Whitney Point Reservoir
Since 1994 night electrofishing has been conducted in October, at four standard sites, to assess abundance and growth of young-of-year (YOY) and yearling walleye. In October 2000 only two sites were sampled due to poor weather conditions. Population estimates of YOY walleye, using Serns (1982) methodology, follow:

1994 -8,087	1998 - 2,825
1995 - 10,437	1999 - 55,275
1997 - 106,704	2000 - 842

Analysis of electrofishing data collected in 1999 and 2000 along with gillnet and trapnet data collected in 1999 revealed that the strong 1997 yearclass of walleye appears to be a major component of the total reservoir walleye population. Average size of this yearclass during the summer of 1999 was below the long-term average observed for age 2 walleye in Whitney Point Reservoir (1999 - 11.3" vs. 1984-90 Avg. - 13.9".) By the fall of 1999 these fish averaged 13.0" in length. Average size of the 1997 yearclass during the fall of 2000 (age 3+) was 16.7". These fish are still smaller than average but

significant growth has occurred in the two years since the poor growth year of 1998. The strong 1999 yearclass of walleye exhibited good growth through the fall of 2000 (average size at age 1+ - 12.8".) Greater than normal numbers of YOY white crappie and yellow perch were observed during the fall 2000 electrofishing effort and may have contributed to the continued good growth of walleye. It is hoped that this seemingly abundant 2000 yearclass of crappie will recruit well and become the next strong yearclass of adult crappie in the reservoir. The last strong white crappie yearclass was produced in 1997 and they sustained excellent fishing in the winter and spring of 1999/2000. A planned gillnet/ trapnet survey in the summer of 2001 should determine if the 2000 yearclass did indeed recruit well.

Cross Lake Walleye Stocking Evaluation

Recent efforts to establish walleye as a major fishery in Cross Lake began in 1996 when 37,000 fingerlings from Chautauqua Hatchery were boat stocked off the northwest shore. A stocking of 6,520 fingerlings from South Otselic Hatchery followed later that year. Since then Cross Lake has been stocked with 69,800, 43,600 and 43,520 walleye fingerlings in 1998, 1999 and 2001, respectively.

Evaluation of walleye fingerling stocking success by night electrofishing was carried out in May and June 1997 and October 2000. The 1997 evaluation consisted of sampling the entire shoreline with eight 15 minute all fish runs and eight 30 minute gamefish runs. A total of 1,211 fish (23 species) were collected, of which 14 were walleye (2.3 walleye/ hr). The 14 walleyes collected ranged from 6 to 9 inches in length and averaged 7.9 inches in length. Scale aging revealed all 14 walleye were yearlings probably originating from the 1996 fingerling stocking.

The 2000 evaluation consisted of sampling habitat types with two 15 minute all fish runs and six 30 minute gamefish runs. A total of 253 fish (13 species) were collected, of which six were walleye (1.7 walleye/hr). Scale aging revealed five yearling walleye probably originating from the 1999 fingerling stocking and one 21.9 inch walleye too old to have been stocked in Cross Lake since 1996.

Results of the 1997 and 2000 Cross Lake walleye electrofishing surveys were not very encouraging. Low electrofishing catch rates in both years and absence of older walleye stocked as fingerlings in the 2000 sample suggest poor survival. On a positive note however, several Cross Lake and Seneca River walleye anglers have reported a recent explosion in walleye fishing in the Seneca River just downstream from Cross Lake. It is likely these fish came from Cross Lake fingerling stockings.

Evaluation of Cormorant hazing on Oneida Lake

Cormorant hazing was conducted on Oneida Lake during September 1998, 1999 and 2000 by agents of the USDA Wildlife Services under contract from the Department. Hazing was conducted to encourage migrant cormorants to continue their migration, reducing their stopover time on Oneida Lake where fish consumption could be one and one-half tons of fish per day. Hazing is part of a larger plan to allow the adult walleye population to recover to historic levels from its current depressed level. Evaluation in 2000 included semi-weekly counts of cormorants on six nearby waters beginning in mid-August and continuing through September. A radio receiver was used to detect cormorants radio-tagged on Oneida Lake while making counts on these waters. In addition, the receiver was used on four flights to determine if radio-tagged cormorants from Oneida Lake or Lake Ontario were using waters in a 45 mile radius of Oneida Lake, including Cazenovia, Otisco, Delta Reservoir, Salmon River Reservoir, Lake Ontario shore line from Lakeview Wildlife Management Area to Oswego, the Oswego River, Cross Lake and Onondaga Lake. As in 1998 and 1999, cormorants displaced from Oneida Lake in 2000, primarily migrants, appeared to have continued their migration south. Ten of the 15 tagged Oneida Lake birds moved to Onondaga Lake and one to Cross Lake. Some of the birds reached these waters prior to hazing indicating that these waters are part of the normal range of Oneida Lake resident cormorants. Aerial monitoring for radio-tagged birds revealed the same pattern as ground monitoring.

Region 8

Honeoye Lake Walleye Population Assessment

In 1999, the adult walleye population was estimated

at 14,152. However, because of concerns about missing the peak spawning run during the marking period due to lake inaccessibility and the timing of the recapture sample, the population was re-estimated in 2000. In addition, an attempt to determine characteristics of the Honeoye Inlet spawning run was conducted. A total of 2,867 adult walleye, of which 87% were male, were collected using Oneida style trapnets in spring 2000. An additional 82 adults were collected in the inlet using hoopnets and boat electrofishing gear. A total of 352 walleye were recaptured using boat electrofishing gear. Thirty recaptures occurred with two recaptured walleye having been marked in the inlet. The population was estimated at 33,592 adults, or 47 walleye/ha. Because of low capture rates, we were unable to quantify the inlet spawning run.

Another important discovery during the collection of walleye during the marking sample in 2000 was the capture of three northern pike *(Esox lucius)*. DEC had received a couple of prior reports of northern pike being caught, but this was the first time they were documented by personnel. One of these fish was large (>10 lbs), indicating it may have been in the lake for some time. The source and method of introduction remains unknown, however it is speculated they were introduced by anglers. We do not have any indication of the population status in the lake. However, because of the current abundance of walleye and black bass, another voracious predator such as the northern pike will more than likely have impacts on an already stressed forage base. The expansion of this fishery should be closely monitored.

Region 9

Chautauqua Lake Warmwater Surveys
Regional staff assisted Prendergast Hatchery with the tending of the trapnets to monitor the adult muskellunge population. Nets were fished for approximately 21 net nights and produced a catch per net index of 40. This was above the recommended management level of 28 muskellunge per net established by the Chautauqua Lake workgroup. Nine percent of the muskellunge (>32 inches) had open respot lesions and the ratio of males to females was 0.3:1.0.

Experimental gill nets were fished from June to October at four locations. White perch continue to dominate the catch and were the most abundant fish collected in the nets. The sunfish and crappie catches showed small increases in abundance associated with the relatively strong 1997 (sunfish) and 1998 (crappie) year classes. Walleye catches reflected a decline in abundance to the lowest levels measured in the 1990's. Low recruitment has been associated in part to predation by the strong 1993 walleye year class, although the possibility of negative associations with white perch cannot be discounted.

Fisheries staff analyzed a long term data set for changes in crappie abundance and presented the results at a special Crappie Symposium (AFS Annual Meeting, St. Louis, MO). The manuscript has been submitted to the North American Journal of Fisheries Management and is currently under review for publication.

Cassadaga Lakes Warmwater Surveys - Assessment of Slot Limit Regulation
To increase growth rates and length distributions of bass and panfish, a 12-15 inch protected length limit (slot) was imposed for black bass in 1994. Electrofishing in spring 2000 showed a substantial increase in abundance for black bass within and exceeding the protected slot. Length at age declined for largemouth bass older than age five. Fisheries staff will continue to evaluate this special regulation and seek additional angler input regarding its acceptance by anglers. When the evaluation is completed a Type II report will be prepared and the results will be presented to fisheries professionals at an AFS Professional Society Meeting.

A three year assessment of differential survival of boat and shore stocked muskellunge was completed in fall, 2000. Fall electrofishing indicated better short-term (one month) survival for boat stocked fingerlings but differences in survival were minor. Since effort was substantially greater to boat stock the fingerlings and survival benefits were small, future stockings will be done from selected shore locations.

Bear Lake Warmwater Surveys - Differential Survival of Walleye Fingerlings

Few fingerling walleye were collected by fall electrofishing in 2000 although earlier results have favored the stocking of pond-reared rather than trough-reared walleye fingerlings. Poor returns of the pond reared fingerlings may have been influenced by the high incidence of eye flukes reported by hatchery staff in 2000.

Cuba Lake
Late spring electrofishing produced catch rates of 58 smallmouth bass/hour, 43 walleye/hour and 5 northern pike/hour. Rock bass and yellow perch are the dominant panfish, followed by pumpkinseed sunfish. Walleye fry stocking was discontinued in 1999 to evaluate natural reproduction. In 1999, fall electrofishing collected 64 age 0+ walleye/hour and in 2000, 21 age 0+ walleye/hour were collected. Northern pike, a recent illegal introduction in the early 1990's, continues to expand its population, with 6 consecutive naturally spawned year classes documented. As the northern pike population grows, changes may be seen most likely in the largemouth bass population, and also in the walleye and smallmouth bass populations, as all four predators compete for space and forage. A 6-8 foot annual drawdown exacerbates the crowding of predators and forage and limits the available winter habitat.

Central Office - Inland Section

Warmwater Research Study
Cooperative studies with the Cornell University Warmwater Fisheries Research Unit (WWFU) continued with focus on monitoring of Oneida Lake and Canadarago Lake and completion of walleye fingerling stocking evaluations. Section staff provide Federal Aid funding support and program coordination for this work. Oneida walleye and yellow perch populations remain low but Cormorant control actions and an increase in the walleye minimum length limit (to 18") are expected to effect a steady improvement over the next few years. High mortality of young of year over the summer months continued to limit recruitment and no strong walleye year classed have been produced since 1991. Meanwhile monitoring of walleye populations in Canadarago Lake indicated good year classes were produced throughout the 1990s. A number of technical and informational meetings were held to discuss management and survey options and communicate findings to Regional staff and lake interest groups. Comprehensive summary reports were prepared for both the Oneida and Canadarago studies.

The fingerling stocking evaluation work produced more evidence of high lake-to-lake variability in stocking success. The previously indicated negative correlations of survival of advanced fingerlings with largemouth bass and esocid densities continued to hold while no clear correlations have been evident for variations in pond fingerling survival. Double density fingerling stocking in two high predator lakes did not improve survival. Gill net catches in study waters were generally correlated with fall electrofishing surveys for fingerlings in earlier years. Natural reproduction was documented in Swinging Bridge Reservoir - the first occurrence of establishment of walleye following fingerling stocking in a lake containing alewife.

Dr. Randy Jackson joined the WWFU to assume responsibility for the walleye fingerling studies and initiate planning work on extending research studies into areas of bass and panfish management. Dr. Jackson brings a great deal of practical warmwater fisheries research experience with him from his prior position with North Carolina State University.

Coldwater Lakes and Ponds

Region 1

Nassau County Fall Trout Stockings

On October 24 and again on November 9, Regional Fisheries Staff assisted the Propagation Unit with stocking trout into several Nassau County ponds and streams. On the 24th of October, 2,000 brown trout were stocked, including 400 in Oyster Bay Mill Pond, 750 in Upper Twin Pond, 750 in Massapequa Reservoir and 100 in Massapequa Creek. On the 9th of November, 1,600 brown trout were stocked, including 750 in Upper Twin Pond, 750 in Massapequa Reservoir and 100 in Massapequa Creek. The trout were stocked to take advantage of the special year round trout regulation in Nassau County. The November stocking was done prior to Veterans Day to provide a quality fishing opportunity through the long holiday weekend.

On November 21, Regional Fisheries staff assisted the New York State Office of Parks, Recreation and Historic Preservation with the stocking of 900 brook, rainbow and brown trout into South Pond (500 trout) and McDonald Pond (400 trout). These trout were stocked just prior to Thanksgiving to provide a quality fishing opportunity through the four day Thanksgiving Day weekend. The trout were provided by the hatchery at Connetquot River State Park. Transportation of the trout was accomplished with the regional rack truck with two standard DEC hatchery aerator tanks mounted on the bed.

Region 5

Hope Ponds Reclaimed

The reclamation of the Hope Ponds in the Town of Franklin was undertaken August 15-16, 2000. These former trout waters had become dominated by non-native golden shiners, largemouth bass and banded killifish, as well as other competing species. A petition signed by persons opposed to the project was forwarded to the Department shortly before the scheduled treatment date. Fisheries staff responded to all households that had signed the petition to clarify reasons for undertaking the project. The project will restore unique fishing opportunities to the Debar Mountain Wild Forest.

Palmer Pond Reclaimed

Palmer Pond, located in the High Peaks Wilderness, (Town of Harrietstown, Franklin County) was reclaimed with rotenone on September 26-27, 2000. This was the first reclamation of Palmer Pond. Until recently Palmer Pond was an excellent brook trout pond, but it had become dominated by non-native golden shiners. The pond will be restocked with brook trout and lake chubs, the native fish fauna prior to the introduction of golden shiners. The project will restore a native fish community to the High Peaks Wilderness and was undertaken in accord with the High Peaks Wilderness Complex Unit Management Plan.

Black Pond Limed to Mitigate Impacts of Acid Rain

On February 21, 2001, the Region 5 Fisheries Unit applied 20.5 tons of agricultural limestone to Black Pond, located in the Fish Creek Campground, in Franklin County. Black Pond is a popular fishing spot which annually provides good angling opportunities for both brook trout and rainbow trout. Historically, Black Pond was known as one of the best brook trout fishing waters in the area. Increasing acidity levels were noticed in this pond long before acid precipitation was understood to be a regional and national problem. Accordingly, Black Pond was first experimentally limed in 1959 and has been treated several times since. Black Pond was last limed in 1980. This 1980 application was accomplished cooperatively by DEC and the Franklin County Federation of Fish and Game Clubs. The 1980 effort involved the addition of 21 tons of agricultural limestone and was successful in maintaining water chemistry conditions favorable for fish survival for over 20 years. This is considered to be an unusually long period of beneficial impacts.

Hoel Pond Surveyed

Hoel Pond (455 acres), Town of Santa Clara in Franklin County, was netted to assess an experimental landlocked salmon stocking policy. Twenty-six salmon ranging from 10-20" in length were caught in three gangs of 2"-2.5" gillnets suspended in the thermocline. Bottom sets captured seven lake trout ranging from 12-23". Other species captured were white sucker, brown bullhead and

smallmouth bass. Round whitefish and lake whitefish have been caught in past surveys of Hoel Pond, but none were captured during this selective effort for landlocked salmon. Scales taken from the salmon and lake trout will be aged to assess growth rates.

Debar Pond Surveyed
Debar Pond (86 acres), Town of Duane in Franklin County, was netted to assess landlocked salmon and splake stocking policies. The preferred temperature range for salmon occurred near the bottom of this 29' deep pond so there was no need to set suspended nets. Four Swedish experimental nets captured six landlocked salmon ranging from 9.5-19.5", three brook trout (7-14 inches) and 21 splake (9-21 inches). White sucker and brown bullhead were also netted. Scale aging to assess growth rates will occur.

Temiscamie Brook Trout Stocking Analysis Begins
Summary and analysis of a spring fingerling temiscamie hybrid vs. fall fingerling temiscamie hybrid stocking study commenced. AD fin-clipped spring fingerlings and LV/RV fin-clipped fall fingerlings were stocked in selected ponds in Region 5 and 6 from 1995 through 1999. Gillnet surveys were conducted in 1998, 1999 and 2000 to assess the return, or netting capture rate, of both groups of fish. Preliminary results of the study are that fall fingerlings returned about 1.5 times better than spring fingerlings in Region 5. The data summaries will be transmitted to Region 6 biologists for inclusion in the study.

Scale Aging Completed
Scale aging was completed for nearly 500 brook and brown trout samples collected during summer 2000 surveys. The data was compiled to analyze catch-per-lift and growth to assess whether alternate management actions are necessary on the poorly performing ponds.

Region 6

Bubb and Sis Lakes
Bubb and Sis Lakes, located in the Town of Webb, Herkimer County, were reclaimed with rotenone on September 12, 2000. The lakes have a long history of reclamation-enhanced brook trout management. They have always developed quality trout sport fisheries following treatment. Prior to this treatment, the lakes' fisheries had become dominated by non-native yellow perch which migrated into the lakes through a deteriorated fish barrier. Prior to the 2000 treatment, the old fish barrier that protects Bubb Lake outlet from unwanted upstream migrants was completely rebuilt. The pond was be restocked with Little Tupper strain brook trout in Spring 2001.

North and South Twin Lakes
North and South Twin Lakes are located in St Lawrence County near the Village of Star Lake. They are privately owned and currently managed as brood stock waters for both Little Tupper strain brook trout and kokanee salmon. During October and November, 2000, a preliminary attempt to collect ripe adults and fertilized eggs of both species was accomplished. The goal for this effort was to secure pathological samples from the lakes' trout and salmon populations to establish base-line fish health histories. Based on reports received to-date, North and South Twin Lakes' trout and salmon are healthy, with no pathological sign of disease that would keep their progeny from being introduced into NYS Fish Hatcheries. Following collection fertilized eggs of both species were incubated and reared to spring-fingerling size at South Otselic Hatchery. The resulting kokanee fingerlings were stocked back into North and South Twin, while the Little Tupper fingerlings were stocked as surplus in a Region 5 water. A repeat of this effort is planned for fall, 2001.

Region 7

Jeffrey Pond
Jeffrey Pond, 20 acres, in Chenango County, was netted on April 7, 2000 as part of the on going effort to determine if significant growth and survival of brook trout had occurred since the reclamation in 1997. A single trapnet, fished overnight, captured only one brook trout but also yielded several pumpkinseed, brown bullhead, and golden shiners. Although nothing definitive can be said about growth and survival of brook trout, the increased abundance of other species puts the "brook-trout-only" management philosophy in serious doubt. One last

effort to document significant survival and growth will be attempted in April 2001. If data from this effort is inconclusive or if growth of brook trout is poor, then the brook-trout-only management strategy will be abandoned and warmwater fish species will be allowed to completely re-colonize the pond.

Warmwater Rivers and Streams

Region 6

Thousand Islands

The warmwater fish stock assessment program on the Thousand Islands section of the St. Lawrence River provides standardized indices of abundance for major gamefish and panfish stocks, information on year class strength, and age and growth relationships of these stocks. Information obtained is used to evaluate and, if necessary, modify existing fishing regulations. It also provides baseline information for evaluation of environmental disturbances. Results of 1999 sampling with the greatest management significance include : 1) Northern pike abundance continues to decline, recruitment remains relatively poor (this is probably a habitat effect) and 2) smallmouth bass abundance is still depressed (this is a recruitment issue that may be a result of cold spring water temperatures and cormorant predation).

Lake St. Lawrence Warm Water Assessment

Lake St. Lawrence was sampled for the 15th consecutive year of a standardized gillnet assessment program in 2000. This is a cooperative assessment program with the Ontario Ministry of Natural Resources (OMNR) began in 1986 to monitor St. Lawrence recreational fisheries.

Thirty two gill net sets at standard sites were fished in late September. Fish community data were analyzed with respect to catch/unit effort, growth rates, and age distribution. In 2000 we documented the negative impact of Double-Crested Cormorants on fish communities near Stachan Island, a major colonial water bird breeding colony . Yellow Perch populations within 12.5 km of the island were severely depressed in comparison with upriver sites. This was the first evidence of negative impacts from colonial water birds within the St. Lawrence River system.

Blueback Herring in Upper Mohawk River

Annual monitoring of the blueback herring run in the upper Mohawk River documented a complete collapse of the run for the 2000 spawning season. Only one fish was captured in the upper river compared to several hundred normally taken at standard gill netting and electroshocking sites. Closure of the canal system due to late spring floods probably had an impact on the run. The fish only made it as far upstream as the Schenectady area but numbers were low there also based on work done by consultants. Staff continues to work with Syracuse ESF on joint studies of the blueback herring in the upper Mohawk River/Erie Canal system.

Central Office

St. Lawrence River Esocid Study

Syracuse University, College of Environmental Science an Forestry, researchers continued management studies on St. Lawrence River muskellunge and northern pike resources with a variety of netting, tagging and fishery monitoring projects. Spawning muskellunge were found in 9 of 14 sampled bays and young of year muskellunge continue to be high in abundance relative to northern pike - a reversal of historic trends. Angler diary reports indicated muskellunge catch rates of 0.113 per hour with 102 muskellunge caught and 7 kept. Mean length of catch was 40.5 inches and ranged from 32 to 56 inches.

Spring trap netting yielded 1,626 northern pike of which 629 over 22 inches were tagged. Anglers returned three tags from this sample and 61 tags from prior years tagging. Tag return data again indicated limited movement of fish from tagging sites.

Coldwater Streams

Region 1

Summer Trout Holdover Survey
On August 31, 2000, fisheries staff electrofished Massapequa Creek and the Carlls River for summer holdover trout. The summer of 2000 was one of the coolest, wettest summers on record, resulting in the best potential for holdover trout in these streams. On Massapequa Creek, one rainbow trout (9 inches) and one brown trout (14 inches) were captured. The rainbow trout was collected downstream of the Massapequa Reservoir and was the first time that summer holdover trout were documented in that stretch of stream in at least 30 years. A second trout was observed in this section of stream but was not captured. The brown trout was captured at the head of the pond upstream of the gauging station. A second trout was observed just downstream of the gauging station. Trout were documented to have held over during the summer of 1996. These holdover years are significant because they show that the water temperatures in Massapequa Creek fluctuate around the lethal limit for trout. Work could be done to try to push the average creek temperatures lower and should be pursued. The County has already made headway in lowering creek temperatures by not cutting to the stream bank. Groundwater augmentation of stream flow is a further way to help restore the creek to the historic trout fishery it once was.

The Carlls River was electrofished just downstream and upstream of Park Avenue. Two brown trout were captured along with an 18 inch largemouth bass. This is the first documented holdover of trout south of Southards Pond in the Carlls River system. Anglers have also reported catching brown trout in this area. The Carlls River is known to hold trout over upstream of Southards Pond. In addition, at least 8 trout were observed in the pool immediately downstream of Sunrise Highway.

2001 Carmans River Electrofishing Survey
An electrofishing survey of the Carmans River was conducted on March 23rd and 26th by Region 1 Fisheries staff with volunteer assistance. The objective was to document the relative abundance and size of wild brook trout. New electrofishing gear, used for the first time in this survey, proved superior to the gear it replaced. A total of 163 brook trout were caught during 5.8 hours of electrofishing for an overall catch rate of 28 fish/hour. Brook trout catch rates were similar to catch rates observed when the river was last surveyed in 1998. The largest brook trout caught was just under eleven inches. The average size of brook trout caught during the survey was 5.9 inches. When the 1998 and 2001 surveys are compared on a site by site basis, the data show a slight decrease in average size. Analysis of this years data is ongoing, but as a preliminary conclusion, brook trout population is relatively stable in the Carmans River. Our management efforts, including special regulations, stocking policy adjustments and habitat improvement, are aimed at increasing the size of wild brook trout. Annual surveys of the Carmans will continue to document the effects of these measures.

Beaver Brook Electrofishing
On December 18, 2000, Beaver Brook was electrofished in cooperation with Norm Soule of the Cold Spring Harbor Fish Hatchery. Beaver Brook is a small stream (annual mean discharge of 8.97 cubic feet per second) located in northern Nassau County. Eighty-one brown trout were captured up to 11.4 inches in size. In 1995, the same stretch of stream was electrofished during January, capturing 131 brown trout up to 15.6 inches in size. The number of fish less than 7.0 inches was almost identical for both surveys. The cause of this decline in larger brown trout was attributed to an otter family that has moved into the Beaver Brook system.

Oyster Bay Mill Pond Creek Electrofishing
On December 18, 2000, Oyster Bay Mill Pond Creek was electrofished to check for the presence of brook trout in the creek. Brook trout are known to inhabit a tributary stream that enters Oyster Bay Mill Pond Creek from the west. This survey was done to gather biological information pertaining to a permit application. Additionally, local anglers have reported brook trout in the main stem. No brook trout were captured during the survey; however, the brook trout might only use the section of stream seasonally. A future electrofishing survey is planned for April 2001.

Regions 3 and 4

Beamoc Tributary Surveys
Stream surveys or population estimates by NYSDEC or Cornell field crews in 2000 were completed on 55 of 80 tributaries to the Beaver Kill, 13 of 55 tributaries to the Willowemoc and 2 of 19 tributaries to the Little Beaver Kill. All tributaries to the Beaver Kill and Willowemoc are scheduled to be surveyed.

For the 55 Beaver Kill tributaries surveyed to date, 43 were inhabited by trout and12 were classified as non-trout waters. Brook trout were the dominant trout in 32 tributaries, brown trout in eight tributaries, rainbow trout in one tributary, and brown and brook trout were co-dominant in two tributaries. Trout biomass in the streams sampled by NYSDEC ranged from 0.8 to 164.8 lbs/acre. The latter may be suspect because of reduced electrofishing efficiencies associated with the abundant watercress that was present at this site.

All 13 of the Willowemoc tributaries sampled in 2000 were inhabited by trout. Brook trout were the dominant trout in nine tributaries, brown trout in three tributaries, and co-dominant in one tributary. No rainbow trout were collected or observed in the Willowemoc drainage basin. Trout biomass at the two sites on Abe Wood Brook were 24.5 and 25.0 lbs/acre.

Brown trout were the most abundant trout collected in one of the two Little Beaver Kill tributaries sampled. No trout were collected in the other tributary.

Region 4

Beamoc Trout Population Abundance Study
Late summer DeLury population estimates were made on four Beaver Kill tributaries (Horton Br, Russell Br, Spring Br, and Shin Cr) and two tributaries to the Willowemoc (Elm Hollow Br and the Little Beaver Kill) at a total of 11 sites. These sites will be sampled annually through 2004 to monitor year to year variability in trout and non-trout abundance, species composition, and size distribution.

In the four Beaver Kill tributaries, trout biomass ranged from 19.7 lbs/acre on lower Spring Brook to 128.7 lbs/acre on upper Shin Creek. Brown and brook trout were collected at all eight sample sites and rainbows at five sites. In terms of numbers, brown trout were the most abundant trout present at four sites, rainbow trout at two sites, and brook trout at two sites. Non-trout biomass ranged from absent on upper Shin Creek to 77.8 lbs/acre on lower Spring Brook. Slimy sculpin were the most abundant non-trout species collected in both numbers and biomass at the seven sites where non-trout species were present.

In the two Willowemoc tributaries, trout biomass ranged from 9.8 lbs/acre on Elm Hollow Brook to 41.0 lbs/acre at the upper site on the Little Beaver Kill of which 19.0 lbs/acre were hatchery yearling brown trout. The population estimate for the Little Beaver Kill was not calculated because it is believed that the high flows and turbidities at the time resulted in fish collections that were not representative. Brown trout were the most abundant trout at the two sites sampled. Non-trout biomass ranged from 13.1 lbs/acre on Elm Hollow Brook to 17.7 lbs/acre on the Little Beaver Kill. Slimy sculpin were the most abundant non-trout fish in Elm Hollow Brook and co-dominant with cutlips minnow in the Little Beaver Kill.

Region 5

Improved Flows on the Saranac River
Fisheries staff have negotiated with dam owners on the Saranac River concerning flow fluctuations created by hydroelectric projects. The objective has been to better achieve run-of-river operations; that is, minimize the severity of fluctuations created by hydro projects. In a commendable program, New York State Electric and Gas (NYSEG) is completing a series of equipment upgrades that will substantially improve run-of-river operations at their four hydroelectric sites on the Saranac River. The new equipment is better able to automatically regulate discharge through the turbines to provide a more natural flow regime. NYSEG installed and evaluated the new equipment at the Cadyville site in 1999.

Similar equipment was installed at Kent Falls and Mill C earlier this year, and is presently being installed at NYSEG's fourth hydro site on the Saranac River, High Falls.

Niagara Mohawk Provides Draft Sediment Management Plan for Salmon River

Niagara Mohawk Power Corporation provided a draft plan for managing sediments at two hydroelectric projects on the Salmon River in Franklin County. The plan recommends flushing sediments at specified river flows. A preliminary review indicates that the study incorporated a variety of factors necessary to understanding sediment transport and aquatic habitat in the Salmon River. A detailed review by DEC engineering and fisheries staff will evaluate whether the study results support the recommendation for sediment flushing. The draft plan is part of a settlement with Niagara Mohawk resulting from a sediment discharge from the Chasm Project in 1997. Other parts of the settlement include a $50,000 civil penalty, and $150,000 placed in escrow to enact a sediment management plan when such a plan is approved by the DEC.

Temperature Data Obtained From Several Area Rivers

Onset brand temperature recorders were retrieved from the Salmon River in northern Franklin County and from the Cedar, Indian and Boreas Rivers in Hamilton and Essex Counties. A recorder placed in the Hudson River near the Town of North Creek was lost or stolen. Preliminary examination of the data indicates that water temperatures did not exceed 70 degrees Fahrenheit during the critical summer period in any of the study rivers. Cool, wet weather was responsible for the favorable temperatures for trout survival. Recorders in the Cedar and Boreas Rivers were left high and dry when dropping water levels occurred during the first weeks of September.

Two-Year-Old Brown Trout Stocked

Yearling and two-year-old brown trout were distributed at many new stocking sites along the Salmon River in Franklin County, from Westville to Chasm Falls. Volunteers from local Trout Unlimited chapters, college students and members of the Malone Fish & Game Club assisted in scattering trout. A recent presentation to the Fish & Game Club covering 1998 survey efforts in the Salmon River watershed has sparked good feedback on river conditions, stocking points and angler preferences.

Electrofishing Surveys

Staff conducted stream electrofishing surveys on the Little Salmon River and the North Branch of the Saranac River in Franklin County; as well as the Salmon River and Little Ausable River in Clinton County to access their stocking policies. The Little Salmon River was an impressive stream with many wild and stocked fish collected.

Region 6

Evaluation and Expansion of CROTS Model

In cooperation with Cornell University 6 locations on 5 Lewis County trout streams were electrofished in April before stocking. In 1999, these same streams were surveyed an additional three times that corresponded to right after stocking, our usual late summer shocking time and post trout season. All stocked fish were previously marked or tagged. In addition, an angler effort survey was conducted throughout the 1999 trout season. All of the data collected has been delivered to Cornell University. for analysis.

CROTS

In an effort to update the Region's trout stream stocking policies in accordance with CROTS, five large rivers(Black, Mohawk, Oswegatchie, St. Regis and West Canada Creek) were surveyed in 2000. Due to the sheer size and volume of these streams a variety of methods had to be used to evaluate them. These consisted of previous creel census data, standard stream electrofishing, boat electrofishing, seining, gillnetting, angling and stream characteristics measurements. These streams currently receive over 90,000 stocked Brown and Rainbow Trout but no significant stocking changes resulted from these surveys.

Region 7

Genegantslet Creek
A stream survey was conducted on that portion of Genegantslet Creek between Smithville Flats and the Route 206 bridge west of Greene. Regional staff utilized snorkel equipment to determine fish species relative abundance in the deeper holes which could not be sampled efficiently with traditional stream electrofishing equipment. Twenty-one species were identified including brown trout up to approximately 24 inches, walleye, smallmouth, burbot, chain pickerel, carp, and rock bass. As a result of the survey, a new stocking policy (3,700 brown trout) was instituted in this 4.2 mile section of stream.

Region 8

Trout Stream Temperature Assessment
This is the second year of a multi-year study that evaluates summer temperatures in certain Region 8 trout streams. Cold, marginal, and warm streams were selected from the Genesee, Oswego, and Chemung drainages and classified as to whether they support wild brown trout populations, wild and stocked brown trout populations, stocked brown trout populations, or no trout. Ten streams were selected from these categories. Onset Stow-away temperature loggers were placed in a representative location in each stream. Temperature was logged at hourly intervals every day from early June to mid-October 2000. We were able to sample the extreme range of summer climate in each year, as the summer of 1999 was warmer than average and the summer of 2000 was cooler than average. Data analysis is underway, but preliminary observations show surprisingly warm summer temperatures can occur on some of the region's better trout waters during summers of higher than average temperatures. Fortunately, no trout kills were reported.

Oatka Creek Electrofishing Survey
This is the third year of a wild brown trout population assessment to evaluate the effects of a No Kill trout fishing regulation. The September 2000 survey represents the last pre-regulation change survey. On October 1, 2000 the trout fishing regulations in a special regulations area of the stream was changed from 12 inch minimum size, three trout per day creel limit to no kill. The season remains year round and only artificial lures can be used. Data analysis is still underway, but late season standing crop estimates are quite variable between the three years. Three years of post-regulation change assessments are scheduled.

Springwater Creek Electrofishing for Rainbow Trout
Every spring Region 8 staff electrofish Finger Lakes tributaries for rainbow trout during their spawning runs. Springwater Creek, the inlet of Hemlock Lake, had not been surveyed in several years because beaver dams in the marsh between the stream and lake prevented rainbow trout movement. Since rainbow runs had diminished, and there was some local interest in stocking brown trout in Springwater creek, it was evaluated for the presence of rainbow trout in late March, 2001. Twenty one adult rainbow trout between 8 and 26.5 inches were captured, along with one 14 inch brown trout. Because it appears that there is some rainbow trout movement around or through the beaver dams, brown trout stocking will not take place.

Honeoye Inlet Trout Assessment
Five sites representative of stream habitat within a 3.2 mi (5.1 km) reach of the upper section of Honeoye Inlet were sampled on 12 and 13 July 2000 to assess trout populations. A portion of this reach was recently donated to the Nature Conservancy. A total of 112 trout were collected, with brown trout being the dominant species. Brown trout have not been stocked upstream of this site for over 20 years. Lengths ranged from 63-520 mm. Twenty-one percent of the fish collected were young-of-year. Quality sized trout (> 254 mm) represented 36% of the sample. The largest trout collected weighed 4.5 pounds, with two other fish weighing nearly 3.75 pounds. A total of 17 and 6 rainbow trout and brook trout were collected, respectively, in the uppermost stream reach. The origin of these fish is uncertain, but are probably escapees from an upstream commercial hatchery. Currently, the sampled reach appears to receive minimal fishing pressure due primarily to stream inaccessibility and posted access. A high quality brown trout fishery currently exists in the lower portion of the sampled reach. After decades of posting, this reach is now open to the public. It is likely that it will be some time until anglers discover this wild brown trout fishery.

However, because habitat within this reach is marginal, once anglers begin to exploit this fishery, the potential exists to negatively impact the quality fishery that currently exists.

Catharine Creek Electrofishing
Staff annually sample the adult rainbow trout run from Seneca Lake into Catharine Creek. A one day electrofishing effort captured 234 fish, one of the largest samples in recent history. Scale samples have not been aged so the data has not been analyzed. Sea lamprey wounding did not appear excessive and many large fish, to nearly 11 pounds, were handled. The crew was surprised to observe so many rainbow trout in the 6-8 pound category given the slowing growth of lake trout from the same system. Age analysis of the large rainbow trout will prove very enlightening.

Region 9

Wild Trout Streams
Since 1991, the Region has been maintaining a list of all known wild trout streams in our six counties. In 2000, 18 streams were electrofished. In these streams, one previously unknown wild brook trout population was discovered and wild trout populations were confirmed in 10 others. Previously existing wild trout populations could not be found in two streams surveyed. Including the streams found in 2000, over 290 streams (totaling at least 700 miles) in the Region are known to support wild trout populations. As of 2000, only 60 streams on this list have not been surveyed since 1990.

Nine Inch Size Limit Streams
In 2000, three wild trout streams in the Region that are managed with a nine-inch minimum size limit and one that will have the size limit beginning in 2002 were intensively surveyed. The streams, Clear Creek, Hosmer Brook, McKinstry Creek and Lime Lake Outlet all support very good populations of wild brown and rainbow trout.

A three month mini-creel survey found the highest fishing pressure on Clear Creek (282 hrs/acre) followed by Hosmer Brook (186 hrs/acre), McKinstry Creek (179 hrs/acre) and Lime Lake Outlet (135 hrs/acre). These values fall between what is considered “light” and “moderate” fishing pressure in NYS. The value for Clear Creek is very similar to that found in a 1992 creel survey done when it was still being stocked with hatchery trout.

An angler diary program was completed on all four streams. Thirty four diarists recorded information from 175 fishing trips. Fifty two percent of the trips occurred on Clear Creek. Two hundred sixty brown trout were caught by diarists, of which 94% were released. Ninety nine percent of the 701 rainbow trout caught by diarists were released. The largest rainbow trout reported by diarists was 13" and the largest brown trout was 21". Both fish were from Clear Creek. Angler catch rate was excellent on all four streams, ranging from 1.3/hour on McKinstry Creek to 3.3/hour on Clear Creek. Rainbow trout made up from one-half to over 80% of the total trout catch by diarists.

Late summer electrofishing showed that Lime Lake Outlet supports the highest overall biomass of trout (124 lbs/acre), 112 lbs. of which is wild brown trout. Lime Lake Outlet also has the highest percentage of trout $9" of the four streams (48% of the population for brown trout, 14% for rainbow trout). Clear Creek had the highest biomass of rainbow trout at 21 lbs/acre, but only 3% were $9". The biomass of brown trout in Clear Creek was estimated at 54 lbs/acre. The brown trout biomass (59 lbs/acre) in Hosmer Brook appears to be recovering from severe flooding in 1998, while the rainbow trout biomass (10 lbs/acre) is still half of that estimated in 1996. McKinstry Creek was estimated to support 33 lbs/acre of brown trout and 9 lbs/acre of rainbow trout. The rainbow trout population is still expanding in McKinstry Creek, since first being documented in 1991.

Since trout stocking was eliminated and the 9" minimum size limit took effect, the biomass of rainbow trout increased by 47% and the brown trout biomass increased by 17% in Clear Creek. Even larger increases (180% for rainbow trout and 52% for brown trout) were seen in biomass estimated for Lime Lake Outlet. In Hosmer Brook, biomass estimates for brown trout (-9%) and rainbow trout (-43%) both decreased, but this is likely due to severe flooding in 1996 and 1998 which reduced available trout habitat.

Elm Creek and The Ram

Elm Creek, and its major tributary, The Ram are located in western Cattaraugus County. Both support a substantial wild brown trout population. They were electrofished in 2000 so comparisons can be made to earlier sampling. A large, shallow pond located on The Ram had a dam failure and was completely drained in early 1997. It was hoped that water temperatures would be improved in both The Ram and Elm Creek as a result of the pond being gone. In 1991 Elm Creek had an estimated wild brown trout biomass of 47 lbs/acre. By 1997 the estimated biomass for the wild brown trout increased to 73 lbs/acre and in 2000, we estimated there were 79 lbs/acre. For The Ram, in 1992 and 1997 there were an estimated 68 lbs/acre and 53 lbs/acre of wild brown trout respectively. In 2000 we estimated there were 54 lbs/acre of wild brown trout in the stream. While Elm Creek's wild brown trout population has steadily increased since 1991, The Ram's trout population has not yet improved as much as was hoped. The stream bottom is still quite heavily silted as a result of the dam failure in 1997 and this may be responsible for the less than expected improvement in The Ram. Both streams also support a very limited wild brook trout resource that has remained at about 2-6 lbs/acre during all three survey years. Based on the very high biomass of wild trout in Elm Creek, it is no longer being stocked with hatchery trout, beginning in 2001. Continued monitoring of both streams is planned in the future.

Central Office - Inland Section

Coldwater Research Study

The Coldwater Research Unit at Cornell continued modeling trout stream data to evaluate our current Catch Rate Oriented Trout Stocking guidelines to better incorporate climatic, use, and habitat variations that exist in New York streams. Section staff participated in a number of meetings with the Cornell team and provided reference materials from Bureau archives to provide a statewide background on trout population characteristics.

Coldwater Lake and Pond Stocking Team Meets

A Coldwater Lake and Pond stocking team chaired by the Species Management Unit Leader and consisting of representatives from eight of the Department's nine regions continued to progress towards development of goals and objectives to be used to measure the success of trout and salmon stocking in New York lakes and ponds. During 2000, the group reviewed statewide records on trout and salmon growth rates, abundance and angler catch and use rates which were used to draft a set of objectives that lakes and ponds stocked with trout and/or salmon should meet. Team recommendations will be distributed for Bureau-wide review during 2001. This process will help ensure that the Bureau makes best use of the approximately 2,000,000 fish stocked each year in lakes and ponds.

Beaver Kill Project

Inland staff continued coordination of a comprehensive project to determine the status and enhancement potential of trout resources in the Beaver Kill watershed. Fisheries staff of Regions 3 and 4, Cornell University Scientists, and Trout Unlimited, implemented the first year of this multi-component study which is partially funded by and incorporated into the Bureau's Federal Aid (F-48-R) program. A systemwide, four-agent creel survey, 80 station water temperature monitoring system, investigation of wild trout population dynamics and an inventory of trout distributions were completed during 2000. Interviews were conducted with 5,578 anglers. With input from study component leaders, Section staff compiled a year 2000 Progress Report and helped develop the 2001 sampling program. Monthly meetings of Study participants were held and representatives of NYSDOT joined the workgroup. Year 2000 findings estimate overall watershed use of 78,261 angler hrs and catch rates ranging from 0.39 to 0.73 trout per hour across the various study reaches. Brown trout comprised 95% of the catch and anglers reported that 12% of the trout caught were over 15" in length. About 85% of the trout caught were marked as hatchery fish. Only 10% of the trout reported caught were kept. The three "no-kill" reaches make up less than 20% of the censussed stream length but accounted for about 60% of the catch and over 50% of the fishing effort. During the 2000 fishing season over 90% of the use was from anglers living outside of Sullivan or Delaware Counties and 80% of interviewed anglers were fly fishermen. Electrofishing surveys were conducted on 71 of the system's 130 tributary

streams. Wild trout occurred in 58. Brook trout were widely distributed in the tributaries occurring in 51 of the surveyed streams. Wild brown trout occurred in 39 and wild rainbow trout in 9 of the streams. Density of young of the year trout ranged from 41 per acre to 600 per acre. The summer of 2000 was relatively cool and wet in the Beaver Kill valley with thermographs recording maximum water temperature of only 78 F in the lower, warmest reach of the river. Average water temperature over the months of July and August was below 70 F. Stream flows were above long term averages for most of the year. At a flow of 250 cfs at Cooks Falls, approximately 2/3 of the flow at Junction Pool is from the Willowemoc sub-basin.

Two Story Lakes and Ponds

Region 4

Otsego Lake Salmonid Netting
In September, six 450 foot long gill nets were set in the 4,266 acre Otsego Lake to monitor lake trout, cisco, and lake whitefish abundance. This was the 17th netting since 1969. A total of 69 lake trout, 24 brown trout, 12 cisco, 2 landlocked salmon, and 1 lake whitefish were captured.

The catch of 11.5 lake trout/net equals the record high previously recorded in 1996. Lake trout catch rates have averaged 10.6 fish/net in the five nettings since 1992, compared to 4.9 fish/net from 1969-86. The increased abundance is probably due to the unauthorized introduction of alewives in the late 1980's. Alewives are now the dominant forage here

The catch of 0.2 lake whitefish/net and 2.0 cisco/net are the lowest recorded in the 17 settings since 1969. Lake whitefish and cisco populations are likely to be reduced to remnant levels. This decline is attributed to predation by the abundant alewife population on pelagic lake whitefish and cisco fry.

Otsego Lake Warmwater Survey
The entire shoreline of the 4,226 acre Otsego Lake was electrofished in June for the first time in a joint sampling effort by NYSDEC's Region 4 Fisheries Office and SUNY Cobleskill. Total time electrofished was 10.71 hours (2.0 h for all fish and 8.71 h for gamefish only) and the following fishes were collected in descending order of abundance: 245 alewife, 200 smallmouth bass, 186 largemouth bass, 63 pumpkinseed, 55 white sucker, 52 yellow perch, 51 rock bass, 43 chain pickerel, 23 bluegill, 14 brown trout, 12 emerald shiner, 9 brown bullhead, 9 common carp, 8 redbreast sunfish, 7 golden shiner, 6 spottail shiner, 5 bluntnose minnow, 2 tesselated darter, 1 landlocked salmon, and 1 creek chubsucker.

Largemouth bass and smallmouth bass are co-dominant. The electrofishing catch rate for all size and legal size (\$12 in) largemouth bass was 17.4 and 13.4 fish/hr, respectively. For smallmouth bass, the electrofishing catch rate for all size and legal size (\$12 in) was 18.7 and 12.6 fish/hr, respectively. Largemouth bass PSD and RSD_{15} was 88 and 44, respectively. Smallmouth bass PSD, RSD_{12}, and RSD_{15} was 89, 78, and 26. The high PSD and RSD values are indicative of a quality bass fishery, and also suggests a potential recruitment problem.

Region 5

Lake Champlain Spring Electrofishing
Lake Champlain spring tributary salmonid sampling has resulted in a modest catch of 72 landlocked Atlantic salmon, 5 brown trout, and 1 rainbow trout. Large adult salmon were well represented in the small sample. Sampling using both USFWS and NYSDEC electrofishing boats targeted the Saranac, Ausable, Little Ausable and Boquet Rivers. Equipment problems reduced sampling time such that only one round of sampling was completed instead of the two rounds planned. Preliminary observations indicate an increase in sea lamprey wounding.

Willsboro Fishway (Boquet River, Lake Champlain) Operated
The Willsboro Fishway was operated through late September and October, and closed and winterized on November 1. A total of 49 salmon were trapped in the fishway during 2000, including 10 during the summer and 39 during fall. The largest salmon weighed about eight pounds. The returns in 2000 are an improvement relative to 1999 when only 19 salmon were passed. Nevertheless, returns are fewer than would be expected if sea lamprey abundance was reduced to desirable levels.

Sea Lamprey Ammocoete Surveys Conducted on Lake Champlain Tributaries
Cold Spring Brook in Washington County, the Little Chazy River in Clinton County, and Mill and Mullen Brooks in Essex County were surveyed to determine if sea lamprey ammocoetes were utilizing these Lake Champlain tributaries. Results were negative except for Mullen Brook where, of the 34 ammocoetes captured, 6 were sea lamprey. The others were American brook lamprey, a harmless native lamprey species.

NYSDEC Crew Kills Thousands of Sea Lamprey in the Great Chazy River, a Tributary of Lake Champlain

A sea lamprey control treatment was conducted September 12, 2000 on 7.5 miles of the Great Chazy River, beginning at the Old Waterworks Dam and continuing downstream to the mouth. Preliminary observations indicated the treatment was very effective, killing more than 10,000 larval sea lamprey. Nontarget mortality was observed among stonecat, logperch, two-lined salamander and mudpuppy populations. Water sampling, near the river mouth and at lake stations extending 2.5 miles north and 4.5 miles south of the mouth, was conducted to monitor concentrations of the lampricide TFM. Affected water users were supplied with water for drinking, cooking and other household uses. Water was also provided to agricultural users, including one operation with about 550 dairy cows. Water use advisories were lifted 24 hours after concentrations of TFM dropped below 20 parts per billion. The river advisory was lifted on September 21, 2000, ten days after it was issued; and the lake advisory was lifted on September 26, 2000, 12 days after it was imposed.

Draft Supplemental Environmental Impact Statement, "A Long-term Program of Sea Lamprey Control in Lake Champlain,"Released for Public Review

US Fish & Wildlife Service, Vermont Department of Fish and Wildlife and NYSDEC staff completed the Draft Supplemental Environmental Impact Statement (DSEIS) for long-term sea lamprey control in Lake Champlain. The document, ***A Long-term Program of Sea Lamprey Control in Lake Champlain***, examines three alternatives for future management of sea lamprey in the lake. Alternative 1, the preferred alternative, is an integrated pest management approach employing lampricide treatments, barriers or trapping, or a combination of these techniques depending on the characteristics of the infested areas. Twenty stream systems would be included in this program. Alternative 2 would continue a program of lampricide use on 13 stream systems, and would be very similar to the eight-year experimental control program that was implemented from 1990-1997. Alternative 3 would take no action.

A March 9, 2001 U.S. Fish and Wildlife Service press release announced availability of this document for public review. The public was invited to comment on the proposed sea lamprey program during the 45-day comment period, through April 30, 2001. It is available at many public libraries and state field offices, and the Fish and Wildlife Service's Lake Champlain office. Comments were to be addressed to Mr. David Tilton, Project Leader, USFWS Lake Champlain Office, 11 Lincoln Street, Essex Junction, VT 05452; telephone 802-872-0629, fax 802-872-9704; or may be submitted electronically to dave_tilton@fws.gov.

The Lake Champlain Fish and Wildlife Management Cooperative held public hearings on the proposal on March 28 from 7-9 p.m. at Willsboro Central School in Willsboro, NY and on April 4 from 7-9 p.m. at South Burlington High School in South Burlington, VT.

Raquette Lake Juvenile Lake Trout Assessment

A draft report has been prepared summarizing data for more than 200 lake trout sampled in 1998 at 12 sites in Raquette Lake. Netting gear suitable for catching juvenile lake trout was deployed during this survey, which is replicated every five years. Growth rates for wild and stocked lake trout were the same and the overall growth rate was similar to surveys conducted in 1993 and in the 1980's. The percentage of wild, juvenile lake trout has increased over past years, probably due to reductions in stocking and to improving natural reproduction. One year class of stocked lake trout was missing. Those trout would be spawning adults in 2000 and 2001, so adult population numbers may be smaller during fall trap-netting.

Raquette Lake Broodstock Report Completed

The 2001 Raquette Lake Broodstock Report has been completed. This report includes data gathered during the Fall 2000 lake trout egg take effort. A Schnabel population estimate of 3,727 spawning adult lake trout (95% C.I. $3{,}215 < N > 4{,}320$) was calculated. This was the second highest population estimate since 1989. Mean size of 6-year-old lake trout was 18.17 inches, a decrease from average sizes seen in 1999 and 1998. The ratio of unclipped lake trout was 63.6%, a notable increase from ratio's around 45% noted in 1988-1990. All of the indices monitored seem to indicate an increase in natural reproductive success which is offsetting expected growth gains from recent stocking decreases. Egg take effort in October 2000 was one of the shortest in recent decades. A total of 286,639

eggs were take from October 11-17th. Of that total 46,154 were used to produce Adirondack strain splake.

Schroon Lake LLS Fry Stocking
With permission from private landowners, approximately 15,000 landlocked salmon fry were stocked in "The Branch" between Elk Lake and Clear Pond in Essex County. The Branch is a tributary of the Schroon River and has been stocked with fry for several years at points further downstream. The new stocking sites will be easier to access. An additional 5,000 fry were stocked in the Schroon River at the Sharp Bridge Campground and near the mouth of Lindsay Brook in the town of North Hudson. Salmon redds were observed in that section of the river in past years before beaver dams obstructed upstream spawning runs from Schroon Lake.

Rainbow Smelt Spawning Streams
Fisheries staff inspected potential rainbow smelt spawning streams in Lake Eaton, Blue Mountain lake and Raquette Lake (Hamilton County) in early May. Ice-out had occurred on these lakes about 7-10 days prior to the inspections and it is likely that the smelt spawning runs were not yet complete. A small tributary near the boat launch in Lake Eaton had limited numbers of eggs (100's) in a 10-foot section just inland from the lake. Two tributaries on Blue Mountain Lake on property owned by the Minnowbrook Lodge had moderate numbers of eggs (1000's), in 30-foot sections inland from the lake. Mallard ducks were observed feeding in these two streams prior to inspection. Death Brook on Raquette Lake, near Golden Beach, had a limited area of spawning substrate and few eggs (less than Lake Eaton). White suckers were observed spawning in Death Brook and could easily access the areas where smelt eggs were present.

Forked Lake Survey
Forked Lake, Town of Long Lake, Hamilton county was gill-netted and electrofished in early June to assess a landlocked Atlantic salmon stocking policy and a developing largemouth bass fishery. Unusually cold and wet weather resulted in cool water conditions for sampling. Only one yearling salmon was captured. Over 40 largemouth and smallmouth bass between 3-18 inches were electrofished. Other species captured were rainbow smelt, brook trout, yellow perch, rock bass, white sucker and brown bullhead.

Region 7

Cayuga Lake Inlet Fishway Operation
Operation of the Cayuga Inlet Fishway in the spring of 2000 resulted in the capture and destruction of 1,690 adult sea lampreys and 315 in the late spring of 2001. This low population of lampreys was reflected in the number of wounds on 20-22 inch rainbow trout that were examined as they passed through the Fishway in early spring 2001 on their spawning run. The average number of wounds on this fish size group was 0.15 per fish, well below the figure of 0.27 at which the level of wounding by sea lampreys begins to cause significant mortality to trout and salmon in Cayuga Lake.

The rainbow trout spawning run into Cayuga Inlet was comprised of an exceptionally high percentage of large fish. Two hundred twenty seven rainbows were handled at the fishway in 2000. Significantly higher numbers of very large (25.5 to 26.5-inch) fish were in the run this year compared with the past five years. The bulk of the run consisted of fish that were 20 inches and larger. The number of exceptionally large fish in the run is another indication that the growth rate of trout and salmon in Cayuga Lake is very good to excellent. In contrast, the number of 12-14" fish in the run was relatively low. This is most likely the result of the diesel oil spill that occurred in the fall of 1998. We can expect a decline of the large adult fish that pass through the Fishway in the next 2-3 years. This decline, however, should not be a major one, because of the run of large adult fish is composed of fish from 4 or 5 age groups.

Cayuga Lake is the source for the Finger Lakes Wild rainbow strain and Wild/hybrid rainbows are produced from Cayuga Lake females which are mated with domestic males. A total of 150 rainbows (63 males, 87 females) were sent to the Bath hatchery from the fishway for this purpose. Egg production was 10, 910 wild and 33,520 hybrids.

Owasco Lake Cooperator Walleye Program
In a cooperative effort with DEC, the Owasco Lake Anglers Association (OLAA) has stocked Owasco

Lake with pond reared walleye fingerlings since 1996. In 2000 the association produced 30,000 fingerling walleye from three ponds stocked with fry obtained from Oneida Hatchery. Most of these fish were between 1.8 and 2.5 inches in length when stocked. The harvested fingerlings were stocked at several locations along both the east and west shores of Owasco Lake. Region 7 fisheries staff assisted in walleye harvest and stocking.

Owasco Lake was night electrofished during fall 2000 to evaluate stocking success. A total of 19 walleye were collected in 4.2 hours of electrofishing, which yielded a catch rate of 4.5 walleye/hour. The 1996, 1997, 1998 and 1999 fall electrofishing catch rates were 3.6, 2.0, 5.1 and 3.8 walleye/hour, respectively. As in each sampling effort since 1997, a combination of established sampling sites and new sites were electrofished. The 19 walleye collected had a length range of 6.2 to 21.8 inches and an average length of 15.9 inches. Nearly all of these fish were collected along the northeast shoreline from Martins Point to Burtis Point. This was very similar to collections made in previous years. Apparently, the unique boulder field off Martins Point and the rock-rubble substrate from Martins Point-Burtis Point provide an exceptionally good habitat for this structure oriented species.

Region 8

Aquatic Nuisances Species / Finger Lakes Zebra Mussel Monitoring and Ecological Assessment Program (FLZMAP)
This program was in its sixth year of data collection during the 2000 field season. This data set may be the longest continuous running data set on the western Finger Lakes. A four-year interim report covering 1995 through 1998 was completed in 2000. Biannual updates are planned in the future.

Data indicate that the western Finger Lakes represent all trophic states including oligotrophic (Canadice, Canandaigua, Seneca), meso-oligotrophic (Hemlock, Keuka), mesotrophic (Conesus), eutrophic (Honeoye). With the exception of Keuka and Honeoye Lakes, the 2000 chlorophyll a and Secchi transparencies are similar to the 1995-1998 average. Keuka Lake saw a slight decrease in chlorophyll a (1.3mg/L) and a corresponding slight increase in transparency (0.7m). Honeoye Lake, which experienced a dramatic increase in its *Dreissena* population, saw its average chlorophyll a level decrease 4.2 mg/L from the 1995-1998 average. In turn, the lake's average transparency readings increased 1.2m over the 1995-1998 average. This program has spawned cooperative partnerships with NYSDEC's Division of Water, Cornell University, State University of New York at Brockport, Environment Canada, and a Master Degree Candidate with SUNY Buffalo.

Western Finger Lake Hydroacoustics Surveys
As an offshoot of FLZMAP (described above), staff from Region 8, together with researchers from Cornell University and Environment Canada, performed an intensive one-week survey to collect a snapshot baseline of forage fish biomass in the seven western Finger Lakes. Fish biomass data is awaiting final analysis by Cornell researchers, while samples of alewives are being analyzed by Environment Canada as part of a larger early mortality syndrome study involving thiamin deficiencies in prey fish.

Keuka Lake Netting and Angler Diary Reports
Standard gang gill net assessment, angler diaries and derby monitoring were accomplished on Keuka Lake, an 11,600 acre Finger Lake. The ecosystem in Keuka Lake is undergoing a major change as a result of zebra mussel invasion. Rainbow smelt have declined dramatically and the growth rate of older lake trout is beginning to decline. To complicate matters, the wild lake trout population is increasing, placing an added burden on the declining forage base. The excellent catch rate of under 2.0 hours to catch a legal salmonid reported in the angler diaries are a reflection of very hungry lake trout population. To reduce the pressure on the forage base and compensate for added numbers of wild fish, the stocking of brown trout and landlocked salmon may be reduced in the near future. In addition to the negative effects of zebra mussels, the spinier water flea has also invaded the lake. At present lake trout continue to exhibit good size in the angler diaries, however once the effects of zebra mussels and the spinier water flea are fully realized we expect to see declining growth rates.

Seneca Lake Sea Lamprey Control
A TFM treatment of the Catharine Creek system was conducted in June 2000 with very positive results. An estimated kill of over 5,000 ammocoetes

was achieved, which consisted of three year classes with no transformers killed. This very successful treatment, combined with the Keuka Lake Outlet treatment in 1999, is expected to be reflected in reduced sea lamprey wounding rates on salmonids in Seneca Lake. Non-target mortality was extremely light in both treatments. A TFM treatment of both systems once every three years should be adequate in preventing recruitment of parasitic phase sea lamprey into Seneca Lake. The next round of treatments is scheduled for June 2003.

Region 9

Rushford Lake

Late spring electrofishing produced catch rates of 56 smallmouth bass/hour and 38 walleye/hour. While smallmouth bass are the main gamefish in the lake, walleye, illegally introduced in the 1980's, are successfully reproducing and the population is on the increase. Fall electrofishing produced catch rates of 21 age 0+ walleye/hour and 23 age 1+ walleye/hour. Forage in this “coolwater” lake is several species of *Notropis***,** particularly emerald shiners, *Catostomus commersoni* and *Moxostoma* sp. Panfish, other than rock bass, are at low levels due to predation, lack of habitat and an annual drawdown of 20-40 feet that concentrates the panfish and forage so the predators have an easy time feeding. Additionally, Rushford Lake is stocked annually with rainbow trout and brown trout yearlings, and brown trout two-year-olds. Based on past surveys, Rushford Lake shows excellent growth and carry-over of stocked trout.

Great Lakes

Lake Ontario and tributaries

Region 6

Bays and Connecting Channels of the Eastern Basin

Dexter Marsh and the inner portion of Black River Bay were surveyed in summer 2000 to update fisheries data and to bring together other available information. Sampling at 33 sites provided size profiles for the most important sport fishes including yellow perch, pumpkinseed, brown bullhead and largemouth bass. The sturgeon population is known to be maintaining itself at very low levels here, but none were encountered during these efforts. Catch frequencies of 37 fish species were compared to those from a survey the previous year at Lakeview Marsh, and these areas were most similar for brown bullhead, black crappie, golden shiner and bluntnose minnows.

Cormorant Management

The goals of cormorant management in eastern Lake Ontario are:1) restoring the structure and function of the warmwater fish community2) reducing the negative impacts of Double- crested Cormorants on nesting habitats and other colonial waterbird species. 3) improving the quality of smallmouth bass and other fisheries and 4) fostering a greater appreciation for Great Lakes colonial waterbird resources. Management of cormorant colonies in NY has involved egg oiling, nest removal, harassment of migrant cormorants and habitat modification. There has been no lethal control of adults or chicks. Results of egg oiling at Little Galloo Island include: 1) reduced cormorant reproductive success by 95+ % at L. Galloo I. 2) reduced overall fish consumption by 4.8 million fish by LGI colony (19%) and 3) reduced consumption of smallmouth bass by 400,000 fish by LGI colony.

Eastern Lake Ontario Tributaries

The steelhead fishery in eastern Lake Ontario tributaries is believed to have been in decline for several years. The objectives of this Federal Aid creel survey are to provide estimates of fishing effort, catch & harvest rates and angler residence for the lake-run salmonid fishery in major Jefferson County Lake Ontario tributaries. A pilot study was conducted in spring 1999. Sampling of the steelhead spawning run fishery was conducted in September - December 1999, March 2000, and September 2000.

Steelhead spawning runs begin in late fall and continue into mid spring. Steelhead catch rates in the fall and spring 1999-2001 were well below historical levels on North and South Sandy Creeks and on the Black River. Total fall salmonid fishing effort and total salmonid catch were also low. The majority of anglers on the Black River were local (from Jefferson County). The majority of anglers on North Sandy Creek and South Sandy Creek were non NYS residents .

Eastern Basin Chinook Study

The major objectives of this study are to examine the homing, straying and return-to-the-creel of morpholine exposed versus non-exposed chinook and non- exposed cage reared versus direct released (normally stocked) fish. Secondarily, some characteristics of walleye and smallmouth bass populations in the Snowshoe Bay/Association Cut area and the steelhead run in the Black River at Dexter were monitored. Generally, indications are that chinooks exposed to morpholine in cages and those that were caged only, return to the creel better than the average chinook stocked in Lake Ontario. Both treatments stray to the Black River at similar rates. This suggests that survival is above average for both caged treatments. Fish released directly into Snowshoe Bay returned to the creel at near average or less than average rates. Although “soft release” effects may contribute to this improved survival, the major advantage of caging may be to release larger fish without sacrificing imprinting on the receiving water. The greater return of morpholine exposed fish to the Snowshoe Bay area is consistent with the hypothesis that morpholine exposure improved the homing performance of these fish. Data on returns of chinooks exposed to morpholine in hatchery tanks is not yet conclusive but suggests that tank exposure has a lesser effect. In 2000 there were poor returns of both experimental and control fish.

Region 7

Salmon River Cooperative Juvenile Chinook

Salmon Monitoring
The Salmon River was surveyed for a second year in 2000 to assess production of wild young-of-year chinook salmon. The study is a cooperative seining survey conducted by the US Geological Survey and DEC. Planned weekly hauls at four sites beginning in early May and running through June revealed that most of the hatching may have occurred in the upper portion of the river. High densities (nearly 600 per seine haul) of YOY were captured at Altmar, the upper most site on 3 May. Unfortunately, high water prevented sampling between May 3 and May 31. When flows receded, however, densities, size structure, and spatial distribution of YOY chinook were very similar to 1999 suggesting that high numbers were produced again in 2000.

Pacific Salmonid Monitoring
Pacific salmonids were sampled at the Salmon River Fish Hatchery during spawning operations. Analysis of the data revealed excellent growth of chinook and coho salmon and Washington steelhead, probably a result of a very strong 1998 yearclass of alewives in Lake Ontario. Returns of chinook salmon jacks (age-1 males) were an all time high (2,027), suggesting the 1999 yearclass is very strong. Size at age for these species is shown in the table below.

Mean Lengths and weights of chinook salmon, coho salmon and Washington steelhead at Salmon River Hatchery 2000. (STD=standard deviation)

Age	Sex	Mean Length			Mean Weight	
		N	(mm)	STD	(g)	STD
Chinook Salmon						
1	M	99	630	36	2,551	515
2	M	136	918	37	7,615	1,095
2	F	148	894	43	7,472	1,046
3	M	98	1,008	44	9,934	1,567
3	F	153	971	40	9,778	1,403
4	M	1	1,090	–	12,132	–
4	F	1	997	–	10,431	–
Coho Salmon						
1	M	53	424	45	714	283
2	M	114	778	60	4,727	1,200
2	F	96	745	42	4,480	827
Washington Steelhead						
3	M	45	683	85	3,114	1,067
3	F	24	669	38	3,268	684
4	M	94	807	70	4,911	1,255
4	F	130	767	47	4,763	910
5	M	1	755	–	3,571	–
5	F	10	802	28	5,232	539

Oswego Net Pen Project
The Oswego net pen project continued for a third year in 2000. Volunteer anglers successfully pen reared 20,000 steelhead and 25,000 chinook salmon. Preliminary results from a tagging study where equal numbers of steelhead were stocked directly into the Oswego River and into net pens for a period of weeks suggest that pen rearing is working very well. To date, 16 of 18 tags that we have recovered were from steelhead released from the pens.

Region 8

Pen Rearing
The chinook pen rearing partnership completed its

third successful year during 2000. Region 8 continued to work with volunteers at four sites.

Overall the project involved volunteers at six sites who raised 20,000 steelhead and 315,000 chinook (3.2 and 19.7 percent of New York's Lake Ontario allotment) for an approximate three week period while the fish went through the smoltification process. Regional sites included Sodus Bay - 50,000 chinook, Genesee River - 50,000 chinook, Sandy Creek - 25,000 chinook and 5,000 steelhead, and Oak Orchard Creek - 75,000 chinook and 10,000 steelhead. Observed mortality remained low during the rearing (0.2 to 0.58 percent for chinook and 0.9 to 5.9 percent for steelhead). The higher mortality of the steelhead occurred to do a possible outbreak of furunculosis. A detailed report can be found in the NYSDEC's Bureau of Fisheries Lake Ontario Unit and St. Lawrence River Unit to the Great Lakes Fishery Commission's Lake Ontario Committee - 2000 Annual Report.

Status of Smallmouth Bass in the Central Basin of Lake Ontario

Working in conjunction with the Lake Ontario Fisheries Unit, Region 8 staff performed a gill netting operation in Lake Ontario off Pultneyville, just west of Sodus Bay from August 28 to August 31, 2000. The purpose of the netting was two fold: to compare the relative density of smallmouth bass in the central basin versus the eastern basin; and, to collect a sample of bass for analysis of various toxins to formulate a baseline before the round goby arrives in the area. It is theorized that the presence of the round goby will provide a more direct pathway of exposure of smallmouth bass to toxins.

Two of the three most frequently caught species (smallmouth bass, rock bass and yellow perch) were also the most caught species in the eastern basin (smallmouth, yellow perch and walleye). However, CPUE (fish per lift) from the central basin was dramatically larger for smallmouth (78.9 vs 5.01), yellow perch (12.2 vs 8.58) and rock bass (19.2 vs 1.47).

Lake Ontario BioMonitoring

Since the mid 1990's, regional staff have assisted Cornell University in limnological data collection as part of a long term monitoring program. Regional staff collected data from Sodus Bay proper and the near-shore of Lake Ontario just west of Sodus Bay. Regional staff have played a key role in enhancing the project's quality control/quality assurance program. A detailed report may be found in the NYSDEC's Bureau of Fisheries Lake Ontario Unit and St. Lawrence River Unit to the Great Lakes Fishery Commission's Lake Ontario Committee - 2000 Annual Report.

Region 9

Lake Ontario Unit

Lake Ontario Fishing Boat Census

The Lake Ontario fishing boat census provides trend through time data on angling effort and success, and performance of stocked salmonids. While the census targets the open water salmonid fishery, valuable data on other fish species are also collected. The 2000 angling season marked the sixteenth consecutive year (1985-2000) that the census was conducted. Methodology has changed little over the history of the census, with sampling covering boat access channels along 190 miles of New York's Lake Ontario shoreline for the period April 1 to September 30 each year.

Fishing effort in April-September 2000 was estimated at 97,068 fishing boat trips. This was only 1.2% lower than 1999, and only 4.8% less than the 1995-99 April-September average (previous five years), but a major decline compared to the years prior to 1995. Anglers targeting trout and salmon accounted for 64,979 fishing boat trips, or 66.9% of the April-September 2000 total. Anglers targeting smallmouth bass from opening day (June 17) through the end of September accounted for 27,857 fishing boat trips, or 28.7% of the April-September 2000 total.

Changes in fishing effort were in part responsible for changes in numbers of fish harvested. Total trout and salmon harvested in April-September 2000 was estimated at only 77,586 fish, the lowest April-September total observed among the years censussed, and a 23.7% decline compared to the 1995-99 April-September average. Brown trout was the most commonly harvested salmonid in 2000, comprising 35.4% of the total, with chinook salmon a

close second, comprising 32.8% of the total. In contrast to trout and salmon, effort targeted at smallmouth bass has generally increased over the years censussed, along with harvest. Smallmouth bass harvest in June-September 2000 was estimated at 74,954 fish, the third highest harvest among the years censussed, and 45.3% higher than the 1995-99 June-September average bass harvest.

Trout and salmon fishing quality, as measured by harvest rates, was also down in 2000. The 2000 April-September trout and salmon harvest rate among boats fishing for trout and salmon was 1.190 fish per boat trip, the second lowest April-September harvest rate observed since 1985, and 16.7% less than the 1995-99 April-September average harvest rate. Comparisons by species show that April-September 2000 harvest rates were above their respective 1995-99 April-September averages only for brown trout (+21.8%), and below their respective 1995-99 April-September averages for coho salmon (-1.5%), chinook salmon (-8.0%), lake trout (-40.9%), rainbow trout (-56.8%) and Atlantic salmon (-80.5%). The smallmouth bass harvest rate in June-September 2000 among boats fishing for bass was 2.539 fish per boat trip, the third highest June-September harvest rate observed, and a 32.5% increase compared to the 1995-99 June-September average bass harvest rate.

Eastern Lake Ontario Warm Water Fisheries Assessment

Assessment of trends in the warm water fish community of the New York waters of Lake Ontario's eastern outlet basin has been conducted annually since 1976 using a standardized gill net sampling program. During this period, the warm water fish community has undergone significant changes, declining from a high of approximately 200-250 fish per net gang in 1976-79, to approximately 22 fish per net gang in 1995-2000. The majority of the fish species that were abundant at the start of the assessment program have all experienced significant declines in abundance.

Yellow perch, rock bass, white perch, gizzard shad, and alewife, were all important members of the warm water community in 1976-79, and have all shown a pattern of declining abundance over the 25-year sampling period. Yellow perch and rock bass continue to be important components of the warm water catch (typically the second and third most abundant species), while white perch, gizzard shad, and alewife catches have dropped to very low levels. Catches of northern pike have also shown a significant decline over the sampling period, but were never a major component of the warm water catch in the eastern basin. Other species such as white sucker, channel catfish, brown bullhead, pumpkinseed, freshwater drum, common carp, and silver redhorse, have remained relatively common in the catches, and although average abundance has declined slightly in recent years, long-term trends are not readily apparent. Walleye is the only relatively common species that has shown a long-term increase in abundance, but average catches have also declined for this species since 1993.

Smallmouth bass have always been an important component of the Lake Ontario warm water community , and through 1985 were typically third in abundance behind white perch and yellow perch. By 1988, smallmouth bass emerged as the most commonly captured species in the assessment netting, a position they have since maintained with the exception of 1996 and 2000 when more yellow perch were collected. Smallmouth bass have shown a cyclic pattern of abundance with two obvious high and low periods. Unfortunately, the last six years (1995-2000) have been one of the two documented low periods. Smallmouth bass catch decreased in 2000 to 5.01 fish per net gang, a 53.1% decrease compared to 1999, and a tie with 1995 for the record low among the years sampled. A three year moving average catch per net gang, a method often used to help dampen fluctuations due to yearly sample variations, shows continued low abundance of smallmouth bass in the eastern basin in recent years, and indicates the current low period to be lower than that experienced in the mid 80's.

Lake Ontario Forage Fish Abundance

The U.S. Geological Survey and the NYSDEC have cooperatively assessed Lake Ontario prey fishes each year since 1978 through bottom trawling during spring, summer, and fall along twelve transects distributed across the New York shoreline of the lake. Adult alewives in the U.S. waters of Lake Ontario were more abundant in 2000 than during 1996-99, and similar to levels in 1990-95, due mainly to recruitment of young adults from the strong 1998 year-class. Abundance of age-1 alewife was 68%

lower than in 1999, but was still greater than in 15 of the previous 22 years. Age-1 and older rainbow smelt numbers and biomass were at record lows. One deepwater sculpin was caught near mid-lake north of Sodus, NY.

Lake Ontario Juvenile Lake Trout Assessment
Catches of age-2 and age-3 hatchery origin lake trout during trawl and gill net surveys in New York waters declined to an all time low during the period from 1996 to 1998 (1993 to 1996 year classes). Catch of age-2 lake trout rebounded to 1992 levels in 1999, but fell again to a record-low level in 2000 (1998 year-class). Similarity in the trends of age-2 lake trout caught in trawls and age-3 fish caught in gill nets indicates that recruitment of hatchery fish to the population continues to be governed by survival during their first year after stocking.

Lake Ontario Adult Lake Trout Abundance
A total of 658 lake trout were captured in the September gill net survey in 2000. Previously, catch rates for mature lake trout had remained remarkably stable from 1986 to 1998. The CPUE of mature fish, however, declined by 30% between 1998 and 1999. Poor survival of hatchery fish was likely responsible for declining abundance of immature lake trout since 1989 and current declines in adult numbers. The weak 1994 year-class reached age-6 in 2000, and similar to the 1993 year-class, recruited poorly to the adult population. The CPUE for mature lake trout in 2000 was similar to 1999, and was 31% below the 1986-98 average.

Lake Ontario Sea Lamprey Wounding Rate Index
Following a decrease in the number of A1 (fresh) wounds in 1999 (approximately 1.0 wound/100 fish) from levels observed in 1997 and 1998 (3.2 and 3.1 wounds/100 fish, respectively), wounding increased in 2000 to 2.9 wounds per 100 fish. Overall wounding rates remain much lower than pre-1985 levels, but have been above the planned target level of 2 wounds per 100 fish for three of the last four years. The length of A1 marked fish in 2000 ranged from 620 to 806 mm (mean = 713 mm, n = 17).

Survival of Adult Lake Trout in Lake Ontario
Survival of Seneca strain lake trout has been about 30% to 50 % greater than that of Superior strain for the 1984-1991 year-classes. Lower survival of Superior vs. Seneca strain lake trout was likely due to higher susceptibility to and mortality from sea lampreys. Survival of Lewis Lake strain lake trout in Lake Ontario, calculated for the first time in 2000, was poor (44%) and similar to survival of Superior strain cohorts from stockings in the late 1970's. Assuming constant recruitment, average age of mature females is an auxiliary measure of lake trout survival; as survival improves, a greater number of older females accumulate in the population. Average age of mature female lake trout has been increasing steadily since the mid 1980's. The average age of 8.64 years in 1998 reflected a population comprised of the oldest group of mature females since the rehabilitation program was initiated. Average age of mature female lake trout in 2000 (8.57 years) was similar to the 1998 value.

Natural Reproduction of Lake Trout in Lake Ontario
In 2000 a total of 15 naturally produced lake trout (40 to 270 mm total length) were caught with bottom trawls. Survival of naturally produced lake trout to the fingerling stage in summer and fall occurred each year during 1993–2000. Further, survival to older ages has also been apparent. Based on length-frequency, lake trout from all year-classes since 1993 have been observed in catches through 1998. In 1999 and 2000 lake trout from only 3 cohorts (age-0 to age-2) were represented in the catch.

Annual Angler Harvest of Lake Trout from Lake Ontario
The estimated annual harvest of lake trout from U.S. waters of Lake Ontario since the slot limit (635 - 762 mm) was re-instated in 1992 has been more than 4 times lower than previous years when no size limits were in effect. Harvest reached its lowest level 2000 with an estimated 7,319 lake trout creeled. Angling effort aimed exclusively at trout and salmon in 1999 declined to its lowest recorded level (62,037 boat trips), and was similar in 2000 (62,307 boat trips). Lake trout harvest rate in 2000 (0.113 lake trout per boat trip) was also the lowest recorded. The percentage (26.9%) of the angler harvest of lake trout that were trophy sized fish (> 762mm or >30 in), remained near 25% for the fourth straight year.

Lake Erie and Tributaries

Lake Erie Unit

Warmwater Fisheries Assessment

Smallmouth Bass SCUBA Survey
Between May 22 and July 11, 2000, eight randomly selected transects were selected in Van Buren bay and monitored weekly by SCUBA to assess smallmouth bass nesting behavior. Each transect was 45 m long and 4 m wide. Individual transect depths ranged between 3.5 and 8.3 m.

Nesting activity by smallmouth bass was not observed at the onset of the SCUBA investigation on May 22, 2000. However, from June 14 to June 26, a maximum of three actively guarded nests were observed along the survey transects. Calculated mean nest density in Van Buren Bay for these June 14 to 26 observations was 18.5 nests/hectare. Bottom temperatures during the spawning period ranged between 13.3 ^{O} and 19.7 ^{O} C. Among the three actively guarded nests observed on June 26, by July 3, one nest had been abandoned with no eggs or fry observed, the second nest contained unguarded fry, and the third nest produced fry that were still guarded by the parental male. Also notable during this SCUBA assessment was the observation that round gobies were abundant along all surveyed transects. In addition, round gobies were observed actively preying upon smallmouth bass eggs during periods when parental male smallmouth bass were distracted from nests.

This 2000 SCUBA investigation was intended to be a pilot survey of a several-year study of bass/goby interactions. A current moratorium on Division of Fish and Wildlife SCUBA investigators prevents completion of this new initiative.

Beach Seine Survey of Juvenile Fishes
From 1998 to 2000, experimental sampling efforts were initiated using a 46-m beach seine to examine the feasibility of developing time series abundance indices for young-of-the-year (YOY) walleye and smallmouth bass. This 3-year investigation sampled nine locations, day and night periods, during July.

During three years of investigation, the most abundant species encountered in the beach seine surveys were emerald shiners, spottail shiners, and gizzard shad. Other commonly encountered species were yellow perch, white perch, white bass, smallmouth bass, walleye, quillback, channel catfish, and carp.

Both YOY walleye and YOY smallmouth bass were encountered each year of this investigation. Walleye catch rates were similar during day and night periods. However, daytime catch rates of smallmouth bass greatly exceeded night catch rates. The highest abundance encountered for both YOY walleye and YOY smallmouth bass was in 1998.

The objective of this recent seining effort was to establish whether a juvenile walleye and smallmouth bass index could be established to address an unmet need. This program documented that these species and life stages could be successfully collected in beach areas. However, maintaining standard collection methods represents a problem for pursuing this as an indexing program.

Juvenile Warmwater Fish Assessment
This current trawling program is conducted during October at randomly selected stations between the 15- and 30-m depth contours in New York's portion of Lake Erie. Standard tow duration is 10 minutes.

Rainbow smelt remained the most abundant species collected in trawl samples since the inception of this program in 1992. Trout-perch ranked second in abundance in the 2000 collections and round goby ranked third. The 2000 mean density estimates of YOY and yearling yellow perch were very near the previous overall 8-year mean density value for these life stages. However, beginning in 1999, adult yellow perch have been caught in greater numbers.

Among other species encountered during this trawling program, YOY alewife and round goby increased in abundance. Although the 2000 collections represented only the second year that gobies were observed in our samples, gobies ranked third in abundance among all species collected.

Warmwater Fish Stock Assessment
This annual autumn gill netting survey has been ongoing since 1981. Four to six 213 m graded mesh nets are set each day, with 40 sites sampled in 2000.

The overall abundance index for the walleye

resource in 2000 was below the long-term average abundance since 1981. The age composition of this walleye sample was comprised principally (54 percent nearshore, 86 percent offshore) of age-2 individuals. Yearling walleye catch rates ranked the 1999 year class somewhat weak, relative to the entire time series. Age-1 and age-2 walleye mean lengths in 2000 were among the longest observed over the entire 20-year time series.

Smallmouth bass catch rates in 2000 were the highest observed for this 20-year time series. Two age groups (age-1 and age-2) made particularly large contributions to this 2000 sample; however, the sample included all but one cohort from age 0 to age 20. Until 1999, smallmouth bass less than age-2 have only been infrequently encountered in this gill net assessment; however, these juvenile cohorts were very commonly encountered during 1999 and 2000. The long-term recruitment indices for juvenile, age-2 and age-3, smallmouth bass rank the 1997 year class as weak and the 1998 year class as very abundant in the 20-year time series. These age-2 and age-3 cohorts averaged 288 mm and 332 mm total length, respectively, in this fall 2000 gill net collection. Both age groups were longer than average for the time series, and the age-3 bass in 2000 were the longest ever observed in the entire 20-year time series. In addition, mean length-at-age of these juvenile smallmouth bass has had an increasing trend since 1997.

Of the remaining commonly encountered species in this 2000 gill net sample, only channel catfish and rock bass were caught in higher abundance than the long-term mean catch rate. White sucker catch rates displayed a gradual, long-term decline and remained near a low ebb in 2000. White perch and white bass catch rates declined sharply between the 1980's and 1990's.

In the 15- to 30-m stratum, yellow perch increased markedly in abundance beginning in 1999. This deeper 15- to 30-m stratum has only been sampled since the interagency, index fishing protocol was fully implemented in New York, beginning in 1993. Yellow perch are not effectively sampled at the shallower (0 to15 m), long-term gill net sites. Age-2 and age-4 yellow perch were the most abundant age group in the 2000 collections. These age groups, representing the 1998 and 1996 year classes, together comprised 73 percent of the yellow perch sampled in this gill net assessment.

Walleye Tagging Study

During the 11 years New York has participated in this interagency tagging study, 13,921 walleyes have been tagged in the New York portion of Lake Erie. During April 2000, 1,121 walleyes were collected in New York waters and affixed with jaw tags as a continuation of this effort to examine walleye distribution and exploitation rates. Two tagging sites sampled in 2000 were Van Buren Bay and the Lackawanna shoreline. Walleyes tagged for this study were collected by trap nets and boat shocker.

Since the inception of this tagging study, 1,197 tag recoveries originating from the New York tagging effort have been reported by anglers and the Ontario commercial fishery. One hundred nine (109) of these recaptures occurred during 2000.

Over the duration of this 11-year assessment, first-year tag recovery rates ranged between 1.5 and 4.4 percent. We have expanded these observed recovery rates to exploitation rates using a multiplier of 1.81 for non-reporting of recovered tags. The mean exploitation rate for tagged walleye from 1992 to 2000 was estimated as 4.9 percent.

Although these estimates derived from tagging data are bound by broad confidence limits, they remain consistent with other data that are characteristic of a walleye population with low adult mortality.

Coldwater Fisheries Assessment

Lake Trout Assessment

This standard August gill net assessment has been employed to assess lake trout populations for the New York waters of Lake Erie since 1985. Approximately 60 sets of 152 m graded mesh nets are set annually in coldwater habitat.

The total catch of the lake trout population residing in New York's portion of Lake Erie in 2000 was 134 individuals, the lowest sample size since this survey began in 1985. Fifteen year classes, from age 1 to age 16, were represented in a subsample of 92 known-aged fish collected in standard assessment nets. Young fish up to age four represented well

over half (59 percent) of the catch. Maturity rates were consistent with recent years, where most males are mature by age 4 and females by age 5. Mean lengths-at-age of sampled lake trout did not deviate from the long-term average. With the exception of age 7, mean weights-at-age up to age 10 were consistently higher than the long-term average. Long-term averages from sampled fish indicated that the majority of growth in length in Lake Erie lake trout occurs by age 10, with fish reaching around 800 mm total length and weighing 6,073 g.

Estimates of annual survival are at or near the Strategic Plan's target of >59 percent since 1994. Based on standard assessment catches in 2000, annual survival was estimated at 0.87 for fish age 4 to age 12.

The 2000 relative index of abundance for age-5-and-older lake trout continued the downward trend of adult lake trout stocks in Lake Erie that began in 1998. The 2000 index of 0.65 fish per lift was the lowest index recorded since the rapid build-up of the adult population due to improved survival following initial sea lamprey treatments in 1986-1987. However, increases in age 1-3 abundance, which have not been seen since 1994, did occur in the absence of a large adult stock.

The age composition of the 2000 standard gill net assessment catch further illustrates the resurgence of younger lake trout (< age 5) in the population. Fifteen age groups were present in this standard sample. The adult segment of the sample was dominated by age 8 to age 11 fish.

Sea Lamprey Assessment

Observed fresh wounding (A1-A3) on lake trout greater than 532 mm total length was 17.1 percent in 2000, exceeding the target rate of 5 percent for the fifth consecutive year.

Since 1996, observed wounding has been the highest on lake trout since initial sea lamprey treatments took effect in 1988. All fresh lake trout wounds (A1-A3) occurred on fish greater than 633 mm, similar to observations from 1993-1998, but dissimilar to 1999 when equal number of wounds occurred in all length groups. Overall, fresh wounding rates in 2000 were equal to 1999 rates, but lower than the high of 1998. Fresh wounds (A1) are considered indicators of the attack rate for the current year at the time of sampling (August). The 2000 observed rate of 0.029 wounds per lake trout greater than 532 mm total length was slightly lower than 1999, but still well above the lows for the period 1988-1996.

A4 wounds, which indicate the past year's cumulative attacks, showed a 50 percent decline over 1999 rates, but were still higher than the lows observed from 1991 through 1995. The observed 2000 attack rate was 16.2 percent for fish greater than 532 mm. The overall index for sea lamprey nesting in 2000 continued to be high, relative to observed nesting during the period 1990-1996 (post-treatment era), yet much lower than the high incidence observed in 1997 and 1998. Nest counts in Delaware Creek (6.2 nests/km) and Canadaway Creek (15.4 nests/km) were the highest recorded densities since initial sea lamprey treatments in 1986-1987. Conversely, Clear Creek and North Branch Clear Creek showed significantly less nesting activity than the peak years of 1997 and 1998.

Wild Steelhead Assessment

Electrofishing has been used to sample wild steelhead in Cattaraugus Creek tributaries since 1995. Spooner Creek was the only stream sampled in 2000 due to staff shortages.

Total collections of steelhead from five randomly located stations, between State Route 39 upstream to Trevitt Road, produced 263 wild fish, ages 0 to 2. The majority of the catch (256 (97.3 percent)) were young-of-year (YOY).

2000 sampling produced a YOY density estimate of 3,200 wild fish/hectare, down slightly from 1998 and 1999 estimates. The Sept. population estimate was 5,761 fish residing in a 5 km section of stream.

Mean total length of wild YOY rainbow/ steelhead collected in Spooner Creek in 2000 were comparable in size to young-of-year fish sampled in 1999, but significantly ($P<0.05$) smaller than those sampled from 1996-1998.

Future surveys should continue to expand juvenile assessments of wild steelhead production. One priority should be establishing an overall recruitment index to the adult stock in Cattaraugus Creek. By

gauging overall juvenile recruitment, we may be able to determine if wild steelhead production in this system is capable of supporting the adult fishery. Future surveys should also concentrate on juvenile recruitment in other Lake Erie tributaries to determine their importance to overall wild steelhead recruitment.

Sport Fishery Assessment

Since 1988, a direct contact sport fishing survey has been conducted to monitor the open water fishery. This standard, annual program extends from May through October along the entire New York portion of Lake Erie.

Overall 2000 open water sport fishing effort in New York waters of Lake Erie was estimated as 424,563 angler-hours. This estimate is the lowest boat fishing effort total for the 13-year time series. During the 2000 fishing season, walleye angling was the largest component of the boat fishery. Bass angling ranked second in boat fishing effort on New York's portion of Lake Erie.

During 2000, the springtime boat fishing effort (1st Saturday in May to 3rd Saturday in June) was comprised mostly of bass anglers. The recent springtime expansion of bass angling effort now seems to have stabilized between 40,000 and 50,000 angler hours.

The total estimated daytime walleye harvest was 28,594 fish, ranking 2000 very similar to annual walleye harvests since 1995. Walleye fishing effort during 2000 was the second lowest observed in the 13-year survey. In addition, walleye total catch and harvest estimates have remained very similar in 2000, suggesting nearly all the walleyes boated in the sport fishery were creeled. The 2000 walleye sport fishery was centered in offshore waters between Dunkirk and Irving, New York; areas east and west of this zone produced a markedly lower harvest. The overall targeted walleye catch rate during the 2000 fishing season was 0.15 fish per hour, which ranks walleye fishing quality very similar to the previous 7 years. The average total
length of harvested walleyes in 2000 was 602 mm (23.7 inches). The frequency of walleye sport fishing boats that achieved full boat limits of 5-walleyes-per-angler was 5.4 percent in 2000, which was the highest observed since 1989.

Smallmouth bass harvest was estimated at 15,783 fish, which ranks 2000 as the third-lowest bass harvest for the 13-year survey and the lowest since bass fishing opportunities were expanded, beginning in 1994. The 2000 bass fishing effort also declined to the lowest observed during the last five years. This smallmouth bass harvest remains very small, relative to the bass catch by boat anglers. During 2000, smallmouth bass were the most frequently caught species (106,220 fish) by boat anglers by a very wide margin. The 2000 overall catch rate by bass anglers was 0.65 bass per hour, and mean length of harvested smallmouth bass was 409 mm (16.1 inches) in 2000.

The yellow perch sport harvest remained very low (3,021 fish) in 2000, and fishing effort extended by yellow perch anglers was the lowest yet observed in the 13-year survey. Apparently few anglers participated in yellow perch fishing in 2000, and perch fishing quality was the lowest observed in the 13-year time series with an overall catch rate of 0.20 perch per hour. The mean length of harvested yellow perch was 270 mm (10.6 inches) in 2000.

Forage Fish Assessment

A new initiative that began in 1999 as an element of forage assessment, and has since continued as an ongoing program, is an interagency lower food web monitoring program coordinated through the Lake Erie Committee's Forage Task Group. Initial sampling was accomplished in conjunction with a Cornell-led research project. However, subsequent annual monitoring has become the ongoing responsibility of the Lake Erie Unit, and an annual lakewide summary of this effort appears in the Forage Task Group's annual report to the Lake Erie Committee.

Beginning in 1993, a mid-summer fisheries acoustic survey was implemented to provide a more comprehensive evaluation of the distribution and abundance of rainbow smelt. This initiative was implemented under the auspices of the Lake Erie Committee's Forage Task Group and was led by the New York State Department of Environmental Conservation, with collaboration by the other Lake Erie Committee member agencies and Cornell

University's Warmwater Fisheries Unit. This survey has been an ongoing, annual summertime initiative that represents one of eastern Lake Erie's best examples of interagency cooperation in fisheries assessment. Ontario and New York research vessels partner in data collection, and biologists from Ontario, New York and Pennsylvania collaborate in analysis and reporting of data. The 2000 survey found a pattern of pelagic fish abundance similar to previous efforts. This pattern finds pelagic fish densities concentrated near the thermocline, particularly in locations where the thermocline was in close proximity to the bottom. The lowest pelagic fish densities most often occurred centrally over the deepest portion of the eastern basin in surveys. Furthermore, a characteristic alternate year-high and low abundance pattern since 1995 is also apparent in yearling-and-older (YAO) rainbow smelt abundance through our time series. The 2000 collections represented to low phase of the alternate year abundance cycle.

Region 9

Salmon and Trout Pen-Rearing Project

2000 was the second year of the Niagara River Anglers Association (NRAA) four-year cooperative pen-rearing project on the lower Niagara River. Seventy-five thousand (75,000) fingerling chinook salmon were reared for approximately 3 weeks in fabric-mesh enclosures at Williams Marine, a private marina facility in Youngstown, NY. In 2000, 3 batches of salmon (representing pen-reared; Salmon River Hatchery-reared; and Caledonia Hatchery-reared fish) were marked with fin clips to facilitate an assessment plan. The assessment portion of the pen-rearing project will begin in summer/fall 2001 by using volunteer anglers and creel survey agents to identify fin-clipped salmon. The assessment will help determine whether pen-rearing is an effective management alternative for increasing survival and imprinting of stocked salmon.

In addition to chinook salmon, NRAA volunteers expanded their pen-rearing efforts in 2000 to include 10,000 steelhead. The pen-rearing project ran very smoothly, and most trout and salmon were at or very close to target weights when released. A detailed summary of all the Lake Ontario pen-rearing projects is available in the 2000 Lake Ontario Unit Annual Report.

Niagara River/Buffalo Harbor Muskellunge Angler Cooperator Program

The Niagara Musky Association has conducted an angler cooperator program on the Niagara River and the Buffalo Harbor since 1995. Since 1997, angler effort and number of muskellunge caught on the upper Niagara River had declined precipitously. This trend is associated with a decrease in catch rates from 0.13 muskellunge per hour in 1997 to 0.07 muskellunge per hour in 2000. Mean length of muskellunge from 1995 to 1999 was in the range of 38 to 40 inches, however in 2000 the mean length decreased to approximately 32 inches. This change reflects a substantial increase in young muskellunge in the anglers' catch. Reduced aquatic productivity and exceptional water clarity since the early 90's are factors likely responsible for the decline in muskellunge fishing quality.

Muskellunge catch rates in the Buffalo Harbor have also declined substantially, dropping from 0.12 muskellunge per hour in 1996 to 0.05 muskellunge per hour in 2000. This decline is also likely due to greatly diminished aquatic productivity in Lake Erie. The Buffalo Harbor continues to offer exceptionally hefty-sized muskellunge over 50 inches long at the beginning of the season and during late fall. Buffalo Harbor muskellunge are likely migratory, and adults probably migrate out into Lake Erie shortly after spawning. There is a need to better understand migratory behavior including summertime habitats, overwintering locations and possible movements into the upper Niagara River. There is also great interest in further protecting this muskellunge population through more protective angling regulations.

Creel and Angler Surveys

Region 1

Nassau County Creel Census

During the census period (April 1, 1999, through November 5, 1999), an estimated 16,201 angler trips ± 2,084 (95% confidence interval) were taken on all six survey ponds. Massapequa Reservoir had the highest estimated use (5,848 angler trips ± 619 angler trips), followed by Upper Twin Pond (4,010 angler trips ± 454 angler trips), Hempstead Lake (2,167 ± 260 angler trips angler trips), McDonald Pond (1,541 angler trips ± 376 angler trips), Lower Twin Pond (1,396 angler trips ± 177 angler trips), and South Pond (1,239 angler trips ± 199 angler trips). Not surprisingly, peak use on trout stocked waters occurred when trout were stocked. Use increased in all ponds during the opening two weeks of bass season

Anglers returned 456 useable survey cards. Anglers returning survey cards reported catching 2,586 fish, releasing 2,270 fish and keeping 316 fish for a total harvest rate of 12.2%. Sunfish (bluegill and pumpkinseed) were the fish most caught (1,406 sunfish). Although largemouth bass was the second most caught species, no angler returning a survey card reported keeping a bass. The following fish species were harvested more than 30% of the time by anglers returning survey cards: brook trout (54.8 % of the time), carp (47.7% of the time), rainbow trout (39.9% of the time), and brown trout (30.9% of the time).

During the creel census, 1,154 angler interviews were conducted. The number of interviews conducted on a given pond ranged from 88 interviews at Lower Twin Pond to 461 interviews at Massapequa Reservoir. Interviewed anglers reported catching 2,060 fish, releasing 1,504 fish and keeping 556 fish for a total harvest rate of 27.0%: over twice the rate of anglers returning survey cards. Sunfish was the species caught most often (1,272 sunfish). Six largemouth bass were kept by interviewed anglers. Since 254 largemouth bass were captured during the creel census, largemouth bass were harvested only 2.4% of the time. The following fish species were harvested more than 30% of the time by interviewed anglers: brook trout (88.0% of the time), carp (74.4% of the time), pumpkinseed (58.8% of the time), yellow perch (46.2 of the time), brown trout (45.6% of the time), and rainbow trout (42.6% of the time).

The creel census count run times were separated by three hours because previous creel data from Nassau County indicated that the average trip length was three hours. The estimated mean trip length reported by interviewed anglers was not significantly different than three hours for five of the six survey waters. Only Hempstead Lake had an estimated mean trip length that was significantly longer than three hours. The estimated mean trip length for Hempstead Lake was also significantly longer than any of the other five survey waters. Carp are the primary target species in Hempstead Lake, and it is believed that carp anglers fish longer than other anglers. This will be analyzed in the final report.

Interviewed anglers reported being born in 38 different countries. The United States was the country most interviewed anglers were born in (74.5%), followed by Russia (12.4%), Ukraine (3.3%) and Poland (3.1%). All other countries were less than 1% of the interviewed anglers. At individual ponds, the United States was the country of birth most often reported by interviewed anglers with the exception of Hempstead Lake where 54% of interviewed anglers reported being born in the former USSR. This is believed to be tied into the carp fishery at Hempstead Lake and will be analyzed in the final report.

A final report on the 1999 Nassau County Creel Census will further analyze the catch, angling preferences, and demographic data. Data collected during this survey will be used to manage the fisheries resources in Nassau County.

Lake Ronkonkoma/Blydenburgh Lake Creel Census

An intensive creel census of Lake Ronkonkoma and Blydenburgh Lake in Suffolk County was completed during the 2000 field season. Full day censuses were conducted every weekend and holiday and two weekdays every week from May 6, 2000 to October 31, 2000. A 3 hour angler trip was used to convert estimated angler hours to estimated angler trips.

In Lake Ronkonkoma, an estimated 4467 angler trips occurred from May 6 through October 31st and 1,334 anglers were interviewed during this period. Interviewed anglers reported catching a total of 1301 fish, including 447 white perch, 348 sunfish, 192 largemouth bass, 96 yellow perch, 68 black crappie, 60 walleye, 44 smallmouth bass, 30 brown bullhead, 4 carp, 2 shiner, 1 tiger musky and 1 eel. Interviewed anglers harvested 6.7% of their catch. A total of 272 survey cards were returned by anglers from May 6 through October 31st. Anglers returning survey cards reported catching 1613 fish, including 698 white perch, 245 sunfish, 178 largemouth bass, 151 yellow perch, 178 largemouth bass, 104 smallmouth bass, 100 walleye, 89 black crappie, 37 bullhead, 6 carp, 2 tiger musky, and 1 chain pickerel. Anglers returning survey cards reported harvesting 1.5 % of their catch. The survey clerk measured fish that were kept or caught while the clerk was interviewing the angler. The largest measured fish for each species was 8.0 inches for bluegill, 7.3 inches for pumpkinseed, 5.5 inches for yellow perch, 9.0 inches for white perch, 9.5 inches for black crappie, 13.0 inches for brown bullhead, 18.3 inches for smallmouth bass, 20.3 inches for walleye, 22.5 inches for largemouth bass, and 28 inches for carp.

In Blydenburgh Lake, an estimated 3591 angler trips occurred from May 6 through October 31st and 731 anglers were interviewed during this period. Interviewed anglers reported catching a total of 977 fish, including 557 largemouth bass, 327 sunfish, 88 yellow perch, 2 trout, 1 black crappie, 1 eel, and 1 brown bullhead. Interviewed anglers reported harvesting 19.6% of their catch. A total of 200 survey cards were returned by anglers from May 6 through October 31st. Anglers returning survey cards reported catching 1242 fish, including 759 largemouth bass, 333 sunfish, 129 yellow perch, 11 bullhead, 9 trout and 1 eel. Anglers returning survey cards reported harvesting 8.4% of their catch. The survey clerk measured fish that were kept or caught while the clerk was interviewing the angler. The largest measured fish for each species was 10.7 inches for bluegill, 7.8 inches for pumpkinseed, 12.0 inches for yellow perch, and 22.5 inches for largemouth bass. Restrictions imposed by Suffolk County Parks from August 1st through October 31st in response to West Nile virus concerns effected the results of the creel. The restrictions limited access to the park to the hours of 8 AM to 6 PM. This substantially shortened the time that the park was open for fishing.

Region 1

Warmwater Angler Diary Report for 1998 and 1999 completed -1999 marked the 22nd year this popular program has been underway in Region 1.

In 1998, forty-four diary cooperators reported 555 fishing trips to 54 different waters in Region 1. Cooperators fished a total of 2,980 hours and caught 1,202 largemouth bass for a catch rate of 0.40 largemouth bass per hour. Cooperators also reported catching 334 chain pickerel, 58 smallmouth bass, 39 black crappie, and 38 walleye.

In 1999, forty-four diary cooperators reported 565 fishing trips to 51 different waters on Long Island. Cooperators fished a total of 2,685 hours and caught 1,732 largemouth bass for a catch rate of 0.65 largemouth bass per hour. Cooperators also reported catching 430 chain pickerel, 30 smallmouth bass, 104 black crappie, and nine walleye. Detailed fisheries data are presented with historical context for five major Long Island waters. The report was distributed to Angler Diary Cooperators. The completion of this report marks a major step towards the goal of publishing reports on a timely annual basis.

Region 3

Kensico Reservoir - Since 1987 the New York State Department of Environmental Conservation has been utilizing angler diary information to better understand Kensico Reservoir's trout fishery. Analysis of 2000 angler diary data revealed that the trout fishery has become increasingly dominated by lake trout with this species now contributing 95 % of the cooperating anglers catch vs. 5 % for brown trout. In 2000, natural reproduction appeared to be contributing approximately 60 % of the lake trout present in the reservoir. Although now abundant at sizes up to and slightly above the 21 inch minimum size limit, a relative lack of larger and older lake trout suggests that Kensico Reservoir may have become over stocked with lake trout. Given the increase in

lake trout abundance, it is likely that many of the approximately 10,000 nine inch brown trout yearlings stocked annually are now being consumed by lake trout. In an effort to improve growth rates for lake trout and increase the number of larger lake trout (26 inches and larger), as well as improve the survival of brown trout, the annual stocking recommendation for lake trout was reduced from 7,200 yearlings to 3,600 effective in 2000. The diary program will continue to be used to monitor the fishery.

Region 4

Otsego Lake Angler Diary Program

A multi year angler diary program was implemented in 2000 on the 4,226 acre Otsego Lake to monitor the quality of the salmonid (brown trout, lake trout, and landlocked salmon) fishery. Thirty-one (31) people volunteered to keep diaries and 14 individuals returned diaries with fishing trip information. These 14 anglers made 263 trips (includes partners) totaling 1293.6 hours on Otsego Lake during the open water season. They caught 310 lake trout, 69 brown trout, and 51 landlocked salmon for an overall salmonid catch rate of 0.33 fish/hour. Fifty one lake trout, 11 brown trout, and 10 landlocked salmon were creeled.

Lake trout catch rates averaged 0.24 fish/hour and 0.11 legal fish/hour with individual catch rates ranging from 0 to 0.97 fish/hr and 0 to 0.59 legal fish/hr. The catch rates for landlocked salmon and brown trout were 0.04 and 0.05 fish/hr, respectively.

All brown trout and salmon are stocked fish. Approximately one third of the lake trout caught were fin clipped which indicates that these fish were of hatchery origin. This should be considered a minimum estimate because not all fin clips were recognized or reported. Fifty one lake trout were creeled of which 12 (24%) were fin clipped.

Region 5

Raquette Lake Cooperator Report Completed

The Raquette Lake Angler Diary Cooperator report for the 2000 fishing season has been completed. Anglers reported catching 0.35 lake trout/hour in 2000, a modest increase from 1999 and 1998 rates. The creel rate in 2000 was stable at 0.05/hour. There was no difference in catch and creel rates for ice fishing versus open water. The average size of lake trout caught was 18.3 inches (a 21-inch size limit is in effect on Raquette Lake). The brook trout catch rate in 2000 was 0.17/hour. This reflects a lack of stocking in recent years. Catch rates as high as 1.0/hour have been recorded in the past. Brook trout fishing should improve in the next few years as 40,500 fingerlings were stocked in 2000. A catch rate of 0.05 landlocked Atlantic salmon/hour was calculated in 2000. This was a surprisingly high rate considering that salmon are not stocked directly into Raquette Lake. The lake fishery is dependent on emigrants from Blue Mountain Lake or Forked Lake. Average size of these salmon was 18 inches.

Region 7

Whitney Point Reservoir

A draft summary of the 1999-2000 creel census was completed. The primary purpose for conducting the angler/creel census at Whitney Point Reservoir and Spillway was to obtain accurate estimates of fishing pressure, catch rates, and fish harvest, by season. Total estimated daytime effort at the reservoir and spillway combined was 66,284 ± 4,523 angler hours or 20,026 ± 1,111 angler trips. Boat angling effort accounted for nearly half of the total while ice angling effort made up 17%. Crappie was the most commonly caught and harvested species. Anglers caught and harvested an estimated 53,560 ± 8,537 and 23,553 ± 3,739 crappie, respectively. Walleye were the next most commonly caught species with 17,887 ± 3,069 caught. Estimated harvest for walleye, however, was only 1,669 ± 436. The overall catch rates of crappie and walleye were 0.963 and 0.276, respectively, but there was tremendous variability both seasonally and by fishing technique. There appears to be a high level of compliance with the minimum size limits established for walleye and crappie.

Cayuga Lake Angler Diary Program

Cayuga Lake anglers enjoyed an excellent year of fishing in 2000, based on angler diary cooperator catches. The catch rate for trout and salmon of 0.30 legal fish per hour was the best rate recorded since 1989. Landlocked salmon contributed well to the fishery. Angler cooperators caught 540 legal landlocks (18" or larger) and a total of 1,593

landlocks including sub legal fish. Landlocks made up 23% of the legal trout and salmon caught.

Catch of lake trout remained excellent. A total of 1,313 legal lake trout were caught. Lakers made up 56% of the total salmonid catch which is very close to the 60% target that has been set. Very high percentages of lake trout in the catch represents an unbalanced fishery. In such cases lake trout prey heavily on the other species of young trout and salmon. When this occurs, the catch rate for other species suffers markedly.

Diary holders also enjoyed a very good year fishing for brown trout. They creeled 349 legal brown trout which was the best since 1997. In contrast, the catch of rainbow trout (138 legal fish) was slightly below average. This lower than normal catch rate may have been a result of the November 1998 fuel oil spill which killed essentially all of that year class.

Otisco Lake Angler Diary Program

Walleye fishing in Otisco Lake in 2000 was very good. Angler diary cooperators caught more than double the number of 18 inch or larger walleyes than in any previous year. The average walleye caught was 21.3 inches. Anglers caught 0.25 legal walleyes per hour.

Despite the excellent fishing for walleyes, all the walleyes being caught are stocked fish. Through our efforts to determine if adult walleyes are currently spawning successfully, we have been unable to find any wild, young walleyes. There are two possible reasons for this finding. One is that there is an abundant population of alewives in Otisco Lake. Alewives compete with walleye fry for food and also eat the walleye fry.

Another possibility is that the walleye fry that do hatch may not be surviving well. A cooperative effort was conducted with the Region 7 fisheries unit and George Ketola at the USGS Laboratory of Fish Nutrition (Tunison Lab), Cortland, New York in the spring of 2001. Study of walleye egg viability from Otisco Lake indicated virtually complete mortality of walleye eggs that were not placed in a thiamine bath. Since alewives produce an enzyme in their body which breaks down thiamine when predator fish eat them, alewives may be implicated in the ability of walleyes to reproduce successfully in Otisco Lake. At this time, it appears that to provide anglers with fishing opportunity for walleyes in Otisco Lake, they may have to be stocked on a regular basis.

Owasco Lake Angler Diary Program

Coldwater lake cooperators caught 1,125 legal size salmonids in 438 trips for an average of 2.6 fish per trip. Legal salmonids were caught at an average rate of one fish every 1.6 hours. Coldwater cooperators were successful in catching at least one legal salmonid in 80 percent of their trips. They caught 721 legal sized lake trout, 217 rainbow trout, 173 brown trout and 14 Atlantic salmon. Catch rates for these species were 1.6, 0.5, 0.4 and 0.03 legal fish per trip while harvest rates were 0.58, 0.27, 0.22 and 0.002 fish per trip, respectively. Lake trout comprised 64 percent of the legal catch while rainbows, browns and Atlantics were 19, 16, and 1 percent, respectively.

Owasco Lake warmwater cooperators caught 72 legal smallmouth bass, one legal largemouth bass, six legal walleye and nine legal northern pike in 78 trips for an average of 1.1 legal warmwater gamefish caught every trip. Only two smallmouth bass and three walleye were kept by our warmwater cooperators.

Skaneateles Lake Angler Diary Program

Skaneateles Lake cooperators caught 634 legal size salmonids in 424 trips for an average of 1.5 fish per trip. Seventy-two percent of their trips were successful with one legal salmonid caught for every 2.1 hours. Cooperators caught 287 legal sized lake trout, 337 rainbow trout and 10 Atlantic salmon. Catch rates for these species were 0.68, 0.53 and 0.02 legal fish per trip while harvest rates were 0.47. 0.64 and 0.02 fish per trip, respectively. Lake trout comprised 45 percent of the diary cooperator salmonid catch while rainbows and Atlantics comprised 53 and 2 percent, respectively.

Salmon River

A fall creel census was conducted in 2000 for a fourth year on the Salmon River to assess the steelhead fishery. The survey starts the Monday following the week of Columbus Day and runs through the last weekend in November. The overall catch rate was relatively poor (0.035

steelhead/angler hour) in 2000 but similar to that recorded in 1997 (0.039 steelhead/angler hour). Catch rates of 0.060 in 1998 and 0.061 in 1991 were almost double those recorded in 1997 and 2000. Angler effort, however, remained relatively high at 11,231 angler days compared to 11,372 in 1999, 7,009 in 1998 and 7,061 in 1997. Anecdotal evidence suggests that the run was relatively late with substantial numbers of steelhead coming into the river during the winter which was not surveyed.

Southern Tier Rivers

In conjunction with the Whitney Point Creel Census, systematic angler interviews were also conducted, one day per week, on the **Tioughnioga, Chenango** and **Susquehanna Rivers** to gather information on angler catch rates. Results were disappointing due to the difficulty involved in contacting significant numbers of anglers and no definitive statements can be made. In the winter months the rivers' survey was abandoned and ice fisherman counts were conducted on several central New York waters. Our ice fishing interview data were insufficient to calculate catch or harvest rates, but count data resulted in the following estimates of fishing effort (see table):

Estimated ice fishing effort (angler hours) and angler hours/acre for NYSDEC Region 7 lakes, January 24 - February 5, 2000.

Lake	Acres	Estimated Angler Hours	1.96 Standard Errors	Angler hours/acre	1.96 Standard Errors
DeRuyter Reservoir	576	1,547	1,355	2.69	2.35
Eaton Brook Reservoir	254	1,414	1,280	5.57	5.04
Lebanon Reservoir	113	1,539	844	13.62	7.47
Little York Lake	150	202	178	1.35	1.19
Lower Leland Pond	45	177	162	3.94	3.59
Upper Leland Pond	52	300	419	5.78	8.06
Lake Moraine	235	2,147	1,520	9.14	6.47

Region 8

Oatka Creek Creel Census

A creel survey was conducted on Oatka Creek from late March through October, 2000. It was conducted as part of the No Kill trout fishing regulation evaluation. The 2000 creel survey was the pre-regulation change census. A post-regulation change census will be conducted in 2001 to determine whether the No Kill regulation induces more angler effort as predicted. The 2000 creel census showed that Oatka creek, which has no closed season, follows the general pattern of high fishing pressure from April to July which tapers off through October. We estimate that from late March to October 2000, 14,673 angler hours were expended to catch 17,000 trout, of which 5136 trout were kept, in the stocked areas of Oatka creek. Anglers fished 7570 hours and caught 5875 trout and creeled 110 trout in the area managed for wild trout. The creel census also documented what has long been suspected: nearly all of the stocked two year old brown trout are harvested within days of stocking.

Conesus Lake Creel Census

An access point/roving survey was conducted during the 2000 open water season (May-October) and a roving contact survey of ice anglers was conducted from late December 2000 - mid-March 2001. Data analysis is currently underway. Preliminarily, we estimate that in May 2000, boat fishermen spent approximately 8000 hours fishing and caught 2700 fish of all species. Approximately 1800 boat angler hours were spent fishing for walleye and 143

walleye were caught. Eighty days of fishable ice made the 2000-2001 ice season one of the longest in recent years.

Conesus Inlet Fish Watching Survey
Each Spring, spawning runs of big northern pike and walleye draw impressive numbers of "fish watchers" to the Conesus Lake Wildlife Management Area. Parking lots and trails provided in the WMA facilitate public viewing opportunities. From March 25 thru April 15, 2000 (three weeks), student interns working with Region 8 staff, conducted an access point survey of the spawning run fish watching activity. During the survey, the agents counted 359 people and interviewed 227 people. On average, people watched fish for about 40 minutes per trip. We estimate that approximately 4,000 people came to the WMA to view the spawning runs. Most visitors were from the Livingston, Monroe, or Steuben County area, but one visitor came from as far away as Tioga County, Pennsylvania. The majority (89%) of the fish watchers were anglers, indicating that watching the fish's spawning activity was as important to them as angling. The impressive number of non-anglers that came to watch the spawning run indicates that these fish resources are used uniquely by a non-traditional group of people.

Region 9

Chautauqua County Small Lakes Creel Survey (1999-2000)
An open water (access site/boat) and ice survey was initiated at Bear and the Cassadaga lakes to assess the catch, harvest and angler preferences. Anglers were strongly in favor of the slot limit for black bass although the majority were not familiar with the reasons or intent of the regulation. Few bass less than 12 inches were harvested by anglers. Activity by bass anglers has increased measurably in the past two years. Ice angling activity has been light with the majority targeting walleye at Bear Lake. Analysis of data resulting from this survey has been completed with the assistance of Dunkirk Fisheries Station staff and preparation of a summary report is in progress.

Central Office - Inland Section

Creel Census Surveys
In addition to the Beaver Kill work, creel survey projects were conducted by regional staff under the Federal Aid program in 2000/2001 on fisheries of Lake Ronkonkoma and , Blydenburg Lake in Region 1 and Oatka Creek and Conesus Lake in Region 8 . Inland Section provided various levels of administrative and technical assistance to support these projects. Annual angler use was estimated at 4,855 trips and 3,114 trips respectively on Ronkonkoma and Blydenberg. White perch was the most frequently caught species in Ronkonkoma which also yielded 161 walleye, including the first documented legal (18") walleye, originating from fingerling introductions over the last three years. Interviewed Blydenburg Lake anglers (731) caught 548 bass, 327 sunfish and a variety of other panfish. Car, angler counts and angler interviews were conducted on Oatka Creek to assess results of special trout fishing regulation changes. Open water and ice fishing angler counts and interviews were completed on 178 days on Conesus Lake to evaluate special " pre-season catch-and-release" bass fishing regulations as well as the quality of the walleye fishery. Summary reports on these two region 8 projects are in preparation.

Habitat Management and Restoration

Region 1

Carmans River Biolog Installation

On May 5th and 6th, laborers under contract to the Suffolk County Dept. of Public Works installed "biologs" along 60 feet of eroded shoreline on the tidal portion of the Carmans River immediately East of the Montauk Hwy bridge abutment. Chart Guthrie and Fred Henson were on hand to supervise the work which was required as a permit condition. The biologs, long cylinders of coconut fiber, were planted with tussock sedge and temporarily fenced to protect the new plants. Biologs work by providing a secure rooting medium to promote the establishment of vegetation which will provide continuing erosion protection after the biolog itself has decomposed. Fisheries staff documented the installation with photographs and monitored the development of the vegetation periodically through the growing season. The plants grew well through the season with nearly 100% survival. At the conclusion of the first growing season it was apparent that the sedge grew more vigorously on the sunny end of the biolog than on the end that was partially shaded. The plants began the second growing season with vigorous growth and nearly 100% overwinter survival. The biolog shows only minimal decay.

West Nile Virus Mosquito Control Monitoring

Regional Fisheries Unit Staff worked closely with the Bureau of Pesticides in developing a uniform DEC response to requests for Pesticide Permit Modifications in response to West Nile Virus. Fisheries Staff also completed post spraying inspections of the Carlls River, Santapogue Creek and Neguntatogue Creek in Babylon, and Mud Creek, Swan River and Patchogue River in Patchogue following aerial and ground spraying of mosquito adulticide in the vicinity of these stream systems. No dead fish were observed at any of the locations inspected and live fish were observed at most locations. This provided preliminary confirmation that the permit modifications allowed still provided protection for the fisheries resource.

Hempstead Lake Vegetation

On May 10, 2000 regional fisheries staff collected coontail (*Ceratophyllum sp*.) from Massapequa Reservoir and transported it to Hempstead Lake were it was placed in two pens. The coontail was transplanted at this time of the year in order to allow it to become established before the high temperatures of the summer. An examination of another pen where yellow water lilies or spatterdock (*Nuphar sp*.) had been planted in the summer of 1999 showed good growth. In July, 2000 white water lilies (*Nymphae sp*.) and water shield (*Brasenia sp*.) were also planted in the lake. Hempstead Lake currently has a lack of vegetation and the fisheries staff has been conducting an ongoing study since 1997 in an effort to find vegetation that will be able to flourish in the lake.

On August 2, 2000, fisheries staff inspected the vegetation enclosure in Hempstead Lake to check on the planting of water shield, water lilies, spatterdock and coontail. The spatterdock planted in 1999 expanded its growth and had produced a flower. Both water shield and water lilies were still growing; however the leaves looked slightly yellowish. It is hoped that both plants will come back in the spring of 2001. Two flowers were present on the water lily plants. No coontail has been found in the enclosures from the May 2000 plantings. Because of the failure of the coontail plantings over the past several years, there will be no more attempts to establish coontail in Hempstead Lake. During the spring of 2001, further plantings of spatterdock will be made. If the water lilies and water shield also come back, further plantings of those plants will occur during the summer of 2001.

Region 3

Delaware Reservoir Releases

Region 3 and 4 Fisheries staff completed a multi-year study of the biological implications of experimental releases from the three large New York City water supply reservoirs in the Delaware River basin. The annual release budget from Neversink Reservoir is intended to maintain trout conditions downstream in the Neversink River for at least 17 miles to the Hamlet of Bridgeville. From Pepacton Reservoir, releases are designed to create trout habitat in 17 miles of the East Branch Delaware to its confluence with the Beaver Kill near

East Branch. Releases from Cannonsville Reservoir are intended to maintain trout conditions in the entire downstream 18 miles of the West Branch Delaware (to its confluence with the East Branch at Hancock), and an additional 18 miles of the main Delaware River to Hankins. Thus the modern release regime authorized by state legislation in 1976 has created the expectation of at least 70 miles of high quality tailwater trout fishery.

Experience gained since then has revealed that although trout flourish in some years, adverse circumstances are also quite prevalent, and the system's potential is rarely realized. One common problem has been that summer water temperatures often get too warm in the lower portions of the designated reaches. To address this, summer release rates in the East Branch and Neversink were experimentally increased in 1993. In 1997, the period of higher summer releases to the West Branch was extended from 62 days to 107 days. In all cases, compensatory reductions were made at other times of year, and the annual release budget remained the same. A three year study was instituted in June of 1997 to assess performance of the experimental protocols.

The monitoring program employed 21 temperature monitoring stations throughout the system to obtain longitudinal temperature profiles in each tailwater over the three summers. Observed water temperatures at each station were compared to theoretical optimal conditions for brown and rainbow trout. The temperature targets selected from the literature were a daily maximum of 73F and a weekly average of 54-63F. In addition to the thermal monitoring, quantitative fish collections were made at selected times and locations in the tailwaters, and a season-long creel survey was conducted in 1999.

Flows and temperatures varied greatly among years and stations during the course of the study, and it was not possible to "prove" that the experimental releases resulted in improved summer thermal conditions. It was evident that water temperatures often got out of control on the lower main Delaware, and sustained excursions above optimal occurred every year. Most (approximately 80%) of the West Branch was at or below optimal temperatures, as was the upper 55-60% of the East Branch and Neversink. At least in part because of superior summer water temperatures, the West Branch trout population estimates were the highest among the tailwaters, ranging from 17 to 83 pounds per acre and averaging 43 pounds per acre. Neversink estimates varied from 4 to 48 pounds per acre with an average of 21,while East Branch estimates obtained during the period 1993-95 averaged only about 13 pounds per acre. Of particular interest were portions of the tailwaters where summer water temperatures were nearly optimal for three consecutive summers, but where observed trout populations were frequently disappointing. Clearly, factors beyond summer water temperature are strongly influencing the fisheries below the Delaware Reservoirs. Flow data obtained during the 1997- 1999 study suggests that insufficient habitat flows, particularly during late fall and winter, often constrain the productivity of this system. A regulatory system that recognizes and addresses this issue is being developed.

Biomonitoring and fish inventory

Fish sampling in the Croton basin of Region 3 was carried-out as a companion effort to the water quality monitoring with Division of Water sampling using invertebrates and algae. Collections at thirty-seven sites provided water quality index values for comparison to these other measurements. Two different quality rating systems were used, one which was devised as a conventional index of biotic integrity and another modeled after the indices used for invertebrate samples. Twenty-nine fish species were encountered, and several cold water species known to be sensitive to environmental pollution were found along with the trout species. Site selection was based on the intention to reveal impacts of sewage treatment, runoff from suburban developments and runoff from golf courses. This additional sampling and analysis was combined with that from five other data sets (since 1997) and is found to be helpful to recognizing degradation of water quality.

Region 5

Status of the Dam Safety Analysis at Imperial Dam

The Imperial Dam on the Saranac River in Plattsburgh is the site of a proposed fish ladder to be constructed with New York Bond Act funding.

Progress on the ladder is pending the results of a dam safety analysis, and part of that analysis has been completed. An onsite inspection found no indication of any structural weakness or instability in the dam. Nevertheless, the safety analysis must evaluate the threat to property and human safety if the dam should fail. A "sunny day" failure analysis found a low level of hazard. That is, if the dam failed at normal river flows, the threat to human safety and property is low.

The next step will be to evaluate the spillway capacity at various flood flows. The concern is that if a flood exceeds the capacity of the concrete spillway, then the excess flow will spill over earthen portions of the dam. The earthen portions are susceptible to erosion, and therefore a dam failure becomes likely. The analysis will evaluate what the property and safety consequences would be from the combined flow (i.e. the flood flow plus the water released by the failure of the dam). Dam safety regulations specify that if the hazard is great, then the spillway would need to be able to pass a very large flood. If the hazard is less, then a smaller spillway capacity is acceptable.

If this upcoming analysis determines that the spillway capacity is inadequate, there are a variety of possible solutions. Lowering or widening the dam crest would increase the capacity. Hardening the earthen portion of the dam to withstand being overflowed may also be an option.

Region 6

Kelsey Creek Remediation Project
Region 6 fisheries staff assisted Environmental Remediation in the evaluation of the Kelsey Creek remediation project. The stream, located in the City of Watertown, had been severely impacted by the discharge of heavy metals from the NY Air Brake facility. During the summer of 1999, contaminated sediments were removed from approximately 2 miles of the stream bed. Electrofishing collections were made in the fall of 2000 and four wild steelhead fall fingerlings were found along with suckers, creek chubs and dace. Electrofishing surveys have been conducted several times in the past with no trout or salmon present. Steelhead and chinook salmon can access the stream from the Black River. The fish collections will be analyzed for contaminants.

PCB Contamination in Brown Trout
Regional fisheries staff continued working with staff from the Hale Creek lab to identify the source of PCB contamination in brown trout from Sauquoit Creek in the Utica area. Based on sampling efforts, the Health Department reduced the area of concern by nearly 25% and replaced the ban on possession of brown trout with a "eat none" advisory.

Stocking Grass Carp in Otter Lake
The Otter Lake Association has applied for an application to stock grass carp in Otter Lake to attempt control of bladderwort. Because of wetlands, size, and an uncontrolled outlet, an EIS is required. The APA is also involved in the process because of wetland issues, making for a complicated and in the applicants eyes a confusing permitting process. Other issues complicating the review process are (1) The water control structure(dam) is on state land and is owned by the state (2) The dam has been identified as inadequate by D.E.C. dam safety staff (3) Historical paperwork identifies the Lake Association as the party responsible for maintenance of the dam. There is not strong support for this project as evidenced by written comments received by the APA where only 50% of the letters favored the project.

Region 7

Whitney Point Reservoir
Staff continued negotiations regarding the U.S. Army Corps of Engineers proposed water release augmentation from the reservoir. After considerable debate a position statement was submitted for Bureau of Fisheries with regard to the proposed plan. The Bureau opposes the Corp's proposed water release scenario and also the trigger that has been chosen to begin releases. Regional Bureau of Fisheries staff feel that an alternate release scenario would prove more meaningful in years of severe drought.

In cooperation with the Whitney Point Reservoir Fisherman's Association approximately 240 brush structures were placed in the large bay at the north end of the Reservoir. It is hoped that these structures will increase the amount of spawning

habitat available to crappie and yellow perch. During subsequent observations, water conditions were too turbid to determine whether any spawning activity had actually occurred in and around these structures.

Genegantlset Creek
Regional fisheries staff drafted an "Adopt-A-Resource Program" agreement with the Al Hazzard and Chenango Valley Chapters of Trout Unlimited to conduct a stream clean up of the creek in Smithville Flats. Specifically, fisheries staff identified and flagged failing stream improvement structures which needed to be either repaired or removed because of safety concerns. Thanks to the efforts of almost a dozen Trout Unlimited members the "No Kill" portion of the stream will provide a safer fishing experience for all anglers using it.

Region 8

Catharine Creek Aquatic Habitat Restoration Project
Work continued in 2000 on this Clean water/Clean Air Bond Act funded project. The Chemung County Soil and Water Conservation District (SWCD) coordinated the planting of willow "plugs" on banks and shoals of the individual project sites. In April 2000, approximately 1500 lineal feet of willows were planted by SWCD and DEC staff, Chemung County BOCES classes, and Camp Monterey inmates. During the late summer and fall of 2000, three log pyramid bed sills were constructed by Camp Monterey inmates supervised by DEC Operations staff. Two replacement structures were built on Sleeper's Creek, an important nursery tributary of Catharine Creek, and one new structure was built on the main stream just below Sleeper's Creek. During our March 2001 electrofishing surveys for adult rainbow trout, we observed that because the new bed sills had not yet formed pools, they were a barrier to trout movement. High stream flows the following week facilitated pool formation and subsequently permitted trout to migrate above the new structures. Three or four structures per year will continue to be constructed until all of the bed sills proposed in the *Catharine Creek Aquatic Habitat Restoration Plan* are built. Additional monies from the Environmental Protection Fund were awarded to this project in 2000. These funds will be used in 2002 to complete the lower priority sites of the *Plan* that were eliminated when insufficient Bond Act funds were awarded.

Naples Creek Aquatic Habitat Restoration Project
In July 2000, this project was awarded Clean Water Clean Air Bond Act funds during the 1999-2000 appropriation cycle. From November 2000 to April 2001, site inspections were conducted, project plans were prepared, permit applications were made, construction plans were discussed, and partnerships with the Ontario County SWCD, and Town and Village of Naples were formed. Construction will begin during the summer of 2001.

Statutory Protection
The Fisheries Unit reviewed 113 Article 15 Stream Protection applications that involved 23 field inspections and 62 permits issued. This work, over time, results in significantly slowing the loss of productive stream habitat and in many cases leads to improved fish habitat. In addition, five Army Corps of Engineers and 12 DOT projects were reviewed.

Region 9

Wiscoy Creek cribbing project
Wiscoy Creek is western New York's best wild brown trout stream and has been intensively studied by DEC for over 50 years. Wild brown trout biomass has consistently averaged over 100 lbs/acre (1500 - 2000 age 1+ and older trout) the last 20 years with some areas supporting more than 200 lbs/acre. The Western New York Chapter of Trout Unlimited (WNYTU) has adopted Wiscoy Creek and annually does stream improvement projects, including tree planting, construction of log deflectors, construction and maintenance of in-stream half-logs and fencing livestock out of the stream. In 2000, WNYTU and DEC got together to construct 200 feet of log cribbing at the Wyoming County Fairgrounds on Wiscoy Creek to correct a severe erosion problem caused by recent flooding and the past removal of riparian vegetation. A $17,000 project was completed for under $7,000. WNYTU supplied labor and most of the money, and DEC handled permit requirements and provided labor and supervision. In addition, the Division of Operations provided the design, a loan of tools, supervision and some materials, and the Wyoming County Soil and

Water Conservation District provided grant monies for the hiring of heavy equipment as needed. This project will provide many benefits for the trout, including stabilizing a severely eroding bank, greatly decreasing siltation and providing in-stream shelter for the fish. Perhaps, just as important, this project can be used as a model for partnering, encouraging other landowner's in the watershed with erosion problems to participate in similar cooperative efforts.

Chautauqua Lake Vegetation Committee

Technical assistance was provided to the Chautauqua County Federation of Sportsmen's Vegetation Control Committee to oversee the operation of harvesters on Chautauqua Lake. Currently six harvesters are used (herbicide has not been used since 1992). Anglers are concerned that removal of fish affects fish populations. Recommendations developed by the Federation committee included avoiding/limiting cutting in priority zones (critical areas based on historic sampling information), time of year cutting is initiated, cutting of navigation lanes rather than removal of all vegetation and quantifying biomass present and removed through the open water season. Technical assistance was also provided to the DEC Bureau of Pesticides to oversee control of aquatic vegetation in Lime, Findley and Chautauqua Lakes.

Extension, Education and Outreach

Participation in Outdoor Sporting Shows
Bureau staff set up and participated in eight outdoor shows including Springfield, MA, Hartford, CT, Harrisburg, Pa, Cleveland, OH, and Nassau, Suffern, Albany, and Rochester, NY. A primary focus of attending these shows is to inform resident and non-resident anglers about our extensive freshwater resources and angling opportunities.

To further assist with promotion of NYS freshwater angling opportunities, reproduction mounts of thirteen state record freshwater fish were prepared, including large and smallmouth bass, walleye, bluegill, yellow perch, crappie, brook, rainbow, brown and lake trout, and Atlantic, coho and chinook salmon. These mounts have been displayed through out the state at the state fair, outdoor shows, DEC offices, sportsmen's meetings, etc. In addition, a full-color brochure on 21 species of freshwater sport fish of New York was prepared and 250,000 copies printed for distribution.

First Fish Program
In order to generate enthusiasm to continue fishing, a first fish program was developed and implemented throughout the state to recognize the first fish caught by a young angler. The award package consists of a personalized letter of congratulations from the governor, a personalized certificate with date, location, species and size of fish caught, a first fish sticker, a freshwater fish brochure and a card that can be returned to receive a full color wall poster. The materials feature the "PEANUTS" characters, which are being used with the permission of the late Charles Schulz under an exclusive free contract with United Feature Syndicate, Inc. During the report period the program was initiated and some 4,000 certificate packages were mailed. The Bureau of Recreation and the Division of Law Enforcement were built into promotion of the program, and 340 full-size rods and reels along with hooks, bobbers, split shot and tackle boxes were supplied to all DEC waterside campgrounds to start a tackle loaner program at these sites.

Internet
The Internet continues to explode in popularity and users are constantly requesting additional materials be made available on the web. Because of this, more time and effort is being spent on internet activities, and less on print-based materials. Bureau continued to convert existing Bureau of Fisheries materials into HTML format to go on-line, plus developed additional materials for inclusion on the web. As a result, the Department's website (www.dec.state.ny.us) continued its rapid growth in both content and public use. The site now contains more than 1,100 pages of fish, wildlife and marine content. Fish, wildlife and marine content remains among the most popular on the site. In addition to updating materials currently on the site, some of the bureau information completed for the web this year includes: fish stocking lists by DEC region; a list of state boat launching sites; the My First Fish Program; the Angler Achievement Awards Program; popular warmwater fishing waters; and updating of the fishing regulations.

Fisheries Publications
Print-based publications remain an important tool for informing and educating various key publics about New York's fishery resources (such as species life history, fisheries management, angling opportunities and ethics) and the DEC Bureau of Fisheries' role in fishery management. During this period, numerous publications were completed, including *Getting Started-- A Beginner's Guide To Freshwater Fishing*, was reprinted in a limited quantity to meet public needs; a new, attractive; *Fish Hatchery Fun Book*- an activity book for children; and three new tipstrips on weighing your fish with a ruler.

Region 1

Regional Fisheries Unit Solicits Constituent Input on Proposed Regulation Changes
The Region 1 Fisheries Unit requested constituent input on four proposed regulation changes:
a) Allow catch and release bass fishing during the spring closed season in Suffolk Co.
b) Reduce daily limit for trout in Nassau and Suffolk Counties from 5 fish to 3 fish.
c) Open Trout Season in Suffolk County year round.
d) Implement No Kill Regulation for brook trout in Suffolk County

Constituents were asked for feedback through four

different venues:
1) Sweetwater Angler Subscribers and Angler Diary Cooperators
2) Anglers fishing Blydenburgh Lake - Creel Census Interviews
3) Anglers fishing Lake Ronkonkoma - Creel Census Interviews
4) Attendees at the Nassau Coliseum Sportsman's Show

Over the year the Fisheries Unit received feedback from over 1,300 anglers on the four regulation change proposals. Responding anglers indicated that the proposed spring catch and release bass season was the most controversial proposal. While a slim majority was in favor of this proposal (54%), a strong minority was opposed (17% overall and 43% of the Sweetwater Angler Readers and Diary Cooperators that responded). The proposed trout regulations were less controversial with respondents favoring the proposed changes by at least four to one over those opposed. This feedback will be used in preparing the regulation change proposals for the 2002/2003 license year.

Spring Family Fishing Festival
On April 8, 2000, the Region 1 Freshwater Fisheries Unit coordinated the Spring Family Fishing Festival in conjunction with New York State Office of Park and Histroic Preservation (OPRHP) at Belmont Lake State Park. This was the fourth Spring Family Fishing Festival conducted by the NYSDEC at this location. An estimated 1,300 people attended the festival. Bait (provided by NYSOPRHP) was furnished to all who needed it, and rods (donated by Shakespeare, New York Fishing Tackle Manufacturers Association (NYFTTA) and the Art Flick Chapter of Trout Unlimited) were loaned out to 366 people. While the day was declared a Free Fishing Day, $699 in Fishing Licenses were sold. Polaroid pictures (donated by the Fishing Line, a television and radio show) of people with their catch were taken to give them a memento of the day. Besides giving people the opportunity to fish, four fishing seminars were given throughout the day on "fly-fishing in ponds", "fly-fishing in streams", "everything you wanted to know about bass fishing but were afraid to ask", and "jig fishing for panfish and bass". Children attending the seminars had a chance to participate in a free raffle at the end of the seminar. Seminar prizes were donated by NYFTTA. Fly-fishing casting instruction was also provided during the event. Finally, as a bonus treat for the kids, a moon bounce, face painting and a petting zoo were also at the festival. Co-sponsors of the festival included NYSOPRHP, The Fishing Line, NYFTTA, Entenmann's and The Fisherman. Cooperating organizations included the Long Island Bassmasters, West End Bassmasters, Art Flick Chapter of TU, Long Island Chapter of TU, Long Island Flyrodders, and Suffolk County Cooperative Extension. The club organizations really came through to provide the man power necessary to run this event. Overall, the event was considered a big success.

Cub Scout Fishing Clinic At Deep Pond
The Regional Fisheries Unit completed a children's fishing clinic at the Schiff Scout Camp in Wading River on Saturday, June 17. Fifty-eight Cub Scouts from the Theodore Roosevelt Council of the Boy Scouts attended the clinic. Each participant was provided with a package of information on fishing regulations, techniques and opportunities. Participants then visited three educational stations in a round robin style. The educational stations covered fish identification, fishing tackle and how to use it, and fishing regulations and angler ethics. Instruction on fishing regulations was conducted by ECO's Paul Hatch and Daryl Lucas. Upon completion of the instruction phase of the clinic the Regional Fisheries Unit provided fishing rods to all Cub Scouts who needed them and assisted them in fishing in Deep Pond. The pumpkinseed and yellow perch in the pond were very cooperative and nearly every child caught at least one fish. Conducting this clinic on an annual basis is part of the Cooperative Agreement between the DEC and The Boy Scouts that guarantees public access to Deep Pond for fishing when the camp is not in session.

Family Fishing Clinic
The Regional Fisheries Unit conducted a Family Fishing Clinic at Hempstead Lake State Park on Saturday, August 19, 2000. Over 75 people participated in the clinic including over 40 children. All participants were given instruction in Fishing Regulations and Ethics, Fish Identification, Angling Methods, and Care and Preparation of the Catch. A casting contest was held for those children who wanted to participate, with prizes awarded for first second and third place in three age categories. Rods

and bait were provided to anyone who needed them. Most participants caught fish. Casting contest prizes, bait and refreshments were supplied by the New York State Department of Parks Recreation and Historic Preservation. This was an official Free Fishing Event. This event was covered by Brad Hirst for Long Island Sports Online. A writeup and video of the event can be accessed on the web at: http://www.optonline.com/static/liso/fishing_dec.html .

Fall Fishing and Children's Festival

The Regional Fisheries Unit successfully coordinated the Eighth Annual Fall Fishing and Children's Festival at Hempstead Lake State Park on Saturday, October 21. Over 1,200 people attended the festival. Bait was provided to all who needed it and rods were loaned to 420 people during the day. Some of the reels used were donated by Shakespeare, The New York Tackle Trade Association (NYFTTA) and The Art Flick Chapter of Trout Unlimited. The DEC Staff offered a fish cleaning service to anyone wanting to keep their catch and over 100 trout were cleaned. In the Casting for Pumpkins contest children could cast into a pumpkin field and keep the pumpkin they hit. The field was also seeded with prizes donated by The Fishing Line, NYFTTA and the New York State Conservation Officers Association. Next to fishing, this was the most popular activity at the Festival. Boy Scouts from the Theodore Roosevelt Council ran the casting for pumpkins contest. Children could get their picture taken with their catch and keep the photo. The Polariod film was provided by The Fishing Line. This event was declared a Regional Free Fishing Day so that fishing licenses were not needed for those attending the event. However, fishing licenses were offered for sale at the event and a total of $481 in licenses were sold. Cosponsors of this event included State Parks and The Fishing Line. Participants included members of Trout Unlimited, the Long Island Bassmasters, the Boy Scouts and other interested sportsmen.

Sweetwater Angler

The Regional Fisheries Unit completed the 7th year and began the 8th year of production of *The Sweetwater Angler*, the official voice of the Region 1 Fisheries Unit. Three editions of *The Sweetwater Angler* are produced annually The Spring Edition is published in advance of the opening of trout season, the Summer Edition is produced for the bass season opener and the Fall/Winter Edition is mailed in time for subscribers to receive it before the end of September. *The Sweetwater Angler* now has a circulation of over 4,000, mostly in Regions 1 and 2. Contacts made during the Lake Ronkonkoma/ Blydenburgh Lake Creel Census have resulted in a 10% increase in circulation of *The Sweetwater Angler*.

Topics included in 2000/2001 editions of *The Sweetwater Angler* included the Spring 2001 stocking list for Long Island, a tribute to hatchery workers, walleye update, New York City Urban Fishing Program, Lower Lake, Lake Ronkonkoma, Massapequa Reservoir, Dragonflies, Freshwater Clams and Mussels, Aquatic Trees and Shrubs, Fishing Regulation Change Proposals, Introductions of New Regional Fisheries Staff, Angler Ethics, Kid's Pages, Fishing on the Web and Upcoming Events.

Region 1 Fishing Seminar Series

The Regional Fisheries Unit coordinated four fishing seminars during summer of 2000 that were designed to give interested anglers more advanced instruction in various angling techniques. The seminars were:

Flyfishing for Panfish - Conducted on June 15, 2000 by Dave Sekeres of the Nissequogue River Flyfishing School. Participants received one on one instruction and were allowed to fish on Vail Pond.

All You Ever Wanted To Know About Bass Fishing But Were Afraid To Ask - Conducted by BASS, Redman and Foxwoods tournament angler Charles Stuart at Massapequa Reservoir. Demonstrations were provided on various lure types and the different methods of fishing them.

Panfishing - Conducted by BASS, Redman and Foxwoods tournament angler Charles Stuart on July 5, 2000 at Blydenburgh County Park. Mr. Stuart demonstrated various techniques to catch panfish and was lucky enough to land three largemouth bass during his presentation.

Bass Fishing - Conducted by Chris Zarnitz of the West End Bassmasters on July 19, 2000 at Belmont Lake State Park. Mr. Zarnitz provided instruction on

various bass fishing techniques and also provided participants opportunity to actually fish while he provided any necessary assistance. At the end of the seminar, each participant was given a 10% off coupon to Causeway Bait and Tackle. Various tackle companies sponsoring Mr. Zarnitz also provided donated lures for the seminar. During the seminar Mr. Zarnitz was fortunate enough to catch a 14 inch largemouth bass.

2000 Envirothon
On April 12, 2000, Fisheries Biologist Gregory Kozlowski and seasonal laborer Lauren Papa participated in the regional Envirothon competition. This student competition is comprised of 5 different environmental stations where 25 questions each were asked. Six teams comprised of 5 students represented each school that participated in the Envirothon. The school from each county (Nassau and Suffolk) that had the highest total points won a $250 scholarship,a camera for each student and a Canon digital camera for each school. Bayport was the overall winner and the Suffolk County winner. Syosset took top honors for Nassau County. The winners will represent their counties at the State Envirothon competition.

Suffolk County Conservation Education Day
On April 17, 2000, Fisheries staff attended the first Suffolk County Conservation Education Day. Suffolk County decided to have a Conservation Education Day because of the overwhelming popularity of the Nassau County event. The event is held in a round-robin format with each fifth grade class going to a total of 6 stations during the day for a 20 minute presentation. Fisheries staff instructed the students in methods of capturing fish used in fisheries management and what type of fish may be caught on Long Island. Despite the cool, damp weather, the kids had fun. The Conservation Education Day is anticipated to be an annual event.

Peconic Dunes Educational Day
On April 29, 2000, the Regional Fisheries Unit participated in the Peconic Dunes Educational Day. During the day, 6 cub scout groups of approximately 20 kids each went to 6 educational stations in a round robin fashion. The Regional Fisheries Unit covered freshwater fish identification and biology for the scouts.

Nassau County Conservation Education Day
On May 9, 2000 Regional Fisheries Biologist Greg Kozlowski and Seasonal Laborer Sol Harz attended Conservation Education Day at Old Bethpage Village Restoration. They conducted six sessions on freshwater fish identification, feeding habits and netting techniques for sampling various bodies of water. Each session was attended by approximately 25 children & their teacher. Teachers were provided with an informational packet at the beginning of each session.

Southaven Clinic
On June 4, 2000, Fisheries Biologists Greg Kozlowski and Fred Henson attended a fishing clinic at Southaven County Park held in conjunction with National Fishing Week. The clinic was co-sponsored by the USFWS, NYSDEC, Suffolk County Parks, Long Island Beach Buggy Association, NYFTTA, and the Salty Flyrodders. Two separate clinics were held during the day (one in the morning and one in the afternoon). Participants visited five educational stations in a round robin. Mr. Kozlowski and Mr. Henson provided a fish identification presentation. As this was Mr. Henson's first educational opportunity since joining the Regional Fisheries Unit, Mr. Kozlowski did a couple of presentations and then supervised while Mr. Henson did his. Mr. Henson did an excellent job, and will be an asset to the Regional Fisheries Unit's commitment to fishing education. The Regional Fisheries Unit also supplied the cooking equipment for the session on cooking fish and fishing rods for the participants to use during the clinic. Approximately 150 children attended the event.

Blydenburgh Clinic
On June 10, 2000, Fisheries Biologist Greg Kozlowski attended a fishing clinic at Blydenburgh County Park that was held in conjunction with National Fishing Week. This event was similar to the Southaven Clinic and was sponsored by the same organizations with the addition of Seatuck Preserve. The event also received a grant from the Long Island Sound Study. Participants visited four educational stations in a round robin format. The DEC provided loaner fishing rods after each of the two clinics held during the day. Due to the heat, fewer people attended this clinic; however, 100 kids still attended during the day.

Cub Scout Pack 363 Fishing Clinic
On July 22, 2000, Fisheries Biologist Gregory Kozlowski conducted a fishing clinic for Cub-Scout Pack 363 at McDonald Pond in Hempstead Lake State Park. This was the forth year a clinic was held for this pack. Approximately 25 cub scouts attended the event. Mr. Kozlowski gave a 30 minute presentation on fish identification and freshwater fishing techniques before allowing the cub scouts to fish. Most of the cub scouts caught fish, mostly sunfish. Some scouts caught their "First Fish".

Sportsman's and other Constituent Group Meetings
Region 1 Fisheries Staff made presentations at the following constituent group meetings:
Suffolk County Senior Citizens Fishing Club
Long Island Bassmasters Meeting
Freshwater Anglers Meeting
Art Flick Chapter of Trout Unlimited
Cold Spring Harbor Hatchery -eg

Shows
Region 1 Fisheries Staff participated in the following Shows and Expositions:
National Sportfishing and Outdoor Expo
National Boat Show in New York City -
Suffolk Alliance of Sportsmen National Hunting and Fishing Day Show
Sports Authority Show
Long Island Outdoors Festival sponsored by Ducks Unlimited
Cold Spring Harbor Hatchery Fall Festival

Summary of Extension Efforts
The Regional Fisheries Unit reached the following number of people through their Extension, Education and Outreach efforts:

Fishing Clinics (5):	408
Fishing Festivals (2):	2,500
Fishing Seminars (4):	30
Other Events (3):	330
Sweet Water Angler:	4,000

Region 6

Youth Fishing Events
Exhibits or activities were provided to seven events which focused on youth fishing/education. These included Fall Festivals at a State Park, Fragile Wilderness exhibit at Watertown, a SAREP Fishing Camp for 65 kids, an aquatics exam for the Envirothon in Lewis and Jefferson Counties and Conservation Field Day for Lewis County.

Region 7

Staff participated in fishing education clinics/resource information exhibits at the DEC Rogers Education Center, The Salmon River Hatchery Open House, the Pulaski Fishing Festival, the Onondaga County Family Outdoor Festival, kids' fishing derbies sponsored by the Falcon Sportsmens' Club (Cayuga County) and the Broome County Sportsmens' Association.

Staff also manned a booth at the Trout Unlimited national convention held in Syracuse in August. Pre convention planning occurred over a two-year period. Fishing licenses and resource information were available, including where good local fishing was available.

Region 8

Oatka Creek No Kill Regulation Change
Region 8 Fisheries staff conducted a public forum to discuss a proposed No Kill / artificial flies only regulation on Oatka Creek. As a result of this public input, beginning October 1, 2000, a relatively short section (1.7 miles) of the stream, mostly within the Oatka Creek County Park area, was changed to the no-kill regulation. The season remained year round and restricted to artificial lures only. Additionally, harvesting 5 trout using any legal method would now be allowed all year on the balance of the 3.3 miles that was formerly managed under the 12"minimum size, 3 trout per day, artificial lures only special regulations. A controversy erupted because local trout fishermen expressed their concern for the future of Oatka's wild trout fishery since the new regulation went into effect. They were afraid that the wild trout resource would be lost in the areas that were formerly governed by special regulations, and now have liberal harvest regulations. They feared the liberal harvest regulations sent the wrong message about the value of this wild trout resource. In response, they began a letter writing campaign. A

considerable amount of time was spent between October 2000 and April 2001 meeting with members of the local trout fishing community and answering letters to explain the rationale behind the changes. It was agreed that another forum would be held in June 2001 to consider further modifications for the next regulation change opportunity (October 1, 2002).

Adult Fishing Clinic
The Fisheries Unit, in conjunction with the Region 8 Fish and Wildlife Extension Unit, conducted a summer fishing clinic aimed at an adult audience. The event was conducted at the pond located at the regional headquarters. Approximately 20 adults were given instruction in fish identification, cooking, fishing techniques, casting and regulations. Despite excellent advertisement, the attendance did not seem to justify the effort, although the attendees were very appreciative.

Region 9

Western New York Fisheries Resources
The Fisheries and Aquatic Resources presentation was given at 14 middle schools, reaching over 1100 students in Region 9. Although the number of schools attended over the past decade has numbered 25, the past two years have experienced declines. This reduced number is a reflection on the schools' response and not on the Fisheries Unit's unwillingness to participate.

Youth Fishing Clinics and Aquatic Education Efforts
The Region continued to conduct educational efforts to introduce young people to sportfishing and spark interest in aquatic ecology. The outreach events are typically conducted in partnership with local sponsors such as conservation organizations or municipalities. A total of four free family fishing clinics were held, as well as the weekly program conducted at the Rushford Environmental Camp. Many other youth group clinics were attended, such as Boy Scout, Cub Scout, LOTSA Youth Clinic and Trout Unlimited clinics.

A fisheries management program and electrofishing demonstration was given to four groups of students (over 200 students) at the Rushford Environmental Education Camp during the summer of 2000.

The Region also continued its commitment to youth fishing education in 2000 by actively participating in programs at Hyde Park Lake (City of Niagara Falls), Tifft Naure Preserve (City of Buffalo) and Forness Park (City of Olean).

SAREP Family Fishing Day at Letchworth State Park
The first annual Letchworth State Park SAREP Family Fishing Day event was held on the Saturday of Memorial Day weekend. Attendance far exceeded expectations, with over 300 kids and 500 adults attending the 6 hour event. Regional BOF had extensive input and participation at the event as this was the Regional SAREP instructor's first fishing clinic.

Central Office - Inland Section

New York National Boat Show
Section personnel played an active role along with the Division of Public Affairs and Education, Bureau of Marine Resources and Region 1 and 2 staff in arranging and manning the Department's display at this high-use, high-profile event at the Jacob Javitt's Center in New York City in January of 2001. Highlights included operating a youth casting pool for "Backyard Bass" casting targets where over 600 hundred youths, many of whom had never used a fishing rod before, received casting instructions and, if lucky enough to "land" a bass, were awarded various prizes. Each participant also received a packet of how-to and where-to information on fishing techniques and local fishing opportunities. The New York National Boat Show draws over 100,000 people annually from five surrounding states, providing an excellent avenue for promoting New York's boating and fishing resources to a new and diverse audience. In an attempt to top last year's "Best Exhibit" award, the 2001 DEC booth also included an aquarium containing an assortment of Hudson River fishes and various educational displays on the Hudson River ecosystem.

Sportfishing Outreach
Section staff continued their oversight of the Sportfish and Aquatic Resource Education Program (SAREP) conducted by Cornell Cooperative Extension via funding provided by the Bureau of Fisheries through the Federal Aid in Sportfish Restoration Program. During the period over 46,000

youth were involved in SAREP programming ranging from short term clinics to long-term fishing clubs. Over 20,000 of these youth were from the New York metropolitan area, an important area of focus for SAREP. Fourteen new instructors were also trained in New York City. An urban program was also established in Buffalo with 800 youths reached in its initial year of operation.

Also completed during the past year was an evaluation of mid-term and long-term SAREP programs. A report on this evaluation, ompleted by program leader Dr. Keith Koupal, noted that both short-term and long-term programs are useful in increasing angling knowledge; however, programs of longer duration have a better chance of improving angler ethics and developing an increased stewardship ethic.

Public Access and Use

Public Use Section - Overview
A total of 7.5+ equivalent miles of new PFR were acquired during the fiscal year, bringing total purchases since the $1,000,000 CW/CA Bond allocation for the purpose to nearly 20 equivalent miles. More than half of the original million dollars provided is spent or committed.

Eight new Fishing Access parcels were acquired during the year; three in fees (Butternut Creek, Perch River and Sucker Lake), and five by Agreements with DOT or Municipalities (Kinderhook Lake, Butternut Creek, Chenango River at Brisben, West Bridge Delaware River and Wharton Creek).

Major capital reconstruction of the City of Newburgh Boat Launch was completed - a $550,000 project.

Renovation of the City of Peekskill Boat Launch was completed - a $321,000 project.

Five new, small access sites were developed by Regional "Force Account" crews: Mud Pond, Black River at Burdick's Crossing, Weaver Lake, Butternut Creek and Black Creek.

The Statewide pumpout installation total exceeded 200 during the year. Over $2,000,000 has been spent on this program so far.

Region 3

DEC acquired a parking area and informal boat launch site on Rondout Creek in Ulster County from the Town of Ulster as an environmental benefit associated with an Order on Consent.

Four (4) angler parking areas were constructed (W. Br. Beerkill, Swamp R., Shekomeko Cr., Willowemoc Cr.) and one parcel to be developed for angler parking was acquired.

Region 3 acquired 0.534 equivalent miles of Public Fishing Rights.

Region 5

Chazy Lake Boat Launch Site
Work continues on the permitting process for the site. Additional information has been provided to the Army Corps of Engineers. The agreement allowing DEC to use the site has been signed by both the Town and the Department. Regional staff attended a meeting with the town board to discuss the project. Additional field work is required to locate rocks along the proposed ramp area.

Fishing Rights Acquisitions on Ausable River and Kayaderoserras Creek
Three important public fishing rights acquisitions have been finalized and payment made. First, these finalized projects include the purchase of more than one mile of fishing rights along the south band of the main branch of the Ausable River from Ward Lumber in Essex County, Town of Jay. Second, a deed has been recorded which finalizes a public fishing rights agreement on the Ausable River also in Essex County, Town of Chesterfield (adjacent to Cassidy Road). This project grants to the fishermen of New York State 0.8 linear miles of public fishing rights, a 40' X 60' parking area, and a foot path right-of-way. The third project is the purchase of .7 linear miles of stream rights along Kayaderosseras Creek in Saratoga County. Both projects include a fisherman parking area and footpath right-of-way. These projects represent high quality opportunities for anglers protected in perpetuity.

Waterway Access Acquisition on Saranac River
An application for a State Open Space Plan Project has been drafted for a 284-acre parcel on the Saranac River in the Town of Plattsburgh. Acquisition of the parcel by New York State would provide valuable open space adjacent to an urban area, and provide waterway access to nearly two miles of the Saranac River.

Region 6

Sucker Lake, St. Lawrence County
Closing papers were signed completing the acquisition of a public access site on Sucker Lake in

the Town of Fine, St. Lawrence County. The Department acquired a 5 acre access site and the bed of the lake in fee, and a conservation easement on 200+ acres of undeveloped land surrounding the lake. The 100 acre lake supports an excellent largemouth bass fishery. Efforts to acquire access were first initiated in 1968.

Perch River/St. Regis River Access
Completed the acquisition for a 9.8 acre addition to our Perch River waterway access site. This includes 775' of shoreline along Dexter Marsh a very popular spring yellow perch and bullhead fishing area.. Additional access sites were developed on the St. Regis River at Brasher Falls in St. Lawrence County and the NYSDOT constructed a handicapped accessible fishing platform at the Rome Hatchery in Oneida County.

Region 7

Public Fishing Rights
East Branch Tioughnioga River (Cortland Co.) - one purchase pending for 1.1 eq. mi, two purchases signed for .181 eq. mi Chenango River (Madison Co.) - purchase imminent on 1.84 eq. mi Ninemile Creek (Onondaga Co. - purchase imminent on 1.80 eq. mi

Susquehanna River: Agreements have been signed by two separate owners for the purchase of access sites. The first, located in Nineveh, Town of Colesville, Broome County and the second, located in the Village of Afton, Chenango County. Both sites will eventually have a launch ramp installed. These sites will ensure formal access to twelve miles of river.

Otselic River: A six-car Fisherman Parking Area was constructed by Regional Operations crews on the Town of Taylor, Cortland County.

Kirkwood Pond: Through an MOU with DOT, Regional Operations crews have constructed a small, five to seven-car parking area, adjacent to a DOT-owned pond in Kirkwood, Broome County. This ensures shoreline access to the warmwater pond.

Unadilla River: Through an MOU with the Town of Guilford, Chenango County, Regional Operations crews developed a canoe access site at an abandoned bridge site. Minimal expense was incurred.

Region 8

Port Bay (South) FAS
Port Bay is a 1,000 acre embayment of Lake Ontario in Wayne County that provides lake access and the excellent fishing within the bay. Parking at the Port Bay South site was expanded from 22 cars/trailers to 32. The site also received a general "spruce-up" and has received good reviews from users.

Chemung River Trail Partnership
The partnership continues to blossom. A federal grant was received to develop and print a river trail brochure. A State Aid to Localities grant for $19,000 and a Capital Budget segregation fo $20,000 were awarded. Development of boat launches started at four sites along the Chemung River. The locations were Town of Ashland, Dunn Field, Bottcher's Landing and the Route 427 Crossover at Chemung, NY. Work should be completed in 2001. If another $20,000 is awarded in the 2001/02 Capital request then the trail will be completed with the final two of nine sites built at Corning and Elmira (Grove Street).

Public Fishing Rights
Fishing Rights (0.175 eq. mile) and a right of way were acquired on Grimes Creek, Ontario County. Proposals on Mill Creek, the Cohocton River and Oak Orchard Creek are in various stages of completion. The majority of time was spent working on a cooperative venture with the Chemung County Federation of Sportsmen. That group did background work to develop leads on Cayuta Creek, a brown trout stream in Chemung and Schuyler Counties. We expect these efforts to result in 5 + miles of fishing rights in Fiscal 2001/02.

Region 9

Alma Pond
A 92 acre portion of Alma Pond was purchased with money from the 1996 Bond Act under the 1997 Open Space Plan - Environmental Protection Fund. Although the management plan is to leave the area

undeveloped (there already is a 4 acre state-owned hand-launch), the acquisition adds over 1 mile of shoreline fishing access. The Bureau of Wildlife may pursue the construction of a "watchable wildlife" boardwalk/interpretive area.

Eighteen Mile Creek

Despite the excellent steelhead fishing opportunities in many Lake Erie tributaries, public fishing access is quite limited. In 2000, Region 9 staff made heightened efforts to secure additional public access in Eighteenmile Creek, a large tributary offering exceptional steelhead fishing opportunities in close proximity to the Buffalo metropolitan area. Two locations in the lower portion of the creek show promise for access development. The first is an approximately 10 acre parcel of flood plain which is accessible from a trail built into the creek gorge wall. Limited parking is available nearby. This property may be purchased by New York State Department of Transportation and transferred to DEC for management as a public fishing access site. The second is an approximately 3 acre parcel of flood plain which allows direct access to the creek. The property itself is directly accessible from a local road. This site, if acquired and developed, could provide ample parking and access to a substantial stretch of the creek.

Public Access Program

Region 9 acquired approximately 0.7 equivalent miles of public fishing rights and a 50' x 60' FPA in 2000.

Allegany County

California Hollow Brook - 0.08 equivalent miles and a fisherman parking area

Cattaraugus County

Ischua Creek - 0.27 equivalent miles

Wyoming County

Cattaraugus Creek - 0.31 equivalent miles

Fish Culture

Fish Culture Section

The Fish Culture Section produced and stocked approximately 937,000 pounds of coldwater and coolwater fish species. Most annual fish production goals were met; however, domestic rainbow trout production did not meet target levels due to the destruction of whirling disease infected fish at Randolph and Chateaugay Hatcheries. Section staff made technical presentations at the East Coast Trout Management and Culture workshop, the Whirling Disease Symposium and the Coolwater Fish Culture Workshop. Preliminary information on infrastructure repairs needed to maintain current levels of fish production was developed for each facility and forwarded to Central Office for compilation. Permanent positions were filled to cover vacancies created by promotions, lateral transfers or staff leaving State service. Finally, two staff members attended a 6-week fish culture course offered by the personnel of the State of Vermont Department of Fish and Wildlife.

Caledonia Fish Hatchery

During the summer and fall of 2000, a 100KW emergency generator was installed at the hatchery to protect against power outages. The generator, which operates on natural gas, was put in place largely to protect New York State's two- year-old brown trout. Over 90% of the fish for this very popular program are raised at Caledonia. As part of the generator project, new power stations with ground-fault protection were put in place throughout the facility. This negates the need for using many extension cords to run aerators, making it both safer and OSHA compliant.

Catskill Fish Hatchery

During the year 2000: all fish cultural goals were met.

Staff, with support from Albany engineering staff, were able to find, dig up and remove a test plug out of the main spring line. The plug had been lost in the line by the contractor during construction. It wasn't discovered until a ex-employee of the contractor came forth and spilled the beans.

On December 17th after 4" of rain in 8 hours our area experienced severe flooding. Due to the determination, dedication and hard work in adverse conditions by hatchery staff the hatchery survived the flood with no loss of fish and minimal property damage.

Hatchery staff designed and constructed concrete dam boards. The concrete and stainless steel "boards" replace the 20+ yr. old wooded dam boards that were made out expensive and hard to get red cedar. The new boards have stainless steel rods that allow for easier and uniform flow adjustments to the rearing ponds.

Randolph Fish Hatchery

The trout rearing program included domestic brook, brown, and rainbow trout. Approximately 5.3 million eggs from broodstock for these species were obtained in fall, 1999. Pond fingerling walleye from a Lake Erie system strain were successfully reared for use in population restoration efforts in Cattaraugus Creek. Hatchery staff continued to monitor the fate of non-maturing brown trout encountered during egg take operations. Initial results indicate about 50 percent of these fish mature in the subsequent year, when they are incorporated into the egg take. Facility improvements included installation of “heron fences” around fingerling rearing units and repaving a road section adjacent to the broodstock ponds.

Rome Fish Hatchery

Rome Fish Hatchery produced 151,000 lbs. of brook trout, brown trout and kokanee salmon from April 1, 2000 to March 31, 2001.

Due to plumbing problems at the dam on Lake Delta, the lake was drawn down to a record low of 28 feet below crest for about four months. We were able to get through this period of low spring water by using our pump back system to charge our spring water with lake water. Without this system we would not have had enough spring water to get us through the egg incubation and nursery culture season.

Plagued with an ever growing population of fish eating birds, we have spent the summer months

building bird deterrents. Hopefully this effort will discourage the birds and keep our fish inventory in check. Every year our inventory shortage grows due to bird predation. Last year we came up about 100,000 fish short.

This Fall and Winter we plan on outfitting as many as 13 new large GMC stocking trucks. They should be ready for this Spring 2002 stocking season.

This will complete the new fleet of 19 large trucks for the entire propagation section.

Rome Fish Disease Control Unit

During the fall of 2000, Salmon River Hatchery staff noted the return of chinook salmon with a dorsal protrusion that appeared to be tumor-like. Examination at the Fish disease Control Unit lab in Rome revealed the presence of a fluid filled cyst. Culture of the fluid resulted in the isolation of a slow growing pinpoint bacterial colony that was ultimately found to be the achromogenic strain of *Aeromonas salmonicda*, the bacterium responsible for furunculosis in trout and salmon. This achromogenic strain, which usually is responsible for surface lesions and is not usually systemic, has not heretofore been reported in Pacific salmonids in the Great Lakes. We will continue to be vigilant for any occurrence during the fall of 2001.

As a result of the outbreak of *Myxobolus cerebralis* (M.c.), the parasite responsible for whirling disease of salmonids, remedial actions are underway at Randolph this spring. All affected ponds have been disinfected and tubificid worm samples from those ponds collected last fall, were analyzed by the USGS Fish Health Research Laboratory at Leetown WV. The worms were assayed for the presence of M.c. DNA in attempt to ascertain the reservoirs of infection on the hatchery. This week we received results from Leetown that indicate the *Tubifex tubifex* alternate host worms present prior to pond disinfection, were not infected with the parasite. Additional samples collected above and below the hatchery this spring by Div. of Water invertebrate specialists will also be analyzed by polymerase chain reaction (PCR), to determine if M.c. DNA is present in these worms. Additional sentinel fish studies are also underway to determine if the parasite is present in the closed spring water supply.

3. In Feb. 2001 unit staff presented the results of our field research at the annual Whirling Disease Symposium in Salt Lake City. This year's research sought to document observations in 99-00 that suggested differential growth rates between strains, might influence the size and age at which fish are still susceptible to clinical infection with M.c. The spring spawning Finger Lake and Montana strains used in 99-00 were again compared for comparative sensitivity too natural infection at Caledonia in Spring Creek water. Laboratory research in MT had shown that once fish reached approximately two inches in length and two months of age, little or no demonstrable infection would occur. Our 00-01 data revealed that comparing the FL and the MT strains, infection rates were indeed comparable up to 103 days post exposure. However beyond this point the FL strain infection rates dropped and the MT strain which grew at a rate approximately 25- 30 % greater rate, had a significantly higher spore load at a larger size and age. These data seem to indicate that size and age alone may not be a reliable yardstick to determine if one might manage the disease by restricting exposure to infected waters only after they achieve a target size and age. Such practices are now widely used to manage whirling disease where spore free water may be present in sufficient quantities to allow rearing of small susceptible fish to a predetermined size and age.

In the spring of 2000 a digenetic trematode commonly referred to as the eye fluke was diagnosed in pond reared walleye at South Otselic. The incidence of infection was widespread and moderately severe. Many fish were deemed to be clinically blind. This parasite requires multiple hosts to complete it's life cycle. These include fish, a fish eating bird and a snail. During 1999-2000 RT were overwintered at South Otselic resulting in visits by a high number of gulls and other fish eating birds. Previously ponds had been dried out in the off season. It was also noted that snail populations seemed to increase. In 2000-01 we ceased the rearing of off-season RT and allowed the ponds to dry. This spring upon walleye stocking, fish eating birds were nearly absent and large numbers of dead snails were observed. The Fish Disease Control Unit is presently assessing the incidence of the eye fluke in 2001 year class walleye fingerlings. While still present, it appears our aforementioned off season practices may be having the desired affect of

reducing the parasite load in the walleye. Complete information on abundance will be available later in the summer.

Central Office - Inland Section

Statewide Fish Stocking Policies Book
Substantial effort was directed at cleaning up and reorganizing the Statewide stocking book for the Spring 2000 schedule. A total of 274 changes, including deletions, modifications or additions, were made to the book this past year. A variety of "standard" summary report programs were developed to help manage and navigate this database of 2350 records that requires major revisions each year. The updated book was distributed to Fish Culture and Regional Fisheries Units. Selected fields were summarized to produce convenient stocking lists for the public.

Region 5

Landlocked Salmon Egg Take
The annual landlocked salmon egg-take at Little Clear Pond was completed. Approximately 520,000 eggs were stripped from the Little Clear Pond landlocked salmon, slightly exceeding our target of 500,000 eggs. An additional 830,000 eggs were taken from the captive broodstock that are maintained within Adirondack Hatchery.

Lake Trout Egg Collection
Adirondack strain lake trout egg collection efforts were completed on Raquette Lake (Hamilton County) in late October. Egg quotas for lake trout and splake (a lake trout X brook trout hybrid) were fully met. Spawning lake trout were in excellent condition and of larger average size than the last few years. Hatchery personnel from Chateaugay, Adirondack, Caledonia and Van Hornsville participated in this year's egg take. A population estimate for spawning adults and other statistical analyses will be conducted this winter.

Brook Trout Egg Take
Windfall strain brook trout egg collection efforts at Mountain Pond, Franklin County were completed. Egg collection objectives were met and approximately 80,000 eggs transferred to the Warren County Fish Hatchery for rearing. Little Tupper Lake strain brook trout egg collection efforts from brood stock held at the Warren County Fish Hatchery was completed.

Lake Champlain Salmon and Steelhead Stocked
New York completed year 2000 stockings of landlocked Atlantic salmon below target levels and steelhead at target levels in Lake Champlain and its tributaries. Yearling salmon stockings included approximately 45,000 in the Boquet River; 40,000 in the Saranac River; and 10,000 in the Ausable River. That total of 95,000 is about 25,000 fewer yearling salmon than New York's target. However, about half of the yearlings were very large, averaging 7.5 inches long, which is likely to yield better survival to adulthood. Salmon fry stockings included approximately 88,000 in the Boquet River; 49,000 in the Saranac River; and 32,000 in the Ausable River. The total number of fry stocked is about half of New York's target. Steelhead were stocked as yearlings at the target rates of approximately 15,000 in the Saranac River; 1,000 in the Salmon River; and 4,000 in the Ausable River.

Walleye Fingerlings Stocked in Lower Saranac Lake
Staff observed the stocking of 35,000 3-5" walleye fingerlings into Lower Saranac Lake near the Village of Saranac Lake in Franklin County. The walleyes were tube-stocked into water close to deep water. About 1% mortality was observed at the time of stocking; most fingerlings rapidly swam out of the area. Predation by other fishes was not observed. Approximately 9,000 walleye fingerlings have also been stocked in Franklin Falls Flow in the town of Franklin, Franklin County. Mortality was very slight for those fingerlings. Both Lower Saranac Lake and Franklin Falls Flow have now been stocked for three consecutive years with advanced walleye fingerlings.

Region 7

Cayuga Lake Lake Trout Egg Collection
The unit assisted the Fish Culture Section in collection of lake trout eggs from brood stock in Cayuga Lake. The netting effort consisted of seven overnight sets averaging 5.7 nets per night. A total of 514 adult lake trout were captured of which 37 were ripe females. Catch per unit effort of ripe

females on Cayuga was approximately three times that of the Seneca Lake effort. The unit recommends that the propagation section net Cayuga Lake for egg taking purposes in the fall of 2000. It will increase the efficiency of their efforts.

Endangered, Threatened, and Special Concern Species

Region 1

Otis Pike Pond Reclamation

The Regional Fisheries Unit coordinated the reclamation of a small pond on the Otis Pike Preserve. This pond is a authenticated breeding pond for the tiger salamander (*Ambystoma tigrinum*), a New York State endangered species. The Region 1 Natural Resources Unit was advised on September 18, 2000 that mosquitofish (*Gambusia sp.*) and golden shiner (*Notemigonus crysoleucas*) had become established in the pond. Mosquitofish are known to be predators on amphibians and the inability of tiger salamanders to spawn successfully in waters with established fish populations is well documented. To allow the tiger salamanders to breed in this pond in 2001, The Regional Fisheries Unit coordinated with the Wildlife Unit, Habitat Unit, Pesticides Unit and Environmental Permits to secure emergency authorization to have the pond treated with rotenone in October, when the tiger salamanders were not in the pond.

Licensed Pesticide Applicators were contacted and the lowest bid was submitted by L.I.F.E. Inc. of Stormville NY. The treatment was completed on October 19 under the supervision of the Regional Fisheries and Pesticides Units. A follow up inspection on the morning of October 20 revealed a good kill of golden shiner, mosquitofish and brown bullhead (*Ameiurus nebulosus*). Unfortunately a follow up inspection the following week revealed that there were still mosquitofish and brown bullhead alive in the pond. Arrangements were made for a second treatment of the pond, but a cold snap the day before the planned second treatment dropped the water temperature too low for the treatment to be effective. Consequently, reclamation efforts were abandoned and plans were initiated to complete reclamation of the pond in the summer of 2001.

Region 9

Paddlefish Restoration

2000 was the third consecutive year that paddlefish were released into Kinzua Reservoir (1998 - 46, 1999 - 535, 2000 - 135). The paddlefish measured eight inches (eye to fork of tail) and appeared to be in good condition at time of release. A coded wire tag was inserted into the paddle of all paddlefish before release. As of March, 2001 three reports have been received. One paddlefish was hooked and released in the tailrace below Kinzua Dam, one carcass was found by an angler in the reservoir near the Route 17 bridge and one carcass was found in the tailrace below Kinzua Dam. Each of these fish was approximately 35 inches (TL) in length and likely from the first stocking in 1998. An article describing the paddlefish restoration effort was printed in The Conservationist in 2000.

Statewide

Recovery activities for Endangered/Threatened fish species

Restoration of lake sturgeon, paddlefish, and round whitefish populations continued with stocking in waters within their historic ranges. This represents the 8th year for lake sturgeon stocking, the 2nd year for paddlefish and first year for round whitefish. Recovery plans for these species have been updated and distributed as draft copies.

Current information on each of 24 species classified as Endangered, Threatened or Special Concern has been summarized and updated in the new Species Accounts. Field sampling in 2000 was particularly helpful in advancing our knowledge of where to catch brook lampreys (throughout the Allegheny basin), spotted darters (lower French Creek), bluebreast darters (Oswayo Creek) and black redhorse (Niagara River). Nine other species are important to this program, and pirate perch (western subspecies) appears to be most in need of special attention.

Administration

Region 1

Database Management
During fiscal year 2000/2001, the Regional Fisheries Unit made a big push to update the fisheries database and catch up on the backlog of surveys that were outstanding. One hundred fifty four surveys were sent up to the Biosurvey Unit representing new surveys and old style Data Verification Reports (DVR) dating back to 1992. Many of DVRs were of surveys that had been lost from the database at some time and had to be re-entered into the database. Of the 154 surveys sent up, 58 were returned to the Regional Fisheries Unit by March 31, 2001. Fifteen of those surveys had their DVRs reviewed and were sent back to the Biosurvey Unit for processing. Twenty-two surveys were returned to the region as finalized.

Region 5

Presentation Given
L. Demong attended the American Fisheries Society Meeting in St. Louis, Missouri and gave a presentation on the New York State Adirondack Brook Trout Restoration Program. The presentation was published in the Symposium Proceedings.

Saranac Lakes Wild Forest UMP
Pond narratives were completed for 147 waters in the Saranac Lake Wild Forest UMP. These waters comprise some of the most intensively managed fisheries in the Adirondacks. Many ponds have been previously limed, reclaimed and stocked. Supporting data tables have also been completed. Data must now be summarized to provide overall management objectives for the unit.

Region 8

Triploid Grass Carp Permits
The number of triploid grass carp permits for FY 2000 declined for the first time. The region issued 337 compared to 372 in FY 1999 and 410 in FY 1998. Most were for individually owned ponds less than one acre in surface area. No permit fee is charged and the administration involved with this relatively new program is substantial.

Farm Fish Pond Licenses
The region issued 200 farm pond licenses in FY 2000. Again, there is no fee for this five year license.

Bait Licenses
With the elimination of sporting license sales in the region, the Fisheries Key Board Specialist adopted an additional duty of issuing bait licenses. She issued 88 bait licenses and handled $680 in license fees.

Region 9

Office Move
Bureau of Fisheries personnel expended many staff days during the Region 9 Olean sub-office move to the newly renovated building owned by St. Bonaventure University in Allegany, NY. The sub-office had been at the Olean location for more than thirty years since the previous move.

Inland Fisheries

Federal Aid in Sportfish Restoration
Major revisions and reformatting of our Federal Grant structure, procedures and documentation accomplished in 1999 went into effect with the 2000/2001 fiscal/project year. The F-48-R Freshwater Fisheries Grant contained 13 Studies including some 44 active Jobs. Section staff provided coordination on many phases of these studies and prepared and/or collated budget requests, progress and completion reports and assisted in fiscal tracking. In addition, Section personnel actively assisted in the administration of other Sport Fish Restoration Grants and provided substantial input to the Division's grants management team. Dialog between the Department's fiscal staff and the Section in continuing in and effort to improve cost accounting procedures for Federal grants.

Fisheries Survey Database
The Biological Survey Unit completed the transfer of maps, files and hard copy records form the Ray Brook Office to Central Office and two data entry -

data processing positions were filled to allow resumption of survey data entry into the Modern Database. A data entry application was developed in Microsoft ACCESS and over 1,200 surveys dating back as far as 1988 were added to the database. Also, a number of older surveys had to be removed from the database and re-entered due to anomalies in coding or prior entry procedures. CDs of the updated database were distributed to each Region.

A statewide database committee of regional and central office representatives met four times to provide input into and assist in developing database structure, data recording protocols and field forms. New, simplified and more efficient field forms were prepared and distributed for the 2001 sampling season. A customized Access training course developed by Micro-Knowledge and the Biological Survey Unit staff was provided to all committee members.

Angler Diary Database
Substantial progress was made in updating and improving the coldwater segment of the Statewide Angler Diary Cooperator Program database. Updated data was included in the database which now contains over 750 records on some of the state's better coldwater resources including the Finger Lakes, Otsego Lake, Lake Champlain and many of the New York City reservoirs. A standard data request form and data report has been developed which will allow the comparison of trout and salmon catch rates by size categories. This will allow comparisons based on the quality of the trout and salmon a water produces rather than just the quantity of fish it produces. The coldwater angler diary database was used extensively by the Coldwater Lake and Ponds Stocking Team to develop draft catch rate objectives for coldwater resources. The warmwater and coldwater angler diary database constains over 1300 records from angler diary cooperator programs conducted throughout the State and provides excellent trend information on some of the more significant warm and coldwater fisheries in the State.

Division Work Plan
Inland staff played a key role in producing summary time and activity reports for each of the Division's Bureaus. These reports/outputs are used for the evaluating workplans from the previous year, reporting on the distribution of effort among various funding sources and planning for the upcoming year.

Fisheries Reports
Management of the Fisheries Reports archive file and computerized catalog file continued during 2000. A large number of new and historic reports were entered into the database as part of the Bureau's efforts to prepare for its move to downtown Albany. The Bureau of Fisheries Reports database currently contains over 720 reports. The database contains abstracts (where available) of all reports and provides a convenient search capability which allows one to quickly find a report they desire in the Bureau report files. Thirty-three reports were reviewed and entered into the database over the past year.

Fish FW
Section staff continued to man the freshwater fisheries mailbox **Fish FW** on the Division of Fish, Wildlife and Marine Resources section of the Department web-site. Through this mailbox, the public can get answers to various freshwater fisheries related questions that they have. The Bureau mailbox is getting more and more popular, particularly during the early spring to mid-summer period when trout stocking and fishing is a top item on everyone's agenda. Each month anywhere from 100 to 500 e-mails are received and answered by either central office or regional staff. Section staff also assisted with answers to questions addressed to the generic FW Information mailbox on the Division web-site.

Northeast Fish and Wildlife Conference
Section personnel played major roles in planning the 57th Annual Northeast Fish and Wildlife Conference held April 21-25, 2001 at the Sheraton Hotel in Saratoga Springs. This endeavor, on behalf of the Division of FW&MR, required a very substantial amount of Section staff time and attention with Section personnel chairing the Arrangements, Program, Registration and Freshwater Fisheries Committees. Numerous coordination meetings were held with and among the various DEC committees, with hotel staff and contractors. Section staff also attended the April 2000 meeting in Charleston WVA to help prepare for this event as well as participating in technical fisheries sessions and work groups.

Move to Broadway

In preparation for the June 2001 DEC move to 625 Broadway, staff contributed actively to the organization, sorting and inventorying of records and reference materials. An inventory and thinning of the library was completed, and a database developed to manage our extensive paper files.

Regulatory - Special License Reviews
Section staff coordinated the review of 78 applications for scientific collectors licenses and assisted on numerous requests for information and interpretation of bait license and lake sturgeon importation license issuing procedures and conditions as of use.

Statewide Fish Stocking Policies Book
Plans for the 2001 stocking season, including the completion of the 2001 Stocking Book, regional stocking allocations, stocking summaries and web-site information, were completed by the Species Management Unit Leader. One hundred forty three stocking policy changes were reviewed and accepted in 2001. Thirty five policies were deleted and 66 new policies were added. See table below for planned coldwater stockings for 2001.

Just under 7.8 million trout and salmon will be stocked into 690 streams and 640 lakes and ponds in the State of New York this year. In addition to the coldwater stockings listed above the warmwater stocking policy book was also prepared. Contained within the warmwater book are policies requesting 190,691,000 walleye fry, 370,520 walleye pond fingerlings, 237,780 advanced fingerling walleye, 85,010 tiger muskellunge fingerlings, 235,100 spring fingerling muskellunge, and 24,835 fall fingerling muskellunge. The Fish Stocking Book is the annual planning document that the Bureau of Fisheries uses as a guide for the production and stocking of warmwater and coldwater fish species. Actual stocking numbers are determined by the annual production by each hatchery which can vary from year to year, depending on disease, egg availability, rearing space and other factors.

Species	2 Year Olds	Yearlings	Spring Fingerlings	Fall Fingerlings	Fall Yearlings	Fry
Brown Trout	97,000	1,725,000	10,000	148,450	4,600	
Brook Trout		114,200	7,450	366,125		
Rainbow Trout		382,000		45,600		
Atlantic Salmon		369,730		26,000	3,000	330,000
Lake Trout		812,250		121,200		200,000
Splake		18,040				
Steelhead		806,800		7,500		
Chinook Salmon			1,600,000			
Coho Salmon		90,000		155,000		
Kokanee Salmon			327,700			
Total	**97,000**	**4,318,020**	**1,945,150**	**869,875**	**7,600**	**530,000**

Bureau of Fisheries
2000-2001 Staffing

CENTRAL OFFICE

Administration

Stang, Douglas	Biologist 4 (Aquatic)
Pell, Clark	Biologist 2 (Wildlife)
Brandt, Robert	Biologist 2 (Aquatic)
Stegemann, Eileen	Sr. Engineering Research Editor
Lambert, Carol	Secretary 1- retired 1/01

Great Lakes Fisheries

Lange, Robert	Biologist 3 (Aquatic)

Public Use and Extension

Gann, Michael	Biologist 3 (Aquatic)

Inland Fisheries

Festa, Patrick	Biologist 3 (Aquatic)
Woltmann, Ed	Biologist 2 (Aquatic)
Hurst, Steve	Biologist 1 (Aquatic)
Mantello, Gail	Keyboard Specialist I - Left 8/00
Linda Richmond	Program Aid - started 5/00
James Andersen	Clerk I - started 4/00

Fish Culture Section

Hulbert, Philip	Fish Culturist VI
Buell, Henry	Fish Culturist V
Sarrge, Beverly	Secretary 1

REGION 1

Guthrie, Charles	Biologist 2 (Aquatic)
Kozlowski, Gregory	Biologist 1 (Aquatic)
Henson, Fred	Biologist 1 (Aquatic) Hired: 4/28/00
Hughes, Tom	F&W Tech 2 Hired: 10/12/2000
Papa, Lauren	Laborer (Seasonal)
Lengyel, David	Laborer (Seasonal)
Harz, Solomon	Laborer (Seasonal)

REGION 3

Elliot, Wayne	Biologist 2 (Aquatic)
Pierce, Ron	Biologist 1 (Aquatic)
Angyal, Bob	Biologist 1 (Aquatic)
Surprenant, Leslie	Biologist 1 (Aquatic)
Flaherty, Mike	Biologist 1 (Aquatic)
VanPut, Ed	Fish and Wildlife Technician 3
Falk, Art	Fish and Wildlife Technician 3
Wysocki, Linda	Fish and Wildlife Technician 1
McNamara, Tim	Fish and Wildlife Technician 1 (Seasonal)
Moore, Denise	Fish and Wildlife Technician 1 (Seasonal)
Motluck, Lisa KC	Fish and Wildlife Technician 1 (Seasonal)

REGION 4

Keller, Walt	Biologist 2 (Aquatic) -retired 9/99
Slingerland, Donald	Biologist 2 (Aquatic) -started 2/00
McBride, Norm	Biologist 1 (Aquatic)
Zielinski, Dan	Biologist 1 (Aquatic)
Sanford, Kay	Biologist 1 (Aquatic) -retired 4/99
Cornwell, Dave	Fish and Wildlife Technician 1
Linhart, Fred	Fish and Wildlife Technician 3
Martel, Al	Fish and Wildlife Technician 3
Merchant, Matt	Fish and Wildlife Technician 1 (Seasonal)
Collins, Kandy	Secretary 1
Burnside, Joe	Laborer (Seasonal)
Snyder, Rick	Laborer (Seasonal)
Kenney, Jim	FWMA Patrolman (Seasonal)

REGION 5

Strait, Lawrence	Biologist 2 (Aquatic)
Nashett, Lawrence	Biologist 2 (Aquatic)
Miller, William	Biologist 1 (Aquatic)
Durfey, Lance	Biologist 1 (Aquatic)
Preall, Richard	Biologist 1 (Aquatic)
Schoch, William	Biologist 1 (Aquatic)
Demong, Leo	Biologist 1 (Aquatic)
Brown, Raymond	Fish and Wildlife Technician 3
Sausville, Jennifer	Fish and Wildlife Technician 2
Shanahan, Thomas	Fish and Wildlife Technician 1
Beatty, Jeannine	Secretary 1
Nettles, David	Fishery Biologist (USFWS)
Morehouse, Burton	Fish and Wildlife Technician 3
Saltsman, Leslie	Fish and Wildlife Technician 3
Inglee, Jeffrey	Laborer (Seasonal)
Stephenson, Bethany	Fish and Wildlife Technician 1 (Seasonal)
Fellion, Melissa	Fish and Wildlife Technician 1 (Seasonal)
Duensing, Sara	Fish and Wildlife Technician 1 Seasonal)

REGION 6

Schiavone, Albert	Biologist 2 (Aquatic)
McCullough, Russ	Biologist 1 (Aquatic)
Gordon, William	Biologist 1 (Aquatic)
Flack, Frank	Biologist 1 (Aquatic)
Carlson, Douglas	Biologist 1 (Aquatic)
LaPan, Steve	Biologist 1 (Aquatic) - transferred out 9/99
Hasse, Jack	Biologist 1 (Aquatic)
Adams, Richard	Fish and Wildlife Technician 3

Klindt, Roger	Fish and Wildlife Technician 1
Tibbetts, Leonard N.	Laborer (Seasonal)

REGION 6 (cont.)

Fiorentino, Robert	Fish and Wildlife Technician 1 (Seasonal)
Fishel, Chris	Fish and Wildlife Technician 1 (Seasonal)
Stainbrook, Karen	Fish and Wildlife Technician 1 (Seasonal)
Zimmerman, Kyle	Fish and Wildlife Technician 1 (Seasonal)
Helmetsie, Robert	Laborer (Seasonal)
Brown, Laura	Fish and Wildlife Technician 1 (Seasonal)
Edmonds, Brian	Fish and Wildlife Technician 1 (Seasonal)
Moles, Peter	Laborer (Seasonal)
Hoag, Gregory	Laborer (Seasonal)
Talarico, Megan	College Intern

REGION 7

Les Wedge	Regional Fisheries Manager
Dan Bishop	Biologist 1 (Aquatic)
Tom Chiotti	Biologist 1 (Aquatic)
Dave Lemon	Biologist 1 (Aquatic)
Jeff Robins	Biologist 1 (Aquatic)
Russ Davall	F&W Technician 3
Jeff Eller	F&W Technician 2
Paul Moore	F&W Technician 2
Bob Rathman	F&W Technician 2
Janet Hines	Secretary 1
Shawn Fox	Seas. F&W Technician (4/1-8/16)
John Fraser	Seas. F&W Technician (8/14-10/18)
Jim Ryan	Seas. F&W Technician (4/1-6/30)

REGION 8

Abraham, Bill	Biologist 2 (Aquatic)
Kosowski, David	Biologist 1 (Aquatic)
Pearsall, Web	Biologist 1 (Aquatic)
Sanderson, Matt	Biologist 1 (Aquatic)
Hammers, Brad	Biologist 1 (Aquatic)
Angold, Fred	Fish and Wildlife Technician 3
Olsowsky, David	Fish and Wildlife Technician 2
Verna, Marvin	Fish and Wildlife Technician 2
Richardson, Denise	Fish and Wildlife Technician 2
Burdett, Anna	Keyboard Specialist 1
Deres, Bob	Fish and Wildlife Technician 1 (Seasonal)
Stone, David	Fish and Wildlife Technician 1 (Seasonal)
Speziale, Mike	Fish and Wildlife Technician 1 (Seasonal)
LaSota, Lisa	Fish and Wildlife Technician 1 (Seasonal)
Mulhall, Dan	Fish and Wildlife Technician 1 (Seasonal)
Engman, Angel	Fish and Wildlife Technician 1 (Seasonal)
Newman, Dawn	Fish and Wildlife Technician 1 (Seasonal)

REGION 9

Mooradian, Steve	Biologist 2 (Aquatic)
McKeown, Paul	Biologist 1 (Aquatic)
Evans, Joe	Biologist 1 (Aquatic)
Wilkinson, Mike	Biologist 1 (Aquatic)
Cornett, Scott	Fish and Wildlife Technician 2
Rende, Emilio	Fish and Wildlife Technician 1
Pinelli, Jim	Fish and Wildlife Technician 1 (Seasonal)
Pachla, Matt	Fish and Wildlife Technician 1 (Seasonal)
McCarthy, Pat	Fish and Wildlife Technician 1 (Seasonal)
McKenna, Malachy	Fish and Wildlife Technician 1 (Seasonal)

LAKE ERIE UNIT

Culligan, William	Biologist 2
Einhouse, Donald	Biologist 1
Markham, James	Biologist 1
Zeller, Douglas	Fisheries Research Vessel Captain
Zimar, Richard	Fish and Wildlife Technician 2
Beckwith, Brian	Fish and Wildlife Technician 2
Szwejbka, MariEllen	Secretary 1
Roth, Robert	Fish and Wildlife Technician (Seasonal)
Hall, Angela	Fish and Wildlife Technician (Seasonal)
Diers, Jeffrey	Fish and Wildlife Technician (Seasonal)
Sek, Daniel	Fish and Wildlife Technician (Seasonal)

LAKE ONTARIO UNIT

LaPan, Steven	Biologist 2 (Aquatic)
Eckert, Thomas	Biologist 1 (Aquatic)
Lantry, Brian	Biologist 1 (Aquatic)
McMahon, William	Fisheries Research Vessel Captain - resigned 11/2000
Muise, Eric	Fisheries Research Vessel Captain - started 3/2/2001
Massia, Gaylor	Maintenance Assistant
Grant, Bevery	Secretary 1
Holland, Douglas	Fish and Wildlife Technician 1 (Seasonal)

Turner, Kristen	Fish and Wildlife Technician 1 (Seasonal)
Campbell, Adam	Fish and Wildlife Technician 1 (Seasonal)
Smith, Derek	Fish and Wildlife Technician 1 (Seasonal)
Edmonds, Brian	Fish and Wildlife Technician 1 (Seasonal)
Goullette, Gerard	Fish and Wildlife Technician 1 (Seasonal)
Vega, Stacy	Fish and Wildlife Technician 1 (Seasonal)
Brown, Laura	Fish and Wildlife Technician 1 (Seasonal)
Hinckley, M. Ellen	Laborer (Seasonal)
Clough, Katie	Laborer (Seasonal)
Black, Kate	Green Thumb Staff
Haller, Ralph	Green Thumb Staff

ADIRONDACK HATCHERY

Grant, Edward	Fish Culturist 2
Miller, Douglas	Fish Culturist 1
Wallace, Michael	Fish and Wildlife Technician 1
Aldinger, Fritz	Fish and Wildlife Technician 1
Klubek, Kenneth	Fish and Wildlife Technician 1

BATH HATCHERY

Osika, Kenneth	Fish Culturist 2
Sweet, Robert	Fish Culturist 1
Klesa, Rodney	Fish and Wildlife Technician 1
Raab, Kelly	Fish and Wildlife Technician 1
Schirmer, Jason	Fish and Wildlife Technician 1

CALEDONIA HATCHERY

Mack, Alan	Fish Culturist 3
Stein, Robert	Fish Culturist 1
Zenzen, Stephen	Fish and Wildlife Technician 1
Kelley, Charles	Fish Culturist 1
Hubbard, Bruce	Fish Culturist 1
Krause, Mark	Fish Culturist 2
Hayden, Kevin	Fish and Wildlife Technician 1
Ward, Brian	Fish and Wildlife Technician 1

CATSKILL HATCHERY

Covert, Scott	Fish Culturist 3
Anstey, Timothy A.	Fish and Wildlife Technician 1
Judson, James L	Fish and Wildlife Technician 1
Vacant	Fish Culturist 1
Anderson, John	Fish Culturist 2
Gennarino, Joseph	Fish and Wildlife Technician 1
Zanett, James	Fish and Wildlife Technician 1

CHATEAUGAY HATCHERY

Brue, Peter	Fish Culturist 2
Armstrong, David	Fish Culturist 1
Griffin, Joseph	Fish and Wildlife Technician 1
Jackson, Matthew	Fish and Wildlife Technician 1
Ventiquattro, Thomas	Fish Culturist 1

CHAUTAUQUA HATCHERY

King, Larry	Fish Culturist 2
DeFries, Eric	Fish Culturist 1
Rambuski, James	Fish and Wildlife Technician 1
Gruber, Bradley	Fish and Wildlife Technician 1

ONEIDA HATCHERY

Babenzien, Mark	Fish Culturist 3
Colesante, Richard	Biologist 1 (Aquatic)
Rathje, Carl	Fish Culturist 2
Evans, Bill	Fish Culturist 1
Dixon, Michael	Fish Culturist 1

RANDOLPH HATCHERY

Mellon, Jon	Fish Culturist 2
Kriger, Richard L.	Fish Culturist 1
Hohmann, Barry	Fish and Wildlife Technician 1
Baginski, Kenneth	Fish and Wildlife Technician 1
Borner, Richard	Fish Culturist 1
Hulings, Raymond	Maintenance Assistant

ROME HATCHERY

Lewthwaite, Robert	Fish Culturist 3
Woodworth, William	Fish Culturist 1
Wanner, Scott	Fish Culturist 1
Talbot, Clifford	Fish Culturist 2
Schirmer, Steven	Fish and Wildlife Technician 1
Smith, Robert	Laborer
Benn, Eugene	Fish and Wildlife Technician 1
Matt, Kimberly	Keyboard Specialist.
Batur, Mark	Fish and Wildlife Technician 1
Erway, David	Fish and Wildlife Technician 1
Hedgecock, Grover	Maintenance Supervisor

FISH DISEASE CONTROL CENTER

Schachte, Dr. John	Pathologist 2 (Aquatic)
Petrie, Christopher	Fish and Wildlife Technician 2
Jalbert/Kohler	Keyboard Specialist

SALMON RIVER HATCHERY

Dolan, Stephen	Fish Culturist 2
Greulich, Andreas	Fish Culturist 3
Wrotniak, Kathleen	Fish Culturist 1
Wischman, Dennis	Fish and Wildlife Technician 1
Vacant	Fish and Wildlife Technician 1
Hurd, Karen	Keyboard Specialist
MacDuff, Andrew J.	Fish and Wildlife Technician 1
LaShomb, Ronald	Fish Culturist I
Nelson, Robert	Fish and Wildlife Technician 1

SOUTH OTSELIC HATCHERY

Emerson, Pat	Fish Culturist 2
Kielbasinski, Thomas	Fish Culturist 1
Domachowske, David	Fish and Wildlife Technician 1
Schara, William	Fish and Wildlife Technician 1

VAN HORNESVILLE HATCHERY

Kroon, Larry	Fish Culturist 2
DuBois, Craig	Fish Culturist 1
Everard, James F	Fish and Wildlife Technician 1