



A RECREATIONAL FISHING SURVEY OF THE LOWER NIAGARA RIVER IN 2002 AND 2003

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**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

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EXECUTIVE SUMMARY

A survey was conducted of anglers fishing from shore and from boats on the lower Niagara River during the period May 7, 2002 to June 19, 2003 and from boats on the Niagara Bar during the period October 1, 2002 to March 31, 2003. The principal objectives were to: 1) determine when fishing occurred, the species of fish caught and harvested, the length of fish harvested, and the residence of anglers and 2) estimate fishing effort by month and season, catch per hour by species, and harvest by species. Shore anglers were counted and interviewed at 10 sites, on three weekdays and both weekend days each week and on all Federal holidays. Boat anglers were counted and interviewed at three public launches. The number of boats with anglers actively fishing was counted using aerial surveys conducted once each week.

Shore anglers spent an estimated 48,438 hours fishing on the lower Niagara River during the survey; most (39%) during the summer and principally in July. During the spring (April 1- June 20), and summer (June 21 – September 2) most shore anglers fished for any species they could catch. Shore anglers interested in fishing for specific species targeted yellow perch and rainbow trout during the spring, and smallmouth bass, white bass, rock bass, and yellow perch during the summer. Most shore anglers fished for Chinook salmon during the fall (September 3 – October 31) and salmonids (primarily rainbow trout and lake trout) during the winter (November 1 – March 31).

Shore anglers caught more smallmouth bass than any other species. The estimated number of smallmouth bass caught (100,424) was 28% of the estimated total catch (359,118 fish) by shore anglers. The catch-per-unit-effort (CPUE, fish/angler hour) of smallmouth bass for the entire survey (1.23 fish/angler hour) was higher than for any other species based on anglers that targeted a species. The total catch for all salmonids combined was 17,340 fish (5% of the total catch). Rainbow trout catch (9,681 fish) accounted for 56% of the salmonid catch by shore anglers. Lake trout catch (4,621 fish) accounted for 27% of the total salmonid catch. The targeted CPUE for rainbow trout (0.63 fish/angler hour in spring 2003 and 0.86 fish/angler hour in May 2003) was higher than the CPUE for any other salmonid. The next highest CPUE for a salmonid was for lake trout in December (0.43 fish/angler hour). Rock bass, yellow perch, white bass, freshwater drum, and round goby made up a large proportion of the total catch and

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accounted for 20%, 12%, 10%, 9%, and 8%, respectively, of the total catch. The CPUE for smallmouth bass and for rainbow trout in the lower Niagara River were similar to the rates from a survey on the upper river during 1999 based on anglers that targeted a species. The CPUE for yellow perch was less in the lower Niagara River than in the upper Niagara River in 1999, but was generally ~1 fish/angler hour in the months and seasons in which anglers fished for yellow perch.

Boat anglers spent an estimated 138,154 hours fishing in the lower Niagara River from summer 2002 through spring 2003, and 79,779 hours fishing on the Niagara Bar (although the reliability of the estimate for the Niagara Bar is low due to the small number (1 interview) of Niagara Bar anglers that were interviewed in October coupled with a relatively large number of fishing boats counted on the Niagara Bar in October). Most boat fishing effort occurred in summer (42%, 58,009 hours), followed by winter (24.5%, 33,782 hours), fall (20.5%, 28,326 hours), and spring (13.1%, 18,037 hours, spring 2003 only). Most boat fishing effort in the summer was for smallmouth bass (67%, 45,384 hours), followed by walleye (16%, 10,718 hours) and “any species” (13%, 8,880 hours). In the fall, boat anglers started to shift their effort towards salmonids, with 9,472 (36%) and 3,056 (12%) hours directed towards Chinook salmon and rainbow trout, respectively. Boat anglers also targeted smallmouth bass (28%, 7,404 hours) and walleye (9%, 2,262 hours) in the fall. In winter, boat anglers primarily targeted rainbow trout (26%, 12,224 hours), brown trout (11%, 5,311 hours), and lake trout (50%, 23,538 hours). Salmonids were also targeted in spring, with boat anglers starting to fish for smallmouth bass and “any species” again.

Boat anglers caught more smallmouth bass than any other species (58% of the total catch, 43,246 fish), and most were caught in summer. The CPUE for the entire survey for smallmouth bass was 2.46 fish/angler hour, with a maximum CPUE in summer (3.7 fish/angler hour) and August (5.1 fish/angler hour), based on anglers that targeted a specific species. The next most caught species were rainbow trout (12,589 fish), lake trout (6,556 fish) and brown trout (3,189 fish), with most of these salmonids being caught in winter 2002-2003 and in spring 2003. From October 2002 to March 2003, anglers primarily fished for salmonids, and the CPUE for rainbow trout ranged from 0.18 – 0.84 fish/angler hour. The CPUE for lake trout over the same period ranged from 0 – 0.96 fish/hour. Boat anglers harvested a high proportion of Chinook salmon (78%) and rainbow trout (37%) relative to smallmouth bass (7%). The CPUE values for smallmouth were much higher in the lower Niagara River in 2002-2003 than in the

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upper Niagara River in 1999, while targeted CPUE values for yellow perch were less for the lower Niagara River in 2002-2003 than for the upper Niagara River in 1999.

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ABBREVIATIONS

Agencies

NYSDEC New York State Department of Environmental Conservation

Units of Measure

cfs cubic feet per second

TL Total Length

hr hour

m meter

mm millimeter

MW megawatt

Environmental

CPUE Catch per unit effort

N Number of data points

SE Standard Error

Miscellaneous

QA/QC Quality Assurance/Quality Control

NPP Niagara Power Project

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1.0 INTRODUCTION

The New York Power Authority (NYPA) is engaged in the relicensing of the Niagara Power Project (NPP) in Lewiston, Niagara County, New York. The present operating license of the plant expires in August 2007. As part of its preparation for the relicensing of the NPP, NYPA is developing information related to the ecological, engineering, recreational, cultural, and socioeconomic aspects of the Project.

The 1,880-MW (firm capacity) NPP is one of the largest non-federal hydroelectric facilities in North America. The Project was licensed to the Power Authority of the State of New York (now the New York Power Authority) in 1957. Construction of the Project began in 1958, with the first electricity produced in 1961.

The Project has several components. Twin intakes are located approximately 2.6 miles above Niagara Falls. Water entering these intakes is routed around the Falls via two large low-head conduits to a 1.8-billion-gallon forebay, lying on an east-west axis about 4 miles downstream of the Falls. The forebay is located on the east bank of the Niagara River. At the west end of the forebay, between the forebay itself and the river, is the Robert Moses Niagara Power Plant (RMNPP), NYPA's main generating plant at Niagara. This plant has 13 turbines that generate electricity from water stored in the forebay. Head is approximately 300 feet. At the east end of the forebay is the Lewiston Pump Generating Plant (LPGP). Under non-peak-usage conditions (i.e., at night and on weekends), water is pumped from the forebay via the plant's 12 pumps into the 22-billion-gallon Lewiston Reservoir, which lies east of the plant. During peak usage conditions (i.e., daytime Monday through Friday), the pumps are reversed for use as generators, and water is allowed to flow back through the plant, producing electricity. The forebay therefore serves as headwater for the RMNPP and tailwater from the LPGP. South of the forebay is a switchyard, which serves as the electrical interface between the Project and its service area.

In 2002-2003, a shore angler and boat angler survey, was conducted on the lower Niagara River by NYPA. The objectives of the survey were to:

- Determine when fishing occurred;

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- Determine what fish species were caught and harvested;
- Estimate fishing effort by month and season;
- Estimate catch per unit effort by species;
- Estimate harvest;
- Determine angler residency;
- Collect total length data of fish-catch; and
- Compare the results to other studies as appropriate.

The 17-mile long Niagara River drains four of the five Great Lakes, a drainage area of 263,700 square miles at an average flow of approximately 212,300 cfs. The river flows from south to north from Lake Erie into Lake Ontario and it forms part of the boundary between New York State and the Province of Ontario, Canada. From its head at Lake Erie (Buffalo, New York, and Fort Erie, Ontario) to its terminus at Lake Ontario (Youngstown, New York and Niagara-on-the-Lake, Ontario) the river falls approximately 326 feet. The Niagara River is navigable from Lake Erie to the upper rapids above Niagara Falls (the Falls dividing the River into two sections known as the upper and lower Niagara River) and from the lower rapids to Lake Ontario below the Falls.

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2.0 METHODS

2.1 Investigation Area

On the U.S. side of the lower Niagara River, shore anglers can reach the water from the City of Niagara Falls to Lake Ontario ([Figure 2.1-1](#)). However, from the City of Niagara Falls to just below the RMNPP tailrace, access is limited and it is relatively difficult to reach the shore on trails down the cliffs of the Niagara Gorge. NYPA provides angler access to the RMNPP tailrace pier and the shoreline immediately upstream of the RMNPP tailrace. Shore anglers were interviewed at the Whirlpool State Park, Devil's Hole State Park, the shore area just above the RMNPP tailrace and tailrace pier (Tailrace shore), on the tailrace pier, at several areas along the shore at Artpark, the areas adjacent to the Youngstown launch, Constitution Park, Joseph Davis State Park, Lewiston Landing, and at Fort Niagara State Park. Boat angler interviews were obtained at the three public boat launches on the lower Niagara River located at Youngstown, Lewiston Landing, and Fort Niagara State Park. Boat anglers generally do not venture to or upstream of Devil's Hole (adjacent to Devil's Hole State Park) due to the rapids and the need for specialized boats. Therefore, most boat angling on the lower Niagara River occurs between Devil's Hole State Park and Lake Ontario. In the winter, the survey included interviewing anglers fishing on the Niagara Bar out to the red navigation buoy, a distance of approximately one mile ([Figure 2.1-1](#)).

2.2 Field Data Collection Schedule and Effort

Interviews of and collection of data from shore and boat anglers fishing on the lower Niagara River were performed from May 7, 2002 through June 19, 2003. Ancillary interviews of boat anglers fishing on the Niagara Bar were conducted from October 1, 2002 to March 31, 2003. One technician collected data five days a week during a specified time of day (shift). The survey was carried out on three randomly selected weekdays and on both weekend days each week during the investigation period. Angler data were also collected on all Federal holidays during the period. Angler interviews were conducted during one of two periods of the day, designated as a morning shift or afternoon shift. Random selection methods were used to determine the weekdays to sample each week, and the shift for each weekend day and weekday to be sampled. When Eastern Standard Time was in effect, all morning shifts

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began at 7:30 AM and ended at approximately 1:00 PM. During Daylight Savings Time, morning shifts ended at 2:30 PM. Accordingly, afternoon shifts began at either 1:00 PM or 2:30 PM, and for safety reasons, ended no later than one hour after sunset.

Three technicians worked independently each shift. One conducted boat angler interviews following a “bus route” to each of the boat launches, the other two followed routes around to each one of their sites to collect instantaneous shore angler counts and interview shore anglers. Each boat launch and shore site was scheduled to be visited once/shift. The first site visited on a shift was randomly selected, the remaining sites were visited in a time efficient manner following the bus route. A technician was scheduled to spend a total of one hour at each shore site, and two hours at each boat launch.

2.2.1 General Field Data Collection Procedures

When arriving at a site, and again when leaving, all technicians recorded “instantaneous” data on the number of vehicles in parking lots in proximity to the site. When possible, the types of non-fishing related recreational activities occurring were also recorded. This data collection effort was conducted in conjunction with a Recreational Facility Use and Capacity Investigation for the lower Niagara River. An angler survey on the Lewiston Reservoir (April through November 2002) was also conducted in parallel. The results of those surveys will be included in separate reports.

Except for the Whirlpool and Devil’s Hole State Park sites, instantaneous angler counts followed collection of vehicle counts. The shoreline at all but these two sites were surveyed as rapidly as possible, with the technician moving among vantage points as necessary so he/she could record the number of anglers. This provided instantaneous angler count data. The technicians then began to collect trip interviews from anglers and collect data from harvested fish where possible. At the Whirlpool and Devil’s Hole sites, technicians remained near the top of the Niagara Gorge on a park trail for one hour and collected complete trip interviews from anglers as anglers reached to top of the park trails.

The shore angler technician typically interviewed all accessible anglers and avoided interviewing individual anglers more than once per day. However, the technicians did update interview data (e.g., catch and time fishing) if an angler was encountered a second time that day. If an angler arrived on site

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and had not begun fishing before the technician departed the angler was polled only to determine their target species for the day, and his/her place of residence. An interview consisted of asking the angler several questions, designed to determine:

- Whether the angler had fished only at the lower Niagara River on that day;
- Whether the angler was finished fishing on the lower Niagara River that day;
- How long the angler had fished the lower Niagara River that day;
- What species the angler was targeting that day;
- How many individuals of each species the angler had caught, released, or harvested on the River that day; and
- Length of the fish that were caught, any observed fin clips or tags, and note any diseased fish.

The shore angler technician's primary objective was to interview shore anglers individually while the angler was still actively fishing (known as a roving survey, or an incomplete trip interview survey). However, shore anglers who had finished fishing were also interviewed as they were encountered (a complete trip interview). Interviews from shore anglers were categorized as complete or incomplete and handled as appropriate in the analysis.

Shore anglers often fished in pairs or small groups, and in some cases used the same container to collectively hold fish they caught. When there was uncertainty as to whom in the group caught a given fish, they were interviewed as a group. This approach allowed the anglers to achieve consensus on the number of fish the group caught, released, and time spent fishing. These group data were identified as having been collected as such, so that the information could be properly used in the data analysis.

Anglers were also asked to provide their state of residence and, in the case of anglers living in New York State, they were also asked for the county of residence. Weather information was recorded upon arrival at each site.

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The boat angler interviews were similar except that the anglers were interviewed as a boat party, with one person on the boat generally speaking for all anglers on board. The number of anglers in each party was recorded. The objective was to collect complete trip interview data from boat parties. Only data from complete trip interviews were used in the analyses. From October 2002 through March 2003 the boat party was also asked if they had fished on the Niagara Bar. If so, data from their fishing trip on the Niagara Bar were also collected.

Aerial surveys via helicopters were completed once per week during a shift. The day of the flight was randomly selected each week with equal weight given for selection of a weekday or weekend/holiday. During each flight, the number of active fishing and recreational boats (non-fishing boats) were recorded. Aerial counts were done using binoculars. Two categories of fishing boat were recognized: (1) boats actively engaged in fishing, and (2) boats underway. A vessel was considered a fishing boat actively engaged in fishing if any of its occupants were observed holding a fishing rod, landing net, or a fish. A vessel was considered a fishing boat underway if none of its occupants were observed holding a fishing rod, landing net, or fish, but if the boat was observed to have downriggers or fishing rods on board and is producing a wake. All other vessels were considered non-fishing boats. Records were obtained for the lower Niagara River from two defined reaches: from Whirlpool to Artpark, and from Artpark to Lake Ontario. In October and winter (November 1 – March 31), the flight and data collection on boats also included the U.S. side of the Niagara Bar.

Common and scientific names of fish species referred to in this report are provided in [Appendix A](#).

2.3 Calculation of Effort, Catch, Catch per Unit Effort (CPUE), and Harvest Results

Summary data for individual fish species are discussed in terms of strata, monthly, or seasonal estimates. The field sampling effort extended from May 7, 2002 through June 19, 2003. Holiday data were considered as weekend day data within the week in which it fell. Only part of the Spring 2002 season was sampled because the survey began on May 7, 2002. The entire Spring 2003 season was sampled. The seasons, which were of unequal length and were developed to reflect New York State fishing regulations, were defined as follows:

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- Spring 2002 May 1, 2002 – June 14, 2002
- Summer 2002 June 15 – September 2
- Fall 2002 September 3 – October 31
- Winter 2002-2003 November 1 - March 31
- Spring 2003 April 1- June 20

The formulae and methods of Pollock et al. (1994) were used for analysis of the shore angling results. Examples of the calculations used for shore angler estimates are presented in [Appendix B](#). Lockwood et al. (2001) was the basis for the majority of the boat angling analysis. Throughout this report, several statistical terms are used. “Mean” is the arithmetic average of several values. “Standard error” (SE) is the estimated standard deviation of a statistic. It is a measure of the amount of variation present in the data (large SE values indicate more variability). One other term, “Catch per unit effort” and (CPUE) is used. CPUE is the number of fish caught per angler hour. For example, if an angler fished for one hour and caught two fish, the CPUE would be 2 fish/hour.

2.3.1 Shore angling Calculations

Two instantaneous shore angler counts (i.e., the count-value of anglers present when a creel technician arrived and departed a site) were taken each sample day and site. To provide a single count value for the entire lower Niagara River summary calculations, the means of the arrival and departure counts at each site were summed for each day. This gave an estimate of the total number of anglers fishing from shore on the lower Niagara River for each sample day. Equation numbers from Pollock et al (1994) are in parentheses.

The period effort ($P\hat{e}_i$) was calculated as:

$$(P\hat{e}_i) = I_i \times T \quad (15.4)$$

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where I_i is the sum of the mean daily instantaneous counts and T is the technician's shift length on that day.

The daily effort estimates (\hat{e}_i) were calculated as:

$$\hat{e}_i = \sum (\mathbf{P}\hat{e}_i / \pi_i) \quad (15.5)$$

where π_i is the proportion of possible daylight angling hours (0730 hours to one hour after sunset) surveyed each day. The possible daylight angling hours varied by month, and was set to 14 hours for May, 15 hours for June, July, and August, 12.5 hours for September, 12 hours for October, 10 hours for November and December, 10.5 hours for January, 11 hours for February, 12 hours in March, and 13 hours for April.

The total effort for a stratum (\hat{E}_{stratum}) was calculated as:

$$\hat{E}_{\text{stratum}} = \sum (\hat{e}_i / \pi_{\text{stratum}}) \quad (15.5)$$

where \hat{e}_i is the daily effort, π_i is the proportion of days sampled in the stratum. The strata were month, season, and entire survey (May 7, 2002 through June 19, 2003).

Table 15.23 in Pollock et al. (1994) was the example followed for the effort calculations in this survey (see also [Appendix B](#)).

The total effort standard errors were determined according to Table 15.21 in [Pollock et al. 1994](#). These were the calculated as the:

$$\mathbf{S}\hat{E}(\hat{E}) = \sqrt{(\text{Var}(\hat{E}_1) + \text{Var}(\hat{E}_2))}$$

Where the effort variance for each day type is:

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$$\text{Var}(\hat{E}_i) = N_i^2 * (s_i^2 / n_i)$$

And the sample variance for each day type is:

$$s_i^2 = 1/(n_i-1) * \sum (\hat{e}_i - \bar{e}_i)^2$$

For each day type, N_i is the number of days in the stratum, n_i is the total number of days sampled, \hat{e}_i is the daily effort, \bar{e}_i is the mean daily effort. Weekdays [$\text{Var}(\hat{E}_1)$] and weekend days [$\text{Var}(\hat{E}_2)$] variance values were calculated separately because the number of each day type differs.

The species-specific angler effort estimates, as discussed in Section 3 ([Tables 3.2-2](#) and [3.2-3](#)) use the total daily angler effort that is then modified using the proportion of anglers targeting a species surveyed that day (see [Appendix B](#)). For example, on a given day there may have been an estimated 100 angler hours expended and four interviews conducted. If three of the four (0.75) anglers interviewed were seeking yellow perch and assuming all four anglers expended equal effort, the daily effort for yellow perch would be $0.75(100) = 75$ angler hours. The remaining effort calculations (daily mean, monthly and seasonal values) were calculated in the same way as the total hour parameters.

Catch (C) was estimated using,

$$\hat{C} = \hat{E} \times \hat{R}$$

where R (catch per unit effort, CPUE) was calculated differently depending on the interview type, complete or incomplete. For completed angler trips, (R) was calculated as the sum of the catches (c_i) divided by the sum of the trip lengths (L_i) for each species on each day,

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$$\hat{R}_1 = \sum_{i=1}^n c_i / \sum_{i=1}^n L_i$$

With incomplete trip interviews, the CPUE per species was calculated as,

$$\hat{R}_2 = \frac{\sum_{i=1}^n (c_i / L_i)}{n}$$

where (n) is the number of anglers targeting or capturing a species. The value was the mean of the individual angler catch rates by species on a given date.

In some cases anglers in groups could not be interviewed as individuals, such as when anglers pooled their catch into a common container and could not recall who caught which fish. They were then interviewed as a group if they could provide their cumulative time spent fishing. In the analysis, this was treated as a single interview and the time spent acquiring the collective catch of fish was adjusted appropriately. As an example, if there were three anglers who caught 75 of species X in one hour, their CPUE for this species was calculated by dividing 75 by 3 hours. However, the anglers in the group were considered as individual interviewees relative to the number of interviews obtained during the survey.

The calculations of CPUE used in the total catch and harvest estimates were done using the data from all anglers within the stratum, regardless of the species of fish targeted. That is, the CPUE is that for all anglers, not for only those anglers that indicated they targeted the species in question. The daily species-specific catch is the product of the species-specific CPUE and the estimated total angler effort for that date, using the $C = E * R$ equation described above. The harvest estimates were generated similarly, except that the number of fish kept was substituted for the number caught. The CPUE was also calculated for each species using only data from those anglers targeting each of those species; this CPUE value is defined in this report as the “targeted CPUE”. The targeted CPUE estimates were calculated to provide

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CPUE information comparable to other angler surveys and as a measure of fishing quality. The targeted CPUE values are also presented by month and season. The standard errors for catch and harvest were generated as:

$$SE(\hat{C}) = \sqrt{(\text{Var}(\hat{C}_1) + \text{Var}(\hat{C}_2))}$$

Where the catch variance for each day type is:

$$\text{Var}(\hat{C}_i) = N_i^2 * \text{Var}(\bar{c}_i)$$

And the sample catch variance for each day type is:

$$\text{Var}(\bar{c}_i) = (s_i^2)/n_i$$

$$s_i^2 = 1/(n_i-1) * \sum (c_{ii} - \bar{c}_i)^2$$

For each day type, N_i is the number of days in the stratum, n_i is the total number of days sampled, c_{ii} is the daily catch, \bar{c}_i is the mean daily catch. Weekday [$\text{Var}(\hat{C}_1)$] and weekend day [$\text{Var}(\hat{C}_2)$] variance values were calculated separately to follow the methods in Pollock et al. (1994).

The complete trip interview (136 anglers) and incomplete trip interview (395 anglers) data were pooled to obtain the mean daily CPUE. The mean CPUE values for each species for each month or season were calculated as follows:

$$\text{Mean CPUE} = (\sum R_i / n_i)$$

The standard error (SE) value for each mean value was also calculated as an indication of sample variance. The calculation was completed as follows:

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$$SE = (\sqrt{(\sum (x_i - x_{\text{mean}})^2 / n - 1)}) / (\sqrt{n})$$

The seasonal and monthly catch and harvest estimates were obtained by multiplying the mean daily catch (C) and harvest (species-specific) by the total number of days in the sampling period as appropriate.

The number of instantaneous angler counts (weekday and weekend/holiday), the total number of angler-interviews, and the number of anglers seeking specific species were calculated as the sums of the respective parameters.

2.3.2 Boat Angling Calculations

The methods used in the calculations of the boat angler results generally followed those presented in Lockwood et al. (2001), and equation numbers from that manuscript are included in this report in parentheses before each equation. Only information from complete trip interviews was used in the analysis. Information of anglers fishing on the Niagara Bar was collected between October 1, 2002 and March 31, 2003.

Aerial flights over the lower Niagara River and Niagara Bar occurred once weekly to provide an instantaneous count of the number of fishing boats. The days were selected randomly with weekdays and weekend days being weighted so that they had an equal probability of being sampled. The flight days were sampled with replacement; therefore while over the whole survey the ratio of weekday to weekend days was near 50:50, on a finer time scale the ratio was often not equal. The flight time was based on the shift that was selected for the interview portion of the survey on that day. The flight was scheduled at the most convenient time for the pilot within the AM or PM shift as appropriate.

Boat angling effort calculations began by creating a seasonal angler use profile for the lower Niagara River and Niagara Bar based on interview information. Each day when an interview was taken was broken up into hourly segments and the number of boats that were present on the lower Niagara

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River or Niagara Bar was calculated based on the interview time and their trip length ([Lockwood et al. 2001](#)).

To obtain an estimate of the seasonal boat effort, a seasonal daily angler use profile was generated from the interview data ([Appendix C](#)). This was done based on season and day-type. Using this information the proportion of boats that were present at a given hour (e_{pt}) was calculated ([Lockwood et al. 2001](#)). The formula for estimating e_{pt} is (Equation 1):

$$e_{pt} = \frac{1}{b_{pt}} \sum_{i=1}^{24} b_{pti}$$

where b_{pt} is the number of boats present in a given hour period.

Each individual flight had a seasonal boat effort estimate generated from it. The seasonal boat effort for each flight was calculated as follows (Equation 2):

$$E_{pt} = B_{pt} D_p e_{pt}$$

where B_{pt} is the number of fishing boats counted during a given flight, D_p is the number of days in the season/day-type strata. The appropriate e_{pt} term is the proportion of boats that were present at the hour the flight took place.

There were occasions where the daily angler use profile indicated that there were no boats present at the flight time. When this occurred the mean of the proportions on either side of the hour containing the mean flight time was used (personal communication, Roger N. Lockwood, Michigan Dept. of Natural Resources, to John A. Magee, Gomez and Sullivan Engineers, December 17, 2003).

Basing the effort calculations solely on seasonal strata (and not monthly) was necessary to increase the sample sizes and precision of the estimates. Within a given day-type, some months had a

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single or no flights on which to base the estimates because the sampling for flights was done with replacement. Therefore, no monthly boat angler effort calculations were performed.

The mean boating effort was then calculated using all the flights within a season/day-type stratum. This equation is (Equation 4):

$$\bar{E}_p = \frac{1}{n_p} \sum_{i=1}^{n_p} E_{pti}$$

The variance for \bar{E}_p was calculated as (Equation 5):

$$\widehat{\text{Var}}(\bar{E}_p) = \left[\left(1 - \frac{n_p}{D_p} \right) \left(\frac{\sum_{i=1}^{n_p} (\bar{E}_p - E_{pti})^2}{n_p(n_p - 1)} \right) \right]$$

The second part of Equation 5 from Lockwood et al. (2001) was not used as it is the calculation of within day variance in boat angling effort (number of boat hours), and within day variance is typically minute compared to between day variance (personal communication, Roger N. Lockwood, Michigan Dept. of Natural Resources, to John A. Magee, Gomez and Sullivan Engineers, December 17, 2003). Because flights occurred once weekly, we did not have data to determine within day variance.

The mean number of anglers (A_p) per boat was calculated as:

$$A_p = (\Sigma a_p / k_p)$$

where a_p is the number of anglers on a given boat and k_p is the number of boats interviewed within a stratum.

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The total boat angler effort in hours was calculated as (Equation 10):

$$\hat{E}_{ap} = \hat{E}_p A_p,$$

The variance of the total boat angling effort was calculated as (Equation 11):

$$\widehat{\text{Var}}(\hat{E}_{ap}) = \hat{E}_p^2 \widehat{\text{Var}}(A_p) + A_p^2 \widehat{\text{Var}}(\hat{E}_p) - \widehat{\text{Var}}(A_p) \widehat{\text{Var}}(\hat{E}_p).$$

The standard error of the boat angler estimates was calculated as the square root of the variance.

The species-specific boat angler effort estimates and variance were calculated using the total boat angler effort within a stratum (as calculated in Equation 10 above), the variance of total boat angler effort within a stratum (as calculated in Equation 11 above), and the total hours for a given species (TE_{sp}) and the total hours for all species (TE_{as}) from the interview dataset (personal communication, Roger N. Lockwood, Michigan Dept. of Natural Resources, to John A. Magee, Gomez and Sullivan Engineers, December 17, 2003). The TE_{sp} and TE_{as} were used to calculate the species specific effort ratio (SSER), $SSER = (TE_{sp}/TE_{as})$.

The equation for species specific effort (SSE) calculations was:

$$\text{SSE} = (\text{total boat angler effort}) * (\text{SSER}).$$

The variance of the SSE was calculated as:

$$\text{VarSSE} = [(TE)^2 (pq/n) + p^2(\text{VarTE})] - [(\text{VarTE})(pq/n)]$$

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Where TE = Total boat angler hours, VarTE = the variance calculated earlier for the TE, pq/n is the variance of the proportion; p = SSER, q = (1-SSER), and n = total number of angler hours from the interview dataset (i.e., the actual hours, not an estimate). The standard error of the SSE was calculated as the square root of the VarSSE.

The CPUE and total catch and harvest calculations (for all species and for each species) followed the procedures outlined in Lockwood et al. (2001). CPUE was calculated as (Equation 12):

$$\hat{R}_p = \frac{\bar{c}_p}{\bar{h}_p},$$

Mean catch by stratum was calculated as (Equation 13):

$$\bar{c}_p = \frac{\sum_{j=1}^{k_p} c_{pj}}{k_p},$$

where c_p is the catch of the individual boat parties and k_p is the number of interviews within the stratum.

Mean angling party trip length by stratum was estimated as (Equation 14):

$$\bar{h}_p = \frac{\sum_{j=1}^{k_p} h_{pj}}{k_p},$$

where h_p is the individual boat parties trip lengths and k_p is the total number of interviews.

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The variance of the catch rate (VCPUE) was calculated as (personal communication, Roger N. Lockwood, Michigan Dept. of Natural Resources, to John A. Magee, Gomez and Sullivan Engineers, December 17, 2003):

$$VCPUE = (CPUE)^2 * (Vc_p) / (\Sigma c_p)^2 + (Vh_p) / (\Sigma h_p)^2$$

Where $Vc_p = \Sigma (c_i - c_{mean})^2 / (n-1)$, and $Vh_p = \Sigma (h_i - h_{mean})^2 / (n-1)$. The standard error of the catch rate was calculated as the square root of the VCPUE.

The CPUE for anglers targeting specific species was also calculated. This calculation differed slightly from the method described above in that only those anglers who indicated they targeted a given species were used in the calculation of the CPUE for that given species.

The total catch and harvest for a stratum are estimated as the product of the CPUE and the estimated effort (Equation 16):

$$\hat{C}_p = \hat{E}_{ap} \hat{R}_p$$

The variances for the total catch and total harvest were calculated using (Equation 17):

$$\widehat{Var}(\hat{C}_p) = \hat{E}_{ap}^2 \widehat{Var}(\hat{R}_p) + \hat{R}_p^2 \widehat{Var}(\hat{E}_{ap}) - \widehat{Var}(\hat{R}_p) \widehat{Var}(\hat{E}_{ap})$$

Standard error for the catch and harvest estimates were calculated as the square root of the variance.

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2.4 Database Management

Quality assurance and quality control (QA/QC) measures began in the field to ensure that the information gathered was accurate. Experienced creel technicians were routinely used, and as necessary, they trained and supervised new technicians for at least two full shifts prior to a new technician completing one independently. As an additional quality assurance measure, Stantec senior staff who had thorough knowledge of the Standard Operating Procedures completed 25 unannounced onsite visits. The onsite visits were to ensure that creel technicians were following the standard procedures. Additionally, each technician was provided with a cell phone so they could call senior staff at any time to ask for guidance if an unusual situation arose in the field.

Prior to leaving a site, technicians examined datasheets for completeness. Datasheets were double-counted and signed-in at the office to ensure that all were accounted for. The appropriate technician clarified any questionable data values prior to database entry. Any corrections that needed to be made to the original datasheet were dated and initialed by the person responsible.

Microsoft Access was used as the database program for this project. A relational database was constructed with user friendly and efficient data input forms. As part of the QA/QC program, two individuals entered the same data from each data sheet (double-entry). After the second entry, the two tables were exported into an Excel spreadsheet and electronically compared. Any discrepancies were highlighted, the data in question compared to the original datasheet, and the database corrected as necessary. The date of the initial data entry and the second QA/QC were recorded on the datasheet.

Non-Internet Public (NIP) information has been removed from the following page(s).

This material is contained in:

Volume 2

Section: A Recreational Fishing Survey of the Lower Niagara River in 2002 and 2003

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**FIGURE 2.1-1
INVESTIGATION AREA**

[NIP – General Location Maps]

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3.0 RESULTS AND DISCUSSION

3.1 Shore Angler Instantaneous Counts and Interview Data

During the survey, May 7, 2002 through June 19, 2003, the total number of instantaneous angler counts completed was 1786 (1062 were completed on weekdays and 724 on weekend/holidays). The relative number of counts obtained within a time interval (strata) and/or for a site was affected by several factors. These were the relative difference in length of each strata, the date the survey started or stopped, and ice conditions at the sites. Additionally, the Tailrace pier was temporarily closed, beginning in December, due to weather or for security reasons, and the tailrace shore area was temporarily closed starting in April 2003 for security reasons. Access at the Lewiston site was the least impacted relative to ice conditions because the boat launch and nearby area were maintained all year. When the tailrace pier or tailrace shore sites were closed, the interview period allotted to these sites was added to the time conducting interviews at the Whirlpool and/or Devil's Hole sites. Complete trip interviews were obtained at the top of the Whirlpool and Devil's Hole trails. However, instantaneous angler counts were not obtained since the long hikes down to the lower Niagara River shore were not made. The number of instantaneous shore angler counts and the sum of the mean number of anglers counted in the instantaneous counts for each interval are presented in [Tables 3.1-1](#) and [3.1-2](#). The majority of anglers counted over the entire survey were at the tailrace site (~39% of the total) even though the pier was closed to the public for about half the survey (December 4, 2002 through the end of the survey). The tailrace pier anglers accounted for an even greater proportion of the total (~49%) during the interval when all survey sites were simultaneously available to anglers (i.e., May 2002 to December 3, 2002). Following the tailrace pier in mean number of anglers counted was the Artpark site (~25% of the total), Lewiston (~21%), tailrace shore (~7%, closed to the public in May-June 2003), Joseph Davis State Park (~5%), Constitution Park (~2%), and Fort Niagara (~1% of the total).

The number of anglers interviewed is presented by location and day type within the months and seasons ([Tables 3.1-3](#) and [3.1-4](#)). Considering all ten shore angler interview locations (including Youngstown, Whirlpool and Devil's Hole State Park), a total of 3,433 anglers were interviewed during the 2002-2003 survey (872 of these were complete trip interviews). Of the 3,433 shore angler interviews,

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1,927 (or ~56% of the interviews) were obtained on weekend-holidays, and 1,506 (~44%), on weekdays. This ratio was observed despite the fact that there were fewer weekend days sampled (~42% of all sampled days) relative to weekdays (~58% of all sampled days).

It might be expected that the relative number of interviews obtained at a location ([Tables 3.1-3](#) and [3.1-4](#)) and the relative number of anglers counted ([Tables 3.1-1](#) and [3.1-2](#)) would have a similar relationship (e.g., the tailrace pier had the highest count of anglers and also the most interviews of all locations). This expectation held for the tailrace pier, which as noted had the most angler interviews (1,089, ~32% of the survey total). However, the relationship did not hold for Artpark and Lewiston. They were ranked second and third relative to anglers counted, but ranking was reversed relative to anglers interviewed. Artpark accounted for only ~15% of the total interviews, Lewiston ~28%. The primary reason for this is probably related to the number of interviews that could be completed in an hour and the size of the area where anglers are counted and confined while fishing (the pier and Lewiston are relatively small areas compared to Artpark).

The number of anglers targeting specific species by month and season are presented in [Tables 3.1-5](#) and [3.1-6](#), respectively. Some anglers targeted more than one species of fish. Twenty-three species were targeted, one family and an “anything” category (i.e., any species an angler could catch). For the entire survey, the “anything” category was targeted (~30% of the total) more than any individual species. This category was followed by rainbow trout (~16%) and smallmouth bass (~11%).

3.2 Shore Angling Effort

The estimated mean daily shore angler effort for the entire survey and all species combined was 121 hours/day and the total estimated effort was 48,438 hours ([Table 3.2-1](#)).

The peak in mean daily angler effort by month for all species combined was in July (319 hours/day), followed by September (223 hours/day). The remaining mean daily efforts ranged between 168 hours/day (both June, 2002 and August) and 11 hours/day (January). The highest estimated total effort for a month was 9,258 hours in July 2002 and the least was in January (293 total hours).

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Seasonally, the estimated mean daily shore angling effort for all species combined was highest in Summer 2002 at 251 hours/day with an estimated total effort of 18,814 ([Table 3.2-2](#)). The least angling effort by season was observed in the Winter season, with an estimated mean of 61 hours/day and a season total of 8,062 hours. The estimated mean daily effort for fall was 185 hours/day with a seasonal total of 10,502 hours. The total seasonal effort and mean daily effort in Spring 2002 were 2,748 hours and 75 hours/day, respectively; and in 2003, 5,663 hours and 79 hours/day.

Estimated monthly angling efforts, by species, are presented in [Table 3.2-3](#). Approximately 37% (12,467 hours) of the total species-specific shore angling effort was expended on the any species category. Most of the effort for the any species category (85%) was in the period from June through September 2002, though the effort was about equally split between June and July, these two months alone accounted for ~63% of the effort for the any species category. The lowest mean daily effort over these four months for the any species category was in August (62 hours/day). The highest mean daily effort for the entire survey, and compared to all species, was in July for the any species category (177 hours/day). Following the any species category relative to total hours of effort was the rainbow trout, though it accounted for only ~14% of the total species-specific effort (4,726 hours) but the species was targeted in every month of the survey. However, relative to ranking by mean daily effort for this salmonid, it was second for specific species effort at ~74 hours/day (November) after the maximum mean daily effort for smallmouth bass (~81 hours/day in July 2002). Relative to the maximum total hours of effort for a given species the effort for smallmouth bass (4,518 hours, ~14% of the total hours) was a close third to total effort for the rainbow trout. Following the smallmouth were the efforts for Chinook salmon and lake trout (2,370 and 2,344 hours, respectively) each accounting for about 7% of the total effort. Most of the effort for Chinook salmon (1,201 hours and a mean daily effort of 55 hours/day) was in September. The greatest monthly effort for lake trout was in November (849 hours), though effort was expended for lake trout in all months of the survey. Effort did not exceed 4% of the total for any of the remaining species.

Estimated seasonal angling effort by species is presented in [Table 3.2-4](#). It is most appropriate to use mean daily effort to make direct comparisons of species-specific effort by season because the length of each season varies considerably. The maximum mean daily effort was in summer for the any species category (124 hours/day and the corresponding total hours for the season of 6,921 hours). The mean daily effort for the any species category was also relatively high in Spring and Fall, 2002 (43 and 42 hours/day,

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respectively). By magnitude, the mean daily effort for smallmouth bass was second at 65 hours/day (3,644 hours total) in summer. Following in order was the Chinook salmon with a mean daily effort of 45 hours/day (1,881 hours total) in fall and for rainbow trout, 29 hours/day (3,089 hours) in winter. For all other species the mean daily effort was generally 16 hours/day or less.

Within each season, warmwater species, especially smallmouth bass but also including white bass and rock bass, dominated the shore angler fishing effort in the summer. Salmonids dominated the shore angler fishing effort in the fall and winter seasons. Yellow perch was the next most targeted species with 629 shore angler hours in Spring 2003, 431 hours in Summer, and 278 hours in Fall (the month of April was not sampled in the Spring of 2002).

3.3 Shore Angler Catch, Harvest and Catch per Unit Effort

This section presents the estimates of catch, harvest, and catch per unit effort (CPUE) as estimated for the entire lower Niagara River survey area, by month, and by season. For all strata, these values were calculated using data from all anglers (i.e., the CPUE values were calculated as an average CPUE for all anglers regardless of the species they targeted or caught) within the stratum. Therefore, the sum of the monthly catch or harvest for the entire survey may not be equal to the estimated catch or harvest as calculated for the entire survey. This is due to the method used for estimating catch and harvest, which were arrived at by calculating the mean daily catch and harvest within the respective time stratum, then multiplying that value by the total number of days within the time stratum. The CPUE for all species for each month and season was also calculated using data only from those anglers that specifically targeted these two species, defined as “targeted CPUE”. The targeted CPUE estimates were calculated to provide CPUE information comparable to angler surveys of the upper Niagara River conducted by NYSDEC in 1999. CPUE information is used to determine the quality of a fishery.

Anglers caught 30 distinct species including unidentified species from three families, Centrarchidae (temperate bass), Cyprinidae (minnows), and Catostomidae (suckers). The estimated total catch and harvest for each species for the entire survey is presented in [Table 3.3-1](#). The smallmouth bass, rock bass, yellow perch, and white bass as individual species were the only ones to account for 10% or

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more of the total estimated catch or harvest. Smallmouth bass was the most caught species accounting for ~28% (100,424 fish) of the total estimated catch and ~17% (12,511 fish) of the total estimated harvest. The mean daily CPUE for the smallmouth was 0.65 fish/hour. Rock bass followed with ~20% of the total catch, though this species accounted for ~25% of the total harvest. The mean daily CPUE for rock bass was 0.41 fish/hour. To place the estimated catches of the smallmouth bass and rock bass in perspective, their combined catch equaled almost half of the total catch for all species combined. The yellow perch catch was third relative to total catch (~12%), and it accounted for ~10% of the estimated harvest, although only ~17% of the yellow perch caught were harvested. The CPUE for the species was 0.29 fish/hour. Although the estimated white bass catch was only about 10% of the total for all species and approximately a third of the smallmouth bass catch, more white bass were harvested (23,513 fish) than any other. About 66% of the white bass caught were harvested and they accounted for ~32% of the harvest for all species. The mean daily CPUE for the white bass was 0.22 fish/hour. The estimated catch of the freshwater drum and round goby were, ~9% and 8%, respectively of the total freshwater drum and round goby catch. Round goby harvest included throwing this non-indigenous, nuisance species on the river bank (many anglers were aware of the ecological damage caused by round gobies) and also possibly consumption by the angler. However, the round goby harvest (~5% of the total harvest) was slightly greater than for the freshwater drum (~3%). The CPUE for these two fish was 0.18 fish/hour. The catch, harvest, and CPUE of these fish exceeded all others, except for the smallmouth bass, rock bass, yellow perch, and white bass previously mentioned.

A general comparison of estimated total catch for all species combined within a month indicates most of the catch occurred between June and September 2003 ([Table 3.3-2](#)). The peak estimated catch was in July (136,299 fish) and was more than twice that estimated for June 2002, (52,986 fish). The fewest fish were caught in January (149 fish). The catches in May 2002 and 2003 were far from the maximum catch, but these are the only two months in which there are catch estimates for all days in a month for both 2002 and 2003. The catch in May 2003 was about half that of May 2002. The reason for the difference is unknown, though it may have been weather related. Considering individual species, the smallmouth bass accounted for the greatest single catch in a month 50,479 fish (July), which was ~37% of the July catch. Rock bass was also caught in high numbers in June and July. In the months of May through October, six species (smallmouth bass, rock bass, yellow perch, freshwater drum, round goby,

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and white bass) dominated the catch. Salmonids were the primary fish species caught during the cooler months of November through March.

Relative to monthly analysis, the white bass had the highest estimated harvest (8,432 fish in July), though the estimated harvests for rock bass in June (8,334) and smallmouth bass in July (7,985) were similar ([Table 3.3-2](#)). The greatest estimated harvest for all species combined on a monthly basis was 28,254 fish in July.

The smallmouth bass mean daily CPUE in July (3.63 fish/hour) was the highest CPUE in all months for all species ([Table 3.3-2](#)). The CPUE for the smallmouth bass was 2.13 in June 2002 and 1.10 in August. The CPUE for rock bass was 2.39 fish/hr in June, 1.37 in July and 1.10 fish/hr in May. The only other species with a mean daily CPUE ≥ 1 was for freshwater drum (May, 1.20 fish/hr) and white bass (October, 1.01 fish/hr).

In the five seasons studied in 2002-2003, the highest estimated total catch by shore anglers was in the summer of 2002 (234,474 fish), and the lowest estimated catch was in winter (4,646 fish). The estimated catches in Spring 2002 and 2003 were similar to each other (29,808 and 22,283 fish, respectively) though relative catch and CPUEs for each species varied. The estimated fall catch was 46,490 fish ([Table 3.3-3](#)). Smallmouth bass and rock bass dominated the estimated catches in summer [70,378 fish (~30% of the summer total) and 54,630 fish (~23%), respectively]. Rock bass also dominated in Spring 2002 with ~28% of the season total, with smallmouth bass accounting for ~24%. The mean daily CPUE for these two species were the highest for all species by season (rock bass, 1.74 fish/hour in Spring 2002 and 1.00 fish/hour in summer, and for the smallmouth bass the CPUE were 1.70 fish/hour in spring and 1.60 fish/hour in summer). In Spring 2002, the CPUE for the freshwater drum was just below 1.0. Disregarding the freshwater drum, smallmouth bass, and rock bass, the CPUE was less than 0.7 fish/hour for all other fish in all other seasons. The maximum seasonal harvest was for rock bass in the summer (15,273 fish or 34% of the total summer harvest).

Salmonid catch and harvest dominated the winter season. Lake and rainbow trout, accounted for the majority of the catch in winter (~55% or 2,572 fish, and ~28% or 1,279 fish, respectively). Chinook

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salmon accounted for about 5% of the total catch, as did brown trout. Coho salmon accounted for slightly more than 1%. Rainbow trout accounted for ~63% of the total winter harvest. Coho salmon, Chinook salmon, and brown trout each accounted for ~11% of the total winter harvest. Very few lake trout were harvested in winter.

[Tables 3.3-4](#), [3.3-5](#), and [3.3-6](#) present the targeted CPUE for all species for the entire survey, by month, and by season. For the entire survey ([Table 3.3-4](#)), smallmouth bass had the highest targeted CPUE of all species at 1.23 fish/hour and rock bass had a targeted CPUE of 1.19 fish/hour. Five species, smallmouth bass, rock bass, yellow perch, white bass and freshwater drum, had the highest targeted CPUE values and were all ≥ 0.78 fish/hour. White sucker (0.67 fish/hour) and pumpkinseed sunfish (0.63 fish/hour) had the next highest targeted CPUE values. All other species had targeted CPUE values of ≤ 0.5 fish/hour. By month, rock bass had the highest targeted CPUE (May 2002, 2.43 fish/hour) followed by white bass in October (2.12 fish/hour). Rock bass also had a high targeted CPUE in June 2002 (2.02 fish/hour). In May through October 2002, smallmouth bass, rock bass, white bass, yellow perch and freshwater drum had relatively high targeted CPUE values, generally ranging from ~0.5 – 2 fish/hour. From May through August 2002, the smallmouth bass targeted CPUE was always > 1 fish/hour. The targeted CPUE for salmonids was highest in the cooler months (October through May), with rainbow trout being caught at an estimated rate of 0.86 fish/hour in May 2003. The targeted CPUE for Chinook salmon was low (< 0.07 fish/hour) and many interviewed anglers indicated the fishing for Chinook salmon was very low in fall 2002 compared to previous years. Unseasonably warm weather in September and early October 2002, after which there was an abrupt change to cold conditions, may have contributed to the low targeted CPUE for Chinook salmon. Seasonal trends in targeted CPUE were similar to those observed on a monthly basis, with warmwater species generally being caught at higher catch rates in the spring, summer and fall, and salmonids being caught at higher rates in the winter and spring.

3.4 Instantaneous Aerial Boat Counts Boat Party Interviews and Species Targeted

The random selection of days to conduct aerial surveys resulted in a total of 31 weekend flights and 28 flights on weekdays. The number of flights by day-type, month, and season are presented in

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[Tables 3.4-1](#) and [3.4-2](#). A total of 1,193 boats were counted in the lower Niagara River during aerial surveys, including 739 fishing boats ([Tables 3.4-3](#) and [3.4-4](#)).

A total of 1,395 complete trip interviews were obtained and used in the analysis (incomplete trip data were also obtained from an additional 200 boats). The number of boat party interviews by day type, within months and seasons are presented in [Tables 3.4-5](#) and [3.4-6](#). Over the entire survey, the mean number of anglers/boat party was ~2. Interviews were obtained in every month of the survey, and exhibited relatively limited differences in the number of boat party interviews between months. The number of boat interviews by month, ranged from ~2% to ~13% of the total interviews (December 2002 and September 2002, respectively). There was also little difference in total numbers between day types. Seasonally, there was little difference in the number of parties interviewed among four of the five seasons. Interview rates ranged from ~19 % of the total in fall to 29% in summer (it is not appropriate to compare Spring 2002 to the others since the survey did not start until May 2002). Approximately 50% of the parties were interviewed at the Fort Niagara launch area, ~46% at Lewiston, and ~3% at the Youngstown launch. Most of the interviews at Fort Niagara occurred in the summer, and in the winter at Lewiston. Lewiston is probably the most important boat ramp in winter because the ramp is maintained to keep it open to boat anglers.

The number of boat anglers targeting a specific species is presented in [Tables 3.4-7](#) and [3.4-8](#). For the entire survey, boat anglers targeted rainbow trout more than any other species (~22% of the total) followed by lake trout and smallmouth bass (each ~17%). However, a total of six salmonid species were targeted and as a group they accounted for ~68% of the total. Smallmouth bass was targeted by more anglers than any other species in the summer.

3.5 Boat Angling Effort

The total estimated boat angler effort for the one-year period of summer 2002 through spring 2003 for the lower Niagara River was 138,154 hours ([Table 3.5-1](#)). The greatest boat angler effort by season was in summer (~42% of the total estimated boat angler effort). Winter accounted for the next greatest seasonal effort although the winter season is much longer than the summer. There was clearly

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less boat angler effort in the spring 2003 (only part of the spring of 2002 was sampled) than the other seasons. Compared to the lower Niagara River, there was relatively less boat angler effort in winter applied to the Niagara Bar. Only one interview of Niagara Bar anglers was conducted in October; therefore, no estimate and standard error of boat angling effort on the Niagara Bar could be calculated for Fall. The total weekend boat angler effort estimate for the Niagara Bar (i.e., October and Winter months) is relatively high (77,110 boat angler hours) compared to the Winter season estimate. This is due to the small number (1) of boat angler interviews conducted in October, combined with a relatively high number of fishing boats counted on the Niagara Bar in October. The high standard error for the total weekend boat angler effort estimate indicates that the boat angler effort is highly variable from day to day (likely due to severe weather conditions that are common on the Niagara Bar).

Species-specific boat angler effort estimates were also generated for each season ([Table 3.5-2](#)). In all seasons, boat anglers applied effort towards the “anything” category, although the least amount of effort applied to “anything” relative to all other species was in the winter. In the summer, most of the boat angler effort was applied towards smallmouth bass (45,384 angler hours), with walleye (10,718 angler hours) being the next most targeted species. Interestingly, boat anglers directed effort toward Chinook salmon (1,398 angler hours) in the summer even though summer water temperatures in the lower Niagara River are generally not suitable for adult Chinook salmon. In the fall, anglers applied more effort to Chinook salmon (9,472 angler hours) than any other species. Smallmouth bass (7,404 angler hours) and walleye (2,262 angler hours) were still pursued by anglers in the fall, and anglers began to apply effort towards catching rainbow trout (3,056 angler hours). In the winter in the lower Niagara River and the Niagara Bar, most of the boat angler effort was clearly directed towards salmonids, with more effort applied towards lake trout than any other species. Anglers expended 2,871 angler hours on walleye in the winter. In spring 2003, salmonids still received the most boat angler effort, but anglers also pursued smallmouth bass. In spring 2002 (sampled from May – June only), anglers applied more effort towards lake trout (2,646 angler hours) than any other species.

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3.6 Boat Angler Catch, Harvest and Catch per Unit Effort

This section presents the estimates of catch, harvest, and catch per unit effort (CPUE, fish per hour) for the entire survey. For each stratum, values were calculated using data from all anglers (i.e., the CPUE were calculated as a CPUE for all anglers in the stratum, regardless of the species they targeted or caught within the stratum). Since the CPUE values among strata can be different, and CPUE is used to calculate catch, and harvest values, the sum of the catch or harvest as calculated for each season of the survey, may not be equal to the estimated catch as calculated for the entire survey. This is also the case for harvest values. The estimated total catch and harvest for each species and their CPUE for all boat anglers over the entire survey is presented for the lower Niagara River and for the Niagara Bar.

The estimated total number of fish caught by boat anglers in the lower Niagara River during the entire survey from May 2002 to June 2003 was 74,493 ([Table 3.6-1](#)). Approximately 58% of the total was smallmouth bass with a mean CPUE (calculated using data from all anglers) of 0.61 fish/hour, ~17% rainbow trout (mean CPUE of 0.18 fish/hour), ~9% lake trout (mean CPUE of 0.09 fish/hour), and ~4% brown trout (mean CPUE of 0.05 fish/hour). No other species exceeded ~3% of the total catch. The total estimated harvest for the River was 11,452 fish, with rainbow trout accounting for 41% of the total harvest. Smallmouth bass and Chinook salmon accounted for ~27% and ~11% respectively.

An estimated total of 29,280 fish were caught (1,010 harvested) on the Niagara Bar based on boats returning to the public launches of the lower Niagara River (primarily to Fort Niagara State Park) from October, 2002 through March, 2003 ([Table 3.6-1](#)). Lake trout dominated the catch on the Bar (84%, CPUE calculated from all anglers was 0.9 fish/angler hour), though none were harvested. Brown trout had the next highest estimated total catch and had the highest harvest rate (~67%) on the Niagara Bar though the fish accounted for only 8% of the catch. Rainbow trout were the third most caught fish (1,683). Chinook salmon and white bass made up only a very small fraction of the catch on the Niagara Bar from October 2002 through March 2003. The overall harvest rate from the lower Niagara River was ~15% (11,452 fish harvested out of 74,493 fish caught), which is a much higher percent than the harvest rate for the Niagara Bar (~3%, 1,010 fish harvested out of 29,280 caught).

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On a seasonal basis ([Table 3.6-2](#)), most fish caught by boat anglers (71% of the total) were caught in summer followed by the winter and fall catch (15% and 8%, respectively). Smallmouth bass dominated the catch in spring 2002, summer and fall. The estimated summer catch of smallmouth was ~94% of the total estimated catch for all species combined. This large catch estimate is due to the high CPUE (calculated using data from all boat anglers) for smallmouth bass coupled with the fact that many boat anglers identified smallmouth bass as a target species. Rock bass, freshwater drum, yellow perch, and white bass were also caught by boat anglers in relatively high numbers in summer, but even when the catch of these species is combined, they only account for ~5% of the summer catch. Rainbow trout dominated the catch and harvest in the winter and spring of 2003, but other salmonid species were also caught in relatively high numbers except for Chinook and coho salmon. Smallmouth bass were also caught in spring 2003 and made up ~16% of the spring 2003 catch. Relative to season strata, the highest CPUE (calculated using data from all anglers) was for smallmouth bass in summer and in fall (2.12 and 0.60 fish/boat angler hour, respectively). The next closest CPUE was for rainbow trout in winter, 0.35 fish/boat angler hour.

The targeted CPUE rates for the entire survey are shown in [Table 3.6-3](#). The targeted CPUE for smallmouth bass (2.46 fish/boat angler hour) was by far the highest targeted CPUE (as calculated for the entire survey) of all species. The species with the next highest targeted CPUE values were yellow perch, white bass, rainbow trout, and lake trout (0.72, 0.45, 0.33, and 0.23 fish/boat angler hour respectively). The targeted CPUE for all other species was 0.02 – 0.15 fish/boat angler hour.

The monthly targeted CPUE for smallmouth bass was highest in August and was 5.1 fish/boat angler hour ([Table 3.6-4](#)). Excluding August 2002, the monthly targeted CPUE for smallmouth bass was 0.7 – 2.21 fish/boat angler hour from May to October 2002. Yellow perch generally had the next highest monthly targeted CPUE during warmer months, and ranged from 0 – 1.8 fish/boat angler hour. From October 2002 to June 2003, the monthly targeted CPUE for rainbow trout ranged from 0.18 – 0.92 (December 2002) fish/boat angler hour. The targeted CPUE was > 0.2 fish/boat angler hour for most of these months and was >~0.45 fish/boat angler hour for many. In general, the monthly targeted CPUE for other salmonids was lower than that of rainbow trout, but Chinook salmon and lake trout targeted CPUE were 0.89 and 0.96 fish/boat angler hour respectively in January 2003. For the Niagara Bar in January 2003, the targeted CPUE for lake trout (1.38 fish/boat angler hour) was higher than for any other

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salmonid in any month in both the Niagara Bar and lower Niagara River. The targeted CPUE for brown trout in December 2002 (0.31 fish/boat angler hour) was similar to the targeted CPUE for that species in any month in the lower Niagara River.

Smallmouth bass had the highest seasonal targeted CPUE (3.71 fish/boat angler hour in summer) of any other species in any season, and smallmouth had the highest seasonal targeted CPUE for all seasons ([Table 3.6-5](#)). Yellow perch targeted CPUE was relatively high in Spring 2002 (May and June only) and Fall 2002. The targeted CPUE for salmonids was generally the next highest in all seasons. Rainbow trout, lake trout, and Chinook salmon had the highest targeted CPUE of the salmonids. The targeted CPUE of Chinook salmon in fall was relatively low (0.11 fish/boat angler hour) but was higher than that of the other salmonids in winter (0.69 fish/boat angler hour). An interesting point is that lake trout were caught even in the summer (targeted CPUE of 0.33 fish/boat angler hour).

3.7 Fish Total Length Data

Total length measurements were obtained from fish that shore and boat anglers were harvesting if the technician was given permission by the angler to measure a fish they caught and harvested. Measurements for fish that were about to be released were also obtained when permitted. Lengths were obtained from a total of 909 fish representing 20 species caught by boat and shore anglers during the almost 13 months of data collection. There were three species of fish in which the number measured exceeded 100 individual fish and includes smallmouth bass (268 fish), rainbow trout (169 fish) and rock bass (130 fish). These three species accounted for over 60% of the measurements. Length frequency categories by species are presented in [Table 3.7-1](#).

The smallmouth bass measurements were spread across nine length frequency categories ranging from 151-200 mm to 551-600 mm. Most smallmouth bass (~50% of the species measured) were in the 301-350 mm range. The rainbow trout lengths ranged across 11 length frequency ranges, beginning at 401-450 mm and ending at 901-950 mm. Most of the rainbow trout measured (~27%) were in the mid-range (651-700 mm). Rock bass measurements were contained in ten length frequency categories ranging

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from 51-100 mm to 501-550 mm. Most measurements for this fish (~55%) were in the 151-200 mm range. However, ~85% were contained in the 151-200 and the adjacent 201-250 mm range.

3.8 Angler Demographics

Shore anglers represented several States, Canada, and counties within New York. Shore angler residence data are presented in [Table 3.8-1](#). Ninety-two percent of the shore anglers resided in New York State. Anglers from Niagara County accounted for 55% of all anglers and Erie County 36%.

The majority of boat anglers also resided in New York State (55% of the total boat anglers). The majority of anglers were from two counties in New York, 32 % of all anglers were from Niagara County and 12% from Erie County. Anglers were also from many other states though anglers from New Jersey, Ohio, and Pennsylvania accounted for 35% of all anglers. Anglers were also from Switzerland and Ireland ([Table 3.8-2](#)).

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TABLE 3.1-1

**NUMBER OF INSTANTANEOUS SHORE ANGLER COUNTS, AND SUM OF THE MEAN NUMBER OF ANGLERS COUNTED
PER DAY BY MONTH, DAY-TYPE, AND LOCATION FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Site	May 2002		June 2002		July 2002		Aug. 2002		Sept. 2002		Oct. 2002		Nov. 2002		Dec. 2002		Jan. 2003		Feb. 2003		Mar. 2003		Apr. 2003		May 2003		June 2003		
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
Artpark Counts	11	7	12	10	14	9	13	6	12	10	14	8	12	12	12	7	11	7	13	7	12	9	13	8	12	10	8	5	
Mean Number of Anglers	2	1	1	3	8.5	11	4	5	16	27	38	23	91	208	31	27	3	12	6.5	13	18	47	8	19	6	14	1	15	
Constitution Counts	11	7	12	10	14	9	13	6	12	10	14	8	12	12	13	6	12	7	9	8	12	10	14	7	12	10	8	5	
Mean Number of Anglers	1	3	6	0	2	3	3	2	2.5	1	0	0	1	0	0	0	0	0	0	0	0	0	1	1	5	9	7.5	10	
Joseph Davis Counts	11	7	12	10	14	9	13	6	12	10	13	8	12	12	13	7	11	7	12	6	11	9	12	8	12	10	8	5	
Mean Number of Anglers	3.5	3.5	3	9	19	21	17	7	5	16	3.5	3	2	0	0	0	0	0	0	0	0	0	1	5	2	14	2.5	9.5	
Fort Niagara Counts	11	5	12	10	14	9	13	6	11	9	14	8	12	12	12	6	11	7	12	8	11	8	13	8	12	10	8	5	
Mean Number of Anglers	6	2.5	5	1	1	1.5	2	2	2	1.5	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1.5	6.5
Tailrace Pier Counts	11	7	12	10	14	9	13	5	12	10	14	8	12	11	**	**	**	**	**	**	**	**	**	**	**	**	**	**	
Mean Number of Anglers	13	20	69	83	116	137	37	47	106	149	113	77	23	47	**	**	**	**	**	**	**	**	**	**	**	**	**	**	

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TABLE 3.1-1 (CONT.)

NUMBER OF INSTANTANEOUS SHORE ANGLER COUNTS, AND SUM OF THE MEAN NUMBER OF ANGLERS COUNTED PER DAY BY MONTH, DAY-TYPE, AND LOCATION FOR THE LOWER NIAGARA RIVER IN 2002-2003

Site	May 2002		June 2002		July 2002		Aug. 2002		Sept. 2002		Oct. 2002		Nov. 2002		Dec. 2002		Jan. 2003		Feb. 2003		Mar. 2003		Apr. 2003		May 2003		June 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Tailrace Shore Counts	11	7	12	9	14	9	13	7	12	10	13	7	12	11	13	7	13	8	13	8	12	10	***	***	***	***	***	***
Mean Number of Anglers	1	2	0	4	22	22	8	17	2	10	9.5	7	0	4.5	14	6	1	5	7.5	7	8	18	***	***	***	***	***	***
Lewiston Counts	11	7	12	10	14	9	13	6	12	11	14	8	12	10	12	7	11	8	12	7	11	10	13	8	12	10	8	5
Mean Number of Anglers	14	24	29	37	71	57	47	18	31	25	6.5	8	3	3.5	1	0	0	0	0	1	4	9	25	17	32	51	25	33

Instantaneous angler counts were not made at the Whirlpool and Devil's Hole State Park sites.

*wd=weekday, we=weekend.

**The Tailrace pier was temporarily closed, beginning in December, due to weather or for security. See Section 3.1

***The tailrace shore area was closed starting in April 2003 for security reasons, no data were collected after that. See Section 3.1

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TABLE 3.1-2

**NUMBER OF INSTANTANEOUS SHORE ANGLER COUNTS, AND SUM OF DAILY MEANS
OF THE NUMBER OF ANGLERS COUNTED BY SEASON, DAY-TYPE, AND LOCATION
FOR THE LOWER NIAGARA RIVER IN 2002-2003**

	Spring 2002		Summer 2002		Fall 2002		Winter 2002-2003		Spring 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we
Artpark Counts	17	12	33	22	26	16	60	42	33	23
Mean Number of Anglers	2	1	13	24	54	44	148.5	306	14	47
Constitution Park Count	17	12	33	22	26	16	58	43	34	22
Mean Number of Anglers	1	3	11	5	2.5	1	0.5	0	13.5	19.5
Joseph Davis Count	17	12	33	22	25	16	59	41	32	23
Mean Number of Anglers	5	6	36	35.5	8.5	16.5	1.5	0	5	28
Fort Niagara Count	17	10	33	21	25	16	58	41	33	23
Mean Number of Anglers	9.5	2.5	4	4	2	2.5	1.5	1	1.5	6.5
Tailrace Pier Count**	17	12	33	21	26	16	12	11	**	**
Mean Number of Anglers**	22	37	212	283.5	218	191.5	22.5	46.5	**	**
Tailrace Shore Count***	17	12	33	22	25	15	63	44	***	***

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TABLE 3.1-2 (CONT.)

NUMBER OF INSTANTANEOUS SHORE ANGLER COUNTS, AND SUM OF DAILY MEANS OF THE NUMBER OF ANGLERS COUNTED BY SEASON, DAY-TYPE, AND LOCATION FOR THE LOWER NIAGARA RIVER IN 2002-2003

	Spring 2002		Summer 2002		Fall 2002		Winter 2002-2003		Spring 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we
Tailrace Shore Mean Number of Anglers***	1	3.5	29.5	40.5	11.5	16.5	30	40	***	***
Lewiston Count	17	12	33	24	26	15	58	42	33	23
Mean Number of Anglers	16.5	45	143	96	37.5	26	8	13	80.5	99.5

Instantaneous angler counts were not made at the Whirlpool and Devil's Hole State Park sites.

*wd=weekday, we=weekend.

**The Tailrace pier was temporarily closed, beginning in December, due to weather or for security. See Section 3.1

***The tailrace shore area was closed starting in April 2003 for security reasons, and no data were collected after that. See Section 3.1

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TABLE 3.1-3

NUMBER OF SHORE ANGLERS INTERVIEWED BY MONTH, DAY-TYPE AND LOCATION FOR THE LOWER NIAGARA RIVER IN 2002-2003

Site	May 2002		June 2002		July 2002		August 2002		Sept. 2002		Oct. 2002		Nov. 2002		Dec. 2002		Jan. 2003		Feb. 2003		Mar. 2003		April 2003		May 2003		June 2003				
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we			
Artpark	5	1	0	11	8	13	1	5	14	27	27	33	67	141	22	19	4	3	6	20	11	39	6	14	7	10	1	14			
Constitution Park	2	3	2	0	3	6	3	2	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	5	9	7	16
Devil's Hole St. Park	0	7	0	8	2	4	0	2	0	4	7	9	7	6	5	10	1	4	1	2	1	3	5	7	18	29	12	10			
Joseph Davis St. Park	9	4	5	17	14	23	18	16	5	21	7	7	3	0	0	0	0	0	0	0	0	0	0	0	2	6	1	15	5	10	
Fort Niagara	1	6	4	2	2	10	5	3	2	6	2	2	0	0	0	0	1	0	0	0	0	0	0	0	1	2	0	0	3	7	
Lewiston	48	32	56	74	114	87	85	53	32	39	8	14	3	6	1	0	0	3	0	2	6	17	18	22	51	60	55	59			
Tailrace Pier**	18	27	72	89	116	98	52	72	121	134	120	92	26	52	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**		

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TABLE 3.1-3 (CONT.)

NUMBER OF SHORE ANGLERS INTERVIEWED BY MONTH, DAY-TYPE AND LOCATION FOR THE LOWER NIAGARA RIVER IN 2002-2003

Site	May		June		July		August		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June	
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Tailrace Shore**	1	7	0	7	18	19	8	8	3	14	9	15	0	5	13	12	1	6	7	8	2	3	**	**	**	**	**	**
Whirlpool St. Park	0	1	1	8	4	20	3	6	2	7	4	10	4	6	5	5	1	0	0	2	0	0	0	4	1	4	2	10
Youngstown***	2	4	10	0	17	9	26	4	3	30	2	8	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0

"Anglers interviewed" include interviews of anglers who fished alone, and individual anglers who fished in a group and for which the group-interview data could be attributed to the individuals in the group.

*wd=weekday, we=weekend day.

**The Tailrace pier was temporarily closed, beginning in December, due to weather or for security. The tailrace shore area was closed starting in April 2003 for security reasons, and no data were collected after that. See Section 3.1

***Some shore anglers fished at the Youngstown Launch. Shore anglers were interviewed opportunistically by technicians conducting interviews of boat anglers at the Youngstown Launch.

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TABLE 3.1-4

**NUMBER OF SHORE ANGLERS INTERVIEWED BY SEASON, DAY-TYPE AND LOCATION
FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Site	Spring 2002		Summer 2002		Fall 2002		Winter 2002-2003		Spring 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we
Interview Location										
Artpark State Park	5	5	9	31	41	54	110	222	14	38
Constitution Park	2	3	9	8	3	1	0	0	13	27
Devils Hole St. Park	0	14	2	7	7	13	15	25	35	46
Joseph Davis St. Park	12	9	34	54	12	25	3	0	8	31
Fort Niagara St. Park	5	6	8	18	2	5	1	0	4	9
Lewiston	54	71	249	185	40	43	10	28	124	141
Tailrace Pier**	41	54	217	253	241	205	26	52	**	**
Tailrace Shore**	1	10	26	31	12	29	23	34	**	**
Whirlpool St. Park	0	8	8	27	6	17	10	13	3	18
Youngstown***	3	4	52	33	5	19	1	1	0	0

"Anglers interviewed" include interviews of anglers who fished alone, and individual anglers who fished in a group and for which the group-interview data could be attributed to the individuals in the group.

*wd=weekday, we=weekend day.

**The Tailrace pier was temporarily closed, beginning in December, due to weather or for security. The tailrace shore area was closed in starting in April 2003 for security reasons, and no data were collected after that. See Section 3.1

***Some shore anglers fished at the Youngstown Launch. Shore anglers were interviewed opportunistically by technicians conducting interviews of boat anglers at the Youngstown Launch.

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A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.1-5

**NUMBER OF SHORE ANGLERS TARGETING A SPECIES BY MONTH AND DAY-TYPE FOR THE LOWER NIAGARA RIVER
IN 2002-2003**

Common Name	2002																2003											
	May		June		July		August		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June	
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Anything	50	69	74	124	175	175	80	83	75	133	38	63	10	19	1	7	1	4	0	3	7	16	4	28	32	75	60	87
Atlantic salmon							1	0	28	16	68	14	14	0	3	0							2					
Bluegill																							1					
Brown bullhead												2																
Brown trout		1		2		1				16	55	41	19	36	22	5	3	3	4	10	3	16	4	6	0	3		
Carp	2	0	2	3	2	8	4	4																		5	0	
Channel catfish			0	3	0	1	0	1																				
Chinook salmon	0	5					2	5	64	81	97	90	32	48	3	2							0	2		1	0	
Suckers					2	0	2	0																				
Coho salmon									16	23	64	19	19	31	3	2									1	0	1	2
Freshwater drum	1	2	5	4	4	2	4	7	0	1	1	3																2
Lake trout	1	4	7	19	8	7	4	0	12	14	70	30	54	100	12	10	3	5	2	6	3	21	7	6	3	10	1	3
Largemouth bass	0	2	1	3	9	3	9	1			1	0													0	2		
Muskellunge																									0	1	0	1
Northern pike																									2	2	0	9
Pumpkinseed									1	0																		
Rainbow smelt																								1	0			
Rainbow trout	1	8	2	3	2	6	4	0	17	20	99	65	88	186	42	29	7	8	14	31	15	41	7	16	16	31	7	3

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.1-5 (CONT.)

**NUMBER OF SHORE ANGLERS TARGETING A SPECIES BY MONTH AND DAY-TYPE FOR THE LOWER NIAGARA RIVER
IN 2002-2003**

Common Name	2002														2003															
	May		June		July		August		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June			
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we		
Rock bass	1	2	13	9	27	8	30	17	6	4	2	0															0	2	0	6
Smallmouth bass	15	3	38	48	102	93	88	63	30	51	13	9	0	1													0	8	3	4
Tiger muskellunge			0	3	1	1																								
Walleye	8	2	0	1	2	2			1	1	2	3						1	0							7	7	8	2	
White bass	8	2	46	24	30	6	5	7	12	4	11	22	0	6														1	2	
White sucker	0	1					1		1	1																				
Yellow perch	9	4	1	8	7	7	25	8	15	24	4	5	2	0									16	14	25	14	3	7		

*wd=weekday, we=weekend day.

NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002

TABLE 3.1-6

**NUMBER OF SHORE ANGLERS TARGETING A SPECIES BY DAY-TYPE AND SEASON
FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Common Name	Spring 02		Summer		Fall		Winter		Spring 03	
	WD*	WE*	WD	WE	WD	WE	WD	WE	WD	WE
Anything	63	127	316	366	113	154	19	49	96	190
Atlantic salmon			1		96	30	17		2	
Bluegill									1	
Brown bullhead					2					
Brown trout		2		4	55	33	51	92	4	9
Carp	4		6	15					5	
Channel catfish				5						
Chinook salmon		5	2	8	161	168	35	50	1	2
Suckers			4							
Coho salmon					80	42	22	33	2	2
Freshwater drum	1	5	13	11	1	3				2
Lake trout	3	17	17	13	82	44	74	142	11	19
Largemouth bass		3	19	6	1					2
Muskellunge										2
Northern pike									2	11
Pumpkinseed					1					
Rainbow smelt									1	
Rainbow trout	1	10	8	11	116	81	166	295	30	50
Rock bass	5	2	66	35	8	3		8		
Smallmouth bass	26	7	217	213	43	47		1	3	12
Tiger muskellunge			1	4						
Walleye	8	3	2	2	3	4	1		15	9
White bass	20	8	69	33	23	24		6	1	2
White sucker		1	1	1	1					
Yellow perch	10	7	32	28	19	21	2		44	35

*WD=weekday, WE=weekend day.

NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002

TABLE 3.2-1

MEAN DAILY AND TOTAL ANGLER EFFORT EXPRESSED IN HOURS ROUNDED TO THE NEAREST HOUR (WITH STANDARD ERROR) BY MONTH FOR SHORE ANGLERS FOR THE LOWER NIAGARA RIVER IN 2002-2003

Month	Effort* (whole hrs)	S.E.	Effort* (whole hrs)	Effort* (whole hrs)	S.E.
May 2002 mean	74	14	December 2002 mean	39	8
May 2002 total	2,096	339	December 2002 total	1,188	232
June 2002 mean	168	24	January 2003 mean	11	5
June 2002 total	4,795	713	January 2003 total	293	126
July 2002 mean	319	33	February 2003 mean	19	7
July 2002 total	9,258	809	February 2003 total	515	166
August 2002 mean	168	19	March 2003 mean	56	14
August 2002 total	5,117	469	March 2003 total	1,496	310
September 2002 mean	223	25	April 2003 mean	46	10
September 2002 total	7,426	687	April 2003 total	1,264	273
October 2002 mean	157	14	May 2003 mean	83	15
October 2002 total	4,805	435	May 2003 total	2,296	342
November 2002 mean	159	24	June 2003 mean	127	26
November 2002 total	4,420	554	June 2003 total	2,136	292
Survey mean	121	7			
Survey total **	48,438	1,857			

*See sample calculations in [Appendix B](#). Effort can also be calculated using Equation 15.5 in [Pollock et al. 1994](#).

**Total monthly values are not the sum of the seasonal or monthly values due to different sampling probabilities by strata.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-2

MEAN DAILY AND TOTAL ANGLER EFFORT EXPRESSED IN HOURS ROUNDED TO THE NEAREST HOUR (WITH STANDARD ERROR) BY SEASON FOR SHORE ANGLERS FOR THE LOWER NIAGARA RIVER IN 2002-2003

Season	Effort* (whole hrs)	S.E.
Spring 2002 mean	75	10
Spring 2002 total	2,748	300
Summer mean	251	19
Summer total	18,814	1,258
Fall mean	185	14
Fall total	10,502	730
Winter mean	61	8
Winter total	8,062	978
Spring 2003 mean	79	10
Spring 2003 total	5,663	591
Entire survey average	121	7
Entire survey total**	48,438	1,857

*See sample calculations in [Appendix B](#). Effort can also be calculated using Equation 15.5 in [Pollock et al. 1994](#).

**Total values are not the sum of the seasonal or monthly values due to differing sampling probabilities by strata.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3

MEAN DAILY AND TOTAL SPECIES-SPECIFIC ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS) BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003 (A BLANK MEANS NO EFFORT WAS REPORTED)

Month	Anything				Coho salmon				Chinook salmon				Rainbow trout			
	Mean Hrs.	SE	Total Hrs*	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2002	42.4	11.0	763.8	239.9					2.1	1.4	37.5	34.8	5.2	3.0	92.8	87.6
June 2002	80.3	10.2	3738.9	338.9									1.8	0.8	40.0	25.0
July 2002	176.9	25.5	4069.7	698.4									3.9	2.4	88.9	55.5
Aug. 2002	62.4	10.2	1185.1	206.8					2.4	1.4	43.9	33.8	0.7	0.5	13.8	17.2
Sept. 2002	75.7	13.3	1665.2	343.6	11.1	4.1	244.2	112.0	54.6	12.1	1201.1	354.3	8.8	2.2	194.0	66.8
Oct. 2002	20.8	4.3	458.0	121.1	13.6	2.0	299.2	62.8	31.8	4.0	699.0	105.3	30.0	5.2	659.5	175.6
Nov. 2002	6.4	1.7	154.3	45.4	9.3	1.8	223.7	50.0	13.6	2.4	326.2	66.5	73.5	15.9	1763.2	370.9
Dec. 2002	2.3	1.6	44.2	42.6	1.3	1.2	24.0	25.6	1.3	1.2	24.0	25.6	23.5	5.2	446.4	155.7

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Anything				Coho salmon				Chinook salmon				Rainbow trout			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Jan. 2003	2.8	2.5	57.8	59.3									4.9	3.5	98.8	84.9
Feb. 2003	0.9	0.9	18.3	59.1									12.7	4.7	254.5	139.8
Mar. 2003	12.5	4.8	275.7	172.9									23.9	7.0	526.1	165.3
Apr. 2003									0.9	0.9	18.0	18.0	8.5	2.3	177.6	60.7
May 2003	0.1	0.1	3.1	5.2	0.1	0.1	3.1	5.2	0.9	0.9	19.1	19.1	13.6	3.5	299.3	97.5
June 2003	2.5	1.7	32.9	32.0	2.5	1.7	32.9	32.0	1.2	1.2	1.2	1.2	5.5	2.0	71.4	39.4

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Brown bullhead				Channel catfish				White bass				Rock bass			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2002									1.6	1.2	28.8	31.5	0.8	0.4	14.1	10.2
June 2002					0.9	0.6	19.1	12.7	25.9	5.6	569.7	166.7	9.2	3.4	201.8	89.2
July 2002					0.3	0.3	7.2	7.2	15.5	3.7	357.3	118.3	12.8	4.1	16.9	3.0
Aug. 2002					0.6	0.6	10.5	12.9	4.9	2.7	92.2	61.0	3.6	1.4	79.2	41.8
Sept. 2002									4.7	1.9	102.9	62.8	0.8	0.6	16.6	19.0
Oct. 2002									7.1	2.1	155.8	52.5				
Nov. 2002									1.5	1.5	35.1	35.1				
Dec. 2002																

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Brown bullhead				Channel catfish				White bass				Rock bass			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Jan. 2003																
Feb. 2003																
Mar. 2003																
Apr. 2003	0.6	0.6	13.0	20.5												
May 2003													0.3	0.3	6.8	5.6
June 2003									2.2	1.5	28.4	25.8	3.3	2.8	42.3	34.7
Month	Atlantic salmon				Lake trout				Brown trout				Rainbow smelt			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2002					2.3	1.6	41.2	56.5	0.3	0.3	5.1	6.6				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Atlantic salmon				Lake trout				Brown trout				Rainbow smelt			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
June 2002					8.6	2.9	188.7	72.6	0.2	1.0	3.9	3.9				
July 2002					6.5	2.4	149.9	64.1	0.6	0.6	13.9	13.9				
Aug. 2002					0.7	0.5	13.8	17.2	0.2	0.2	4.3	7.2				
Sept. 2002	6.9	2.2	151.4	66.7	5.3	2.0	115.7	59.3	6.2	2.4	6.2	2.4				
Oct. 2002	12.4	2.3	273.6	69.9	17.7	2.7	389.1	90.1	13.3	2.2	292.3	68.7				
Nov. 2002	6.8	1.6	164.3	47.7	35.4	8.2	849.3	196.1	11.0	2.3	6.8	2.1				
Dec. 2002	0.1	0.1	1.5	1.8	4.4	2.0	84.2	51.1	0.7	0.3	14.4	10.0				
Jan. 2003					2.4	1.7	49.4	39.6	0.7	0.3	14.4	10.0				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Atlantic salmon				Lake trout				Brown trout				Rainbow smelt			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Feb. 2003					1.4	1.0	28.1	40.2	1.9	1.0	37.0	13.4				
Mar. 2003					8.8	2.9	193.5	50.2	9.8	4.1	216.5	79.2				
Apr. 2003					5.7	2.7	120.1	86.7	3.5	1.3	73.1	32.3	0.6	0.6	13.0	20.5
May 2003					3.6	1.6	78.4	51.2	1.7	1.1	36.5	22.3				
June 2003					3.3	1.9	42.8	33.5								
Month	Muskellunge				Tiger muskellunge				Carp				Pumpkinseed			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2002									1.6	1.6	28.0	56.0				
June 2002					1.2	1.2	25.9	25.9	1.2	1.2	26.9	42.5				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Muskellunge				Tiger muskellunge				Carp				Pumpkinseed			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
July 2002					0.8	0.6	19.2	16.1	4.3	2.0	99.9	48.1				
Aug. 2002									4.0	1.6	76.3	51.3				
Sept. 2002													0.4	0.4	7.9	12.4
Oct. 2002																
Nov. 2002																
Dec. 2002																
Jan. 2003																
Feb. 2003																

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Muskellunge				Tiger muskellunge				Carp				Pumpkinseed			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Mar. 2003																
Apr. 2003																
May 2003	0.2	0.2	5.3	5.3												
June 2003	0.7	0.7	8.9	8.9					4.0	4.0	52.5	92.8				
Month	Smallmouth bass				Largemouth bass				Yellow perch				Walleye			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2002	4.0	1.6	72.0	56.0	0.6	0.6	10.2	13.2	6.4	3.0	115.4	93.7	3.5	1.3	62.8	44.5
June 2002	30.7	7.3	675.9	179.7	1.2	0.7	27.4	17.1	1.5	0.7	33.5	53.1	0.3	0.3	5.5	26.6
July 2002	81.3	12.0	1870.4	280.8	6.1	2.7	139.4	69.4	4.8	2.3	109.4	74.1	1.6	1.2	36.8	31.1

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Smallmouth bass				Largemouth bass				Yellow perch				Walleye			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Aug. 2002	53.9	8.8	1024.1	245.6	3.7	1.5	66.2	46.5	14.1	4.2	253.9	123.3				
Sept. 2002	30.8	6.1	676.6	154.0	0.3	0.3	6.7	10.7	12.7	4.3	279.2	129.2	0.8	0.6	17.9	16.7
Oct. 2002	5.1	2.3	111.1	63.1	0.1	0.1	2.5	3.9	2.6	1.7	57.0	44.8	0.9	0.6	20.6	16.4
Nov. 2002	0.2	0.2	5.9	5.9					0.4	0.4	10.0	14.4				
Dec. 2002																
Jan. 2003																
Feb. 2003													0.1	0.1	2.8	4.0
Mar. 2003																

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Smallmouth bass				Largemouth bass				Yellow perch				Walleye			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Apr. 2003									11.4	4.8	240.4	153.1				
May 2003	1.8	1.3	40.1	28.4	0.3	0.3	6.8	5.6	14.1	5.2	310.8	143.1	4.8	1.7	105.5	57.3
June 2003	3.2	2.0	41.5	29.7					6.0	2.7	78.0	40.3	2.1	1.1	26.7	25.2
Month	Northern pike				Freshwater drum				White sucker							
Month	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2002					2.1	1.6	38.2	57.5	0.7	0.7	12.8	16.5				
June 2002					4.8	2.6	104.9	75.8								
July 2002					3.8	1.3	86.5	42.0								
Aug. 2002					3.8	1.9	71.8	45.8	0.6	0.6	11.4	19.3				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Northern pike				Freshwater drum				White sucker			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Sept. 2002					0.6	0.6	13.1	14.5	1.0	0.7	21.0	19.1
Oct. 2002					1.3	0.5	27.6	11.4				
Nov. 2002												
Dec. 2002												
Jan. 2003												
Feb. 2003												
Mar. 2003												
Apr. 2003												

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-3 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Month	Northern pike				Freshwater drum				White sucker			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
May 2003	1.4	0.9	31.4	30.6					0.3	0.3	7.0	11.8
June 2003	6.3	3.7	82.1	40.1	1.5	1.0	19.7	12.1				

*See sample calculations in [Appendix B](#).

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-4

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003 (A BLANK MEANS NO EFFORT WAS REPORTED)**

Season	Anything				Coho salmon				Chinook salmon				Rainbow trout			
	Mean Hrs.	SE	Total Hrs*	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Spring 2002	43.4	8.4	1214.3	217.0					1.3	0.9	37.5	28.7	3.7	2.0	104.7	72.0
Summer	123.6	13.4	6920.9	935.2					1.1	0.5	63.1	34.2	2.9	1.1	163.2	72.6
Fall	42.2	6.1	1773.4	344.3	12.9	2.3	543.4	129.6	44.8	6.8	1880.8	367.7	19.6	3.4	821.1	217.1
Winter	5.2	1.3	550.2	178.0	2.3	0.6	247.8	73.4	3.3	0.8	350.3	100.0	29.4	4.8	3089.0	556.8
Spring 2003	0.6	0.4	36.0	30.9	0.6	0.4	36.0	30.9	0.9	0.5	52.1	36.0	9.8	1.7	548.3	121.3
Season	Brown bullhead				Channel catfish				White bass				Rock bass			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Spring 2002									5.8	1.6	163.5	70.7	0.9	0.4	25.5	18.3
Summer					0.7	0.3	36.8	19.2	15.9	3.0	890.6	258.2	14.6	2.3	817.8	181.3

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-4 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Season	Brown bullhead				Channel catfish				White bass				Rock bass			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Fall									6.0	1.5	252.6	87.0	2.0	0.8	82.6	45.5
Winter									0.3	0.3	35.1	37.8				
Spring 2003	0.2	0.2	13.0	21.6					0.5	0.4	28.4	25.0	0.9	0.7	49.1	36.1
Season	Atlantic salmon				Lake trout				Brown trout				Rainbow smelt			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Spring 2002					4.3	2.2	120.4	73.1	0.3	0.2	9.0	6.4				
Summer					4.9	1.3	273.3	90.8	0.4	0.3	24.2	17.9				
Fall	10.1	1.7	425.0	104.4	12.0	2.0	504.8	124.9	10.1	1.7	422.7	109.6				
Winter	1.6	0.5	165.9	60.0	11.4	2.4	1204.6	272.1	6.2	1.1	659.8	136.8				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-4 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Season	Atlantic salmon				Lake trout				Brown trout				Rainbow smelt			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Spring 2003					4.3	1.3	241.3	107.4	2.0	0.7	109.6	41.3	0.2	0.2	13.0	21.6
Season	Muskellunge				Tiger muskellunge				Carp				Pumpkinseed			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Spring 2002									1.0	1.0	28.9	46.0				
Summer					0.8	0.5	45.1	33.1	3.6	1.1	202.1	76.0				
Fall													0.2	0.2	7.9	13.0
Winter																
Spring 2003	0.3	0.2	14.3	10.2					0.9	0.9	52.5	87.1				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-4 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Season	Smallmouth bass				Largemouth bass				Yellow perch				Walleye			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Spring 2002	3.8	1.3	105.2	55.6	0.7	0.5	18.2	12.9	5.0	2.0	140.3	79.6	2.4	0.9	68.3	38.4
Summer	65.1	6.3	3644.4	420.4	4.1	1.3	225.0	89.8	7.8	2.0	430.6	157.3	0.7	0.5	36.8	33.7
Fall	16.2	3.5	680.5	178.5	0.2	0.2	9.2	11.7	6.6	2.3	277.6	133.8	0.9	0.4	38.6	22.6
Winter									0.1	0.1	10.0	14.5	0.03	0.03	2.8	4.0
Spring 2003	1.5	0.7	81.7	40.8	0.1	0.1	6.8	5.7	11.2	2.8	629.2	219.2	2.4	0.8	132.2	63.9
	Northern pike				Freshwater drum				White sucker							
Season	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE				
Spring 2002					1.9	1.2	54.2	49.8	0.5	0.5	12.8	13.4				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.2-4 (CONT.)

**MEAN DAILY AND TOTAL SPECIES-SPECIFIC SHORE ANGLER EFFORT VALUES IN HOURS (WITH STANDARD ERRORS)
BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003. A BLANK MEANS NO EFFORT WAS REPORTED.**

Season	Northern pike				Freshwater drum				White sucker			
	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE	Mean Hrs.	SE	Total Hrs	SE
Summer					4.6	1.3	260.4	107.6	0.4	0.3	24.6	23.6
Fall					0.7	0.3	27.6	12.6	0.2	0.2	7.9	13.0
Winter									0.1	0.1	7.0	11.6
Spring 2003	2.0	1.0	113.5	57.1	0.4	0.2	19.7	13.6				

*See sample calculations in [Appendix B](#).

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-1

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	Mean daily catch	Daily catch SE	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Smallmouth bass	0.651	0.131	259	53	31	10	100,424	23,148	12,511	4,338	87,913
Rock bass	0.408	0.048	191	32	49	10	70,432	10,600	18,403	3,392	52,029
Yellow perch	0.288	0.031	116	15	19	4	44,285	5,105	7,620	1,533	36,665
White bass	0.221	0.028	95	14	61	11	35,616	4,912	23,513	4,003	12,103
Freshwater drum	0.184	0.020	91	15	6	2	33,840	4,916	2,509	905	31,331
Round goby	0.177	0.024	81	13	8.6	3.3	30,167	4,297	3,661	1,463	26,506
Rainbow trout	0.117	0.018	26	4	5	1	9,681	1,363	1,838	419	7,843
White sucker	0.046	0.009	15	3	0.5	0.4	5,781	1,169	147	121	5,634

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-1 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	Mean daily catch	Daily catch SE	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Lake trout	0.044	0.006	13	3	1	0	4,621	857	392	156	4,229
Largemouth bass	0.020	0.007	11	4	0.3	0.2	3,762	1,355	83	46	3,679
Brown bullhead	0.013	0.007	8.7	6.4	1.9	1.5	2,757	1,863	641	454	2,116
Pumpkinseed	0.015	0.005	6	3	0	0	2,498	957	0	0	2,498
Carp	0.014	0.004	7	2	1	0.4	2,491	659	194	120	2,297
Chinook salmon	0.011	0.003	5	2	1	0.5	2,128	880	529	206	1,599
Bluegill	0.007	0.003	4	2	0	0	1,257	600	0	0	1,257
Walleye	0.007	0.003	3	1	0.1	0.1	1,231	688	30	28	1,201

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-1 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	Mean daily catch	Daily catch SE	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Suckers	0.010	0.004	3.22651	1	1	1	1,195	431	390	274	805
Channel catfish	0.007	0.003	3.2	1.6	2.5	1.5	1,025	483	764	451	261
Minnnows	0.003	0.003	3	3	0	0	889	772	0	0	889
Brown trout	0.011	0.003	2	1	0.2	0.1	832	302	52	37	780
Temperate bass	0.003	0.003	1	1	0	0	683	677	0	0	683
White perch	0.004	0.002	2	1	0.3	0.3	667	487	88	84	579
Alewife	0.002	0.002	1	1	0	0	494	357	0	0	494
Northern pike	0.002	0.002	1.4	1.3	1	1	453	385	410	384	43

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-1 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	Mean daily catch	Daily catch SE	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Gizzard shad	0.002	0.002	1	1	0	0	431	428	0	0	431
Muskellunge	0.005	0.002	1	0.4	0	0	387	147	0	0	387
Tiger muskellunge	0.001	0.001	1	1	0	0	315	213	0	0	315
Lake sturgeon	0.001	0.001	1	1	0	0	188	180	0	0	188
Spottail shiner	0.002	0.002	0.4	0.4	0	0	186	185	0	0	186
River redhorse	0.001	0.001	0.4	0.4	0	0	132	125	0	0	132
Rainbow smelt	0.001	0.001	0.2	0.2	0	0	99	98	0	0	99
Coho salmon	0.001	0.001	0.2	0.1	0.1	0.1	78	53	62	50	16

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-1 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	Mean daily catch	Daily catch SE	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Creek chub	0.002	0.002	0.1	0.1	0	0	47	32	0	0	47
American eel	0.001	0.001	0.1	0.1	0	0	46	44	0	0	46
Total							359,118		73,837		285,281

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
May 2002													
Rock bass	1.10	0.55	20	176	128	18	0	0	4,398	2,966	0	0	4,398
Freshwater drum	1.20	0.59	20	79	22	18	20	19	2,315	597	473	447	1,842
Round goby	0.52	0.29	20	46	24	18	0	0	1,522	812	0	0	1,522
Smallmouth bass	0.76	0.38	20	52	20	18	0	0	1,461	584	0	0	1,461
Yellow perch	0.38	0.18	20	49	27	18	20	14	1,450	762	564	399	886
White bass	0.26	0.20	20	48	47	18	0	0	1,131	1,081	0	0	1,131
White sucker	0.24	0.11	20	22	12	18	0	0	679	371	0	0	679
Carp	0.12	0.07	20	7	3	18	0	0	233	116	0	0	233

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Lake trout	0.05	0.03	20	7	5	18	4	4	217	164	149	149	68
Rainbow trout	0.03	0.03	20	4	4	18	0	0	149	149	0	0	149
Suckers	0.26	0.01	20	5	4	18	0	0	113	89	0	0	113
Largemouth bass	0.02	0.02	20	4	4	18	0	0	90	90	0	0	90
Pumpkinseed	0.02	0.02	20	4	4	18	0	0	90	90	0	0	90
Total									13,847		1,186		12,661
June 2002													
Rock bass	2.39	0.44	39	718	147	22	303	73	18,207	3,935	8,334	2,211	9,874
Smallmouth bass	2.13	0.42	39	588	160	22	67	34	12,994	3,744	1,462	823	11,532

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Freshwater drum	0.89	0.12	39	306	71	22	15	7	7,206	1,866	496	227	6,710
White bass	0.46	0.10	39	135	44	22	90	37	4,556	1,540	3,524	1,317	1,032
Round goby	0.30	0.10	39	98	27	22	16	11	2,667	763	445	341	2,221
Yellow perch	0.18	0.06	39	78	24	22	44	21	2,299	725	946	560	1,352
Temperate bass	0.05	0.05	39	20	20	22	0	0	923	725	0	0	923
White sucker	0.11	0.05	39	49	25	22	0	0	902	627	0	0	902
Rainbow trout	0.06	0.03	39	23	12	22	0	0	710	396	0	0	710
Lake trout	0.09	0.03	39	33	11	22	6	3	578	269	154	86	424
Carp	0.06	0.02	39	26	12	22	0	0	571	365	0	0	571

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Suckers	0.25	0.05	39	25	13	22	17	12	425	290	172	266	253
Largemouth bass	0.03	0.02	39	8	6	22	0	0	283	193	0	0	283
Bluegill	0.02	0.01	39	6	4	22	0	0	158	121	0	0	158
Muskellunge	0.03	0.03	39	3	3	22	0	0	127	100	0	0	127
Brown bullhead	0.02	0.01	39	8	7	22	2	2	122	168	20	44	102
Channel catfish	0.07	0.05	39	12	9	22	12	9	118	199	118	199	0
Chinook salmon	0.03	0.03	39	8	8	22	0	0	75	165	0	0	75
Tiger muskellunge	0.01	0.01	39	6	6	22	0	0	60	133	0	0	60

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE		Mean Catch			Mean Harvest			Total catch		Total harvest		Released
	CPUE	SE	n	Catch	SE	N	Harvest	SE	catch	SE	harvest	SE	Released
Total									52,986		15,674		37,311
July 2002													
Smallmouth bass	3.63	1.78	44	1,583	555	24	244	108	50,479	19,998	7,985	3,855	42,494
Rock bass	1.37	0.27	44	884	275	24	190	47	24,864	6,774	5,521	1,286	19,343
Freshwater drum	0.84	0.18	44	486	124	24	39	21	14,202	3,243	1,327	734	12,876
Yellow perch	0.72	0.16	44	433	116	24	51	21	12,075	2,822	1,626	741	10,449
White bass	0.67	0.15	44	405	116	24	292	93	11,743	3,113	8,432	2,639	3,311
Round goby	0.60	0.17	44	353	89	24	66	35	10,240	2,474	2,384	1,220	7,857

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Species	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Largemouth bass	0.14	0.07	44	87	37	24	1	1	2,535	1,173	32	30	2,503
Brown bullhead	0.09	0.09	44	76	76	24	0	0	1,830	1,830	0	0	1,830
Pumpkinseed	0.11	0.06	44	48	29	24	0	0	1,325	752	0	0	1,325
Rainbow trout	0.05	0.03	44	30	17	24	0	0	904	513	0	0	904
Minnnows	0.05	0.05	44	35	32	24	0	0	860	784	0	0	860
Walleye	0.05	0.03	44	22	17	24	0	0	790	622	0	0	790
Chinook salmon	0.02	0.02	44	22	22	24	0	0	788	788	0	0	788
Bluegill	0.03	0.02	44	25	20	24	0	0	603	476	0	0	603
White sucker	0.02	0.02	44	16	15	24	0	0	566	527	0	0	566

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
White perch	0.04	0.03	44	16	13	24	4	4	541	463	85	85	456
Channel catfish	0.01	0.01	44	17	17	24	17	17	410	410	410	410	0
Northern pike	0.02	0.02	44	16	16	24	16	16	390	390	390	390	0
Alewife	0.02	0.02	44	8	8	24	0	0	304	304	0	0	304
Suckers	0.01	0.01	44	7	7	24	0	0	264	264	0	0	264
Carp	0.01	0.01	44	10	7	24	3	3	234	175	64	64	171
Lake sturgeon	0.01	0.01	44	8	8	24	0	0	183	183	0	0	183
Tiger muskellunge	0.01	0.01	44	7	7	24	0	0	173	173	0	0	173
Total									136,299		28,254		108,045

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
August 2002													
Rock bass	0.88	0.24	37	271	104	22	47	18	9,136	3,794	1,452	649	7,684
Yellow perch	0.92	0.17	37	281	61	22	6	3	8,974	1,987	184	97	8,790
Smallmouth bass	1.10	0.22	37	295	60	22	28	15	8,487	1,538	771	347	7,716
Freshwater drum	0.48	0.10	37	162	41	22	20	15	4,476	1,018	430	316	4,046
Round goby	0.30	0.11	37	98	39	22	18	13	3,055	1,109	499	377	2,557
White bass	0.30	0.16	37	85	44	22	44	32	2,418	1,331	1,419	1,131	999
White sucker	0.07	0.04	37	28	14	22	6	6	922	510	123	123	799
Carp	0.07	0.04	37	28	15	22	0	0	908	530	0	0	908

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Pumpkinseed	0.08	0.05	37	18	12	22	0	0	656	453	0	0	656
Brown bullhead	0.06	0.06	37	21	21	22	20	20	464	464	450	450	14
Suckers	0.03	0.02	37	7	4	22	0	0	214	128	0	0	214
Muskellunge	0.01	0.01	37	4	3	22	0	0	142	97	0	0	142
River redhorse	0.01	0.01	37	6	6	22	0	0	128	128	0	0	128
Rainbow smelt	0.01	0.01	37	3	3	22	0	0	107	107	0	0	107
Chinook salmon	0.01	0.01	37	3	2	22	0	0	89	70	0	0	89
Channel catfish	0.01	0.01	37	3	2	22	1	1	81	60	27	27	54

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Bluegill	0.04	0.04	37	2	2	22	0	0	68	68	0	0	68
Total									40,323		5,355		34,968
September 2002													
Yellow perch	0.98	0.21	39	399	92	22	61	41	10,866	2,176	1,516	973	9,350
Smallmouth bass	0.78	0.15	39	357	108	22	42	13	9,813	2,728	1,158	356	8,654
Rock bass	0.56	0.09	39	262	85	22	90	63	7,130	2,046	2,226	1,509	4,904
White bass	0.45	0.11	39	184	55	22	71	22	5,095	1,377	2,042	662	3,053
Round goby	0.40	0.10	39	178	50	22	5	5	4,810	1,252	131	111	4,679
Freshwater drum	0.24	0.07	39	92	30	22	6	5	2,640	830	194	188	2,446

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
White sucker	0.03	0.02	39	24	16	22	0	0	630	421	0	0	630
Pumpkinseed	0.04	0.03	39	14	11	22	0	0	450	388	0	0	450
Gizzard shad	0.03	0.03	39	13	13	22	0	0	435	435	0	0	435
Bluegill	0.02	0.02	39	17	16	22	0	0	432	380	0	0	432
Rainbow trout	0.02	0.01	39	8	6	22	0.02	0.02	227	159	1	1	226
Walleye	0.01	0.01	39	6	6	22	1	1	193	193	28	28	165
Spottail shiner	0.03	0.03	39	5	5	22	0	0	188	188	0	0	188
Alewife	0.01	0.01	39	8	8	22	0	0	188	188	0	0	188
Channel catfish	0.01	0.01	39	8	8	22	0	0	188	188	0	0	188

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	N	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Carp	0.01	0.01	39	6	5	22	6	5	154	115	137	113	17
White perch	0.01	0.01	39	3	3	22	0	0	105	86	0	0	105
Chinook salmon	0.01	0.003	39	4	3	22	4	2	102	66	90	59	11
Brown bullhead	0.01	0.01	39	2	2	22	0	0	54	54	0	0	54
American eel	0.01	0.01	39	2	2	22	0	0	49	49	0	0	49
Largemouth bass	0.01	0.01	39	1	1	22	0	0	29	29	0	0	29
Brown trout	0.02	0.02	39	0.3	0.3	22	0.1	0.1	12	12	2	2	10
Total									43,788		7,525		36,264

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
October 2002													
White bass	1.01	0.25	38	266	65	23	232	59	7,190	1,445	6,280	1,347	909
Yellow perch	0.23	0.11	38	47	20	23	8	6	1,376	576	255	223	1,121
Freshwater drum	0.28	0.09	38	75	27	23	1	0.5	1,960	625	12	11	1,948
Rock bass	0.23	0.07	38	59	18	23	19	8	1,496	352	522	193	974
Smallmouth bass	0.36	0.09	38	85	19	23	11	5	2,520	571	346	161	2,174
Largemouth bass	0.01	0.01	38	1	1	23	0	0	47	47	0	0	47
Round goby	0.03	0.02	38	11	7	23	0	0	280	161	0	0	280
Channel catfish	0.01	0.01	38	3	2	23	2	2	78	56	43	43	35

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Rainbow trout	0.12	0.03	38	31	9	23	18	6	1,021	307	603	187	418
Chinook salmon	0.06	0.02	38	17	6	23	11	5	603	209	396	178	207
Lake trout	0.01	0.01	38	4	3	23	0.1	0.1	122	76	4	4	118
Brown trout	0.01	0.01	38	4	3	23	0	0	126	111	0	0	126
Coho salmon	0.001	0.001	38	0.3	0.3	23	0.3	0.3	11	11	11	11	0
Total									16,831		8,474		8,357
November 2002													
Lake trout	0.30	0.06	39	84	23	25	0.3	0.2	2,386	615	8	6	2,378
Round goby	0.10	0.07	39	50	40	25	0	0	1,375	1,046	0	0	1,375

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Rainbow trout	0.11	0.03	39	28	8	25	28.1	8.0	777	204	226	119	551
Yellow perch	0.05	0.05	39	12	12	25	3	3	415	415	92	92	323
Chinook salmon	0.04	0.03	39	8	5	25	2	2	206	117	47	41	159
Brown trout	0.02	0.02	39	6	4	25	1.5	1.5	159	102	36	36	123
Coho salmon	0.01	0.01	39	2	1	25	1	1	60	47	45	44	15
Smallmouth bass	0.01	0.01	39	2	2	25	0	0	47	47	0	0	47
Total									5,427		455		4,972
December 2002													
Rainbow trout	0.12	0.04	20	6	4	23	0.05	0.03	160	105	2	1	158

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Lake trout	0.13	0.06	20	3	1	23	0	0	89	44	0	0	89
Walleye	0.03	0.03	20	2	2	23	0	0	79	79	0	0	79
White sucker	0.03	0.03	20	3	3	23	0	0	65	65	0	0	65
Brown trout	0.05	0.04	20	1	1	23	0.2	0.2	34	33	5	5	29
Total									426		7		419
January 2003													
Rainbow trout	0.47	0.28	9	2	1	23	0	0	72	44	0	0	72
Walleye	0.04	0.04	9	2	2	23	0	0	35	35	0	0	35
Chinook salmon	0.03	0.03	9	1	1	23	0	0	26	26	0	0	26

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Lake trout	0.06	0.05	9	0.3	0.2	23	0.01	0.01	9	7	0.3	0.3	8
Brown trout	0.04	0.04	9	0.2	0.2	23	0	0	7	7	0	0	7
Total									149		0		148
February 2003													
Rainbow trout	0.36	0.16	8	4	2	21	0.4	0.3	95	44	10	7	85
Lake trout	0.20	0.14	8	4	2	21	1	1	65	30	12	7	52
Brown trout	0.06	0.03	8	1	1	21	0.5	0.3	63	10	25	11	39
Walleye	0.01	0.01	8	0.2	0.2	21	0	0	16	8	0	0	16
Total									239		47		192

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
March 2003													
Freshwater drum	0.02	0.02	18	1	1	22	0	0	26	26	0	0	26
Smallmouth bass	0.02	0.02	18	1	1	22	0	0	26	26	0	0	26
Rainbow trout	0.11	0.04	18	4	2	22	0.4	0.2	110	50	12	8	97
Total									163		12		150
April 2003													
Brown bullhead	0.04	0.04	15	2	2	23	2	2	61	61	61	61	0
Brown trout	0.05	0.05	15	5	5	23	0	0	178	172	0	0	178
Lake trout	0.09	0.04	15	6	3	23	1	1	162	89	40	40	122

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Rainbow trout	0.34	0.23	15	11	4	23	0.1	0.1	316	145	2	1	315
White sucker	0.05	0.05	15	5	5	23	0	0	111	111	0	0	111
Yellow perch	0.47	0.24	15	29	15	23	22	13	966	491	735	414	231
Total									1,795		838		957
May 2003													
Rainbow trout	0.49	0.16	32	72	25	23	11	6	2,030	747	285	157	1,745
Smallmouth bass	0.63	0.20	32	67	23	23	0	0	1,905	642	0	0	1,905
Yellow perch	0.34	0.15	32	35	13	23	7	4	1,225	457	250	137	975
Round goby	0.20	0.10	32	25	13	23	1	1	840	454	12	12	828

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
White sucker	0.19	0.09	32	23	10	23	0	0	734	318	0	0	734
Freshwater drum	0.13	0.07	32	9	6	23	0	0	328	212	0	0	328
Lake trout	0.05	0.03	32	9	7	23	0	0	197	162	0	0	197
White bass	0.01	0.01	32	3	3	23	0	0	70	70	0	0	70
Chinook salmon	0.01	0.01	32	2	2	23	0	0	53	53	0	0	53
Creek chub	0.04	0.03	32	2	1	23	0	0	47	33	0	0	47
Muskellunge	0.02	0.02	32	2	2	23	0	0	42	42	0	0	42
Rock bass	0.02	0.02	32	2	2	23	0	0	42	42	0	0	42
Northern pike	0.01	0.01	32	1	1	23	0	0	28	28	0	0	28

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Brown trout	0.01	0.01	32	1	1	23	0	0	28	28	0	0	28
Total									7,568		547		7,021
June 2003													
Smallmouth bass	0.84	0.18	22	196	58	14	3	2	3,220	706	51	35	1,745
Round goby	0.48	0.24	22	130	93	14	0	0	2,105	1,416	0	0	2,105
Rock bass	0.56	0.25	22	124	70	14	2	2	1,930	1,016	23	26	1,906
White bass	0.50	0.25	22	86	44	14	46	42	1,880	1,060	1,132	1,044	734
Yellow perch	0.33	0.20	22	64	33	14	5	5	1,309	735	113	113	1,196
Freshwater drum	0.28	0.11	22	64	24	14	1	1	1,063	419	10	10	328

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-2 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003

Common Name	Mean CPUE	CPUE SE	n	Mean Catch	SE	n	Mean Harvest	SE	Total catch	SE	Total harvest	SE	Released
Largemouth bass	0.11	0.08	22	26	18	14	2	2	327	234	22	24	197
Rainbow trout	0.09	0.05	22	20.95	13.29	14	13	13	302	190	156	171	70
Carp	0.03	0.02	22	11	10	14	0	0	156	144	0	0	156
White sucker	0.02	0.02	22	6	6	14	1	1	79	86	8	9	71
Walleye	0.01	0.01	22	3	3	14	0.1	0.1	39	41	1	1	38
Muskellunge	0.01	0.01	22	2.08	1.57	14	0	0	33	25	0	0	33
Brown trout	0.01	0.01	22	0.58	0.58	14	0	0	15	15	0	0	15
Lake trout	0.004	0.004	22	1.00	1.00	14	0	0	13	14	0	0	13
Northern pike	0.002	0.002	22	0.50	0.50	14	0	0	6	7	0	0	6
Total									27,610		2,611		8,610

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Spring 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Rock bass	1.737	0.532	36	215	104	29	39	35	8,492	2,950	1,361	1,031	7,131
Smallmouth bass	1.695	0.467	36	136	39	29	0	0	7,079	1,413	0	0	7,079
Freshwater drum	0.989	0.338	36	81	24	29	13	13	4,120	731	368	368	3,752
Round goby	0.436	0.181	36	47	19	29	7	7	3,128	791	193	193	2,936
Yellow perch	0.265	0.108	36	41	18	29	20	10	2,186	637	901	352	1,285
White bass	0.334	0.141	36	39	29	29	8	4	1,476	843	533	154	943
White sucker	0.193	0.078	36	15	7	29	0	0	843	289	0	0	843
Suckers	0.134	0.060	36	20	10	29	13	9	673	275	378	269	295

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Spring 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Lake trout	0.258	0.035	36	8	4	29	3	3	429	163	279	124	150
Carp	0.118	0.038	36	5	2	29	0	0	363	100	0	0	363
Rainbow trout	0.023	0.019	36	3	3	29	0	0	249	124	0	0	249
Muskellunge	0.028	0.028	36	2	2	29	0	0	187	99	0	0	187
Chinook salmon	0.028	0.028	36	6	6	29	0	0	165	165	0	0	165
Largemouth bass	0.023	0.016	36	5	3	29	0	0	138	93	0	0	138
Brown bullhead	0.007	0.007	36	1	1	29	0	0	70	37	0	0	70
Pumpkinseed	0.333	0.000	36	2	2	29	0	0	70	70	0	0	70

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Spring 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Bluegill	0.014	0.014	36	2	2	29	0	0	68	68	0	0	68
Channel catfish	0.019	0.019	36	2	2	29	2	2	65	65	65	65	0
Northern pike	0.071	0.000	36	0.2	0.2	29	0.2	0.2	7	7	7	7	0
Total									29,808		4,083		25,725
Summer 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Smallmouth bass	1.603	0.530	152	863	220	53	73	25	70,378	22,458	8,398	4,081	61,980
Rock bass	1.004	0.125	152	730	132	53	200	33	54,630	9,074	15,273	2,593	39,357

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Summer 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Freshwater drum	0.646	0.062	152	377	62	53	22	8	28,021	4,166	1,754	752	26,267
Yellow perch	0.509	0.072	152	357	57	53	26	8	26,553	3,869	2,108	817	24,444
White bass	0.369	0.067	152	280	58	53	175	45	20,886	4,014	13,411	3,295	7,475
Round goby	0.512	0.055	152	224	44	53	40	17	16,895	3,143	3,435	1,437	13,460
Largemouth bass	0.045	0.022	152	40	17	53	0.5	0.5	2,931	1,353	32	32	2,899
Pumpkinseed	0.196	0.022	152	28	13	53	0	0	2,153	946	0	0	2,153
White sucker	0.174	0.017	152	19	6	53	1	1	2,041	881	35	70	2,006

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Summer 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Bluegill	0.137	0.015	152	19	11	53	0	0	1,228	662	0	0	1,228
Rainbow trout	0.027	0.011	152	10	4	53	0	0	1,222	579	0	0	1,222
Carp	0.033	0.011	152	11	4	53	0.5	0.5	1,211	562	18	36	1,192
Chinook salmon	0.009	0.007	152	5	4	53	0	0	912	844	0	0	912
Walleye	0.176	0.008	152	10	8	53	0	0	848	673	0	0	848
Brown bullhead	0.202	0.032	152	20	15	53	4	4	710	1,079	143	258	567
Temperate bass	0.013	0.013	152	8	8	53	0	0	699	699	0	0	699
Suckers	0.207	0.013	152	7	4	53	0	0	592	317	0	0	592

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Summer 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
White perch	0.207	0.016	152	3	3	53	1	1	512	490	25	49	488
Alewife	0.204	0.014	152	3	2	53	0	0	375	340	0	0	375
Lake trout	0.014	0.006	152	5	2	53	1	1	355	192	90	63	265
Minnows	0.099	0.015	152	7	6	53	0	0	311	454	0	0	311
Channel catfish	0.117	0.016	152	7	4	53	5	4	283	279	182	258	101
Lake sturgeon	0.327	0.004	152	3	3	53	0	0	206	206	0	0	206
Muskellunge	0.003	0.002	152	1	0.5	53	0	0	135	94	0	0	135
Northern pike	0.007	0.007	152	3	3	53	3	3	113	223	113	223	0

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Summer 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Rainbow smelt	0.392	0.005	152	0.5	0.5	53	0	0	101	101	0	0	101
Tiger muskellunge	0.005	0.004	152	2	2	53	0	0	88	124	0	0	88
American eel	0.408	0.005	152	0.8	0.8	53	0	0	50	50	0	0	50
River redhorse	0.003	0.003	152	1	1	53	0	0	37	73	0	0	37
Total									234,474		45,018		189,457
Fall 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
White bass	0.673	0.136	77	195	37	42	152	34	10,101	1,764	7,725	1,613	2,375

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Fall 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Yellow perch	0.638	0.117	77	187	44	42	36	22	9,892	2,200	1,644	935	8,248
Smallmouth bass	0.50	0.09	77	138.60	30.27	42	17	5	7,733	1,910	981	317	6,752
Rock bass	0.424	0.052	77	121	34	42	49	32	6,268	1,575	2,118	1,327	4,151
Round goby	0.330	0.053	77	91	29	42	2.4	2.4	4,578	1,386	102	101	4,476
Freshwater drum	0.25	0.06	77	85.14	21.01	42	3	3	4,444	1,016	217	200	4,227
Rainbow trout	0.07	0.02	77	11.45	3.42	42	5	2	747	310	372	178	374
Lake trout	0.007	0.005	77	1.36	0.87	42	0.04	0.04	76	61	3	3	74
Chinook salmon	0.03	0.01	77	6.63	2.27	42	5	2	465	210	316	170	149

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Fall 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Gizzard shad	0.01	0.01	77	7	7	42	0	0	462	462	0	0	462
Pumpkinseed	0.013	0.013	77	6	6	42	0	0	410	410	0	0	410
Brown trout	0.01	0.01	77	1.94	1.49	42	0.03	0.03	142	119	3	3	139
White sucker	0.01	0.01	77	4.22	3.16	42	0	0	260	212	0	0	260
Walleye	0.01	0.01	77	2.90	2.90	42	0.4	0.4	205	205	30	30	175
Spottail shiner	0.01	0.01	77	3	3	42	0	0	200	200	0	0	200
Carp	0.11	0.01	77	3	3	42	3	2	140	106	124	104	16
White perch	0.220	0.023	77	1.7	1.3	42	0	0	108	90	0	0	108

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Fall 2002	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Coho salmon	0.0004	0.0004	77	0.2	0.2	42	0.2	0.2	12	12	12	12	0
Channel catfish	0.249	0.001	77	1.6	1.1	42	1.0	1.0	81	57	43	43	38
Bluegill	0.167	0.000	77	0.8	0.8	42	0	0	60	60	0	0	60
Brown bullhead	0.25	0.00	77	0.8	0.8	42	0	0	58	58	0	0	58
Largemouth bass	0.333	0.000	77	0.7	0.7	42	0	0	50	50	0	0	50
Total									46,490		13,691		32,800

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Winter 2002-2003	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Rainbow trout	0.168	0.035	76	10	2	114	2	1	1,279	277	270	128	1,009
Coho salmon	0.005	0.004	76	0.4	0.3	114	0.3	0.3	62	48	46	45	16
Lake trout	0.217	0.038	76	19	6	114	0.1	0.08	2,572	746	17	9	2,555
Walleye	0.013	0.008	76	1	1	114	0	0	110	79	0	0	110
White sucker	0.007	0.007	76	1	1	114	0	0	66	66	0	0	66
Brown trout	0.037	0.015	76	2	1	114	0.4	0.3	215	109	48	38	166
Freshwater drum	0.005	0.005	76	0.2	0.2	114	0	0	27	27	0	0	27
Smallmouth bass	0.010	0.007	76	1	0.5	114	0	0	75	54	0	0	75

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Winter 2002-2003	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Chinook salmon	0.02	0.01	76	2.2	1.2	114	0.4	0.4	241	127	47	42	193
Total									4,646		429		4,218
Spring 2003	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Smallmouth bass	0.297	0.066	130	72	19	60	0.6	0.4	5,026	1,198	49	33	4,978
Yellow perch	0.219	0.066	130	41	11	60	12	5	3,530	928	1,134	477	2,396
Round goby	0.130	0.050	130	42	24	60	0.2	0.2	3,097	1,572	12	12	3,085
Rainbow trout	0.191	0.058	130	37	11	60	7	4	2,673	797	471	239	2,202
Rock bass	0.100	0.046	130	32	18	60	0.5	0.5	2,160	1,154	28	28	2,132

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Spring 2003	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
White bass	0.088	0.045	130	23	12	60	12	11	1,908	1,064	1,070	988	839
Freshwater drum	0.078	0.027	130	19	7	60	0.2	0.2	1,457	519	10	10	1,447
White sucker	0.059	0.025	130	12	5	60	0.2	0.2	922	354	10	10	912
Largemouth bass	0.018	0.013	130	7	5	60	0.4	0.4	393	277	26	26	366
Lake trout	0.027	0.011	130	6	3	60	0.5	0.5	381	186	43	43	338
Brown trout	0.013	0.008	130	3	2	60	0	0	232	186	0	0	232
Carp	0.004	0.004	130	3	3	60	0	0	180	157	0	0	180
Muskellunge	0.007	0.005	130	1.2	0.8	60	0	0	78	49	0	0	78

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-3 (CONT.)

MEAN DAILY CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Spring 2003	Mean CPUE	CPUE SE	n	Mean daily catch	Daily catch SE	n	Mean daily harvest	Daily harvest SE	Total catch	Total catch SE	Total harvest	Total harvest SE	Released
Brown bullhead	0.006	0.006	130	0.7	0.7	60	0.7	0.7	65	65	65	65	0
Chinook salmon	0.002	0.002	130	0.9	0.9	60	0	0	53	53	0	0	53
Creek chub	0.010	0.008	130	0.6	0.5	60	0	0	46	33	0	0	46
Walleye	0.002	0.002	130	0.8	0.7	60	0.01	0.01	46	45	1	1	45
Northern pike	0.085	0.007	130	0.4	0.3	60	0	0	35	28	0	0	35
Total									22,283		2,920		19,363

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-4

**TARGETED CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS FOR THE
ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Common Name	CPUE*	SE	n
Suckers	0.500	0.000	2
Coho salmon	0.008	0.006	53
Chinook salmon	0.045	0.014	94
Rainbow trout	0.233	0.043	189
Brown trout	0.044	0.017	95
Lake trout	0.134	0.022	129
Northern pike	0.024	0.024	7
Carp	0.168	0.046	14
White sucker	0.667	0.158	5
Channel catfish	0.133	0.133	5
White bass	0.844	0.151	73
Rock bass	1.188	0.215	61
Pumpkinseed	0.625	0.375	2

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-4 (CONT.)

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS
FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Common Name	CPUE*	SE	n
Bluegill	0.167	0.167	2
Smallmouth bass	1.231	0.142	125
Largemouth bass	0.186	0.137	22
Yellow perch	0.981	0.145	80
Walleye	0.029	0.020	26
Freshwater drum	0.781	0.174	28

*CPUE calculated only for those species that had n>1 and/or a CPUE>0.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-5

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY
MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Month	Common Name	Mean CPUE*	SE	n
May 2002	Rainbow trout	0.222	0.222	3
May 2002	Lake trout	0.222	0.222	3
May 2002	White bass	0.222	0.222	3
May 2002	Freshwater drum	0.667	0.000	2
May 2002	Yellow perch	1.071	0.414	7
May 2002	Rock bass	2.425	0.930	4
May 2002	Smallmouth bass	1.399	1.028	7
June 2002	Rainbow trout	0.067	0.067	5
June 2002	Channel catfish	0.222	0.222	3
June 2002	Lake trout	0.133	0.102	10
June 2002	Yellow perch	0.613	0.354	4
June 2002	White bass	0.479	0.109	24
June 2002	Freshwater drum	0.867	0.243	6

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-5 (CONT.)

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY
MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Month	Common Name	Mean CPUE*	SE	n
June 2002	Smallmouth bass	1.465	0.451	19
June 2002	Rock bass	2.018	0.877	11
July 2002	Carp	0.050	0.050	5
July 2002	Largemouth bass	0.375	0.375	8
July 2002	Walleye	0.045	0.045	2
July 2002	Rock bass	0.982	0.362	14
July 2002	Freshwater drum	1.168	0.599	7
July 2002	Yellow perch	0.692	0.338	5
July 2002	Smallmouth bass	1.955	0.285	32
July 2002	White bass	0.774	0.402	19
August 2002	Freshwater drum	0.458	0.199	6
August 2002	Yellow perch	1.147	0.302	13
August 2002	Smallmouth bass	1.089	0.308	26

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-5 (CONT.)

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY
MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Month	Common Name	Mean CPUE*	SE	n
September 2002	Chinook salmon	0.009	0.005	27
September 2002	Rainbow trout	0.015	0.015	13
September 2002	White sucker	0.444	0.147	3
September 2002	Walleye	0.250	0.250	2
September 2002	Brown trout	0.075	0.075	8
September 2002	Pumpkinseed	0.625	0.375	2
September 2002	Rock bass	0.677	0.180	8
September 2002	Smallmouth bass	0.796	0.174	23
September 2002	White bass	0.810	0.440	7
September 2002	Yellow perch	1.362	0.455	15
October 2002	Chinook salmon	0.074	0.024	32
October 2002	Rainbow trout	0.115	0.031	30
October 2002	Brown trout	0.019	0.019	22

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-5 (CONT.)

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY
MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Month	Common Name	Mean CPUE*	SE	n
October 2002	Lake trout	0.036	0.024	23
October 2002	Smallmouth bass	0.440	0.170	9
October 2002	Freshwater drum	0.694	0.194	3
October 2002	White bass	2.115	0.362	11
October 2002	Yellow perch	1.389	0.556	3
November 2002	Coho salmon	0.024	0.020	17
November 2002	Rainbow trout	0.106	0.027	39
November 2002	Brown trout	0.031	0.028	18
November 2002	Chinook salmon	0.058	0.043	23
November 2002	Lake trout	0.277	0.053	30
November 2002	Yellow perch	1.000	1.000	2
December 2002	Rainbow trout	0.453	0.253	20
December 2002	Brown trout	0.083	0.070	12

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-5 (CONT.)

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY
MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Month	Common Name	Mean CPUE*	SE	n
December 2002	Lake trout	0.433	0.033	9
January 2003	Brown trout	0.080	0.080	5
January 2003	Lake trout	0.094	0.067	6
January 2003	Rainbow trout	0.464	0.250	10
February 2003	Brown trout	0.033	0.033	5
February 2003	Lake trout	0.336	0.273	4
February 2003	Rainbow trout	0.364	0.158	8
March 2003	Rainbow trout	0.110	0.041	18
April 2003	Lake trout	0.159	0.092	8
April 2003	Brown trout	0.125	0.125	8
April 2003	Yellow perch	0.929	0.455	11
April 2003	Rainbow trout	0.571	0.373	13
May 2003	Northern pike	0.056	0.056	3

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-5 (CONT.)

**TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY
MONTH FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Month	Common Name	Mean CPUE*	SE	n
May 2003	Yellow perch	0.624	0.292	15
May 2003	Smallmouth bass	0.150	0.102	4
May 2003	Lake trout	0.042	0.042	6
May 2003	Rainbow trout	0.862	0.258	18
June 2003	Lake trout	0.028	0.028	3
June 2003	Walleye	0.019	0.019	3
June 2003	Rainbow trout	0.067	0.067	6
June 2003	White bass	2.250	1.750	2
June 2003	Smallmouth bass	0.640	0.217	4
June 2003	Freshwater drum	0.667	0.667	3
June 2003	Rock bass	1.563	1.438	2
June 2003	Yellow perch	0.800	0.800	5

*CPUE calculated only for those species that had n>1 and/or a CPUE>0.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-6

TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Season	Common Name	Mean CPUE*	SE	n
Spring-02	Rainbow trout	0.200	0.133	5
Spring-02	Carp	0.208	0.042	2
Spring-02	Largemouth bass	0.250	0.250	2
Spring-02	Lake trout	0.333	0.172	6
Spring-02	White bass	0.349	0.116	13
Spring-02	Yellow perch	0.875	0.319	10
Spring-02	Freshwater drum	1.056	0.389	3
Spring-02	Smallmouth bass	1.161	0.726	10
Spring-02	Rock bass	1.819	0.720	6
Summer	Walleye	0.045	0.045	2
Summer	Chinook salmon	0.050	0.034	6
Summer	Largemouth bass	0.191	0.176	17
Summer	Carp	0.193	0.060	10

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-6 (CONT.)

TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Season	Common Name	Mean CPUE*	SE	n
Summer	Suckers	0.500	0.000	2
Summer	White bass	0.691	0.215	39
Summer	Freshwater drum	0.770	0.235	19
Summer	White sucker	0.833	0.167	2
Summer	Yellow perch	1.108	0.196	23
Summer	Rock bass	1.205	0.274	44
Summer	Smallmouth bass	1.604	0.195	77
Fall	Coho salmon	0.009	0.007	47
Fall	Brown trout	0.034	0.018	47
Fall	Chinook salmon	0.049	0.016	80
Fall	Rainbow trout	0.097	0.018	80
Fall	Walleye	0.100	0.100	5
Fall	Lake trout	0.152	0.032	60

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-6 (CONT.)

TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Season	Common Name	Mean CPUE*	SE	n
Fall	White sucker	0.333	0.167	2
Fall	Smallmouth bass	0.523	0.101	30
Fall	Freshwater drum	0.694	0.194	3
Fall	Rock bass	0.774	0.175	7
Fall	Yellow perch	1.294	0.437	16
Fall	White bass	1.348	0.300	19
Winter	Brown trout	0.100	0.031	32
Winter	Lake trout	0.156	0.056	29
Winter	Rainbow trout	0.211	0.056	56
Spring-03	Northern pike	0.024	0.024	7
Spring-03	Brown trout	0.091	0.091	11
Spring-03	Lake trout	0.094	0.047	17
Spring-03	Smallmouth bass	0.395	0.145	8

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.3-6 (CONT.)

TARGETED MEAN DAILY CPUE (WITH STANDARD ERRORS) FOR SHORE ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER IN 2002-2003

Season	Common Name	Mean CPUE*	SE	n
Spring-03	Rainbow trout	0.631	0.184	37
Spring-03	Walleye	0.648	0.060	11
Spring-03	Freshwater drum	0.667	0.667	3
Spring-03	Yellow perch	0.760	0.241	31
Spring-03	Rock bass	0.781	0.740	4
Spring-03	White bass	2.250	1.750	2

*CPUE calculated only for those species that had n>1 and/or a CPUE>0.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-1

**NUMBER OF AERIAL COUNTS FOR BOAT SURVEY BY DAY-TYPE AND MONTH FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Year	Month	Day Type	Counts	
2002	May	Weekday	2	
		Weekend	2	
	June	Weekday	1	
		Weekend	3	
	July	Weekday	4	
		Weekend	1	
	August	Weekday	1	
		Weekend	3	
	Sept	Weekday	1	
		Weekend	3	
	Oct.*	Weekday	2	
		Weekend	2	
	2002	Nov.*	Weekday	1
			Weekend	4
Dec.*		Weekday	4	
		Weekend	1	
2003	Jan.*	Weekday	2	
		Weekend	2	
	Feb.*	Weekday	0	
		Weekend	3	
	Mar.*	Weekday	1	
		Weekend	4	
	April	Weekday	3	
		Weekend	2	
	May	Weekday	3	
		Weekend	1	
2003	June	Weekday	3	
		Weekend	0	
Total Weekday			28	
Total Weekend			31	

* Flights during October through March included the Niagara Bar.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-2

**NUMBER OF AERIAL COUNTS FOR BOAT SURVEY BY DAY-TYPE AND SEASON FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Year	Season	Day Type	Counts
2002	Spring	Weekday	3
		Weekend	2
	Summer	Weekday	5
		Weekend	7
	Fall*	Weekday	3
		Weekend	5
	Winter*	Weekday	8
		Weekend	14
2003	Spring	Weekday	9
		Weekend	3

*Flights in October through March included the Niagara Bar

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-3

NUMBER OF BOATS COUNTED DURING AERIAL SURVEYS BY DAY-TYPE AND MONTH FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

2002		AREA 1 ⁺ RECREATIONAL BOAT																								2003			
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June**		
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
	0	0	0	7	0	7	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2002		AREA 2 ⁺⁺ RECREATIONAL BOAT																								2003			
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June		
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
	6	5	1	99	46	77	21	111	7	10	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	6	0
2002		AREA 3 ⁺⁺⁺ RECREATIONAL BOAT																								2003			
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June		
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
	0	0	0	0	0	7	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-3 (CONT.)

NUMBER OF BOATS COUNTED DURING AERIAL SURVEYS BY DAY-TYPE AND MONTH FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

2002		RECREATIONAL – AREA 1 AND AREA 2 COMBINED																								2003			
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June		
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
	6	5	1	106	46	91	21	159	7	10	9	6	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	10	0
2002		AREA 1 ⁺ FISHING BOAT																								2003			
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June		
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
	2	3	6	0	0	2	0	5	11	0	0	39	21	0	2	1	0	4	0	7	0	31	4	11	3	2	1	0	
2002		AREA 2 ⁺⁺ FISHING BOAT																								2003			
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June		
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
	3	9	14	0	6	72	0	74	44	0	0	37	75	0	41	8	0	10	0	51	0	81	21	9	4	14	11	0	

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-3 (CONT.)

NUMBER OF BOATS COUNTED DURING AERIAL SURVEYS BY DAY-TYPE AND MONTH FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

2002		AREA 3 ⁺⁺⁺ FISHING BOAT														2003												
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June	
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
	0	0	0	0	0	4	0	4	0	0	0	0	0	6	7	16	0	0	0	0	0	38	8	15	6	9	8	0
2002		FISHING – AREA 1 AND AREA 2 COMBINED														2003												
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		March		April		May		June	
	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
	5	12	20	0	6	78	0	83	55	0	0	76	96	6	50	25	0	14	0	58	0	150	33	35	13	25	20	0

wd*=weekday, we*=weekend

** Data collection concluded June 19, 2003

+River reach from Whirlpool to Artpark

++River reach from Artpark to Lake Ontario

+++Niagara Bar

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-4

**NUMBER OF BOATS COUNTED DURING AERIAL SURVEY BY DAY TYPE AND SEASON FOR THE LOWER NIAGARA RIVER
AND NIAGARA BAR IN 2002-2003**

AREA 1* RECREATIONAL BOATS COUNTED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
0	0	7	40	0	0	0	0	0	0
AREA 2** RECREATIONAL BOATS COUNTED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
7	5	67	287	16	16	0	0	8	1
AREA 3*** RECREATIONAL BOATS COUNTED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
0	0	0	22	0	0	0	0	4	2

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-4 (CONT.)

**NUMBER OF BOATS COUNTED DURING AERIAL SURVEY BY DAY TYPE AND SEASON FOR THE LOWER NIAGARA RIVER
AND NIAGARA BAR IN 2002-2003**

RECREATIONAL – AREA 1 AND AREA 2 COMBINED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
7	5	74	327	16	16	0	0	8	1
AREA 1* FISHING BOATS COUNTED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
3	3	5	7	11	39	23	43	8	13
AREA 2** FISHING BOATS COUNTED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
4	9	19	146	44	37	116	150	36	23

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-4 (CONT.)

**NUMBER OF BOATS COUNTED DURING AERIAL SURVEY BY DAY TYPE AND SEASON FOR THE LOWER NIAGARA RIVER
AND NIAGARA BAR IN 2002-2003**

AREA 3*** FISHING BOATS COUNTED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
0	0	0	8	0	0	7	60	22	24
FISHING – AREA 1 AND AREA 2 COMBINED									
Spring 02		Summer 02		Fall 02		Winter 02		Spring 03	
Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend	Weekday	Weekend
7	12	24	153	55	76	139	193	44	36

* River reach from Whirlpool to Artpark

**River reach from Artpark to Lake Ontario

*** Niagara Bar

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-5

NUMBER OF COMPLETE BOAT ANGLER INTERVIEWS BY MONTH, DAY TYPE AND LOCATION FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

Interview	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June	
Location	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	w-	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Fort Niagara River	22	11	41	26	61	56	60	73	43	74	8	22	2	5	1	4	1	3			2	5	18	22	41	60	12	29
Fort Niagara Bar													1															
Lewiston River	22	6	4	5	8	11	15	18	27	29	49	41	19	28	8	9	11	19	39	58	30	88	38	24	11	14	6	6
Lewiston Bar												1			4		2				3							
Youngstown River		4	1	5	1	0	2	3	2	1	2	2					1						1	4	1	8		1
Youngstown Bar																												

*wd=weekday, we=weekend

The sums are numbers of interviews, not anglers

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-6

**NUMBER OF COMPLETE BOAT INTERVIEWS BY SEASON, DAY-TYPE AND LOCATION
FOR THE LOWER NIAGARA RIVER IN 2002-2003**

Interview	Spring 02		Summer		Fall		Winter		Spring 03	
Location	wd*	we*	wd	we	wd	we	wd	we	wd	we
Fort Niagara River	34	17	150	188	51	57	6	17	71	111
Fort Niagara Bar							1			
Lewiston River	25	9	24	32	76	69	107	202	55	44
Lewiston Bar						1	4	5		
Youngstown River		6	4	6	4	3	1		2	13
Youngstown Bar										

*wd=weekday, we=weekend

The sums are the number of interviews

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4.7

NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY MONTH AND DAY-TYPE IN THE LOWER NIAGARA RIVER IN 2002-2003

Niagara River	2002																2003											
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June**	
	wd*	we*	wd	we	wd	we	wd	We	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Anything	22	16	32	43	23	32	15	14	21	21	13	13	9	2	2						25	16	14		13	7	31	
Suckers												3							2									
Lake sturgeon										2																		
Bowfin				2																								
Coho salmon	29	6	4	2		3	9		1	22	2	3	3			3				2		2	17	10	27	44	4	
Chinook salmon	31	28	4	2		5	24	46	51	65	86	96	2				2	3			2	34	31	82	141	13	13	
Rainbow trout	64	15	7	5		5	8		2	13	48	28	57	35	20	50	26	44	108	152	84	168	113	90	44	93	8	5

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4.7 (CONT.)

**NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY MONTH AND DAY-TYPE IN THE LOWER NIAGARA RIVER IN
2002-2003**

Niagara River	2002																2003											
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June**	
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Atlantic salmon	9	2																			2	8						
Brown trout	20	2	1			8	2				4	2	5		16	32	16	11	63	123	59	151	74	36	38	70		
Lake trout	55	31	11	3		5	5	14	6	11	16	5	28	12	10	25	6	17	62	97	55	138	87	98	81	135	2	4
Grass pickerel																					2							
Northern pike							3			2											3	5			2		4	
Muskellunge							1		1					4							2	6	2				2	3
Tiger muskellunge							1																					

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4.7 (CONT.)

**NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY MONTH AND DAY-TYPE IN THE LOWER NIAGARA RIVER IN
2002-2003**

Niagara River	2002																2003												
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June**		
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	
Common carp	3										2								3										
White sucker																		4	6		2	4	3		3				
Brown bullhead											1																		
White bass		1			4	3	4				3															4			
Rock bass				4	3	1				4		3															4		
Bluegill							1																						
Smallmouth bass	21	2	41	33	149	86	116	146	71	107	32	52	2					2						3		26	37	20	33

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4.7 (CONT.)

NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY MONTH AND DAY TYPE, LOWER NIAGARA RIVER, 2002-03

	2002																2003											
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June**	
	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Niagara River																												
Largemouth bass				8		1																						
Yellow perch	4		4	3	3				2	3												1			5			5
Walleye	5	1	4	3	19	21	33	40	43	28		2							8	6	5	31			2	8	1	
Freshwater drum			2	6	8							4										4			15	41	9	24
Niagara Bar***																												
Anything															3													
Chinook salmon												3																



**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4.7 (CONT.)

**NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY MONTH AND DAY-TYPE IN THE LOWER NIAGARA RIVER IN
2002-2003**

	2002																2003											
	May		June		July		Aug.		Sept.		Oct.		Nov.		Dec.		Jan.		Feb.		Mar.		April		May		June**	
Niagara River	wd*	we*	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we	wd	we
Rainbow trout															2							2						
Brown trout															5							2						
Lake trout															3			6				2						

*wd=weekday, we=weekend.

**Data collection ended June 19, 2003

***Niagara Bar data collected from October 1, 2002 to March 31, 2003 only

The values in this table are the number of individual anglers. Some anglers targeted >1 species.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-8

**NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY SEASON AND DAY-TYPE IN
THE LOWER NIAGARA RIVER IN 2002-2003**

	Spring 2002		Summer		Fall		Winter		Spring 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we
Anything	36	32	56	79	34	28	11	27	23	58
Suckers						3		2		
Lake sturgeon						2				
Bowfin		2								
Coho salmon	33	8	9	3	3	25	3	7	48	54
Chinook salmon	35	30	24	65	139	145	4	5	129	185
Rainbow trout	71	17	8	8	50	41	295	449	165	188
Atlantic salmon	9	2					0	2	8	0
Brown trout	21	2	2	8	4	2	159	317	112	106
Lake trout	66	31	5	26	22	12	161	289	170	237
Grass pickerel								2		
Northern pike			3	0		2	3	5	6	0
Muskellunge			1				3	10	4	3
Tiger muskellunge			1							

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-8 (CONT.)

**NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY SEASON AND
DAY-TYPE IN THE LOWER NIAGARA RIVER IN 2002-2003**

Niagara River	Spring 2002		Summer		Fall		Winter		Spring 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we
Common carp	3				2	0	0	3		
White sucker							4	8	4	6
Brown bullhead					1					
White bass	0	1	3	8	3	0			4	0
Rock bass			3	5	0	7			0	4
Bluegill			1							
Smallmouth bass	28	7	299	308	103	111	2	2	49	70
Largemouth bass				9						
Yellow perch	8	0	3	3	2	3			6	5
Walleye	5	3	56	68	43	24	13	37	3	8
Freshwater drum			10	6	0	4	0	4	24	65
Niagara Bar**										
Anything								3		
Chinook salmon						3				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.4-8 (CONT.)

**NUMBER OF BOAT ANGLERS TARGETING A SPECIES BY SEASON AND DAY-TYPE IN
THE LOWER NIAGARA RIVER IN 2002-2003**

	Spring 2002		Summer		Fall		Winter		Spring 2003	
	wd*	we*	wd	we	wd	we	wd	we	wd	we
Rainbow trout							2	2		
Brown trout							5	2		
Lake trout							3	8		

*wd=weekday, we=weekend.

**Niagara Bar data collected from October 1, 2002 to March 31, 2003 only.

The values in this table are the number of individual anglers. Some anglers targeted >1 species.

NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002

TABLE 3.5-1

**TOTAL NUMBER OF BOAT ANGLING HOURS BY SEASON FOR THE
 LOWER NIAGARA RIVER AND THE NIAGARA BAR IN 2002-2003**

Month	Lower Niagara River		Niagara Bar*	
	Total number of boat angling hours	SE	Total number of boat angling hours	SE
Spring 2002 WD**	1,662	770	----	----
Spring 2002 WE**	7,904	6,004	----	----
Summer WD	19,044	15,152	----	----
Summer WE	38,965	43,223	----	----
Fall WD*	21,077	8,893	----	----
Fall WE*	7,249	4,077	----	----
Winter WD	10,359	9,770	2,692	6,126
Winter WE	23,423	19,011	9,418	5,459
Spring 2003 WD	9,148	1,695	----	----
Spring 2003 WE	8,889	3,900	----	----
Total WD***	59,628		2,669	6,810
Total WE***	78,526		77,110	52,224
Total***	138,154		79,779	

*Niagara Bar data collected from October 1, 2002 to March 31, 2003 only. Only one interview was conducted in October 2003 (Fall season), therefore, no effort estimates could be calculated for Fall.

**The survey began in May 2002.

***Total WD and WE values are summations of the seasonal estimates by day type for summer 2002 through spring 2003. Total for the Niagara River is the summation of seasonal weekday and weekend totals for Summer 2002 through Spring 2003. Total WD and Total WE values for the Niagara Bar were calculated using angler count and interview data from October 2002 - March 31, 2003. Only one interview of Niagara Bar anglers was conducted in October; therefore, no estimate and standard error of boat angling effort could be calculated for Fall. However, the count and interview data collected during October were used to calculate the Total WD and Total WE effort estimates. A small number (1) of boat angler interviews were conducted in October although a relatively high number of fishing boats were counted on the Niagara Bar in October. The high standard error for this estimate indicates that the boat angler effort is highly variable from day to day (likely due to severe weather conditions that are common on the Niagara Bar). Total for the Niagara Bar is the summation of the total WD and WE estimates.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.5-2

**SPECIES-SPECIFIC EFFORT FOR BOAT ANGLERS FOR THE LOWER NIAGARA RIVER AND
NIAGARA BAR BY SEASON IN 2002-2003**

Season	Common Name	River hours	River SE	Bar hours	Bar SE
Spring 2002	Anything	1,220	1,091	-	
Spring 2002	Rainbow trout	913	817	-	
Spring 2002	Brown trout	63	57	-	
Spring 2002	Lake trout	2,646	2,364	-	
Spring 2002	Carp	263	236	-	
Spring 2002	White perch	63	57	-	
Spring 2002	Smallmouth bass	569	510	-	
Spring 2002	Yellow perch	125	113	-	
Spring 2002	Walleye	400	359	-	
Summer 2002	Anything	8,880	8,544	-	
Summer 2002	Chinook salmon	1,398	1,347	-	
Summer 2002	Lake trout	777	749	-	
Summer 2002	White bass	311	301	-	
Summer 2002	Smallmouth bass	45,384	43,659	-	

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.5-2 (CONT.)

**SPECIES SPECIFIC EFFORT FOR BOAT ANGLERS FOR THE LOWER NIAGARA RIVER AND
NIAGARA BAR BY SEASON IN 2002-2003**

Season	Common Name	River hours	River SE	Bar hours	Bar SE
Summer 2002	Largemouth bass	104	102	-	
Summer 2002	Walleye	10,718	10,312	-	
Summer 2002	Freshwater drum	570	550	-	
Fall 2002	Anything	2,239	1,242	-	
Fall 2002	Suckers	137	82	-	
Fall 2002	Lake sturgeon	69	44	-	
Fall 2002	Coho salmon	274	158	-	
Fall 2002	Chinook salmon	9,472	5,230	-	
Fall 2002	Rainbow trout	3,056	1,693	-	
Fall 2002	Brown trout	46	32	-	
Fall 2002	Lake trout	846	473	-	
Fall 2002	Northern pike	46	32	-	
Fall 2002	Carp	137	82	-	
Fall 2002	Brown bullhead	46	32	-	
Fall 2002	Rock bass	137	82	-	

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.5-2 (CONT.)

**SPECIES SPECIFIC EFFORT FOR BOAT ANGLERS FOR THE LOWER NIAGARA RIVER AND
NIAGARA BAR BY SEASON IN 2002-2003**

Season	Common Name	River hours	River SE	Bar hours*	Bar SE
Fall 2002	Smallmouth bass	7,404	4,090	-	
Fall 2002	Yellow perch	103	64	-	
Fall 2002	Walleye	2,262	1,255	-	
Fall 2002	Freshwater drum	274	158	-	
Winter 2002-2003	Anything	1,756	1,738	2,757	6,016
Winter 2002-2003	Coho salmon	56	56		
Winter 2002-2003	Rainbow trout	12,224	12,097		
Winter 2002-2003	Brown trout	5,311	5,256	2,144	4,613
Winter 2002-2003	Lake trout	23,538	23,294	20,522	46,638
Winter 2002-2003	Grass pickerel	169	168		
Winter 2002-2003	Northern pike	254	251		
Winter 2002-2003	Muskellunge	691	684		
Winter 2002-2003	Carp	254	251		
Winter 2002-2003	White sucker	254	251		
Winter 2002-2003	Smallmouth bass	169	168		

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.5-2 (CONT.)

**SPECIES SPECIFIC EFFORT FOR BOAT ANGLERS FOR THE LOWER NIAGARA RIVER AND
NIAGARA BAR BY SEASON IN 2002-2003**

Season	Common Name	River hours	River SE	Bar hours*	Bar SE
Winter 2002-2003	Walleye	2,871	2,841	1,838	3,912
Spring 2003	Anything	2,154	1,895	-	
Spring 2003	Chinook salmon	335	296	-	
Spring 2003	Rainbow trout	3,945	3,470	-	
Spring 2003	Brown trout	2,203	1,938	-	
Spring 2003	Lake trout	3,011	2,649	-	
Spring 2003	Northern pike	237	210	-	
Spring 2003	Muskellunge	223	198	-	
Spring 2003	White sucker	293	259	-	
Spring 2003	White bass	279	247	-	
Spring 2003	Smallmouth bass	1,750	1,540	-	
Spring 2003	Yellow perch	84	75	-	
Spring 2003	Walleye	335	296	-	
Spring 2003	Freshwater drum	460	406	-	

*Data collected from October 1, 2002 through March 31, 2003.

NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002

TABLE 3.6-1

CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR BOAT ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

Common Name	CPUE River	CPUE SE	CPUE Bar	CPUE SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Suckers	0.0002	0.000005			3	1	0	0				
Lake sturgeon	0.0002	0.000005			16	1	0	0				
Coho salmon	0.0030	0.000033			209	8	121	5				
Chinook salmon	0.0219	0.000109	0.01	0.00	1,543	59	1,205	46	337	153	337	153
Rainbow trout	0.1787	0.000458	0.06	0.02	12,589	479	4,708	179	1,683	766	0	0
Atlantic salmon	0.0001	0.000004			8	0.3	0	0				
Brown trout	0.0453	0.000184	0.09	0.01	3,189	121	924	35	2,356	1,072	673	306
Lake trout	0.0931	0.000424	0.90	0.16	6,556	249	394	15	24,568	11,183	0	0
Grass pickerel	0.0001	0.000004			8	0.3	0	0				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-1 (CONT.)

CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR BOAT ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

Common Name	CPUE River	CPUE SE	CPUE Bar	CPUE SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Northern pike	0.0008	0.000011			56	2	8	0.3				
Muskellunge	0.0010	0.000014			72	3	0	0				
Tiger muskellunge	0.0002	0.000005			16	1	0	0				
Carp	0.0008	0.000011			56	2	0	0				
White sucker	0.0008	0.000011			56	2	8	0.3				
Brown bullhead	0.0023	0.000050			161	6	8	0.3				
Channel catfish	0.0003	0.000007			24	1	0	0				
White perch	0.0011	0.000031			80	3	64	2				
White bass	0.0159	0.000214	0.01	0.00	1,117	42	169	6	337	153	0	0

NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002

TABLE 3.6-1 (CONT.)

CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR BOAT ANGLERS FOR THE ENTIRE SURVEY FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

Common Name	CPUE River	CPUE SE	CPUE Bar	CPUE SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Rock bass	0.0143	0.000083			1,004	38	24	1				
Smallmouth bass	0.6139	0.002049			43,246	1,644	3,088	117				
Largemouth bass	0.0008	0.000014			56	2	0	0				
Yellow perch	0.0097	0.000070			683	26	121	5				
Walleye	0.0119	0.000074			836	32	434	17				
Freshwater drum	0.0267	0.000119			1,880	71	8	0.3				
Round goby	0.0146	0.000129			1,028	39	169	6				
Totals					74,493		11,452		29,280		1,010	

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2

CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Spring 2002	Coho salmon	0.022	0.0017	----	----	136	55	114	46	----	----	----	----
	Chinook salmon	0.020	0.0016	----	----	125	51	114	46	----	----	----	----
	Rainbow trout	0.136	0.0058	----	----	851	342	454	183	----	----	----	----
	Brown trout	0.007	0.0008	----	----	45	19	11	5	----	----	----	----
	Lake trout	0.058	0.0022	----	----	363	146	45	18	----	----	----	----
	Carp	0.005	0.0006	----	----	34	14	0	0	----	----	----	----
	White sucker	0.007	0.0006	----	----	45	18	0	0	----	----	----	----
	White bass	0.015	0.0126	----	----	840	343	57	24	----	----	----	----
	White perch	0.134	0.0020	----	----	91	38	91	38	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Spring 2002	Northern pike	0.002	0.0002	----	----	11	5	0	0	----	----	----	----
	Muskellunge	0.002	0.0002	----	----	11	5	0	0	----	----	----	----
	Tiger muskellunge	0.002	0.0002	----	----	11	5	0	0	----	----	----	----
	Channel catfish	0.002	0.0002	----	----	11	5	0	0	----	----	----	----
	Rock bass	0.002	0.0002	----	----	11	5	0	0	----	----	----	----
	Smallmouth bass	0.500	0.0172	----	----	3,133	1,256	11	5	----	----	----	----
	Largemouth bass	0.002	0.0002	----	----	11	5	0	0	----	----	----	----
	Yellow perch	0.025	0.0019	----	----	159	64	45	19	----	----	----	----
	Walleye	0.004	0.0003	----	----	23	9	23	9	----	----	----	----
	Freshwater drum	0.136	0.0055	----	----	851	342	0	0	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Spring 2002	Round goby	0.022	0.0030	----	----	136	57	136	57	----	----	----	----
Summer	Lake trout	0.004	0.0003	----	----	273	79	164	48	----	----	----	----
	Carp	0.001	0.0001	----	----	55	16	0	0	----	----	----	----
	White bass	0.016	0.0001	----	----	1,093	317	0	0	----	----	----	----
	White perch	0.001	0.0003	----	----	55	16	0	0	----	----	----	----
	Rock bass	0.040	0.0010	----	----	2,733	793	0	0	----	----	----	----
	Smallmouth bass	2.122	0.0257	----	----	144,619	41,946	4,427	1,284	----	----	----	----
	Largemouth bass	0.001	0.0001	----	----	55	16	0	0	----	----	----	----
	Yellow perch	0.018	0.0005	----	----	1,202	349	55	16	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Summer	Walleye	0.011	0.0003	----	----	765	222	328	95	----	----	----	----
	Freshwater drum	0.030	0.0005	----	----	2,022	587	0	0	----	----	----	----
	Round goby	0.014	0.0004	----	----	984	285	328	95	----	----	----	----
Fall	Suckers	0.000	0.0000	----	----	11	2	0	0	----	----	----	----
	Lake sturgeon	0.001	0.0000	----	----	17	5	0	0	----	----	----	----
	Coho salmon	0.001	0.0000	----	----	17	5	9	2	----	----	----	----
	Chinook salmon	0.060	0.0006	----	----	1,208	334	1,097	303	----	----	----	----
	Rainbow trout	0.041	0.0006	----	----	825	228	485	134	----	----	----	----
	Brown trout	0.000	0.0000	----	----	9	2	0	0	----	----	----	----
	Lake trout	0.019	0.0004	----	----	374	104	60	16	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Fall	Carp	0.001	0.0000	----	----	17	5	0	0	----	----	----	----
	Brown bullhead	0.006	0.0003	----	----	128	35	9	2	----	----	----	----
	White bass	0.014	0.0000	----	----	289	80	128	35	----	----	----	----
	White perch	0.000	0.0006	----	----	9	2	0	0	----	----	----	----
	Northern pike	0.000	0.0000	----	----	9	2	0	0	----	----	----	----
	Channel catfish	0.001	0.0000	----	----	17	5	0	0	----	----	----	----
	Rock bass	0.014	0.0002	----	----	272	75	0	0	----	----	----	----
	Smallmouth bass	0.596	0.0059	----	----	11,927	3,298	1,548	428	----	----	----	----
	Largemouth bass	0.000	0.0000	----	----	9	2	0	0	----	----	----	----
	Yellow perch	0.013	0.0003	----	----	255	71	68	19	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch h Bar	SE	Harvest Bar	SE
Fall	Walleye	0.017	0.0004	----	----	332	92	68	19	----	----	----	----
	Freshwater drum	0.020	0.0004	----	----	408	113	0	0	----	----	----	----
	Round goby	0.023	0.0006	----	----	459	127	0	0	----	----	----	----
Winter	Suckers	0.000	0.0000			14	3	0	0				
	White sucker	0.001	0.0000			42	9	14	3				
	Coho salmon	0.001	0.0000			56	12	0	0				
	Chinook salmon	0.004	0.0002			183	40	0	0				
	Rainbow trout	0.351	0.0017	0.09	0.04	16,710	3,609	6,012	1,298	3191	2371	0	0
	Brown trout	0.106	0.0008	0.12	0.02	5,024	1,085	1,327	287	4467	2843	1276	948.3

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Winter	Lake trout	0.193	0.0018	1.26	0.24	9,174	1,981	296	64	46584	30122	0	0
	Carp	0.000	0.0000			14	3	0	0				
	Grass pickerel	0.000	0.0000			14	3	0	0				
	Northern pike	0.001	0.0000			28	6	0	0				
	Muskellunge	0.002	0.0001			99	21	0	0				
	Smallmouth bass	0.005	0.0002			226	49	56	12				
	Yellow perch	0.000	0.0000			14	3	0	0				
	Walleye	0.011	0.0002			536	116	452	98				
	Freshwater drum	0.002	0.0000			85	18	0	0				

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Winter	Round goby	0.005	0.0003			226	49	0	0				
Spring 2003	Coho salmon	0.007	0.0004	----	----	114	30	57	15	----	----	----	----
	Chinook salmon	0.024	0.0013	----	----	369	98	156	41	----	----	----	----
	Rainbow trout	0.193	0.0043	----	----	2,994	794	894	237	----	----	----	----
	Brown trout	0.033	0.0012	----	----	511	135	284	75	----	----	----	----
	Lake trout	0.078	0.0033	----	----	1,206	320	199	53	----	----	----	----
	Atlantic salmon	0.001	0.0001	----	----	14	4	0	0	----	----	----	----
	White bass	0.001	0.0001	----	----	14	4	14	4	----	----	----	----
	Northern pike	0.003	0.0002	----	----	43	11	14	4	----	----	----	----
	Muskellunge	0.001	0.0001	----	----	14	4	0	0	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-2 (CONT.)

**SEASONAL CPUE, CATCH, AND HARVEST WITH ESTIMATED TOTAL CATCH AND HARVEST
(WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR THE LOWER NIAGARA
RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	CPUE River	SE	CPUE Bar	SE	Catch River	SE	Harvest River	SE	Catch Bar	SE	Harvest Bar	SE
Spring 2003	Smallmouth bass	0.069	0.0020	----	----	1,064	282	0	0	----	----	----	----
	Walleye	0.003	0.0002	----	----	43	11	28	8	----	----	----	----
	Freshwater drum	0.014	0.0005	----	----	213	56	0	0	----	----	----	----
	Round goby	0.005	0.0004	----	----	71	19	0	0	----	----	----	----

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-3

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS FOR THE ENTIRE SURVEY
FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Common Name	Niagara River			Niagara Bar**		
	CPUE*	SE	n	CPUE	SE	n
Suckers	0.10	0.014	3			
Coho salmon	0.07	0.004	34			
Chinook salmon	0.12	0.001	142			
Rainbow trout	0.33	0.001	370			
Atlantic salmon	0.02	0.014	3			
Brown trout	0.11	0.001	190	0.160	0.051	3
Lake trout	0.23	0.002	220	1.381	0.384	4
Northern pike	0.10	0.026	4			
Muskellunge	0.10	0.014	8			
Carp	0.06	0.005	3			
White sucker	0.03	0.007	5			
White bass	0.45	0.196	4			
Rock bass	0.15	0.039	4			

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-3 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS FOR THE ENTIRE SURVEY
FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Common Name	Niagara River			Niagara Bar		
	CPUE*	SE	n	CPUE**	SE	n
Smallmouth bass	2.46	0.016	267			
Yellow perch	0.72	0.139	7			
Walleye	0.12	0.003	85			
Freshwater drum	0.13	0.007	18			

*CPUE calculated only for those species that had n>1 and/or a CPUE>0. n = number of interviews.

**Niagara Bar sampled from October 1, 2002 to March 31, 2003 only. Although 3 boat anglers interviewed in October indicated they targeted Chinook salmon while fishing on the Niagara Bar, they caught no Chinook salmon. The targeted CPUE values in this table are the same as those presented in [Table 3.6-5](#).

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-4

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY MONTH FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Month	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
May 2002	Brown trout	0.076	0.030	4	---	---	---
May 2002	Lake trout	0.119	0.007	18	---	---	---
May 2002	Chinook salmon	0.132	0.031	7	---	---	---
May 2002	Coho salmon	0.173	0.037	7	---	---	---
May 2002	Rainbow trout	0.224	0.015	19	---	---	---
May 2002	Smallmouth bass	0.702	0.149	5	---	---	---
June 2002	Lake trout	0.072	0.034	5	---	---	---
June 2002	Chinook salmon	0.100	0.071	2	---	---	---
June 2002	Rainbow trout	0.129	0.036	5	---	---	---
June 2002	Smallmouth bass	1.559	0.229	13	---	---	---
June 2002	Yellow perch	1.800	0.730	3	---	---	---
July 2002	Walleye	0.111	0.019	13	---	---	---
July 2002	Freshwater drum	0.364	0.174	2	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-4 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY MONTH
FOR THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Month	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
July 2002	Smallmouth bass	2.205	0.063	47	---	---	---
August 2002	Walleye	0.113	0.009	20	---	---	---
August 2002	White bass	0.138	0.064	2	---	---	---
August 2002	Smallmouth bass	5.116	0.094	78	---	---	---
September 2002	Rainbow trout	0.028	0.018	3	---	---	---
September 2002	Chinook salmon	0.077	0.004	38	---	---	---
September 2002	Rock bass	0.120	0.028	2	---	---	---
September 2002	Walleye	0.141	0.009738	29	---	---	---
September 2002	Lake trout	0.279	0.213	3	---	---	---
September 2002	Yellow perch	0.889	0.703	2	---	---	---
September 2002	Smallmouth bass	1.556	0.031	71	---	---	---
October 2002	Brown trout	0.040	0.024	3	---	---	---
October 2002	Coho salmon	0.048	0.029	3	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-4 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY MONTH FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Month	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
October 2002	Freshwater drum	0.083	0.000	3	---	---	---
October 2002	Chinook salmon	0.120	0.002	74	0	0	3
October 2002	Rainbow trout	0.176	0.007	34	---	---	---
October 2002	Lake trout	0.195	0.020	10	---	---	---
October 2002	Smallmouth bass	1.742	0.074	35	---	---	---
November 2002	Coho salmon	0.125	0.088	2	---	---	---
November 2002	Muskellunge	0.138	0.049	4	---	---	---
November 2002	Rainbow trout	0.229	0.008	43	---	---	---
November 2002	Lake trout	0.660	0.035	21	---	---	---
December 2002	Rainbow trout	0.175	0.013	20	---	---	---
December 2002	Brown trout	0.312	0.026	18	0.211	0.039	2
December 2002	Lake trout	0.922	0.080	11	---	---	---
January 2003	Brown trout	0.106	0.007	10	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-4 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY MONTH FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Month	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
January 2003	Rainbow trout	0.606	0.026	28	---	---	---
January 2003	Chinook salmon	0.889	0.632	2	---	---	---
January 2003	Lake trout	0.957	0.082	12	1.375	0.832	2
February 2003	White sucker	0.056	0.006	3	---	---	---
February 2003	Walleye	0.077	0.008	5	---	---	---
February 2003	Brown trout	0.093	0.002	66	---	---	---
February 2003	Lake trout	0.099	0.003	55	---	---	---
February 2003	Rainbow trout	0.497	0.005	90	---	---	---
March 2003	Muskellunge	0.086	0.029	3	---	---	---
March 2003	Brown trout	0.088	0.002	61	---	---	---
March 2003	Lake trout	0.104	0.003	58	---	---	---
March 2003	Walleye	0.177	0.022	9	---	---	---
March 2003	Rainbow trout	0.258	0.004	80	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-4 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY MONTH FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Month	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
April 2003	Chinook salmon	0.106	0.064	3	---	---	---
April 2003	Coho salmon	0.133	0.036	3	---	---	---
April 2003	Brown trout	0.147	0.013	14	---	---	---
April 2003	Rainbow trout	0.297	0.010	28	---	---	---
April 2003	Lake trout	0.455	0.074	10	---	---	---
May 2003	Brown trout	0.028	0.005	10	---	---	---
May 2003	Coho salmon	0.038	0.012	5	---	---	---
May 2003	Walleye	0.058	0.0337	3	---	---	---
May 2003	Freshwater drum	0.070	0.020	4	---	---	---
May 2003	Lake trout	0.105	0.008	15	---	---	---
May 2003	Rainbow trout	0.201	0.023	15	---	---	---
May 2003	Chinook salmon	0.304	0.065	7	---	---	---
May 2003	Smallmouth bass	0.317	0.029	9	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-4 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY MONTH FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Month	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
June 2003***	Freshwater drum	0.187	0.022	6	---	---	---
June 2003	Smallmouth bass	0.450	0.079	7	---	---	---
June 2003	Rainbow trout	0.844	0.431	4	---	---	---

*CPUE calculated only for those species that had n>1 and/or a CPUE>0. n = number of interviews.

**Niagara Bar sampled from October 1, 2002 to March 31, 2003 only.

***Data collection ended June 19, 2003.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-5

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
Spring 2002	Walleye	0.031	0.023	2	---	---	---
Spring 2002	Brown trout	0.070	0.025	5	---	---	---
Spring 2002	Lake trout	0.110	0.006	23	---	---	---
Spring 2002	Chinook salmon	0.128	0.024	9	---	---	---
Spring 2002	Coho salmon	0.151	0.029	9	---	---	---
Spring 2002	Rainbow trout	0.207	0.012	24	---	---	---
Spring 2002	Yellow perch	1.000	0.327	4	---	---	---
Spring 2002	Smallmouth bass	1.026	0.149	9	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-5 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
Summer 2002	Walleye	0.105	0.006	35	---	---	---
Summer 2002	White bass	0.138	0.064	2	---	---	---
Summer 2002	Lake trout	0.333	0.240	2	---	---	---
Summer 2002	Freshwater drum	0.560	0.178	3	---	---	---
Summer 2002	Smallmouth bass	3.708	0.039	153	---	---	---
Fall 2002	Coho salmon	0.008	0.002	13	---	---	---
Fall 2002	Brown trout	0.040	0.024	3	---	---	---
Fall 2002	Freshwater drum	0.083	0.000	3	---	---	---
Fall 2002	Chinook salmon	0.108	0.001	112	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-5 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
Fall 2002	Walleye	0.139	0.009	30	---	---	---
Fall 2002	Rock bass	0.162	0.027	3	---	---	---
Fall 2002	Rainbow trout	0.164	0.006	37	---	---	---
Fall 2002	Lake trout	0.208	0.0191	13	---	---	---
Fall 2002	Yellow perch	0.889	0.703	2	---	---	---
Fall 2002	Smallmouth bass	1.586	0.028	87	---	---	---
Winter 2002-2003	Freshwater drum	0.043	0.033	2			
Winter 2002-2003	White sucker	0.045	0.008	4			
Winter 2002-2003	Muskellunge	0.109	0.019	7			

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-5 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
Winter 2002-2003	Brown trout	0.112	0.001	157	0.160	0.051	3
Winter 2002-2003	Walleye	0.140	0.011	14			
Winter 2002-2003	Coho salmon	0.143	0.059	3			
Winter 2002-2003	Lake trout	0.259	0.003	157	1.381	0.384	4
Winter 2002-2003	Rainbow trout	0.384	0.002	261			
Winter 2002-2003	Chinook salmon	0.686	0.402	3			
Winter 2002-2003	Smallmouth bass	1.250	0.550	2			
Spring 2003	Walleye	0.052	0.027	4	---	---	---
Spring 2003	Coho salmon	0.082	0.013	8	---	---	---

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.6-5 (CONT.)

**TARGETED CPUE (WITH STANDARD ERRORS) FOR BOAT ANGLERS BY SEASON FOR
THE LOWER NIAGARA RIVER AND NIAGARA BAR IN 2002-2003**

Season	Common Name	Niagara River			Niagara Bar **		
		CPUE*	SE	n	CPUE*	SE	n
Spring 2003	Brown trout	0.099	0.006	24	---	---	---
Spring 2003	Freshwater drum	0.120	0.011	10	---	---	---
Spring 2003	Northern pike	0.176	0.047	2	---	---	---
Spring 2003	Chinook salmon	0.184	0.024	13	---	---	---
Spring 2003	Lake trout	0.248	0.020	25	---	---	---
Spring 2003	Rainbow trout	0.294	0.008	47	---	---	---
Spring 2003	Smallmouth bass	0.357	0.022	16	---	---	---

*CPUE calculated only for those species that had n>1 and/or a CPUE>0. n = number of interviews.

**Niagara Bar sampled from October 1, 2002 to March 31, 2003 only.

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.7-1

NUMBER OF FISH IN A LENGTH-FREQUENCY RANGE BY SPECIES FOR MEASURED FISH (TOTAL LENGTH IN MM) IN THE LOWER NIAGARA RIVER IN 2002-2003

Rainbow trout		Chinook salmon	
Length freq. range	Number	Length freq. range	Number
401-450	2	301-350	1
451-500	2	351-400	0
501-550	4	401-450	0
551-600	20	451-500	0
601-650	31	501-550	1
651-700	45	551-600	4
701-750	27	601-650	3
751-800	22	651-700	8
801-850	11	701-750	8
851-900	4	751-800	13
901-950	1	801-850	14
		851-900	14
		901-950	12
		951-1000	4
		1001-1050	4
Coho salmon		Brown trout	
Length freq. range	Number	Length freq. range	Number
401-450	1	351-400	1
451-500	3	401-450	2
501-550	2	451-500	1
551-600	2	501-550	8
601-650	2	551-600	6
651-700	0	601-650	5
701-750	1	651-700	3
		701-750	4
		751-800	1
		801-850	1
Lake trout		White bass	
Length freq. range	Number	Length freq. range	Number
351-400	1	101-125	0
401-450	0	126-150	1
451-500	0	151-175	2

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.7-1 (CONT.)

NUMBER OF FISH IN A LENGTH-FREQUENCY RANGE BY SPECIES FOR MEASURED FISH (TOTAL LENGTH IN MM) IN THE LOWER NIAGARA RIVER IN 2002-2003

Lake trout		White bass	
Length freq. range	Number	Length freq. range	Number
501-550	0	176-200	4
551-600	4	201-225	15
601-650	2	226-250	12
651-700	2	251-275	3
701-750	4	276-300	2
751-800	11	301-325	15
801-850	6	326-350	7
851-900	4	351-375	3
Rock bass		Smallmouth bass	
Length freq. range	Number	Length freq. range	Number
51-100	2	151-200	4
101-150	8	201-250	7
151-200	71	251-300	13
201-250	39	301-350	135
251-300	5	351-400	70
301-350	4	401-450	23
351-400	0	451-500	13
401-450	0	501-550	2
451-500	0	551-600	1
501-550	1		
Walleye		Freshwater drum	
Length freq. range	Number	Length freq. range	Number
101-150	1	301-325	2
151-200	0	326-350	2
201-250	0	351-375	2
251-300	0	376-400	0
301-350	0	401-425	1
351-400	0	426-450	1
401-450	1	451-475	0
451-500	6	476-500	1
501-550	8	501-525	2
551-600	6	526-550	0
601-650	4	551-575	1

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.7-1 (CONT.)

**NUMBER OF FISH IN A LENGTH-FREQUENCY RANGE BY SPECIES FOR MEASURED
FISH (TOTAL LENGTH IN MM) IN THE LOWER NIAGARA RIVER IN 2002-2003**

Walleye		Freshwater drum	
Length freq. range	Number	Length freq. range	Number
651-700	5	576-600	1
701-750	2		
751-800	1		
Yellow perch		Misc. individual fish	Total length (mm)
Length freq. range	Number		
76-100	1	Northern pike	610
101-125	6	Northern pike	611
126-150	0	Northern pike	737
151-175	2	Muskellunge	1092
176-200	2	Muskellunge	1310
201-225	10	Tiger muskellunge	864
226-250	9	Carp	640
251-275	13	Carp	675
276-300	2	Brown bullhead	248
301-325	4	Brown bullhead	279
		Channel catfish	560
		Channel catfish	791
		White perch	292
		White perch	305
		White perch	318
		Largemouth bass	305
		Largemouth bass	337
		Largemouth bass	343
		Round goby	85

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.8-1

**SHORE ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June**
Artpark	<i>Erie</i>	3	3	8	3	11	27	71	16	2	8	31	10	10	5
Artpark	<i>Niagara</i>	2	6	9	3	30	25	82	15	5	13	13	6	7	10
Artpark	<i>Allegheny</i>										1				
Artpark	<i>Cattaraugus</i>						1								
Artpark	<i>Cayuga</i>						1								
Artpark	<i>Dutchess</i>										1				
Artpark	<i>Monroe</i>						3		1		1				
Artpark	<i>Oneida</i>							1							
Artpark	<i>Onondaga</i>								3						
Artpark	<i>Ontario</i>		1												
Artpark	<i>Rockland</i>										2				
Artpark	California							2							
Artpark	Connecticut							7							
Artpark	Illinois							2							
Artpark	Maine							5							
Artpark	Maryland							13							
Artpark	Michigan							2				4			
Artpark	Montana							2							
Artpark	New Hampshire										2				
Artpark	New York State		1						1						
Artpark	Ohio						3	4				4			
Artpark	Pennsylvania							11	3						
Artpark	Virginia							8							
Artpark	Ontario, Canada	1		4				2							

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.8-1 (CONT.)

**SHORE ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June**
Constitution Park	<i>Erie</i>			4										2	
Constitution Park	<i>Niagara</i>	5	2	6	5	3							2	12	20
Constitution Park	<i>Steuben</i>		3												
Constitution Park	Pennsylvania					2									
Devil's Hole St. Park	<i>Erie</i>	7	8	5		3	9	7	6	5			4	24	6
Devil's Hole St. Park	<i>Niagara</i>				2	1	4	5	7		2	4	5	7	12
Devil's Hole St. Park	<i>Rensselaer</i>			1											
Devil's Hole St. Park	<i>Herkimer</i>						2								
Devil's Hole St. Park	<i>Monroe</i>							1							
Devil's Hole St. Park	<i>Chautauqua</i>								10					5	
Devil's Hole St. Park	<i>Albany</i>													1	
Devil's Hole St. Park	<i>Allegheny</i>														1
Devil's Hole St. Park	Illinois														1
Devil's Hole St. Park	Michigan										1			2	
Devil's Hole St. Park	New Hampshire													1	
Devil's Hole St. Park	New Jersey													4	
Devil's Hole St. Park	Pennsylvania											1			
Devil's Hole St. Park	Wyoming											1			
Devil's Hole St. Park	Ontario, Canada						1						1	7	2
Joseph Davis St. Park	<i>Erie</i>	1	2	5	7	4	1						4	3	1
Joseph Davis St. Park	<i>Niagara</i>	12	17	26	26	22	12	3					4	6	12
Joseph Davis St. Park	<i>Livingston</i>													1	
Joseph Davis St. Park	<i>Steuben</i>														2
Joseph Davis St. Park	Florida		2												

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.8-1 (CONT.)

**SHORE ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June**
Joseph Davis St. Park	New York State				1		1								
Joseph Davis St. Park	Ohio			6											
Joseph Davis St. Park	Pennsylvania	6													
Joseph Davis St. Park	Texas		1												
Fort Niagara St. Park	<i>Erie</i>					6								1	
Fort Niagara St. Park	<i>Niagara</i>	7	6	13	8	1	2			1		3		9	
Fort Niagara St. Park	<i>Monroe</i>			2											
Fort Niagara St. Park	<i>Orange</i>			1											
Fort Niagara St. Park	<i>Queens</i>					1									
Lewiston shore	<i>Erie</i>	10	20	33	26	22	5	2			2	2	11	18	19
Lewiston shore	<i>Niagara</i>	61	107	162	93	47	13	8	1			18	29	88	84
Lewiston shore	<i>Chemung</i>													2	1
Lewiston shore	<i>Essex</i>					1									
Lewiston shore	<i>Monroe</i>				3										
Lewiston shore	<i>Suffolk</i>				1										
Lewiston shore	<i>Westchester</i>				1										
Lewiston shore	Alabama		1												
Lewiston shore	Arizona			1											
Lewiston shore	California	1													
Lewiston shore	Florida	1			1										
Lewiston shore	Maryland				2										
Lewiston shore	Michigan			2											1
Lewiston shore	North Carolina			2				1							
Lewiston shore	Nebraska														1

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.8-1 (CONT.)

**SHORE ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June**
Lewiston shore	New Jersey	5			3										
Lewiston shore	New York	3	1	5	2	1	2						2	4	
Lewiston shore	Ohio				3										
Lewiston shore	Pennsylvania				3										
Lewiston shore	Poland												1		
Tailrace Pier	<i>Erie</i>	10	93	139	70	116	127	40							
Tailrace Pier	<i>Niagara</i>	35	61	70	54	123	58	31							
Tailrace Pier	<i>Monroe</i>		6												
Tailrace Pier	California							2							
Tailrace Pier	Connecticut						7	3							
Tailrace Pier	Maryland					3									
Tailrace Pier	New Jersey					2	1								
Tailrace Pier	New York		2	4		6		1							
Tailrace Pier	Ohio					2	10								
Tailrace Pier	Pennsylvania						9								
Tailrace Pier	Texas					3									
Tailrace Pier	Wisconsin							1							
Tailrace Pier	Ontario, Canada		1	1											
Tailrace Shore	<i>Erie</i>	5	4	21	6	9	10	3	15		9	2			
Tailrace Shore	<i>Niagara</i>	3	3	16	8	7	5	2	7	6	6	2			
Tailrace Shore	<i>Allegheny</i>											1			
Tailrace Shore	<i>Monroe</i>					1			2						
Tailrace Shore	<i>Nassau</i>							2							
Tailrace Shore	Connecticut				1										

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

TABLE 3.8-1 (CONT.)

**SHORE ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002									2003				
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June**
Tailrace Shore	North Carolina				1										
Tailrace Shore	Ohio							5							
Tailrace Shore	Pennsylvania							2							
Tailrace Shore	Utah								1						
Tailrace Shore	Ontario, Canada									1					
Whirlpool State Park	<i>Erie</i>	1		11	3	2	5	5	10	1	2		2	6	
Whirlpool State Park	<i>Niagara</i>		9	13	5	7	8	4				2		11	
Whirlpool State Park	California				1										
Whirlpool State Park	Florida						1								
Whirlpool State Park	New York						1	1							
Youngstown Shore	<i>Erie</i>	2	2	3	1	6									
Youngstown Shore	<i>Niagara</i>	4	8	22	28	25	10	2							
Youngstown Shore	<i>Westchester</i>			1											
Youngstown Shore	Illinois				1	1									
Youngstown Shore	New Hampshire					1									

*New York counties are in italics.

**Data collection ended June 19, 2003

**NIAGARA POWER PROJECT (FERC NO. 2216)
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TABLE 3.8-2

**BOAT ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June **
Fort Niagara St. Park	<i>Erie</i>	13	5	11	24	19	9	1	2	2	0	1	8	26	12
Fort Niagara St. Park.	<i>Niagara</i>	10	64	110	108	87	17	6	3	2	0	5	13	43	27
Fort Niagara St. Park.	<i>Allegheny</i>						2								
Fort Niagara St. Park.	<i>Broome</i>												2		
Fort Niagara St. Park.	<i>Cattaraugus</i>												3		
Fort Niagara St. Park.	<i>Cayuga</i>			3											
Fort Niagara St. Park.	<i>Chautauqua</i>	2			5		2							18	5
Fort Niagara St. Park.	<i>Chemung</i>				3	3									
Fort Niagara St. Park	<i>Cortland</i>												8		
Fort Niagara St. Park	<i>Genesee</i>			3			2	2							
Fort Niagara St. Park	<i>Monroe</i>		1	2	8								4	3	
Fort Niagara St. Park	<i>Onondaga</i>												2		
Fort Niagara St. Park	<i>Ontario</i>													3	
Fort Niagara St. Park	<i>Orleans</i>	1		2	4									2	
Fort Niagara St. Park	<i>Seneca</i>												2		
Fort Niagara St. Park	<i>Tompkins</i>													7	
Fort Niagara St. Park	<i>Wyoming</i>	3				2									
Fort Niagara St. Park	<i>Alabama</i>			1											
Fort Niagara St. Park	<i>Colorado</i>					1									
Fort Niagara St. Park	<i>Connecticut</i>												3		
Fort Niagara St. Park	<i>Florida</i>			1											
Fort Niagara St. Park	<i>Indiana</i>					1								3	

**NIAGARA POWER PROJECT (FERC NO. 2216)
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TABLE 3.8-2 (CONT.)

**BOAT ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June**
Fort Niagara St. Park	Massachusetts		1										7	4	
Fort Niagara St. Park	New Jersey	12				1							2	6	
Fort Niagara St. Park	New York State	2	3	1	1	2	0	0	0	0	0	0	2	0	0
Fort Niagara St. Park	Ohio			5	25	6	5						9	15	
Fort Niagara St. Park	Pennsylvania	18	1	4	7	7						4	11	35	
Fort Niagara St. Park	South Carolina				2										
Fort Niagara St. Park	Tennessee						4								
Fort Niagara St. Park	Vermont	4											4		3
Fort Niagara St. Park	Virginia				5										
Fort Niagara St. Park	West Virginia				3	6	2						3		
Fort Niagara St. Park	Wyoming		2												
Lewiston Launch	<i>Erie</i>	2	3	5	3	8	19	15	4	5	22	27	7	5	5
Lewiston Launch	<i>Niagara</i>	10	3	11	20	32	22	16	4	7	24	33	19	6	5
Lewiston Launch	<i>Allegheny</i>											3			
Lewiston Launch	<i>Broome</i>				3					2					
Lewiston Launch	<i>Cattaraugus</i>										5			2	
Lewiston Launch	<i>Cayuga</i>									1					
Lewiston Launch	<i>Chautauqua</i>							3							
Lewiston Launch	<i>Chemung</i>						1.5								
Lewiston Launch	<i>Cortland</i>								2						
Lewiston Launch	<i>Dutchess</i>						1.5							2	
Lewiston Launch	<i>Franklin</i>								4						

**NIAGARA POWER PROJECT (FERC NO. 2216)
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TABLE 3.8-2 (CONT.)

**BOAT ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June**
Lewiston Launch	<i>Genesee</i>											2			
Lewiston Launch	<i>Madison</i>												1		
Lewiston Launch	<i>Monroe</i>	0	0	0	0	1	1	0	0	2	5	5	1	0	0
Lewiston Launch	<i>Nassau</i>						1								
Lewiston Launch	<i>Onondaga</i>									3		3			
Lewiston Launch	<i>Orange</i>										3				
Lewiston Launch	<i>Orleans</i>			3			3				3	3			
Lewiston Launch	<i>Rockland</i>										2				
Lewiston Launch	<i>Seneca</i>						1								
Lewiston Launch	<i>Steuben</i>											2			
Lewiston Launch	<i>Suffolk</i>					2									
Lewiston Launch	<i>Warren</i>							2					3		
Lewiston Launch	<i>Wayne</i>	2													
Lewiston Launch	<i>Westchester</i>	0	0	0	0	0	0	1	0	1	5	0	0	0	0
Lewiston Launch	<i>Wyoming</i>									5		2			
Lewiston Launch	Arizona		1.5												
Lewiston Launch	California					1									
Lewiston Launch	Connecticut	6					4		3	2	1	5		5	
Lewiston Launch	Delaware												3		
Lewiston Launch	Georgia						2								
Lewiston Launch	Idaho					1									
Lewiston Launch	Illinois	1			4		2.3								
Lewiston Launch	Indiana	5													

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TABLE 3.8-2 (CONT.)

**BOAT ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June**
Lewiston Launch	Kentucky		2		5										
Lewiston Launch	Louisiana							2							
Lewiston Launch	Massachusetts									3		3	6		
Lewiston Launch	Maryland							2			2	2			
Lewiston Launch	Maine												6	3	
Lewiston Launch	Michigan							5	2			3	4	8	
Lewiston Launch	Minnesota													7	
Lewiston Launch	Missouri												2		
Lewiston Launch	North Carolina							1						2	
Lewiston Launch	New Hampshire								7						
Lewiston Launch	New Jersey	13				3	1	7		2	5	8	2	2	
Lewiston Launch	New Mexico											1			
Lewiston Launch	Nevada		2										2		
Lewiston Launch	New York (no county identified)		1					8	2						1
Lewiston Launch	Ohio	5			25	28	58	9	9	2	22	37	41	11	
Lewiston Launch	Pennsylvania	14	2	4		8	37	8	9	25	75	59	20	7	
Lewiston Launch	Tennessee							6							
Lewiston Launch	Texas														1.5
Lewiston Launch	Utah												3		
Lewiston Launch	Virginia					1									
Lewiston Launch	West Virginia				3		4				4	5	9		

**NIAGARA POWER PROJECT (FERC NO. 2216)
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TABLE 3.8-2 (CONT.)

**BOAT ANGLER RESIDENCE BY MONTH, STATE, COUNTY (NEW YORK ONLY) AND FISHING LOCATION FOR THE
LOWER NIAGARA RIVER IN 2002-2003**

Location	NY County* or State	2002								2003					
		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June**
Lewiston Launch	Switzerland	0	0	0	0	0	0	0	0	0	0	5			0
Lewiston Launch	Ireland												2		
Youngstown Launch	<i>Erie</i>	0	0	0	1	0	1	0	0	0	0	0	0	2	0
Youngstown Launch	<i>Niagara</i>	0	5	5	3	4	3	0	0	0	0	0	4	2	1
Youngstown Launch	<i>Broome</i>												4	4	
Youngstown Launch	<i>Monroe</i>													4	
Youngstown Launch	Delaware	2													
Youngstown Launch	Georgia	2													
Youngstown Launch	Kentucky				2										
Youngstown Launch	New Jersey		6		3										
Youngstown Launch	New York (no county identified)				2										
Youngstown Launch	Ohio				6					2				2	
Youngstown Launch	Pennsylvania	18			3									15	

*New York counties are italicized.

**Data collection ended June 19, 2003

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4.0 DISCUSSION

4.1 Shore Anglers

The tailrace pier at the RMNPP tailrace is used by more shore anglers than the other sites. This was true even though the tailrace pier was closed for a significant portion of the survey. More shore anglers were counted at the tailrace pier (~39% of the total) than any other site. The pier represented ~49% of the anglers counted when all survey sites were simultaneously available (May 2002 to the end of November). The most angler interviews were also obtained at the pier (~32% over the entire survey).

Shore anglers targeted 23 specific species, the “any species” category of fish, and one family of fish (Catostomidae) on the lower Niagara River in 2002-2003. However, they reported catches representing 30 distinct species and also three families. Fish harvested represented 19 species and one family (Catostomidae). Depending on the parameter, the most important individual fish species in the survey were the smallmouth bass, rock bass, or white bass. Lake trout and rainbow trout were important in the winter season. Anglers targeting “any species” is not an uncommon category in reports. Any species were targeted by the majority (61%) of shore/pier anglers in an angler survey of the upper Niagara River in 1999 ([NYSDEC 2002](#)). “Any species” was the second most targeted species in an angler survey (May – November 2002) of the Lewiston Reservoir ([Stantec 2005](#)).

The estimated mean daily shore angler effort for all species for the entire survey was 121 angler hours/day and the estimated effort for the entire survey was 48,438 shore angler hours ([Table 3.2-1](#)). In comparison, the maximum mean daily effort for smallmouth bass was 81 hours/day in July and 74 hours/day in November for rainbow trout ([Table 3.2-3](#)) (these mean rates rank second and third in magnitude after that for the any species). The catch in the lower Niagara River in 2002-2003 was dominated by smallmouth bass, rock bass, yellow perch, white bass, freshwater drum, and round goby. Smallmouth bass was the most caught species accounting for ~28% of the total estimated catch, though the smallmouth bass and rock bass catch combined accounted for about half of the total catch. More white bass were harvested than any other species (32%), though the rock bass accounted for 25% of the total harvest. Smallmouth bass, rock bass, yellow perch and white bass had the highest targeted CPUE values for the entire survey and in warmer months (generally May – October). The targeted CPUE values

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for smallmouth bass in the summer and fall of 2002 in the lower Niagara River were similar to those found for the species in the upper Niagara River in 1999 ([NYSDEC 2002](#)). Yellow perch targeted CPUE values for the lower Niagara River in 2002-2003 were lower than that of the targeted CPUE values in August, October and November in the 1999 survey ([NYSDEC 2002](#)), and the CPUE for yellow perch was generally ~ 1 fish/hour in the lower Niagara River. In the 1999 survey, the CPUE for rainbow trout in November was 0.29 fish/hour (the CPUE was 0 fish/hour in September and October). The targeted CPUE values for rainbow trout in the lower Niagara River in October and November 2002 was ~0.12 fish/hour, but was 0.11 – 0.86 fish/hour from December 2002 to June 2003.

4.2 Boat Anglers

Relative to total numbers of fish caught and harvested by boat anglers in the lower Niagara River, the smallmouth bass was by far the most important species over all, and especially in July and August. The CPUE values for smallmouth were much higher in the lower Niagara River in 2002-2003 than in the upper Niagara River in 1999, while the targeted CPUE values for yellow perch were less for the lower Niagara River in 2002-2003 than for the upper Niagara River in 1999 ([NYSDEC 2002](#); [Normandeau 2005](#)). Salmonids were the primary targets in the cooler months, with rainbow trout being targeted more than brown trout, lake trout, Chinook salmon, coho salmon, and Atlantic salmon.

In an angler survey of the lower Niagara River conducted in 1987-1989 ([Wilkinson 1993](#)), smallmouth bass was the most caught species of fish, and rainbow trout dominated the salmonid catch. The targeted CPUE for smallmouth bass reported for 1989 was 1.66 fish/hour and was indicated as an exceptional rate compared to other waters. The targeted CPUE for smallmouth bass was 2.46 fish/hour in the 2002-2003 survey ([Table 3.6-4](#)). The targeted CPUE for rainbow trout in 1989 was 0.28 fish/hour. This was similar to the targeted CPUE for the species (0.33 fish/hour) in the 2002-2003 survey. The 1987-1989 angler survey was done in cooperation with members of the Niagara River Anglers Association, and very likely included anglers with a very high degree of angling skill and knowledge of the lower Niagara River. In the 2002-2003 angler survey, boat anglers were interviewed at random and without regard to their membership in any angling associations; therefore, it is likely that there was a wide range in angling skill among the interviewed anglers. If it is assumed that the overall angling skill and knowledge of the anglers in the 1987-1989 survey was better than those anglers interviewed in the 2002-2003 survey, then it suggests that the quality of the fishing has increased since the 1987-1989 survey.

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APPENDIX A—NYSDEC FISH SPECIES CODES

Common Name (by family)	Scientific Name		NYSDEC Species Code
	Genus	Species	
Petromyzontidae			
Ohio lamprey	<i>Ichthyomyzon</i>	<i>bdellium</i>	201
Chestnut lamprey	<i>Ichthyomyzon</i>	<i>castaneus</i>	202
Northern brook lamprey	<i>Ichthyomyzon</i>	<i>fossor</i>	203
Mountain brook lamprey	<i>Ichthyomyzon</i>	<i>greeleyi</i>	204
Silver lamprey	<i>Ichthyomyzon</i>	<i>unicuspis</i>	205
American brook lamprey	<i>Lampetra</i>	<i>appendix</i>	206
Sea lamprey	<i>Petromyzon</i>	<i>marinus</i>	207
Acipenseridae			
Shortnose sturgeon	<i>Acipenser</i>	<i>brevirostrum</i>	260
Lake sturgeon	<i>Acipenser</i>	<i>fulvescens</i>	261
Atlantic sturgeon	<i>Acipenser</i>	<i>oxyrhynchus</i>	262
Pallid sturgeon	<i>Scaphirhynchus</i>	<i>albus</i>	263
Shovelnose sturgeon	<i>Scaphirhynchus</i>	<i>platorynchus</i>	264
Polyodontidae			
Paddlefish	<i>Polyodon</i>	<i>spathula</i>	266
Lepisosteidae			
Spotted gar	<i>Lepisosteus</i>	<i>oculatus</i>	267
Longnose gar	<i>Lepisosteus</i>	<i>osseus</i>	268
Shortnose gar	<i>Lepisosteus</i>	<i>platostomus</i>	269
Alligator gar	<i>Lepisosteus</i>	<i>spatula</i>	270
Amiidae			
Bowfin	<i>Amia</i>	<i>calva</i>	271
Anguillidae			
American eel	<i>Anguilla</i>	<i>rostrata</i>	276
Clupeidae			
Blueback herring	<i>Alosa</i>	<i>aestivalis</i>	285
Alabama shad	<i>Alosa</i>	<i>alabamae</i>	286
Skipjack herring	<i>Alosa</i>	<i>chrysochloris</i>	287
Hickory shad	<i>Alosa</i>	<i>mediocris</i>	288
Alewife	<i>Alosa</i>	<i>pseudoharengus</i>	289
American shad	<i>Alosa</i>	<i>sapidissima</i>	290
Gizzard shad	<i>Dorosoma</i>	<i>cepedianum</i>	294

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Common Name (by family)	Scientific Name		NYSDEC Species Code
	Genus	Species	
Engraulidae			
Bay anchovy	<i>Anchoa</i>	<i>mitchilli</i>	301
Hiodontidae			
Goldeye	<i>Hiodon</i>	<i>alosoides</i>	305
Mooneye	<i>Hiodon</i>	<i>tergisus</i>	306
Salmonidae			
Longjaw cisco	<i>Coregonus</i>	<i>alpenae</i>	310
Cisco or Lake herring	<i>Coregonus</i>	<i>artedii</i>	311
Lake whitefish	<i>Coregonus</i>	<i>clupeaformis</i>	312
Bloater	<i>Coregonus</i>	<i>hoii</i>	313
Kiyi	<i>Coregonus</i>	<i>kiyi</i>	315
Shortnose cisco	<i>Coregonus</i>	<i>reighardi</i>	317
Shortnose cisco	<i>Coregonus</i>	<i>reighardi</i>	318
Splake	<i>Hybrid</i>	<i>J15 & J16</i>	332
Pink salmon	<i>Oncorhynchus</i>	<i>gorbuscha</i>	319
Coho salmon	<i>Oncorhynchus</i>	<i>kisutch</i>	320
Rainbow trout	<i>Oncorhynchus</i>	<i>mykiss</i>	326
Sockeye salmon/Kokanee	<i>Oncorhynchus</i>	<i>nerka</i>	321
Chinook salmon	<i>Oncorhynchus</i>	<i>tshawytscha</i>	322
Round whitefish	<i>Prosopium</i>	<i>cylindraceum</i>	324
Atlantic salmon	<i>Salmo</i>	<i>salar</i>	327
Brown trout	<i>Salmo</i>	<i>trutta</i>	328
Brook trout	<i>Salvelinus</i>	<i>fontinalis</i>	329
Lake trout	<i>Salvelinus</i>	<i>namaycush</i>	330
Esocidae			
Redfin pickerel	<i>Esox</i>	<i>americanus americanus</i>	345
Grass pickerel	<i>Esox</i>	<i>americanus vermiculatus</i>	346
Northern pike	<i>Esox</i>	<i>lucius</i>	347
Muskellunge	<i>Esox</i>	<i>masquinongy</i>	348
Chain pickerel	<i>Esox</i>	<i>niger</i>	349
Tiger musky	<i>Hybrid</i>	<i>K04 & K06</i>	350

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Common Name (by family)	Scientific Name		NYSDEC Species Code
	Genus	Species	
Cyprinidae			
Central stoneroller	<i>Campostoma</i>	<i>anomalum</i>	360
Goldfish	<i>Carassius</i>	<i>auratus</i>	361
Redside dace	<i>Clinostomus</i>	<i>elongatus</i>	362
Lake chub	<i>Couesius</i>	<i>plumbeus</i>	363
Grass carp	<i>Ctenopharyngodon</i>	<i>idella</i>	364
Spotfin shiner	<i>Cyprinella</i>	<i>spiloptera</i>	394
Common carp	<i>Cyprinus</i>	<i>carpio</i>	365
Streamline chub	<i>Erimystax</i>	<i>dissimilus</i>	371
Cutlips minnow	<i>Exoglassum</i>	<i>maxillingua</i>	367
Tonguetied minnow	<i>Exoglassum</i>	<i>laurae</i>	366
Brassy minnow	<i>Hybognathus</i>	<i>hankinsoni</i>	368
Mississippi silvery minnow	<i>Hybognathus</i>	<i>nuchalis</i>	369
Gravel chub	<i>Hybopsis</i>	<i>x-punctata</i>	374
Striped shiner	<i>Luxilus</i>	<i>chrysocephalus</i>	384
Common shiner	<i>Luxilus</i>	<i>cornutus</i>	385
Redfin shiner	<i>Lythrurus</i>	<i>umbratilis</i>	396
Silver chub	<i>Macrohybopsis</i>	<i>storeriana</i>	373
Hornyhead chub	<i>Nocomis</i>	<i>biguttatus</i>	375
River chub	<i>Nocomis</i>	<i>micropogon</i>	376
Golden shiner	<i>Notemigonus</i>	<i>crysoleucas</i>	377
Bigeye chub	<i>Notropis</i>	<i>amblops</i>	370
Comely shiner	<i>Notropis</i>	<i>amoenus</i>	378
Satinfin shiner	<i>Notropis</i>	<i>analostanus</i>	379
Pugnose shiner	<i>Notropis</i>	<i>anogenus</i>	380
Emerald shiner	<i>Notropis</i>	<i>atherinoides</i>	381
Bridle shiner	<i>Notropis</i>	<i>bifrenatus</i>	382
Silverjaw minnow	<i>Notropis</i>	<i>buccatus</i>	409
Ironcolor shiner	<i>Notropis</i>	<i>chalybaeus</i>	383
Bigmouth shiner	<i>Notropis</i>	<i>dorsalis</i>	386
Blackchin shiner	<i>Notropis</i>	<i>heterodon</i>	388
Blacknose shiner	<i>Notropis</i>	<i>heterolepis</i>	389
Spottail shiner	<i>Notropis</i>	<i>hudsonius</i>	390

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Common Name (by family)	Scientific Name		NYSDEC Species Code
	Genus	Species	
Silver shiner	<i>Notropis</i>	<i>photogenis</i>	391
Swallowtail shiner	<i>Notropis</i>	<i>procne</i>	392
Rosyface shiner	<i>Notropis</i>	<i>rubellus</i>	393
Sand shiner	<i>Notropis</i>	<i>stramineus</i>	395
Mimic shiner	<i>Notropis</i>	<i>volucellus</i>	397
Northern redbelly dace	<i>Phoxinus</i>	<i>eos</i>	398
Finescale dace	<i>Phoxinus</i>	<i>neogaeus</i>	399
Bluntnose minnow	<i>Pimephales</i>	<i>notatus</i>	400
Fathead minnow	<i>Pimephales</i>	<i>promelas</i>	401
Western blacknose dace	<i>Rhinichthys</i>	<i>atratus meleagris</i>	402
Longnose dace	<i>Rhinichthys</i>	<i>cataractae</i>	403
Bitterling	<i>Rhodeus</i>	<i>sericeus</i>	404
Rudd	<i>Scardinius</i>	<i>erythrophthalmus</i>	405
Creek chub	<i>Semotilus</i>	<i>atromaculatus</i>	406
Fallfish	<i>Semotilus</i>	<i>corporalis</i>	407
Pearl dace	<i>Semotilus</i>	<i>margarita margarita</i>	408
Catostomidae			
River carpsucker	<i>Carpionodes</i>	<i>carpio</i>	415
Quillback	<i>Carpionodes</i>	<i>cyprinus</i>	416
Highfin carpsucker	<i>Carpionodes</i>	<i>velifer</i>	417
Longnose sucker	<i>Catostomus</i>	<i>catostomus</i>	418
White sucker	<i>Catostomus</i>	<i>commersoni</i>	419
Blue sucker	<i>Cycleptus</i>	<i>elongatus</i>	420
Creek chubsucker	<i>Erimyzon</i>	<i>oblongus</i>	421
Lake chubsucker	<i>Erimyzon</i>	<i>sucetta</i>	422
Northern hog sucker	<i>Hypentelium</i>	<i>nigricans</i>	423
Smallmouth buffalo	<i>Ictiobus</i>	<i>bubalus</i>	424
Bigmouth buffalo	<i>Ictiobus</i>	<i>cyprinella</i>	425
Black buffalo	<i>Ictiobus</i>	<i>niger</i>	426
Spotted sucker	<i>Minytrema</i>	<i>melanops</i>	427
Silver redhorse	<i>Moxostoma</i>	<i>anisurum</i>	428
River redhorse	<i>Moxostoma</i>	<i>carinatum</i>	429
Black redhorse	<i>Moxostoma</i>	<i>duquesnei</i>	430
Golden redhorse	<i>Moxostoma</i>	<i>erythrurum</i>	431

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Common Name	Scientific Name		
(by family)	Genus	Species	NYSDEC Species Code
Shorthead redhorse	<i>Moxostoma</i>	<i>macrolepidotum</i>	432
Greater redhorse	<i>Moxostoma</i>	<i>valenciennesi</i>	433
Ictaluridae			
Black bullhead	<i>Ameiurus</i>	<i>melas</i>	442
Yellow bullhead	<i>Ameiurus</i>	<i>natalis</i>	443
Brown bullhead	<i>Ameiurus</i>	<i>nebulosus</i>	444
White catfish	<i>Ictalurus</i>	<i>catus</i>	440
Blue catfish	<i>Ictalurus</i>	<i>furcatus</i>	441
Channel catfish	<i>Ictalurus</i>	<i>punctatus</i>	445
Stonecat	<i>Noturus</i>	<i>flavus</i>	446
Tadpole madtom	<i>Noturus</i>	<i>gyrinus</i>	447
Margined madtom	<i>Noturus</i>	<i>insignis</i>	448
Brindled madtom	<i>Noturus</i>	<i>miurus</i>	449
Flathead catfish	<i>Pylodictis</i>	<i>olivaris</i>	450
Aphredoderidae			
Pirate perch	<i>Aphredoderus</i>	<i>sayanus</i>	460
Belonidae			
Atlantic needlefish	<i>Strongylura</i>	<i>marina</i>	521
Cyprinodontidae			
Sheepshead minnow	<i>Cyprinodon</i>	<i>variegatus</i>	530
Banded killifish	<i>Fundulus</i>	<i>diaphanus</i>	531
Mummichog	<i>Fundulus</i>	<i>heteroclitus</i>	532
Rainwater killifish	<i>Lucania</i>	<i>parva</i>	535
Poeciliidae			
Western mosquitofish	<i>Gambusia</i>	<i>affinis</i>	540
Antherinidae			
Brook silverside	<i>Labidesthes</i>	<i>sicculus</i>	545
Inland silverside	<i>Menidia</i>	<i>beryllina</i>	547
Moronidae			
White bass	<i>Morone</i>	<i>chrysops</i>	576
Striped bass	<i>Morone</i>	<i>saxatilis</i>	577
White perch	<i>Morone</i>	<i>americana</i>	575
Centrarchidae			
Mud sunfish	<i>Acantharchus</i>	<i>promotis</i>	590
Rock bass	<i>Ambloplites</i>	<i>rupestris</i>	591

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Common Name (by family)	Scientific Name		NYSDEC Species Code
	Genus	Species	
Bluespotted sunfish	<i>Enneacanthus</i>	<i>gloriosus</i>	592
Banded sunfish	<i>Enneacanthus</i>	<i>obesus</i>	593
Redbreast sunfish	<i>Lepomis</i>	<i>auritus</i>	594
Green sunfish	<i>Lepomis</i>	<i>cyanellus</i>	595
Pumpkinseed	<i>Lepomis</i>	<i>gibbosus</i>	596
Warmouth	<i>Lepomis</i>	<i>gulosus</i>	597
Bluegill	<i>Lepomis</i>	<i>macrochirus</i>	598
Longear sunfish	<i>Lepomis</i>	<i>megalotis</i>	599
Smallmouth bass	<i>Micropterus</i>	<i>dolomieu</i>	600
Largemouth bass	<i>Micropterus</i>	<i>salmoides</i>	601
White crappie	<i>Pomoxis</i>	<i>annularis</i>	602
Black crappie	<i>Pomoxis</i>	<i>nigromaculatus</i>	603
Percidae			
Eastern sand darter	<i>Ammocrypta</i>	<i>pellucida</i>	605
Greenside darter	<i>Etheostoma</i>	<i>blennioides</i>	606
Rainbow darter	<i>Etheostoma</i>	<i>caeruleum</i>	607
Bluebreast darter	<i>Etheostoma</i>	<i>camurum</i>	628
Iowa darter	<i>Etheostoma</i>	<i>exile</i>	608
Fantail darter	<i>Etheostoma</i>	<i>flabellare</i>	609
Swamp darter	<i>Etheostoma</i>	<i>fusiforme</i>	610
Spotted darter	<i>Etheostoma</i>	<i>maculatum</i>	611
Johnny darter	<i>Etheostoma</i>	<i>nigrum</i>	613
Tesselated darter	<i>Etheostoma</i>	<i>olmstedii</i>	614
Variagate darter	<i>Etheostoma</i>	<i>variatum</i>	615
Banded darter	<i>Etheostoma</i>	<i>zonale</i>	616
Yellow perch	<i>Perca</i>	<i>flavescens</i>	617
Logperch	<i>Percina</i>	<i>caprodes</i>	618
Channel darter	<i>Percina</i>	<i>copelandi</i>	619
Gilt darter	<i>Percina</i>	<i>evides</i>	620
Longhead darter	<i>Percina</i>	<i>macrocephala</i>	621
Blackside darter	<i>Percina</i>	<i>maculata</i>	622
Shield darter	<i>Percina</i>	<i>peltata</i>	623
River darter	<i>Percina</i>	<i>shumardi</i>	624
Sauger	<i>Stizostedion</i>	<i>canadense</i>	625
Walleye	<i>Stizostedion</i>	<i>vitreum</i>	626

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Common Name	Scientific Name		NYSDEC Species Code
(by family)	Genus	Species	
Sciaenidae			
Freshwater drum	<i>Aplodinotus</i>	<i>grunniens</i>	700
Silver perch	<i>Bairdiella</i>	<i>chrysur</i>	701
Mugilidae			
Striped mullet	<i>Mugil</i>	<i>cephalus</i>	735
Cottidae			
Mottled sculpin	<i>Cottus</i>	<i>bairdi</i>	865
Slimy sculpin	<i>Cottus</i>	<i>cognatus</i>	866
Spoonhead sculpin	<i>Cottus</i>	<i>ricei</i>	867
Osmeridae			
Rainbow smelt	<i>Osmerus</i>	<i>mordax</i>	335
Umbridae			
Central mudminnow	<i>Umbra</i>	<i>limi</i>	340
Eastern mudminnow	<i>Umbra</i>	<i>pygmaea</i>	341
Percopsidae			
Trout-perch	<i>Percopsis</i>	<i>omiscomaycus</i>	461
Gadidae			
Atlantic cod	<i>Gadus</i>	<i>morhua</i>	492
Burbot	<i>Lota</i>	<i>lota</i>	493
Atlantic tomcod	<i>Microgadus</i>	<i>tomcod</i>	496
Gasterosteidae			
Fourspine stickleback	<i>Apeltes</i>	<i>quadracus</i>	560
Brook stickleback	<i>Culaea</i>	<i>inconstans</i>	561
Threespine stickleback	<i>Gasterosteus</i>	<i>aculeatus</i>	562
Blackspotted stickleback	<i>Gasterosteus</i>	<i>wheatlandi</i>	563
Ninespine stickleback	<i>Pungitius</i>	<i>pungitius</i>	564
Congridae			
Conger eel	<i>Conger</i>	<i>oceanicus</i>	280
Soleidae			
Hogchoker	<i>Trinectes</i>	<i>maculatus</i>	910
Round goby	<i>Neogobius</i>	<i>melanostomus</i>	999

**NIAGARA POWER PROJECT (FERC NO. 2216)
RECREATIONAL FISHING SURVEY LEWISTON RESERVOIR 2002**

APPENDIX B – EXAMPLE CALCULATIONS FOR SHORE ANGLER EFFORT ESTIMATES

Example calculation of the mean angler counts used in the angler effort estimates – angler data from Lewiston Reservoir 2002

Date	Time start	Time end	Total number of anglers arriving	Total or mean count (I_j)
5/1/02	14:40	20:30	7	7
5/2/02	8:00	14:50	0	0
5/4/02	8:00	15:50	24	24
5/5/02	14:30	20:45	11	11
5/7/02	7:30	8:30	0	0.5
5/7/02	13:00	14:00	1	
5/10/02	14:00	15:00	0	0
5/10/02	19:14	20:14	0	
5/11/02	9:25	10:25	4	3
5/11/02	12:45	13:45	2	
5/12/02	9:30	10:30	0	1
5/12/02	12:40	13:40	2	
5/13/02	7:20	8:20	0	0
5/13/02	10:35	11:35	0	
5/14/02	9:30	10:30	0	0
5/14/02	12:40	13:40	0	
5/15/02	9:25	10:25	1	1
5/15/02	12:40	13:40	1	
5/18/02	7:20	8:20	0	0
5/18/02	12:40	13:40	0	
5/19/02	7:20	8:20	0	0.5
5/19/02	11:35	12:35	1	
5/20/02	9:25	10:25	0	0
5/20/02	12:40	13:40	0	
5/21/02	15:30	16:30	0	0
5/21/02	18:40	19:40	0	
5/24/02	14:30	15:30	0	0
5/24/02	17:40	18:40	0	
5/25/02	9:30	10:30	0	1.5
5/25/02	12:40	13:40	3	
5/26/02	14:20	15:20	1	0.5
5/26/02	18:35	19:35	0	
5/27/02	14:45	15:45	7	3.5
5/27/02	20:50	21:25	0	
5/28/02	14:20	15:20	1	2
5/28/02	17:35	18:35	3	
5/29/02	8:25	9:25	0	0
5/29/02	12:40	13:40	0	
5/31/02	14:15	15:15	0	1
5/31/02	18:30	19:30	2	

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Daily total and daily species-specific effort calculations for May 2002 for Lewiston Reservoir - similar to Table 15.23 in Pollock et al. 1994

Variable	I_i	T	$P\hat{e}_i = I_i * T$	$\pi_i *$	$\hat{e}_i = \sum(P\hat{e}_i) / \pi_i$	π_x	$\hat{e}_x = \hat{e}_i * \pi_x$
Date	Total or mean count	# sample hours	Period effort	Proportion of hours sampled each day	Daily effort (angler hours)	Proportion of anglers seeking yellow perch	Daily effort for yellow perch in hour
5/1/02	7	7	49	0.50	98	0.71	70
5/2/02	0	7	0	0.50	0	0	0
5/4/02	24	7	168	0.50	336	0.85	286
5/5/02	11	6.5	72	0.46	154	0.17	26
5/7/02	1	2	1	0.14	7	0	0
5/10/02	0	2	0	0.14	0	0	0
5/11/02	3	2	6	0.14	42	0.2	8
5/12/02	1	2	2	0.14	14	0	0
5/13/02	0	2	0	0.14	0	0	0
5/14/02	0	2	0	0.14	0	0	0
5/15/02	1	2	2	0.14	14	1	14
5/18/02	0	2	0	0.14	0	0	0
5/19/02	1	2	1	0.14	7	1	7
5/20/02	0	2	0	0.14	0	0	0
5/21/02	0	2	0	0.14	0	0	0
5/24/02	0	2	0	0.14	0	0	0
5/25/02	2	2	3	0.14	21	0.5	11
5/26/02	1	2	1	0.14	7	1	7
5/27/02	4	2	7	0.14	49	0.83	41
5/28/02	2	2	4	0.14	28	0.27	8
5/29/02	0	2	0	0.14	0	0	0
5/31/02	1	2	2	0.14	14	0.5	7
				Mean weekday (\hat{e}_{wd})	12		8
				Mean weekend (\hat{e}_{we})	70		43
				May mean daily angler effort	36		22
				May mean daily effort SE	16		13
				SE = standard error			

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Daily total and daily species-specific effort calculations for May 2002 (cont.)

π_i = probability of the sample hours being sampled based on the number of daylight fishable hours (14 hours in May).	
Total number of angler hours = $(E_{wd} * N_{wd}) + (E_{we} * N_{ew})$	
May total effort =	902
May total effort SE=	370
May total yellow perch effort =	551
May yellow perch total effort SE=	300
$= \text{square root } ((\text{variance}_{wd} / n_{wd}) * N_{wd}^2) + ((\text{variance}_{we} / n_{ew}) * N_{ew}^2)$ *** From Table 15.21 in Pollock et al. 1994	
$n_{wd} = 13$ (weekday sample days), $N_{wd} = 22$ (weekday total days), $n_{ew} = 9$ (weekend sample days), $N_{ew} = 9$ (weekend total days)	
** Total effort can also be calculated using Equation 15.5 from Pollock et al. 1994	

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Example calculations of the adjustment factor for estimating species-specific angler effort

Date	Number fishing (t)	Species Code (u)	Adjustment factor $e_x = \text{sum of number seeking}$	Species
5/1/2002	2	1	0.14	Any
5/1/2002	1	617		
5/1/2002	2	617		
5/1/2002	2	617	0.71	Yellow perch
5/4/2002	3	617	0.85	Yellow perch
5/4/2002	4	617		
5/4/2002	2	347	0.08	Northern pike
5/4/2002	3	617		
5/4/2002	4	617		
5/4/2002	2	617		
5/4/2002	2	617		
5/4/2002	1	600	0.04	Smallmouth bass
5/4/2002	1	601	0.04	Largemouth bass
5/4/2002	1	617		
5/4/2002	1	617		
5/4/2002	1	617		
5/4/2002	1	617		
5/5/2002	1	1		
5/5/2002	2	1		
5/5/2002	2	1	0.83	Any
5/5/2002	1	617	0.17	Yellow perch

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**APPENDIX C—INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN
2002-2003 BY LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/7/2002	TRP	11:55	12:55	2		2
5/7/2002	TRS	10:55	11:55	1		1
5/7/2002	CP	12:27	13:20	0		0
5/7/2002	DP	10:05	11:05	0		0
5/7/2002	FNS	13:29	14:30	0		0
5/7/2002	LLS	8:45	9:45	4		4
5/7/2002	AP	7:30	8:30	1		1
5/7/2002		Total				8
5/10/2002	TRP	17:10	18:10	0		0
5/10/2002	TRS	18:10	19:10	0		0
5/10/2002	CP	16:54	17:54	0		0
5/10/2002	DP	14:30	15:30	0		0
5/10/2002	FNS	15:42	16:42	2		2
5/10/2002	LLS	18:06	19:06	3		3
5/10/2002	AP	19:08	20:00	0		0
5/10/2002		Total				5
5/11/2002	TRP	8:20	9:20	4		4
5/11/2002	TRS	7:20	8:20	0		0
5/11/2002	CP	11:05	12:05	3		3
5/11/2002	DP	8:42	9:42	0		0
5/11/2002	FNS	9:45	10:45	0		0
5/11/2002	LLS	7:30	8:30	0	0	0
5/11/2002	AP	12:45	13:45	1		1
5/11/2002		Total				8
5/12/2002	TRP	11:35	12:35	0		0
5/12/2002	TRS	10:35	11:35	0		0
5/12/2002	CP	11:18	12:19	0		0
5/12/2002	DP	8:44	9:44	0		0
5/12/2002	FNS	10:00	11:12	0		0
5/12/2002	LLS	12:30	13:45	0		0
5/12/2002	AP	7:30	8:30	0		0
5/12/2002		Total				0
5/13/2002	TRP	11:40	12:40	3		3
5/13/2002	TRS	8:59	9:59	0		0
5/13/2002	CP	10:03	11:03	0		0
5/13/2002	DP	7:41	8:45	0		0
5/13/2002	FNS	12:40	13:40	0		0
5/13/2002	LLS	12:26	13:36	0		0
5/13/2002	AP	11:22	12:22	0		0
5/13/2002		Total				3

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/14/2002	TRP	11:35	12:35	0		0
5/14/2002	TRS	10:35	11:35	0		0
5/14/2002	CP	12:10	13:10	0		0
5/14/2002	DP	8:50	9:50	0		0
5/14/2002	FNS	10:11	11:42	0		0
5/14/2002	LLS	7:30	8:30	0		0
5/14/2002	AP	13:23	14:23	0		0
5/14/2002		Total				0
5/15/2002	TRP	8:20	9:20	2		2
5/15/2002	TRS	7:20	8:20	0		0
5/15/2002	CP	8:49	9:49	0		0
5/15/2002	DP	10:00	11:21	2		2
5/15/2002	FNS	7:30	8:40	0		0
5/15/2002	LLS	11:28	12:29	3		3
5/15/2002	AP	12:33	13:33	0		0
5/15/2002		Total				7
5/18/2002	TRP	9:30	10:30	5		5
5/18/2002	TRS	10:30	11:30	0		0
5/18/2002	CP	18:09	19:09	0		0
5/18/2002	DP	16:51	17:51	2		2
5/18/2002	LLS	15:37	16:37	4		4
5/18/2002	AP	13:30	14:30	0		0
5/18/2002		Total				11
5/19/2002	TRP	10:30	11:30	6		6
5/19/2002	TRS	9:30	10:30	0		0
5/19/2002	CP	8:43	9:43	0		0
5/19/2002	DP	7:30	8:30	0		0
5/19/2002	LLS	10:00	11:00	0		0
5/19/2002	AP	11:05	12:05	0		0
5/19/2002		Total				6

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INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY LOCATION

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/20/2002	TRP	8:20	9:20	0		0
5/20/2002	TRS	7:20	8:20	0		0
5/20/2002	CP	10:01	11:01	0		0
5/20/2002	DP	11:10	12:10	0		0
5/20/2002	FNS	8:50	9:54	0		0
5/20/2002	LLS	7:30	8:30	0		0
5/20/2002	AP	12:30	13:30	0		0
5/20/2002		Total				0
5/21/2002	TRP	16:35	17:35	0	0	0
5/21/2002	TRS	17:35	18:35	0	0	0
5/21/2002	CP	19:29	20:29	0	0	0
5/21/2002	DP	16:55	18:00	3	0	1.5
5/21/2002	FNS	18:15	18:20	2	0	1
5/21/2002	LLS	15:40	16:40	2	0	1
5/21/2002	AP	14:30	15:30	0	0	0
5/21/2002		Total				3.5
5/24/2002	TRP	16:35	17:35	0	0	0
5/24/2002	TRS	15:35	16:35	0	0	0
5/24/2002	CP	18:05	19:05	0	0	0
5/24/2002	DP	15:45	16:45	0	0	0
5/24/2002	FNS	14:30	15:30	0	0	0
5/24/2002	LLS	17:00	18:00	0	0	0
5/24/2002	AP	19:30	20:30	2	0	1
5/24/2002		Total				1
5/25/2002	TRP	10:35	11:35	6	0	3
5/25/2002	TRS	11:35	12:35	0	0	0
5/25/2002	CP	8:36	9:36	0	0	0
5/25/2002	DP	9:59	10:59	0	0	0
5/25/2002	FNS	7:30	8:30	0	0	0
5/25/2002	LLS	11:14	12:14	4	0	2
5/25/2002	AP	12:30	13:30	0	0	0
5/25/2002		Total				5

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INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY LOCATION

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/26/2002	TRP	15:25	16:25	2	0	1
5/26/2002	TRS	16:25	17:25	0	0	0
5/26/2002	CP	15:40	16:40	0	0	0
5/26/2002	DP	16:50	17:50	0	0	0
5/26/2002	FNS	14:30	15:30	0	0	0
5/26/2002	LLS	18:09	19:09	18	0	9
5/26/2002	AP	19:12	20:12	0	0	0
5/26/2002		Total				10
5/27/2002	TRP	16:10	17:10	1	0	0.5
5/27/2002	TRS	17:15	18:15	4	0	2
5/27/2002	CP	16:53	17:53	0	0	0
5/27/2002	DP	14:30	15:30	3	0	1.5
5/27/2002	FNS	15:44	16:44	5	0	2.5
5/27/2002	LLS	18:11	19:11	17	0	8.5
5/27/2002	AP	19:22	20:22	0	0	0
5/27/2002		Total				15
5/28/2002	TRP	19:40	20:40	4	0	2
5/28/2002	TRS	18:40	19:40	0	0	0
5/28/2002	CP	16:10	17:10	0	0	0
5/28/2002	DP	15:55	16:55	0	0	0
5/28/2002	FNS	18:15	19:15	6	0	3
5/28/2002	LLS	14:40	15:40	0	0	0
5/28/2002	AP	19:44	20:44	0	0	0
5/28/2002		Total				5
5/29/2002	TRP	9:30	10:30	3	0	1.5
5/29/2002	TRS	10:30	11:30	0	0	0
5/29/2002	CP	11:05	12:05	2	0	1
5/29/2002	DP	9:55	10:55	0	0	0
5/29/2002	FNS	12:11	13:11	0	0	0
5/29/2002	LLS	8:45	9:45	5	0	2.5
5/29/2002	AP	7:30	8:30	0	0	0
5/29/2002		Total				5

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/31/2002	TRP	15:20	16:20	4	0	2
5/31/2002	TRS	16:20	17:20	0	0	0
5/31/2002	CP	15:35	16:35	0	0	0
5/31/2002	DP	16:45	17:45	0	0	0
5/31/2002	FNS	14:30	15:30	0	0	0
5/31/2002	LLS	17:58	18:58	0	0	0
5/31/2002	AP	19:02	20:02	0	0	0
5/31/2002		Total				2
6/1/2002	TRP	16:45	17:45	1	0	0.5
6/1/2002	TRS	18:58	19:58	1	0	0.5
6/1/2002	CP	18:10	19:10	0	0	0
6/1/2002	DP	17:00	18:00	4	0	2
6/1/2002	FNS	19:15	20:15	0	0	0
6/1/2002	LLS	15:40	16:40	7	0	3.5
6/1/2002	AP	14:30	15:35	0	0	0
6/1/2002						6.5
6/2/2002	TRP	15:45	16:45	4	0	2
6/2/2002	TRS	16:50	17:50	2	0	1
6/2/2002	CP	15:50	16:50	0	0	0
6/2/2002	DP	17:30	18:30	0	0	0
6/2/2002	FNS	14:40	15:40	0	0	0
6/2/2002	LLS	18:40	19:40	8		8
6/2/2002	AP	19:45	20:45	0	0	0
6/2/2002						11
6/3/2002	TRP	14:25	15:25	3	0	1.5
6/3/2002	TRS	15:25	16:25	0	0	0
6/3/2002	CP	14:30	15:30	0	0	0
6/3/2002	DP	16:53	17:53	0	0	0
6/3/2002	FNS	15:40	16:40	0	0	0
6/3/2002	LLS	18:08	19:08	5	0	2.5
6/3/2002	AP	19:20	20:20	0	0	0
6/3/2002						4

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/5/2002	TRP	11:40	12:40	3	0	1.5
6/5/2002	TRS	12:40	13:40	0	0	0
6/5/2002	CP	10:58	11:58	0	0	0
6/5/2002	DP	9:47	10:47	0	0	0
6/5/2002	FNS	12:04	13:04	0	0	0
6/5/2002	LLS	8:37	9:37	0	0	0
6/5/2002	AP	7:30	8:30	0	0	0
6/5/2002						1.5
6/6/2002	TRP	17:35	18:35	3	3	3
6/6/2002	TRS	18:35	19:35	0	0	0
6/6/2002	CP	17:58	18:58	0	0	0
6/6/2002	DP	16:48	17:48	0	0	0
6/6/2002	FNS	19:03	21:00	0	0	0
6/6/2002	LLS	15:35	16:35	0	0	0
6/6/2002	AP	14:30	15:30	0	0	0
6/6/2002						3
6/8/2002	TRP	9:30	10:30	9	6	7.5
6/8/2002	TRS	10:30	11:30	0	0	0
6/8/2002	CP	8:35	9:35	0	0	0
6/8/2002	DP	9:50	10:50	0	0	0
6/8/2002	FNS	7:30	8:30	0	0	0
6/8/2002	LLS	10:27	11:27	3	0	1.5
6/8/2002	AP	11:35	12:35	0	0	0
6/8/2002						9
6/9/2002	TRP	9:25	10:25	1	2	1.5
6/9/2002	TRS	8:25	9:25	0	0	0
6/9/2002	CP	8:40	9:40	0	0	0
6/9/2002	DP	7:30	8:30	1	0	0.5
6/9/2002	FNS	9:47	10:47	0	0	0
6/9/2002	LLS	11:13	12:13	8	4	6
6/9/2002	AP	12:30	13:30	0	0	0
6/9/2002						8

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/10/2002	TRP	10:35	11:35	0	5	2.5
6/10/2002	TRS	11:35	12:35	0	0	0
6/10/2002	CP	11:11	12:11	0	0	0
6/10/2002	DP	9:55	10:55	0	0	0
6/10/2002	FNS	12:22	13:36	0	0	0
6/10/2002	LLS	8:35	9:35	0	0	0
6/10/2002	AP	7:30	8:30	0	0	0
6/10/2002						2.5
6/13/2002	TRP	18:30	19:30	0	2	1
6/13/2002	TRS	17:30	18:30	0	0	0
6/13/2002	CP	17:55	18:55	0	0	0
6/13/2002	DP	16:48	17:48	3	0	1.5
6/13/2002	FNS	19:00	20:00	7	0	3.5
6/13/2002	LLS	15:35	16:36	0	0	0
6/13/2002	AP	14:30	15:30	0	0	0
6/13/2002						6
6/14/2002	TRP	11:35	12:35	0	0	0
6/14/2002	TRS	10:35	11:35	0	0	0
6/14/2002	CP	8:40	9:40	0	0	0
6/14/2002	DP	7:30	8:30	0	0	0
6/14/2002	FNS	9:46	10:46	0	0	0
6/14/2002	LLS	12:30	13:30	1	0	0.5
6/14/2002	AP	11:04	12:04	0	0	0
6/14/2002						0.5
6/15/2002	TRP	15:25	16:15	12	0	6
6/15/2002	TRS	16:25	17:25	0	0	0
6/15/2002	CP	18:10	19:10	0	0	0
6/15/2002	DP	16:56	17:56	0	0	0
6/15/2002	FNS	19:15	20:15	0	0	0
6/15/2002	LLS	15:38	16:38	5	0	2.5
6/15/2002	AP	14:30	15:30	0	0	0
6/15/2002						8.5

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Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/16/2002	TRP	16:30	17:35	12	0	6
6/16/2002	CP	16:48	17:48	0	0	0
6/16/2002	DP	15:40	16:40	0	0	0
6/16/2002	FNS	17:57	18:57	0	0	0
6/16/2002	LLS	14:30	15:30	1	0	0.5
6/16/2002	AP	19:16	20:16	0	0	0
6/16/2002						6.5
6/18/2002	TRS	14:30	15:30	0	0	0
6/18/2002	TRP	15:30	16:30	12	12	12
6/18/2002	CP	14:30	15:30	0	0	0
6/18/2002	DP	16:41	17:41	0	0	0
6/18/2002	FNS	15:36	16:36	1	0	0.5
6/18/2002	LLS	17:53	18:53	8	0	4
6/18/2002	AP	18:59	19:59	0	0	0
6/18/2002						16.5
6/19/2002	TRP	18:45	19:45	10	7	8.5
6/19/2002	TRS	17:45	18:45	0	0	0
6/19/2002	CP	18:06	19:06	3	0	1.5
6/19/2002	DP	16:53	17:53	2	0	1
6/19/2002	FNS	19:15	20:15	0	0	0
6/19/2002	LLS	15:36	16:36	6	0	3
6/19/2002	AP	14:30	15:30	0	0	0
6/19/2002						14
6/20/2002	TRP	8:30	9:30	10	9	9.5
6/20/2002	TRS	7:30	8:30	0	0	0
6/20/2002	CP	8:38	9:38	0	0	0
6/20/2002	DP	9:46	10:46	0	0	0
6/20/2002	FNS	7:30	8:30	0	0	0
6/20/2002	LLS	12:07	13:07	3	0	1.5
6/20/2002	AP	10:59	11:59	0	0	0
6/20/2002						11

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/22/2002	TRP	11:45	12:45	20	19	19.5
6/22/2002	TRS	10:45	11:45	0	3	1.5
6/22/2002	CP	8:34	9:34	0	0	0
6/22/2002	DP	9:44	10:44	2	0	1
6/22/2002	FNS	7:30	8:30	0	0	0
6/22/2002	LLS	10:53	11:53	0	0	0
6/22/2002	AP	12:00	13:00	0	0	0
6/22/2002						22
6/23/2002	TRP	16:35	17:35	15	6	10.5
6/23/2002	TRS	15:35	16:35	1	1	1
6/23/2002	CP	14:30	15:30	0	0	0
6/23/2002	DP	17:03	18:03	0	0	0
6/23/2002	FNS	15:36	16:46	0	0	0
6/23/2002	LLS	18:15	19:15	15	0	7.5
6/23/2002	AP	19:20	20:20	3	0	1.5
6/23/2002						20.5
6/25/2002	TRP	18:48	19:48	10	9	9.5
6/25/2002	TRS	17:48	18:48	0	0	0
6/25/2002	CP	18:12	19:12	0	6	3
6/25/2002	DP	16:58	17:58	0	0	0
6/25/2002	FNS	19:20	20:20	0	1	0.5
6/25/2002	LLS	15:39	16:39	3	0	1.5
6/25/2002	AP	14:30	15:30	0	0	0
6/25/2002						14.5
6/26/2002	TRP	9:33	10:33	15	22	18.5
6/26/2002	TRS	8:33	9:33	0	0	0
6/26/2002	CP	11:05	12:05	2	1	1.5
6/26/2002	DP	9:53	10:53	0	0	0
6/26/2002	FNS	12:15	13:15	0	0	0
6/26/2002	LLS	7:30	8:30	1	4	2.5
6/26/2002	AP	8:37	9:37	0	0	0
6/26/2002						22.5

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INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY LOCATION

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/27/2002	TRP	16:33	17:33	0	2	1
6/27/2002	TRS	15:33	16:33	0	0	0
6/27/2002	CP	15:40	16:40	0	0	0
6/27/2002	DP	14:30	15:30	0	0	0
6/27/2002	FNS	16:50	17:50	0	0	0
6/27/2002	LLS	19:34	20:34	14	12	13
6/27/2002	AP	18:20	19:20	0	1	0.5
6/27/2002						14.5
6/29/2002	TRP	11:47	12:47	20	18	19
6/29/2002	TRS	10:47	11:47	0	0	0
6/29/2002	CP	11:11	12:11	0	0	0
6/29/2002	DP	9:56	10:56	4	5	4.5
6/29/2002	FNS	12:26	13:36	2	0	1
6/29/2002	LLS	7:30	8:30	0	2	1
6/29/2002	AP	8:35	9:35	0	2	1
6/29/2002						26.5
6/30/2002	TRP	11:46	12:46	10	10	10
6/30/2002	TRS	10:46	11:46	0	0	0
6/30/2002	CP	11:12	12:12	0	0	0
6/30/2002	DP	9:55	10:55	2	0	1
6/30/2002	FNS	12:25	13:25	0	0	0
6/30/2002	LLS	7:30	8:30	7	5	6
6/30/2002	AP	8:35	9:35	0	0	0
6/30/2002						17
7/1/2002	TRP	18:44	19:44	10	6	8
7/1/2002	TRS	17:44	18:44	1	0	0.5
7/1/2002	CP	18:06	19:06	0	0	0
7/1/2002	DP	14:30	15:30	0	0	0
7/1/2002	FNS	19:11	20:11	0	0	0
7/1/2002	LLS	15:45	16:45	3	0	1.5
7/1/2002	AP	16:50	17:50	0	0	0
7/1/2002						10

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Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
7/3/2002	TRP	16:35	17:35	3	2	2.5
7/3/2002	TRS	15:35	16:35	0	0	0
7/3/2002	CP	18:15	19:15	0	0	0
7/3/2002	DP	17:00	18:00	2	5	3.5
7/3/2002	FNS	19:31	20:31	0	0	0
7/3/2002	LLS	15:40	16:40	7	7	7
7/3/2002	AP	14:30	15:30	0	0	0
7/3/2002						13
7/4/2002	TRP	15:30	16:30	4	0	2
7/4/2002	TRS	14:30	15:30	0	2	1
7/4/2002	CP	18:23	19:23	0	0	0
7/4/2002	DP	14:45	15:45	4	4	4
7/4/2002	FNS	19:28	20:28	3	0	1.5
7/4/2002	LLS	16:00	17:00	0	10	5
7/4/2002	AP	17:10	18:10	0	0	0
7/4/2002						13.5
7/5/2002	TRP	18:55	19:55	12	15	13.5
7/5/2002	TRS	17:55	18:55	6	6	6
7/5/2002	CP	18:45	19:45	0	0	0
7/5/2002	DP	17:30	18:30	0	5	2.5
7/5/2002	FNS	19:50	20:50	1		1
7/5/2002	LLS	15:10	16:10	12	5	8.5
7/5/2002	AP	16:15	17:15	0	0	0
7/5/2002						31.5
7/6/2002	TRP	9:35	10:35	19	23	21
7/6/2002	TRS	8:35	9:35	5	1	3
7/6/2002	CP	11:04	12:04	0	0	0
7/6/2002	DP	7:30	8:30	2	4	3
7/6/2002	FNS	12:13	13:13	0	0	0
7/6/2002	LLS	8:44	9:44	10	6	8
7/6/2002	AP	9:48	10:48	3	0	1.5
7/6/2002						36.5

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
7/7/2002	TRP	11:55	12:55	9	14	11.5
7/7/2002	TRS	10:55	11:55	1	1	1
7/7/2002	CP	11:03	12:03	6	0	3
7/7/2002	DP	9:51	10:51	3	1	2
7/7/2002	FNS	12:12	13:12	0	0	0
7/7/2002	LLS	7:30	8:30	5	4	4.5
7/7/2002	AP	8:35	9:35	0	0	0
7/7/2002						22
7/10/2002	TRP	11:46	12:46	9	12	10.5
7/10/2002	TRS	10:46	11:46	0	0	0
7/10/2002	CP	9:35	10:35	0	0	0
7/10/2002	DP	10:42	11:42	0	0	0
7/10/2002	FNS	8:30	9:30	0	0	0
7/10/2002	LLS	13:00	14:00	4	2	3
7/10/2002	AP	11:55	12:55	0	0	0
7/10/2002						13.5
7/11/2002	TRP	16:25	17:25	12	10	11
7/11/2002	TRS	17:30	18:30	3	4	3.5
7/11/2002	CP	16:54	17:54	0	0	0
7/11/2002	DP	14:31	15:32	0	0	0
7/11/2002	FNS	15:48	16:48	0	0	0
7/11/2002	LLS	19:22	20:22	17	18	17.5
7/11/2002	AP	18:20	19:20	3	3	3
7/11/2002						35
7/12/2002	TRP	9:34	10:34	6	6	6
7/12/2002	TRS	8:34	9:34	9	6	7.5
7/12/2002	CP	11:00	12:00	0	0	0
7/12/2002	DP	9:55	10:55	2	2	2
7/12/2002	FNS	12:05	13:05	0	0	0
7/12/2002	LLS	8:45	9:45	5	2	3.5
7/12/2002	AP	7:40	8:40	0	0	0
7/12/2002						19

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
7/13/2002	TRP	9:35	10:35	13	15	14
7/13/2002	TRS	8:35	9:35	1	1	1
7/13/2002	CP	10:55	11:55	0	0	0
7/13/2002	DP	7:30	8:30	0	0	0
7/13/2002	FNS	12:00	13:00	0	0	0
7/13/2002	LLS	8:40	9:40	2	2	2
7/13/2002	AP	9:43	10:43	0	0	0
7/13/2002						17
7/14/2002	TRP	16:35	17:35	20	14	17
7/14/2002	TRS	15:35	16:35	3	0	1.5
7/14/2002	CP	15:43	16:43	0	0	0
7/14/2002	DP	14:30	15:31	4	5	4.5
7/14/2002	FNS	16:45	17:45	0	0	0
7/14/2002	LLS	19:11	20:11	5	6	5.5
7/14/2002	AP	18:06	19:06	2	2	2
7/14/2002						30.5
7/15/2002	TRP	16:35	17:35	11	5	8
7/15/2002	TRS	15:35	16:35	0	0	0
7/15/2002	CP	15:39	16:39	0	0	0
7/15/2002	DP	16:49	17:49	2	0	1
7/15/2002	FNS	14:30	15:30	0	0	0
7/15/2002	LLS	18:00	19:00	3	6	4.5
7/15/2002	AP	19:06	20:06	2	3	2.5
7/15/2002						16
7/18/2002	TRP	9:36	10:36	5	4	4.5
7/18/2002	TRS	8:36	9:36	3	2	2.5
7/18/2002	CP	8:20	9:20	0	0	0
7/18/2002	DP	9:24	10:24	0	0	0
7/18/2002	FNS	7:10	8:10	0	0	0
7/18/2002	LLS	10:35	11:35	3	7	5
7/18/2002	AP	11:45	12:45	0	0	0
7/18/2002						12

**NIAGARA POWER PROJECT (FERC NO. 2216)
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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
7/19/2002	TRP	11:45	12:45	9	20	14.5
7/19/2002	TRS	10:45	11:45	0	0	0
7/19/2002	CP	8:35	9:35	0	0	0
7/19/2002	DP	9:40	10:40	0	0	0
7/19/2002	FNS	7:30	8:30	0	0	0
7/19/2002	LLS	10:50	11:50	1	3	2
7/19/2002	AP	11:55	12:55	0	0	0
7/19/2002						16.5
7/20/2002	TRP	9:35	10:35	17	19	18
7/20/2002	TRS	8:35	9:35	1	0	0.5
7/20/2002	CP	8:18	9:18	0	0	0
7/20/2002	DP	9:25	10:25	0	0	0
7/20/2002	FNS	7:15	8:15	0	0	0
7/20/2002	LLS	10:40	11:40	3	4	3.5
7/20/2002	AP	11:47	12:47	0	2	
7/20/2002						23
7/21/2002	TRP	9:37	10:37	8	11	9.5
7/21/2002	TRS	8:37	9:37	2	2	2
7/21/2002	CP	12:57	13:55	0	0	
7/21/2002	DP	10:30	11:30	5	3	
7/21/2002	FNS	11:52	12:52	0	0	0
7/21/2002	LLS	8:19	9:19	5	6	5.5
7/21/2002	AP	9:22	10:22	5	5	5
7/21/2002						26
7/22/2002	TRP	9:35	10:35	9	7	8
7/22/2002	TRS	8:35	9:35	0	0	0
7/22/2002	CP	11:00	12:00	0	0	0
7/22/2002	DP	7:30	8:30	0	0	0
7/22/2002	FNS	12:09	13:09	0	0	0
7/22/2002	LLS	8:41	9:41	7	0	3.5
7/22/2002	AP	9:45	10:45	0	0	0
7/22/2002						11.5

**NIAGARA POWER PROJECT (FERC NO. 2216)
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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
7/23/2002	TRP	8:30	9:30	5	3	4
7/23/2002	TRS	7:30	8:30	0	0	0
7/23/2002	CP	11:15	12:15	0	3	1.5
7/23/2002	DP	7:30	8:30	0	0	0
7/23/2002	FNS	12:30	13:30	0	0	0
7/23/2002	LLS	8:45	9:45	1	0	0.5
7/23/2002	AP	9:55	10:55	0	0	0
7/23/2002						6
7/24/2002	TRP	15:30	16:30	10	6	8
7/24/2002	TRS	14:30	15:30	2	2	2
7/24/2002	CP	18:00	19:00	0	0	0
7/24/2002	DP	16:50	17:50	6	6	6
7/24/2002	FNS	19:05	20:05	0	0	0
7/24/2002	LLS	15:40	16:40	6	8	7
7/24/2002	AP	14:30	15:30	2	0	1
7/24/2002						24
7/27/2002	TRP	9:35	10:35	16	19	17.5
7/27/2002	TRS	8:35	9:35	3	3	3
7/27/2002	CP	7:30	8:30	0	0	0
7/27/2002	DP	10:00	11:00	0	0	0
7/27/2002	FNS	8:35	9:35	0	0	0
7/27/2002	LLS	11:11	12:11	16	16	16
7/27/2002	AP	12:21	13:31	0	0	0
7/27/2002						36.5
7/28/2002	TRP	18:48	19:48	29	24	26.5
7/28/2002	TRS	17:48	18:48	7	10	8.5
7/28/2002	CP	8:00	9:00	0	0	0
7/28/2002	DP	9:08	10:08	6	0	3
7/28/2002	FNS	10:13	11:13	0	0	0
7/28/2002	LLS	13:30	14:30	7	6	6.5
7/28/2002	AP	11:45	12:45	1	1	1
7/28/2002						45.5

**NIAGARA POWER PROJECT (FERC NO. 2216)
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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
7/29/2002	TRP	8:30	9:30	4	5	4.5
7/29/2002	TRS	7:30	8:30	0	0	0
7/29/2002	CP	10:50	11:50	0	0	0
7/29/2002	DP	9:45	10:45	1	1	1
7/29/2002	FNS	11:50	12:50	0	0	0
7/29/2002	LLS	8:33	9:33	2	2	2
7/29/2002	AP	7:20	8:20	0	0	0
7/29/2002						7.5
7/30/2002	TRP	15:30	16:30	14	12	13
7/30/2002	TRS	14:30	15:30	0	0	0
7/30/2002	CP	15:25	16:25	1	0	0.5
7/30/2002	DP	16:30	17:30	0	5	2.5
7/30/2002	FNS	14:20	15:20	0	0	0
7/30/2002	LLS	17:45	18:45	7	4	5.5
7/30/2002	AP	19:10	20:10	2	2	2
7/30/2002						23.5
8/2/2002	TRP	11:43	12:43	11	0	5.5
8/2/2002	TRS	10:43	11:43	0	0	0
8/2/2002	CP	7:30	8:30	0	0	0
8/2/2002	DP	9:40	10:40	2	2	2
8/2/2002	FNS	8:35	9:35	0	0	0
8/2/2002	LLS	10:55	11:50	2	2	2
8/2/2002	AP	11:55	12:55	0	0	0
8/2/2002						9.5
8/3/2002	TRP	8:30	9:30	11	12	11.5
8/3/2002	TRS	7:30	8:30	1	1	1
8/3/2002	CP	11:15	12:15	2	2	2
8/3/2002	DP	7:30	8:30	0	0	0
8/3/2002	FNS	12:20	13:20	0	0	0
8/3/2002	LLS	8:40	9:40	8	6	
8/3/2002	AP	9:45	10:45	3	3	3
8/3/2002						24.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
8/5/2002	TRP	13:15	14:15	5	5	5
8/5/2002	TRS	14:17	15:17	0	0	0
8/5/2002	CP	11:00	12:00	0	0	0
8/5/2002	DP	9:54	10:54	1	0	0.5
8/5/2002	FNS	12:09	13:09	0	0	0
8/5/2002	LLS	8:39	9:39	5	5	5
8/5/2002	AP	7:30	8:30	0	0	0
8/5/2002						10.5
8/7/2002	TRP	9:00	10:00	3	3	3
8/7/2002	TRS	10:05	11:05	4	2	3
8/7/2002	CP	8:44	9:44	0	0	0
8/7/2002	DP	7:30	8:30	0	2	1
8/7/2002	FNS	9:49	10:49	0	0	0
8/7/2002	LLS	11:05	12:05	4	6	5
8/7/2002	AP	12:09	13:09	0	0	0
8/7/2002						12
8/8/2002	TRP	7:50	8:50	1	3	2
8/8/2002	TRS	8:55	9:55	0	0	0
8/8/2002	CP	7:30	8:30	0	0	0
8/8/2002	DP	9:49	10:49	0	0	0
8/8/2002	FNS	8:35	9:35	0	0	0
8/8/2002	LLS	10:56	11:56	0	3	1.5
8/8/2002	AP	12:05	13:05	0	0	0
8/8/2002						3.5
8/12/2002	TRP	14:40	15:40	0	0	0
8/12/2002	TRS	15:41	16:41	0	0	0
8/12/2002	CP	14:30	15:30	0	0	0
8/12/2002	DP	16:43	17:43	0	0	0
8/12/2002	FNS	15:35	16:35	0	0	0
8/12/2002	LLS	18:55	19:55	6	5	5.5
8/12/2002	AP	17:52	18:52	0	0	0
8/12/2002						5.5

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
8/14/2002	TRP	11:50	12:50	0	0	0
8/14/2002	TRS	10:50	11:50	0	0	0
8/14/2002	CP	8:38	9:38	0	0	0
8/14/2002	DP	7:30	8:30	0	1	0.5
8/14/2002	FNS	9:43	10:43	0	0	0
8/14/2002	LLS	10:55	11:55	1	2	1.5
8/14/2002	AP	12:01	13:01	0	0	0
8/14/2002						2
8/15/2002	TRP	9:30	10:30	1	1	1
8/15/2002	TRS	7:30	8:30	0	0	0
8/15/2002	CP	7:30	8:30	0	0	0
8/15/2002	DP	9:43	10:43	2	0	1
8/15/2002	FNS	8:34	9:34	0	0	0
8/15/2002	LLS	11:03	12:03	0	0	0
8/15/2002	AP	12:15	13:15	0	0	0
8/15/2002						2
8/17/2002	TRP	16:10	17:10	16	11	13.5
8/17/2002	TRS	17:10	18:10	0	0	0
8/17/2002	CP	15:30	16:30	0	0	0
8/17/2002	DP	16:46	17:46	0	0	0
8/17/2002	FNS	14:21	15:21	0	0	0
8/17/2002	LLS	17:59	18:59	1	1	1
8/17/2002	AP	19:02	20:02	0	0	0
8/17/2002						14.5
8/18/2002	TRS	11:30	12:30	0	0	0
8/18/2002	TRS	12:31	13:31	11	11	11
8/18/2002	CP	8:28	9:28	0	0	0
8/18/2002	DP	9:34	10:34	2	2	2
8/18/2002	FNS	7:20	8:20	0	0	0
8/18/2002	LLS	10:45	11:45	2	1	1.5
8/18/2002	AP	12:00	13:00	0	0	0
8/18/2002						14.5

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
8/20/2002	TRP	11:54	12:54	0	3	1.5
8/20/2002	TRS	10:53	11:53	3	2	2.5
8/20/2002	CP	8:35	9:35	0	0	0
8/20/2002	DP	9:40	10:40	1	0	0.5
8/20/2002	FNS	7:30	8:30	0	0	0
8/20/2002	LLS	10:50	11:50	6	6	6
8/20/2002	AP	12:00	13:00	0	2	1
8/20/2002						11.5
8/21/2002	TRP	13:52	14:52	2	0	1
8/21/2002	TRS	12:51	13:51	2	0	1
8/21/2002	CP	7:30	8:30	0	0	0
8/21/2002	DP	9:45	11:05	2	2	2
8/21/2002	FNS	8:35	9:35	0	0	0
8/21/2002	LLS	11:15	12:15	9	9	9
8/21/2002	AP	12:20	13:20	0	0	0
8/21/2002						13
8/23/2002	TRP	10:30	11:30	2	0	1
8/23/2002	TRS	9:30	10:30	0	0	0
8/23/2002	CP	11:02	12:02	3	3	3
8/23/2002	DP	9:55	10:55	2	2	2
8/23/2002	FNS	12:08	13:08	1	3	2
8/23/2002	LLS	8:42	9:42	3	1	2
8/23/2002	AP	7:30	8:30	0	1	0.5
8/23/2002						10.5
8/24/2002	TRP	10:30	11:30	5	9	7
8/24/2002	TRS	9:30	10:30	0	0	0
8/24/2002	CP	19:10	20:10	0	0	0
8/24/2002	DP	16:50	17:50	0	0	0
8/24/2002	FNS	18:05	19:05	0	0	0
8/24/2002	LLS	10:52	11:52	3	2	2.5
8/24/2002	AP	12:00	13:00	0	2	1
8/24/2002						10.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
8/25/2002	TRP	10:30	11:30	9	8	8.5
8/25/2002	TRS	11:31	12:31	5	4	4.5
8/25/2002	CP	10:55	11:55	0	0	0
8/25/2002	DP	9:46	10:46	3	0	1.5
8/25/2002	FNS	12:15	13:15	0	0	0
8/25/2002	LLS	8:36	9:36	0	3	1.5
8/25/2002	AP	7:30	8:30	0	2	1
8/25/2002						17
8/26/2002	TRP	10:30	11:30	9	6	7.5
8/26/2002	TRS	9:30	10:30	1	1	1
8/26/2002	CP	10:54	11:54	0	0	0
8/26/2002	DP	9:46	10:46	2	2	2
8/26/2002	FNS	11:58	12:58	0	0	0
8/26/2002	LLS	7:30	8:30	0	0	0
8/26/2002	AP	8:34	9:34	0	0	0
8/26/2002						10.5
8/28/2002	TRP	10:35	11:35	2	7	4.5
8/28/2002	TRS	11:35	12:35	0	0	0
8/28/2002	CP	11:00	12:00	0	0	0
8/28/2002	DP	9:48	10:48	2	2	2
8/28/2002	FNS	12:10	13:10	0	0	0
8/28/2002	LLS	8:38	9:38	2	2	2
8/28/2002	AP	7:30	8:30	0	0	0
8/28/2002						8.5
8/30/2002	TRP	16:25	17:25	5	5	5
8/30/2002	TRS	17:25	18:25	0	0	0
8/30/2002	CP	15:36	16:36	0	0	0
8/30/2002	DP	16:46	17:46	4	2	3
8/30/2002	FNS	14:30	15:30	0	0	0
8/30/2002	LLS	17:58	18:58	6	8	7
8/30/2002	AP	19:04	20:04	1	4	2.5
8/30/2002						17.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
8/31/2002	TRP	10:30	11:30	5	8	6.5
8/31/2002	TRS	9:30	10:30	0	0	0
8/31/2002	CP	7:30	8:30	0	0	0
8/31/2002	DP	9:48	10:48	3	3	3
8/31/2002	FNS	8:35	9:35	3	0	1.5
8/31/2002	LLS	10:57	11:57	4	4	4
8/31/2002	AP	12:06	13:06	0	0	0
8/31/2002						15
9/1/2002	TRP	7:15	8:15	5	7	6
9/1/2002	TRS	8:15	9:15	0	0	0
9/1/2002	CP	10:55	11:55	0	0	0
9/1/2002	DP	9:46	10:46	0	0	0
9/1/2002	FNS	12:00	13:00	0	0	0
9/1/2002	LLS	8:36	9:36	2	3	2.5
9/1/2002	AP	7:30	8:30	0	0	0
9/1/2002						8.5
9/2/2002	TRP	10:25	11:25	33	24	28.5
9/2/2002	TRS	9:25	10:25	0	0	0
9/2/2002	CP	12:20	13:20	0	0	0
9/2/2002	DP	9:55	10:55	2	2	2
9/2/2002	LLS	7:30	8:30	3	2	2.5
9/2/2002	LLS	12:00	13:00	0	0	0
9/2/2002	LLS	12:00	13:00	2	2	2
9/2/2002	AP	8:40	9:40	6	6	6
9/2/2002						41
9/4/2002	TRP	11:35	12:35	8	10	9
9/4/2002	TRS	10:35	11:35	0	0	0
9/4/2002	CP	12:22	13:22	0	0	0
9/4/2002	DP	11:15	12:15	2	2	2
9/4/2002	FNS	13:28	14:28	0	0	0
9/4/2002	LLS	8:00	9:00	0	0	0
9/4/2002	AP	9:10	10:10	0	0	0
9/4/2002						11

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
9/5/2002	TRP	11:30	12:30	7	4	5.5
9/5/2002	TRS	10:30	11:30	0	0	0
9/5/2002	CP	12:25	13:25	0	0	0
9/5/2002	DP	11:20	12:20	0	0	0
9/5/2002	FNS	13:30	14:30	0	0	0
9/5/2002	LLS	10:00	11:00	2	4	3
9/5/2002	AP	8:25	9:25	0	3	1.5
9/5/2002						10
9/6/2002	TRP	18:35	19:35	14	10	12
9/6/2002	TRS	19:35	20:00	0	0	0
9/6/2002	CP	18:15	19:15	0	2	1
9/6/2002	DP	17:08	18:08	0	0	0
9/6/2002	FNS	19:20	20:20	0	0	0
9/6/2002	LLS	15:57	16:57	3	5	4
9/6/2002	AP	14:50	15:50	0	0	0
9/6/2002						17
9/7/2002	TRP	11:35	12:35	11	10	10.5
9/7/2002	TRS	10:35	11:35	3	3	3
9/7/2002	CP	12:00	13:00	0	0	0
9/7/2002	DP	10:55	11:55	0	7	3.5
9/7/2002	FNS	13:10	14:10	0	0	0
9/7/2002	LLS	9:40	10:40	10	9	9.5
9/7/2002	AP	8:30	9:30	0	0	0
9/7/2002						26.5
9/8/2002	TRP	18:40	19:40	10	8	9
9/8/2002	TRS	19:40	20:00	0	0	0
9/8/2002	CP	15:37	16:37	0	0	0
9/8/2002	DP	16:43	17:43	2	0	1
9/8/2002	FNS	14:30	15:30	0	0	0
9/8/2002	LLS	18:56	19:56	2	3	2.5
9/8/2002	AP	17:50	18:50	2	2	2
9/8/2002						14.5

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INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY LOCATION

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
9/10/2002	TRP	10:35	11:35	5	5	5
9/10/2002	TRS	11:35	12:35	0	0	0
9/10/2002	CP	12:01	13:01	0	0	0
9/10/2002	DP	10:50	11:50	0	0	0
9/10/2002	FNS	13:09	14:09	2	2	2
9/10/2002	LLS	9:37	10:37	2	1	1.5
9/10/2002	AP	8:41	9:41	2	2	2
9/10/2002						10.5
9/12/2002	TRP	10:35	11:35	17	17	17
9/12/2002	TRS	11:35	12:35	0	0	0
9/12/2002	CP	8:35	9:35	0	0	0
9/12/2002	DP	7:30	8:30	0	2	1
9/12/2002	FNS	9:38	10:38	0	0	0
9/12/2002	LLS	11:54	12:54	4	4	4
9/12/2002	AP	10:50	11:50	0	0	0
9/12/2002						22
9/13/2002	TRP	10:35	11:35	4	4	4
9/13/2002	TRS	11:35	12:35	0	0	0
9/13/2002	CP	8:46	9:46	0	0	0
9/13/2002	DP	9:52	10:52	0	0	0
9/13/2002	FNS	7:43	8:43	0	0	0
9/13/2002	LLS	12:07	13:07	3	0	1.5
9/13/2002	AP	11:00	12:00	1	2	1.5
9/13/2002						7
9/14/2002	TRP	9:30	10:30	12	11	11.5
9/14/2002	TRS	10:30	11:30	0	0	0
9/14/2002	CP	10:52	11:52	0	0	0
9/14/2002	DP	9:45	10:45	3	3	3
9/14/2002	FNS	11:58	12:58	0	0	0
9/14/2002	AP	8:35	9:35	0	0	0
9/14/2002						14.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
9/15/2002	TRP	9:25	10:25	19	15	17
9/15/2002	TRS	10:25	11:25	0	0	0
9/15/2002	CP	10:53	11:53	2	0	1
9/15/2002	DP	9:45	10:45	3	1	2
9/15/2002	FNS	11:57	12:57	0	0	0
9/15/2002	LLS	8:35	9:35	2	0	1
9/15/2002	AP	7:30	8:30	3	3	3
9/15/2002						24
9/16/2002	TRP	16:40	17:40	10	6	8
9/16/2002	TRS	17:40	18:40	0	0	0
9/16/2002	CP	15:39	16:39	0	0	0
9/16/2002	DP	14:30	15:30	0	0	0
9/16/2002	FNS	16:43	17:43	0	0	0
9/16/2002	LLS	19:05	20:05	6	7	6.5
9/16/2002	AP	17:58	18:58	7	3	5
9/16/2002						19.5
9/19/2002	TRP	16:25	17:25	13	11	12
9/19/2002	TRS	17:25	18:25	0	0	0
9/19/2002	CP	17:57	18:57	1	0	0.5
9/19/2002	DP	16:47	17:47	0	0	0
9/19/2002	FNS	19:03	20:00	0	0	0
9/19/2002	LLS	2:35	3:35	1	7	4
9/19/2002	AP	15:40	16:40	2	2	2
9/19/2002						18.5
9/20/2002	TRP	15:20	16:20	15	12	13.5
9/20/2002	TRS	16:20	17:20	0	0	0
9/20/2002	CP	15:39	16:39	0	0	0
9/20/2002	DP	14:30	15:30	0	0	0
9/20/2002	FNS	16:44	17:44	0	0	0
9/20/2002	LLS	19:05	20:05	6	6	6
9/20/2002	AP	18:00	19:00	0	4	2
9/20/2002						21.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
9/21/2002	TRP	11:30	12:30	21	16	18.5
9/21/2002	TRS	10:30	11:30	0	0	0
9/21/2002	CP	7:30	8:30	0	0	0
9/21/2002	DP	9:45	10:45	2	2	2
9/21/2002	FNS	8:35	9:35	0	0	
9/21/2002	LLS	10:53	11:53	2	2	2
9/21/2002	AP	12:00	13:00	3	3	3
9/21/2002						25.5
9/22/2002	TRP	11:51	12:51	16	20	18
9/22/2002	TRS	10:51	11:51	0	0	
9/22/2002	CP	10:55	11:55	0	0	0
9/22/2002	DP	9:48	10:48	1	1	1
9/22/2002	FNS	11:55	12:55	0	0	0
9/22/2002	LLS	7:30	8:30	0	0	0
9/22/2002	AP	8:37	9:37	0	7	3.5
9/22/2002						22.5
9/24/2002	TRP	11:35	12:35	13	11	12
9/24/2002	TRS	10:35	11:35	2	0	1
9/24/2002	CP	8:36	9:36	0	0	0
9/24/2002	DP	7:30	8:30	0	2	1
9/24/2002	FNS	9:40	10:40	0	0	0
9/24/2002	LLS	10:55	11:55	0	1	0.5
9/24/2002	AP	12:00	13:00	2	2	2
9/24/2002						16.5
9/25/2002	TRP	16:25	17:25	8	7	7.5
9/25/2002	TRS	17:25	18:25	0	0	0
9/25/2002	CP	18:05	19:05	1	1	1
9/25/2002	DP	16:50	17:50	1	1	1
9/25/2002	LLS	19:08	20:00	0	0	0
9/25/2002	AP	15:35	16:35	0	0	0
9/25/2002						9.5

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INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY LOCATION

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
9/27/2002	TRP	17:40	18:40	0	0	0
9/27/2002	TRS	16:40	17:40	1	1	1
9/27/2002	CP	16:48	17:48	0	0	0
9/27/2002	DP	17:53	18:53	0	0	0
9/27/2002	FNS	15:45	16:45	0	0	0
9/27/2002	LLS	18:59	19:40	0	0	0
9/27/2002	AP	14:30	15:30	0	0	0
9/27/2002						1
9/28/2002	TRP	11:47	12:47	23	19	21
9/28/2002	TRS	10:47	11:47	6	5	5.5
9/28/2002	CP	11:00	12:00	0	0	0
9/28/2002	DP	8:45	9:45	1	1	1
9/28/2002	FNS	9:55	10:55	0	0	0
9/28/2002	LLS	7:30	8:30	1	1	1
9/28/2002	AP	12:10	13:10	9	9	9
9/28/2002						37.5
9/29/2002	TRP	14:00	15:00	11	7	9
9/29/2002	TRS	16:44	17:34	3	0	1.5
9/29/2002	CP	15:38	16:38	0	0	0
9/29/2002	DP	14:30	15:30	0	0	0
9/29/2002	FNS	19:20	20:00	3	0	1.5
9/29/2002	LLS	16:43	17:43	3	1	2
9/29/2002	AP	18:25	19:15	0	1	0.5
9/29/2002						14.5
10/1/2002	TRP	18:35	19:35	7	4	5.5
10/1/2002	TRS	19:35	20:35	0	0	0
10/1/2002	CP	17:53	18:53	0	0	0
10/1/2002	DP	16:46	17:46	1	1	1
10/1/2002	FNS	18:58	19:30	0	0	0
10/1/2002	LLS	14:30	15:30	5	4	4.5
10/1/2002	AP	15:35	16:35	1	1	1
10/1/2002						12

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
10/3/2002	TRP	10:30	11:30	7	8	7.5
10/3/2002	TRS	11:30	12:30	1	1	1
10/3/2002	CP	10:51	11:51	0	0	0
10/3/2002	DP	9:45	10:45	0	0	0
10/3/2002	FNS	11:56	12:56	0	0	0
10/3/2002	LLS	7:30	8:30	0	0	0
10/3/2002	AP	8:35	9:35	0	0	0
10/3/2002						8.5
10/4/2002	TRP	18:35	19:35	7	5	6
10/4/2002	TRS	14:35	15:35	0	0	0
10/4/2002	CP	17:53	18:53	0	0	0
10/4/2002	DP	16:45	17:45	0	0	0
10/4/2002	FNS	18:58	19:30	0	0	0
10/4/2002	LLS	14:30	15:30	1	0	0.5
10/4/2002	AP	15:35	16:35	1	1	1
10/4/2002						7.5
10/5/2002	TRP	18:35	19:35	1	1	1
10/5/2002	TRS	19:35	20:35	0	0	0
10/5/2002	CP	14:35	15:35	0	0	0
10/5/2002	DP	16:40	17:35	2	0	1
10/5/2002	FNS	15:40	16:35	2	0	1
10/5/2002	LLS	18:45	19:45	0	2	1
10/5/2002	AP	15:42	16:37	4	2	3
10/5/2002						7
10/6/2002	TRP	11:49	12:49	13	14	13.5
10/6/2002	TRS	10:49	11:49	1	1	1
10/6/2002	CP	12:05	13:05	0	0	0
10/6/2002	DP	7:30	8:30	0	3	1.5
10/6/2002	FNS	11:00	12:00	0	0	0
10/6/2002	LLS	8:40	9:40	0	1	0.5
10/6/2002	AP	9:48	10:48	6	4	5
10/6/2002						21.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
10/7/2002	TRP	17:30	18:30	1	2	1.5
10/7/2002	TRS	18:30	19:00	5	5	5
10/7/2002	CP	17:56	18:56	0	0	0
10/7/2002	DP	15:43	16:43	0	0	0
10/7/2002	FNS	16:52	17:52	0	0	0
10/7/2002	LLS	19:07	19:30	0	0	0
10/7/2002	AP	14:30	15:30	2	2	2
10/7/2002						8.5
10/8/2002	TRP	7:15	8:15	3	3	3
10/8/2002	TRS	8:15	9:15	0	1	0.5
10/8/2002	CP	10:52	11:52	0	0	0
10/8/2002	DP	9:45	10:45	1	1	1
10/8/2002	FNS	11:57	12:57	0	0	0
10/8/2002	LLS	7:30	8:30	0	0	0
10/8/2002	AP	8:35	9:35	0	6	3
10/8/2002						7.5
10/9/2002	TRP	11:35	12:35	11	9	10
10/9/2002	CP	8:40	9:40	0	0	0
10/9/2002	DP	9:44	10:42	1	1	1
10/9/2002	FNS	7:33	8:30	0	0	0
10/9/2002	LLS	11:50	12:55	0	0	0
10/9/2002	AP	10:50	11:50	2	2	2
10/9/2002						13
10/13/2002	TRP	18:30	19:30	16	8	12
10/13/2002	CP	17:52	18:52	0	0	0
10/13/2002	DP	16:45	17:45	0	0	0
10/13/2002	FNS	18:56	19:00	0	0	0
10/13/2002	LLS	15:35	16:35	0	1	0.5
10/13/2002	AP	14:30	15:30	7	4	5.5
10/13/2002						18

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
10/14/2002	TRP	10:30	11:30	7	0	3.5
10/14/2002	TRS	11:30	12:30	2	2	2
10/14/2002	CP	8:34	9:34	0	0	0
10/14/2002	DP	9:45	10:45	1	0	0.5
10/14/2002	FNS	7:30	8:30	0	0	0
10/14/2002	LLS	10:52	11:52	0	1	0.5
10/14/2002	AP	11:57	12:57	7	5	6
10/14/2002						12.5
10/16/2002	TRP	7:15	8:15	5	2	3.5
10/16/2002	TRS	8:15	9:15	0	0	0
10/16/2002	CP	8:35	9:30	0	0	0
10/16/2002	FNS	7:30	8:30	0	0	0
10/16/2002	LLS	10:45	12:00	0	0	0
10/16/2002	AP	9:40	10:40	0	0	0
10/16/2002						3.5
10/17/2002	TRP	15:15	16:15	10	15	12.5
10/17/2002	TRS	16:15	17:15	0	0	0
10/17/2002	CP	17:48	18:30	0	0	0
10/17/2002	DP	16:43	17:43	1	0	0.5
10/17/2002	FNS	18:35	19:00	0	0	0
10/17/2002	LLS	14:30	15:30	0	0	0
10/17/2002	AP	15:35	16:35	1	3	2
10/17/2002						15
10/18/2002	TRP	17:40	18:40	4	2	3
10/18/2002	TRS	18:40	19:40	0	0	0
10/18/2002	CP	18:25	18:50	0	0	0
10/18/2002	DP	17:50	18:15	0	0	0
10/18/2002	FNS	18:55	19:15	0	0	0
10/18/2002	LLS	16:35	17:35	2	1	1.5
10/18/2002	AP	14:30	16:30	2	4	3
10/18/2002						7.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
10/19/2002	TRP	14:15	15:15	12	14	13
10/19/2002	TRS	15:15	16:15	0	0	0
10/19/2002	CP	17:25	18:00	0	0	0
10/19/2002	DP	16:45	17:15	0	0	0
10/19/2002	FNS	18:10	19:10	0	0	0
10/19/2002	LLS	15:40	16:30	2	5	3.5
10/19/2002	AP	14:30	15:00	0	2	1
10/19/2002						17.5
10/20/2002	TRP	11:43	12:43	15	16	15.5
10/20/2002	TRS	10:43	11:43	3	1	2
10/20/2002	CP	7:30	8:30	0	0	0
10/20/2002	DP	9:45	10:45	0	0	0
10/20/2002	LLS	12:00	13:00	2	2	2
10/20/2002	FNS	8:35	9:35	0	0	0
10/20/2002	AP	10:55	11:55	1	3	2
10/20/2002						21.5
10/21/2002	TRP	10:30	11:30	10	9	9.5
10/21/2002	TRS	11:30	12:30	0	0	0
10/21/2002	CP	10:55	11:55	0	0	0
10/21/2002	DP	9:49	10:49	0	0	0
10/21/2002	FNS	11:58	12:58	0	0	0
10/21/2002	LLS	7:30	8:30	0	0	0
10/21/2002	AP	8:33	9:33	4	5	4.5
10/21/2002						14
10/23/2002	TRP	17:30	18:30	11	8	9.5
10/23/2002	TRS	18:30	19:30	2	2	2
10/23/2002	CP	17:30	18:15	0	0	0
10/23/2002	DP	16:40	17:25	0	0	0
10/23/2002	FNS	18:20	19:20	0	0	0
10/23/2002	LLS	15:35	16:30	0	0	0
10/23/2002	AP	14:30	15:30	2	3	2.5
10/23/2002						14

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
10/25/2002	TRP	10:30	11:30	12	15	13.5
10/25/2002	TRS	11:30	12:30	1	1	1
10/25/2002	CP	8:38	9:38	0	0	0
10/25/2002	DP	7:30	8:30	0	0	0
10/25/2002	FNS	9:42	10:42	0	0	0
10/25/2002	LLS	10:57	11:57	0	0	0
10/25/2002	AP	12:02	13:02	8	6	7
10/25/2002						21.5
10/26/2002	TRP	11:45	12:45	15	12	13.5
10/26/2002	TRS	10:45	11:45	2	0	1
10/26/2002	CP	10:55	11:55	0	0	0
10/26/2002	DP	9:48	10:48	0	0	0
10/26/2002	FNS	11:57	12:57	0	0	0
10/26/2002	LLS	7:30	8:30	0	0	0
10/26/2002	AP	8:33	9:33	0	0	0
10/26/2002						14.5
10/27/2002	TRP	16:15	17:15	6	4	5
10/27/2002	TRS	17:15	18:15	0	1	0.5
10/27/2002	CP	14:05	15:05	0	0	0
10/27/2002	DP	15:10	16:10	0	0	0
10/27/2002	FNS	13:00	14:00	0	0	0
10/27/2002	LLS	16:15	17:15	0	0	0
10/27/2002	AP	17:17	17:50	1	0	0.5
10/27/2002						6
10/28/2002	TRP	10:30	11:30	13	15	14
10/28/2002	TRS	11:30	12:30	0	0	0
10/28/2002	CP	12:00	13:00	0	0	0
10/28/2002	DP	9:49	10:49	0	0	0
10/28/2002	FNS	10:57	11:57	0	0	0
10/28/2002	LLS	7:30	8:30	0	0	0
10/28/2002	AP	8:35	9:35	2	2	2
10/28/2002						16

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
10/30/2002	TRP	10:30	11:30	13	14	13.5
10/30/2002	TRS	11:30	12:30	0	0	0
10/30/2002	CP	11:00	12:00	0	0	0
10/30/2002	DP	9:50	10:50	0	0	0
10/30/2002	FNS	12:05	13:05	0	0	0
10/30/2002	LLS	8:35	9:35	0	0	0
10/30/2002	AP	7:30	8:30	8	8	8
10/30/2002						21.5
11/1/2002	TRP	17:05	18:05	8	0	4
11/1/2002	TRS	15:10	16:10	0	0	0
11/1/2002	CP	16:25	17:25	0	0	0
11/1/2002	DP	15:15	16:16	0	0	0
11/1/2002	FNS	17:30	18:30	0	0	0
11/1/2002	LLS	14:05	15:05	0	0	0
11/1/2002	AP	13:00	14:00	1	4	2.5
11/1/2002						6.5
11/2/2002	TRP	13:45	14:45	8	11	9.5
11/2/2002	TRS	14:45	15:45	0	0	0
11/2/2002	CP	14:03	15:03	0	0	0
11/2/2002	DP	15:07	16:07	0	0	0
11/2/2002	FNS	13:00	14:00	0	0	0
11/2/2002	LLS	16:13	17:13	1	0	0.5
11/2/2002	AP	17:16	17:45	2	0	1
11/2/2002						11
11/3/2002	TRP	12:45	13:45	4	6	5
11/3/2002	TRS	13:45	14:45	0	0	0
11/3/2002	CP	16:15	16:45	0	0	0
11/3/2002	DP	13:00	14:00	0	0	0
11/3/2002	LLS	16:50	17:40	0	0	0
11/3/2002	FNS	14:05	15:05	0	0	0
11/3/2002	AP	15:07	16:07	11	0	5.5
11/3/2002						10.5

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
11/5/2002	TRP	7:15	8:15	2	3	2.5
11/5/2002	TRS	8:15	9:15	0	0	0
11/5/2002	CP	10:55	11:55	0	0	0
11/5/2002	DP	9:48	10:48	2	0	1
11/5/2002	FNS	12:00	13:00	0	0	0
11/5/2002	LLS	7:30	8:30	1	0	0.5
11/5/2002	AP	8:35	9:35	12	13	12.5
11/5/2002						16.5
11/6/2002	TRP	10:30	11:30	0	1	0.5
11/6/2002	TRS	11:30	12:30	0	0	0
11/6/2002	CP	7:30	8:30	0	0	0
11/6/2002	DP	9:42	10:42	0	0	0
11/6/2002	FNS	8:34	9:34	0	0	0
11/6/2002	LLS	10:53	11:53	0	0	0
11/6/2002	AP	11:58	12:58	15	15	15
11/6/2002						15.5
11/8/2002	TRP	7:15	8:15	3	4	3.5
11/8/2002	TRS	8:15	9:15	0	0	0
11/8/2002	CP	8:33	9:33	0	0	0
11/8/2002	DP	9:41	10:41	0	0	0
11/8/2002	FNS	7:30	8:30	0	0	0
11/8/2002	LLS	10:51	11:51	1	3	2
11/8/2002	AP	11:56	12:56	15	14	14.5
11/8/2002						20
11/9/2002	TRP	8:30	9:30	9	13	11
11/9/2002	TRS	7:30	8:30	0	4	2
11/9/2002	CP	10:55	11:55	0	0	0
11/9/2002	DP	9:50	10:50	0	0	0
11/9/2002	FNS	12:00	13:00	0	0	0
11/9/2002	LLS	8:40	9:35	0	0	0
11/9/2002	AP	7:30	8:40	30	40	35
11/9/2002						48

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A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
11/10/2002	TRP	17:15	18:00	4	0	2
11/10/2002	TRS	16:15	17:15	0	0	0
11/10/2002	CP	16:27	17:10	0	0	0
11/10/2002	DP	15:20	16:20	0	0	0
11/10/2002	FNS	17:15	18:15	0	0	0
11/10/2002	LLS	14:12	15:12	1	3	2
11/10/2002	AP	13:00	14:09	0	20	10
11/10/2002						14
11/11/2002	TRP	10:30	11:30	6	8	7
11/11/2002	TRS	11:30	12:30	0	0	0
11/11/2002	CP	8:30	9:30	0	0	0
11/11/2002	DP	7:30	8:30	0	0	0
11/11/2002	FNS	9:35	10:35	0	0	0
11/11/2002	LLS	10:50	11:50	0	0	0
11/11/2002	AP	11:55	13:30	30	30	30
11/11/2002						37
11/12/2002	TRP	14:55	15:55	3	2	2.5
11/12/2002	TRS	15:55	16:55	0	0	0
11/12/2002	CP	13:00	14:00	1	0	0.5
11/12/2002	DP	15:10	16:00	1	0	0.5
11/12/2002	FNS	14:05	15:05	0	2	1
11/12/2002	LLS	16:10	17:10	1	0	0.5
11/12/2002	AP	17:05	18:00	10	10	10
11/12/2002						15
11/14/2002	TRP	7:15	8:15	3	5	4
11/14/2002	TRS	8:15	9:15	0	0	0
11/14/2002	CP	8:35	9:35	0	0	0
11/14/2002	DP	9:45	10:45	0	0	0
11/14/2002	FNS	7:30	8:30	0	0	0
11/14/2002	LLS	10:54	11:54	0	0	0
11/14/2002	AP	12:00	13:00	7	4	5.5
11/14/2002						9.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
11/15/2002	TRP	9:20	10:20	1	2	1.5
11/15/2002	TRS	10:20	11:20	0	0	0
11/15/2002	CP	10:58	11:58	0	0	0
11/15/2002	DP	9:45	10:45	0	0	0
11/15/2002	FNS	12:00	13:00	0	0	0
11/15/2002	LLS	8:35	9:35	0	0	0
11/15/2002	AP	7:30	8:30	0	7	3.5
11/15/2002						5
11/16/2002	TRP	10:37	11:37	0	0	0
11/16/2002	TRS	9:37	10:37	0	0	0
11/16/2002	CP	8:35	9:35	0	0	0
11/16/2002	DP	9:45	10:45	0	0	0
11/16/2002	FNS	7:30	8:30	0	0	0
11/16/2002	AP	12:00	13:00	12	10	11
11/16/2002						11
11/17/2002	TRP	7:15	8:15	2	2	2
11/17/2002	TRS	8:20	9:20	0	0	0
11/17/2002	CP	10:52	11:52	0	0	0
11/17/2002	DP	9:45	10:45	0	0	0
11/17/2002	FNS	11:56	12:56	0	0	0
11/17/2002	LLS	8:35	9:35	0	0	0
11/17/2002	AP	7:30	8:30	1	7	4
11/17/2002						6
11/18/2002	TRP	10:40	11:40	0	0	0
11/18/2002	TRS	9:40	10:40	0	0	0
11/18/2002	CP	8:32	9:32	0	0	0
11/18/2002	DP	9:36	10:36	0	0	0
11/18/2002	FNS	7:30	8:30	0	0	0
11/18/2002	LLS	10:42	11:42	0	0	0
11/18/2002	AP	11:45	12:45	5	6	5.5
11/18/2002						5.5

**NIAGARA POWER PROJECT (FERC NO. 2216)
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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
11/20/2002	TRP	7:10	8:10	0	0	0
11/20/2002	TRS	8:10	9:10	0	0	0
11/20/2002	CP	11:00	12:00	0	0	0
11/20/2002	DP	9:50	10:50	0	0	0
11/20/2002	FNS	12:00	13:00	0	0	0
11/20/2002	LLS	8:35	9:35	0	0	0
11/20/2002	AP	7:30	8:30	10	13	11.5
11/20/2002						11.5
11/22/2002	TRP	7:15	8:15	0	0	0
11/22/2002	TRS	8:15	9:15	0	0	0
11/22/2002	DP	7:30	8:30	0	0	0
11/22/2002	CP	9:40	10:40	0	0	0
11/22/2002	FNS	10:45	11:45	0	0	0
11/22/2002	LLS	11:00	12:00	0	0	0
11/22/2002	AP	12:05	13:05	3	3	3
11/22/2002						3
11/23/2002	TRP	8:05	9:05	4	4	4
11/23/2002	TRS	9:05	10:05	0	0	0
11/23/2002	CP	8:40	9:40	0	0	0
11/23/2002	DP	7:30	8:30	0	0	0
11/23/2002	FNS	9:45	10:45	0	0	0
11/23/2002	LLS	11:00	12:00	0	0	0
11/23/2002	AP	12:05	13:05	20	18	19
11/23/2002						23
11/24/2002	TRP	8:30	9:30	0	0	0
11/24/2002	TRS	7:30	8:30	0	0	0
11/24/2002	CP	8:35	9:35	0	0	0
11/24/2002	DP	9:45	10:45	0	0	0
11/24/2002	FNS	7:30	8:30	2	0	1
11/24/2002	AP	11:00	12:00	41	37	39
11/24/2002						40

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
11/25/2002	TRP	16:00	17:00	0	0	0
11/25/2002	TRS	17:00	18:00	0	0	0
11/25/2002	CP	13:00	14:00	0	0	0
11/25/2002	DP	14:08	15:08	0	0	0
11/25/2002	FNS	15:16	16:16	0	0	0
11/25/2002	LLS	17:40	18:00	0	0	0
11/25/2002	AP	16:35	17:35	4	0	2
11/25/2002						2
11/26/2002	TRP	9:40	10:40	3	5	4
11/26/2002	TRS	8:40	9:40	0	0	0
11/26/2002	CP	7:30	8:30	0	0	0
11/26/2002	DP	9:50	10:50	0	0	0
11/26/2002	FNS	8:30	9:30	0	0	0
11/26/2002	LLS	11:00	12:00	0	0	0
11/26/2002	AP	12:05	13:05	6	4	5
11/26/2002						9
11/28/2002	TRP	9:35	10:35	5	4	4.5
11/28/2002	TRS	8:35	9:35	3	0	1.5
11/28/2002	CP	8:35	9:35	0	0	0
11/28/2002	DP	7:30	8:30	0	0	0
11/28/2002	FNS	9:40	10:40	0	0	0
11/28/2002	LLS	11:00	12:05	0	0	0
11/28/2002	AP	12:05	13:05	12	14	13
11/28/2002						19
11/29/2002	CP	7:30	8:30	0	0	0
11/29/2002	DP	9:45	10:45	0	0	0
11/29/2002	FNS	8:35	9:35	0	0	0
11/29/2002	LLS	11:00	12:00	0	0	0
11/29/2002	AP	12:05	13:05	27	32	29.5
11/29/2002						29.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
11/30/2002	TRP	10:44	11:44	2	1	1.5
11/30/2002	TRS	9:44	10:44	2	0	1
11/30/2002	CP	7:30	8:30	0	0	0
11/30/2002	DP	9:45	10:45	0	0	0
11/30/2002	FNS	8:35	9:35	0	0	0
11/30/2002	LLS	11:00	12:00	1	1	1
11/30/2002	AP	12:05	13:05	12	10	11
11/30/2002						14.5
12/4/2002	TRS	7:15	9:15	0	0	0
12/4/2002	CP	8:33	9:33	0	0	0
12/4/2002	DP	9:40	10:40	0	0	0
12/4/2002	FNS	7:30	8:30	0	0	0
12/4/2002	LLS	10:50	11:50	0	0	0
12/4/2002	AP	11:55	12:55	0	1	0.5
12/4/2002						0.5
12/6/2002	TRS	12:45	14:45	0	0	0
12/6/2002	CP	14:07	15:07	0	0	0
12/6/2002	DP	13:00	14:00	0	0	0
12/6/2002	FNS	15:12	16:12	0	0	0
12/6/2002	AP	16:22	17:22	1	0	0.5
12/6/2002						0.5
12/7/2002	TRS	12:45	14:45	0	0	0
12/7/2002	CP	16:22	17:22	0	0	0
12/7/2002	DP	15:15	16:15	0	0	0
12/7/2002	LLS	14:05	15:05	0	0	0
12/7/2002	AP	13:00	14:00	2	6	4
12/7/2002						4
12/8/2002	TRS	16:15	17:15	0	0	0
12/8/2002	CP	13:00	14:00	0	0	0
12/8/2002	DP	15:10	15:40	0	0	0
12/8/2002	FNS	14:05	15:05	0	0	0
12/8/2002	LLS	15:50	16:20	0	0	0
12/8/2002	AP	16:25	17:30	2	7	4.5
12/8/2002						4.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
12/9/2002	TRS	7:30	8:30	0	0	0
12/9/2002	CP	10:55	11:55	0	0	0
12/9/2002	DP	9:45	10:45	0	0	0
12/9/2002	FNS	12:00	13:00	0	0	0
12/9/2002	LLS	8:39	9:35	0	0	0
12/9/2002	AP	7:30	8:30	0	0	0
12/9/2002						0
12/10/2002	TRS	14:55	16:55	0	0	0
12/10/2002	CP	16:23	17:23	0	0	0
12/10/2002	DP	15:15	16:15	0	0	0
12/10/2002	LLS	14:05	15:05	1	1	1
12/10/2002	AP	13:00	14:00	2	7	4.5
12/10/2002						5.5
12/11/2002	TRS	10:25	12:25	0	0	0
12/11/2002	CP	8:35	9:35	0	0	0
12/11/2002	DP	9:45	10:45	0	0	0
12/11/2002	FNS	7:30	8:30	0	0	0
12/11/2002	LLS	10:55	11:55	0	0	0
12/11/2002	AP	12:00	13:30	6	6	6
12/11/2002						6
12/14/2002	TRS	13:50	15:50	0	0	0
12/14/2002	CP	7:30	8:30	0	0	0
12/14/2002	DP	9:45	10:45	0	0	0
12/14/2002	FNS	8:35	9:35	0	0	0
12/14/2002	LLS	10:55	11:55	0	0	0
12/14/2002	AP	12:00	13:30	0	5	2.5
12/14/2002						2.5
12/15/2002	TRS	9:35	10:35	5	5	5
12/15/2002	CP	10:55	11:55	0	0	0
12/15/2002	DP	9:45	10:45	0	0	0
12/15/2002	FNS	12:00	13:00	0	0	0
12/15/2002	LLS	8:35	9:35	0	0	0
12/15/2002	AP	7:30	8:30	8	8	8
12/15/2002						13

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
12/16/2002	TRS	7:30	8:30	0	2	1
12/16/2002	CP	7:30	8:30	0	0	0
12/16/2002	DP	9:45	10:45	0	0	0
12/16/2002	FNS	8:35	9:35	0	0	0
12/16/2002	LLS	10:55	11:55	0	0	0
12/16/2002						1
12/18/2002	TRS	7:15	8:15	0	0	0
12/18/2002	CP	7:30	8:30	0	0	0
12/18/2002	DP	9:45	10:45	0	0	0
12/18/2002	FNS	8:35	9:35	0	0	0
12/18/2002	LLS	10:55	11:55	0	0	0
12/18/2002	AP	12:00	13:00	2	3	2.5
12/18/2002						2.5
12/20/2002	TRS	7:30	8:30	0	0	0
12/20/2002	CP	8:35	9:35	0	0	0
12/20/2002	DP	9:45	10:45	0	0	0
12/20/2002	FNS	7:30	8:30	0	0	0
12/20/2002	LLS	10:53	11:53	0	0	0
12/20/2002	AP	11:58	12:58	2	3	2.5
12/20/2002						2.5
12/21/2002	TRS	10:20	11:20	2	0	1
12/21/2002	CP	8:36	9:35	0	0	0
12/21/2002	DP	7:30	8:30	0	0	0
12/21/2002	FNS	9:40	10:40	0	0	0
12/21/2002	LLS	10:55	11:55	0	0	0
12/21/2002	AP	12:00	13:30	2	2	2
12/21/2002						3
12/22/2002	TRS	10:30	11:30	0	0	0
12/22/2002	CP	7:30	8:30	0	0	0
12/22/2002	DP	9:42	10:42	0	0	0
12/22/2002	FNS	8:35	9:35	0	0	0
12/22/2002	LLS	10:55	11:55	0	0	0
12/22/2002	AP	12:00	13:00	2	1	1.5
12/22/2002						1.5

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INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY LOCATION

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
12/23/2002	TRS	16:00	17:00	0	0	0
12/23/2002	CP	16:15	17:00	0	0	0
12/23/2002	DP	15:15	16:05	0	0	0
12/23/2002	FNS	17:05	17:30	0	0	0
12/23/2002	LLS	13:00	14:00	0	0	0
12/23/2002	AP	14:05	15:05	0	0	0
12/23/2002						0
12/24/2002	TRS	10:30	11:30	0	0	0
12/24/2002	CP	8:40	9:40	0	0	0
12/24/2002	DP	7:30	8:30	0	0	0
12/24/2002	FNS	9:45	10:45	0	0	0
12/24/2002	LLS	11:00	12:00	0	0	0
12/24/2002	AP	12:05	13:05	1	5	3
12/24/2002						3
12/26/2002	TRS	10:50	11:50	2	2	2
12/26/2002	CP	7:30	8:30	0	0	0
12/26/2002	DP	9:40	10:30	0	0	0
12/26/2002	FNS	8:35	9:35	0	0	0
12/26/2002	LLS	10:50	11:50	0	0	0
12/26/2002	AP	11:50	13:00	4	4	4
12/26/2002						6
12/28/2002	TRS	10:52	11:52	0	0	0
12/28/2002	DP	9:45	10:45	0	0	0
12/28/2002	FNS	11:45	13:00	0	0	0
12/28/2002	LLS	7:30	8:30	0	0	0
12/28/2002	AP	8:35	9:35	4	4	4
12/28/2002						4
12/30/2002	TRS	10:50	11:50	7	7	7
12/30/2002	CP	11:00	12:00	0	0	0
12/30/2002	DP	9:50	10:50	0	0	0
12/30/2002	FNS	12:00	13:00	0	0	0
12/30/2002	LLS	7:30	8:30	0	0	0
12/30/2002	AP	8:35	9:35	4	2	3
12/30/2002						10

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
12/31/2002	TRS	10:30	11:30	4	3	3.5
12/31/2002	CP	10:52	11:52	0	0	0
12/31/2002	DP	9:43	10:43	0	0	0
12/31/2002	FNS	11:57	12:57	0	0	0
12/31/2002	LLS	7:30	8:30	0	0	0
12/31/2002	AP	8:35	9:35	3	6	4.5
12/31/2002						8
1/1/2003	TRS	13:00	14:00	3	3	3
1/1/2003	CP	13:00	14:00	0	0	0
1/1/2003	DP	15:10	16:00	0	0	0
1/1/2003	FNS	15:05	16:05	0	0	0
1/1/2003	LLS	16:10	17:00	0	0	0
1/1/2003	AP	17:05	17:30	2	2	2
1/1/2003						5
1/3/2003	TRS	10:50	11:50	0	0	0
1/3/2003	CP	10:53	11:53	0	0	0
1/3/2003	DP	9:45	10:45	0	0	0
1/3/2003	FNS	11:58	12:58	0	0	0
1/3/2003	LLS	7:30	8:30	0	0	0
1/3/2003	AP	8:35	9:35	0	0	0
1/3/2003						0
1/4/2003	TRS	15:10	16:10	0	0	0
1/4/2003	DP	14:10	15:10	0	0	0
1/4/2003	LLS	15:20	16:20	0	0	0
1/4/2003	FNS	13:00	14:00	0	0	0
1/4/2003	AP	16:25	17:25	2	0	1
1/4/2003						1
1/5/2003	TRS	13:00	14:00	4	0	2
1/5/2003	CP	16:05	16:30	0	0	0
1/5/2003	DP	15:15	16:00	0	0	0
1/5/2003	FNS	16:35	17:35	0	0	0
1/5/2003	LLS	14:05	15:05	0	0	0
1/5/2003	AP	13:00	14:00	8	8	8
1/5/2003						10

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
1/6/2003	TRS	15:15	16:15	1	1	1
1/6/2003	CP	14:05	15:05	0	0	0
1/6/2003	DP	13:00	14:00	0	0	0
1/6/2003	FNS	15:10	16:10	0	0	0
1/6/2003	AP	16:25	17:30	0	0	0
1/6/2003						1
1/8/2003	TRS	16:15	17:15	0	0	0
1/8/2003	CP	15:15	16:00	0	0	0
1/8/2003	FNS	16:05	18:00	1	0	0.5
1/8/2003	LLS	14:05	15:00	0	0	0
1/8/2003	AP	13:00	14:00	1	2	1.5
1/8/2003						2
1/9/2003	TRS	10:30	11:30	0	0	0
1/9/2003	CP	8:40	9:40	0	0	0
1/9/2003	DP	7:30	8:30	0	0	0
1/9/2003	FNS	9:45	10:45	0	0	0
1/9/2003	LLS	10:58	11:58	0	0	0
1/9/2003	AP	12:03	13:03	1	0	0.5
1/9/2003						0.5
1/11/2003	TRS	10:50	11:50	0	0	0
1/11/2003	CP	7:30	8:30	0	0	0
1/11/2003	DP	9:45	10:45	0	0	0
1/11/2003	FNS	8:35	9:35	0	0	0
1/11/2003	LLS	10:55	11:55	0	0	0
1/11/2003	AP	12:00	13:00	0	0	0
1/11/2003						0
1/12/2003	TRS	10:48	11:48	0	0	0
1/12/2003	CP	10:50	11:50	0	0	0
1/12/2003	DP	9:45	10:45	0	0	0
1/12/2003	FNS	11:55	13:00	0	0	0
1/12/2003	LLS	7:30	8:30	0	0	0
1/12/2003	AP	8:35	9:35	0	0	0
1/12/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
1/14/2003	TRS	16:20	17:20	0	0	0
1/14/2003	CP	14:05	15:05	0	0	0
1/14/2003	DP	15:15	16:15	0	0	0
1/14/2003	FNS	13:00	14:00	0	0	0
1/14/2003	AP	16:25	17:25	0	0	0
1/14/2003						0
1/16/2003	TRS	12:45	13:45	0	0	0
1/16/2003	FNS	13:00	14:00	0	0	0
1/16/2003	LLS	15:19	16:19	0	0	0
1/16/2003	AP	16:24	17:24	0	0	0
1/16/2003						0
1/17/2003	TRS	15:50	16:50	0	0	0
1/17/2003	CP	13:00	14:00	0	0	0
1/17/2003	DP	15:15	16:15	0	0	0
1/17/2003	FNS	14:05	15:05	0	0	0
1/17/2003	LLS	16:25	17:25	0	0	0
1/17/2003						0
1/19/2003	TRS	16:28	17:28	0	0	0
1/19/2003	CP	16:25	17:25	0	0	0
1/19/2003	DP	15:15	16:15	0	0	0
1/19/2003	LLS	14:05	15:05	0	0	0
1/19/2003	AP	13:00	14:00	0	0	0
1/19/2003						0
1/20/2003	TRS	13:00	14:00	0	0	0
1/20/2003	CP	14:05	15:05	0	0	0
1/20/2003	FNS	13:00	14:00	0	0	0
1/20/2003	LLS	16:20	17:20	0	0	0
1/20/2003	AP	15:15	16:15	1	0	0.5
1/20/2003						0.5
1/21/2003	TRS	15:50	16:50	0	0	0
1/21/2003	CP	16:24	17:24	0	0	0
1/21/2003	DP	15:15	16:15	0	0	0
1/21/2003	LLS	14:05	15:05	0	0	0
1/21/2003	AP	13:00	14:00	0	0	0
1/21/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
1/23/2003	TRS	7:30	8:30	0	0	0
1/23/2003	CP	7:30	8:30	0	0	0
1/23/2003	DP	9:45	10:45	0	0	0
1/23/2003	FNS	8:35	9:35	0	0	0
1/23/2003	LLS	10:55	11:55	0	0	0
1/23/2003	AP	12:00	13:00	0	0	0
1/23/2003						0
1/24/2003	TRS	10:50	11:50	0	0	0
1/24/2003	CP	7:30	8:30	0	0	0
1/24/2003	DP	9:45	10:45	0	0	0
1/24/2003	FNS	8:35	9:35	0	0	0
1/24/2003	LLS	10:55	11:55	0	0	0
1/24/2003	AP	12:00	13:00	0	0	0
1/24/2003						0
1/25/2003	TRS	15:55	16:55	0	0	0
1/25/2003	CP	14:08	15:08	0	0	0
1/25/2003	DP	13:00	14:00	0	0	0
1/25/2003	FNS	15:13	16:13	0	0	0
1/25/2003	LLS	16:28	17:28	0	0	0
1/25/2003						0
1/27/2003	TRS	13:00	14:00	0	0	0
1/27/2003	CP	14:05	15:05	0	0	0
1/27/2003	DP	15:15	16:15	0	0	0
1/27/2003	FNS	13:00	14:00	0	0	0
1/27/2003	LLS	16:30	17:30	0	0	0
1/27/2003						0
1/28/2003	TRS	10:50	11:50	0	0	0
1/28/2003	CP	10:54	11:54	0	0	0
1/28/2003	DP	9:45	10:45	0	0	0
1/28/2003	FNS	11:59	12:59	0	0	0
1/28/2003	LLS	8:35	9:35	0	0	0
1/28/2003	AP	7:30	8:30	0	0	0
1/28/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
1/30/2003	TRS	16:20	17:20	0	0	0
1/30/2003	CP	16:25	17:25	0	0	0
1/30/2003	DP	15:15	16:15	0	0	0
1/30/2003	LLS	13:00	14:00	0	0	0
1/30/2003	AP	14:05	15:05	1	1	1
1/30/2003						1
2/1/2003	TRS	7:30	8:30	0	0	0
2/1/2003	CP	13:00	14:00	0	0	0
2/1/2003	FNS	14:05	15:05	0	0	0
2/1/2003	LLS	15:20	16:20	2	0	1
2/1/2003	AP	16:25	17:25	14	4	9
2/1/2003						10
2/2/2003	TRS	16:22	17:22	4	0	2
2/2/2003	CP	15:20	16:20	0	0	0
2/2/2003	FNS	16:25	17:25	0	0	0
2/2/2003	LLS	13:00	14:00	0	0	0
2/2/2003	AP	14:05	15:05	0	0	0
2/2/2003						2
2/3/2003	TRS	16:20	17:20	3	0	1.5
2/3/2003	DP	15:15	16:15	0	0	0
2/3/2003	FNS	16:25	17:25	0	0	0
2/3/2003	LLS	13:00	14:00	0	0	0
2/3/2003	AP	14:05	15:05	1	0	0.5
2/3/2003						2
2/4/2003	TRS	10:50	11:50	0	0	0
2/4/2003	CP	10:55	11:55	0	0	0
2/4/2003	DP	9:45	10:45	0	0	0
2/4/2003	FNS	12:00	13:00	0	0	0
2/4/2003	LLS	8:35	9:35	0	0	0
2/4/2003	AP	7:30	8:30	0	0	0
2/4/2003						0
2/7/2003	TRS	10:50	11:50	0	0	0
2/7/2003	CP	10:54	11:54	0	0	0
2/7/2003	DP	9:45	10:45	0	0	0
2/7/2003	FNS	11:59	12:59	0	0	0
2/7/2003	LLS	7:30	8:30	0	0	0
2/7/2003	AP	8:35	9:35	0	0	0
2/7/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
2/8/2003	TRS	10:50	11:50	0	0	0
2/8/2003	WP	16:05	17:05	0	0	0
2/8/2003	CP	15:20	16:20	0	0	0
2/8/2003	DP	14:12	15:12	0	0	0
2/8/2003	FNS	16:25	17:25	0	0	0
2/8/2003	AP	13:00	14:00	3	0	1.5
2/8/2003						1.5
2/9/2003	TRS	13:00	14:00	0	0	0
2/9/2003	CP	14:05	15:05	0	0	0
2/9/2003	DP	15:13	16:13	0	0	0
2/9/2003	FNS	13:00	14:00	0	0	0
2/9/2003	LLS	16:30	17:30	0	0	0
2/9/2003						0
2/12/2003	TRS	12:45	13:45	0	0	0
2/12/2003	CP	13:00	14:00	0	0	0
2/12/2003	DP	15:14	16:14	0	0	0
2/12/2003	FNS	14:05	15:05	0	0	0
2/12/2003	AP	16:27	17:27	0	0	0
2/12/2003						0
2/13/2003	TRS	16:05	17:05	0	0	0
2/13/2003	CP	16:24	17:24	0	0	0
2/13/2003	DP	15:15	16:15	0	0	0
2/13/2003	LLS	14:05	15:05	0	0	0
2/13/2003	AP	13:00	14:00	0	0	0
2/13/2003						0
2/14/2003	TRS	12:30	13:30	0	0	0
2/14/2003	DP	15:15	16:15	0	0	0
2/14/2003	FNS	16:25	17:25	0	0	0
2/14/2003	LLS	13:00	14:00	0	0	0
2/14/2003	AP	14:05	15:05	0	0	0
2/14/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
2/15/2003	TRS	9:45	10:45	3	3	3
2/15/2003	CP	10:55	11:55	0	0	0
2/15/2003	DP	9:50	10:50	0	0	0
2/15/2003	FNS	12:00	13:00	0	0	0
2/15/2003	LLS	8:35	9:35	0	0	0
2/15/2003	AP	7:30	8:30	0	1	0.5
2/15/2003						3.5
2/16/2003	TRS	9:40	10:40	0	0	0
2/16/2003	CP	7:30	8:30	0	0	0
2/16/2003	DP	9:45	10:45	0	0	0
2/16/2003	FNS	8:35	9:35	0	0	0
2/16/2003	LLS	10:55	11:55	0	0	0
2/16/2003	AP	12:00	13:00	0	0	0
2/16/2003						0
2/17/2003	TRS	7:30	8:30	0	0	0
2/17/2003	CP	10:55	11:55	0	0	0
2/17/2003	DP	9:45	10:45	0	0	0
2/17/2003	FNS	12:00	13:00	0	0	0
2/17/2003	LLS	7:30	8:30	0	0	0
2/17/2003	AP	8:35	9:35	0	0	0
2/17/2003						0
2/18/2003	TRS	9:55	10:55	0	0	0
2/18/2003	CP	10:55	11:55	0	0	0
2/18/2003	DP	9:45	10:45	0	0	0
2/18/2003	FNS	12:00	13:00	0	0	0
2/18/2003	LLS	8:35	9:35	0	0	0
2/18/2003	AP	7:30	8:30	0	0	0
2/18/2003						0
2/19/2003	TRS	11:05	12:05	0	0	0
2/19/2003	CP	7:30	8:30	0	0	0
2/19/2003	DP	9:45	10:45	0	0	0
2/19/2003	LLS	10:55	11:55	0	0	0
2/19/2003	AP	12:00	13:00	0	0	0
2/19/2003	FNS	8:35	9:35	0	0	0
2/19/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
2/21/2003	TRS	7:45	8:45	5	4	4.5
2/21/2003	CP	8:40	9:40	0	0	0
2/21/2003	DP	7:30	8:30	0	0	0
2/21/2003	FNS	9:45	10:45	0	0	0
2/21/2003	LLS	11:00	12:00	0	0	0
2/21/2003	AP	12:05	13:00	1	4	2.5
2/21/2003						7
2/22/2003	TRS	9:40	10:40	2	2	2
2/22/2003	CP	10:56	11:56	0	0	0
2/22/2003	DP	9:48	10:48	0	0	0
2/22/2003	FNS	12:01	13:01	0	0	0
2/22/2003	LLS	8:35	9:35	0	0	0
2/22/2003	AP	7:30	8:30	0	3	1.5
2/22/2003						3.5
2/23/2003	TRS	7:30	8:30	0	0	0
2/23/2003	FNS	7:30	8:30	0	0	0
2/23/2003	CP	8:35	9:35	0	0	0
2/23/2003	DP	9:45	10:45	0	0	0
2/23/2003	LLS	10:55	11:55	0	0	0
2/23/2003	AP	12:00	13:00	0	0	0
2/23/2003						0
2/24/2003	TRS	13:00	14:00	0	0	0
2/24/2003	DP	13:00	14:00	0	0	0
2/24/2003	FNS	16:25	17:25	0	0	0
2/24/2003	LLS	15:15	16:15	0	0	0
2/24/2003	AP	14:10	15:10	2	2	2
2/24/2003						2
2/25/2003	TRS	12:30	13:30	0	0	0
2/25/2003	CP	16:28	17:28	0	0	0
2/25/2003	FNS	15:23	16:23	0	0	0
2/25/2003	LLS	14:05	15:05	0	0	0
2/25/2003	AP	13:00	14:00	2	0	1
2/25/2003						1

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
2/27/2003	TRS	12:45	13:45	3	0	1.5
2/27/2003	DP	14:12	15:12	0	0	0
2/27/2003	FNS	13:00	14:00	0	0	0
2/27/2003	LLS	15:20	16:20	0	0	0
2/27/2003	AP	16:25	17:25	1	0	0.5
2/27/2003						2
3/1/2003	TRS	15:50	16:50	6	6	6
3/1/2003	CP	16:25	17:25	0	0	0
3/1/2003	DP	15:15	16:15	0	0	0
3/1/2003	LLS	13:00	14:00	1	1	1
3/1/2003	AP	14:05	15:05	7	8	7.5
3/1/2003						14.5
3/2/2003	TRS	15:50	16:50	0	0	0
3/2/2003	CP	15:15	16:15	0	0	0
3/2/2003	LLS	14:05	15:05	0	0	0
3/2/2003	AP	13:00	14:00	2	1	1.5
3/2/2003						1.5
3/4/2003	TRS	15:50	16:50	0	0	0
3/4/2003	CP	13:00	14:00	0	0	0
3/4/2003	DP	15:15	16:15	0	0	0
3/4/2003	FNS	14:05	15:05	0	0	0
3/4/2003	AP	16:25	17:25	0	0	0
3/4/2003						0
3/6/2003	TRS	7:30	8:30	0	0	0
3/6/2003	CP	7:30	8:30	0	0	0
3/6/2003	DP	9:45	10:45	0	0	0
3/6/2003	FNS	8:35	9:35	0	0	0
3/6/2003	LLS	10:55	11:55	0	0	0
3/6/2003	AP	12:00	13:00	0	1	0.5
3/6/2003						0.5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
3/7/2003	TRS	7:30	8:30	0	0	0
3/7/2003	CP	10:53	11:53	0	0	0
3/7/2003	DP	9:45	10:45	0	0	0
3/7/2003	FNS	12:00	13:00	0	0	0
3/7/2003	LLS	7:30	8:30	0	0	0
3/7/2003	AP	8:35	9:35	2	2	2
3/7/2003						2
3/8/2003	TRS	7:30	8:30	0	0	0
3/8/2003	CP	14:05	15:05	0	0	0
3/8/2003	DP	15:15	16:15	0	0	0
3/8/2003	FNS	13:00	14:00	0	0	0
3/8/2003	LLS	16:25	17:25	1	2	1.5
3/8/2003						1.5
3/9/2003	TRS	10:50	11:50	0	0	0
3/9/2003	CP	10:55	11:55	0	0	0
3/9/2003	DP	9:45	10:45	0	0	0
3/9/2003	FNS	12:00	13:00	0	0	0
3/9/2003	LLS	7:30	8:30	0	0	0
3/9/2003	AP	8:35	9:35	1	1	1
3/9/2003						1
3/11/2003	TRS	11:05	12:05	0	0	0
3/11/2003	CP	7:30	8:30	0	0	0
3/11/2003	DP	9:45	10:45	0	0	0
3/11/2003	FNS	8:35	9:35	0	0	0
3/11/2003	LLS	10:55	11:55	0	2	1
3/11/2003	AP	12:00	13:00	0	1	0.5
3/11/2003						1.5
3/13/2003	TRS	15:50	16:50	0	0	0
3/13/2003	CP	16:24	17:24	0	0	0
3/13/2003	DP	15:16	16:16	0	0	0
3/13/2003	LLS	13:00	14:00	0	0	0
3/13/2003	AP	14:05	15:05	0	0	0
3/13/2003						0

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
3/14/2003	TRS	10:50	11:50	0	0	0
3/14/2003	CP	7:30	8:30	0	0	0
3/14/2003	DP	9:45	10:45	0	0	0
3/14/2003	FNS	8:35	9:35	0	0	0
3/14/2003	LLS	10:55	11:55	0	0	0
3/14/2003	AP	12:00	13:00	2	1	1.5
3/14/2003						1.5
3/15/2003	TRS	7:30	8:30	4	6	5
3/15/2003	CP	10:52	11:52	0	0	0
3/15/2003	DP	9:45	10:45	0	0	0
3/15/2003	FNS	12:00	13:00	0	0	0
3/15/2003	LLS	7:30	8:30	3	3	3
3/15/2003	AP	8:35	9:35	3	4	3.5
3/15/2003						11.5
3/16/2003	TRS	7:30	8:30	4	9	6.5
3/16/2003	CP	10:55	11:55	0	0	0
3/16/2003	DP	9:50	10:50	0	0	0
3/16/2003	FNS	12:00	13:00	0	0	0
3/16/2003	LLS	8:35	9:35	0	0	0
3/16/2003	AP	7:30	8:30	13	15	14
3/16/2003						20.5
3/18/2003	TRS	12:30	13:30	6	4	5
3/18/2003	CP	13:00	14:00	0	0	0
3/18/2003	DP	15:15	16:15	0	0	0
3/18/2003	FNS	14:05	15:05	0	0	0
3/18/2003	LLS	16:25	17:25	0	2	1
3/18/2003	AP	17:30	18:30	2	0	1
3/18/2003						7
3/20/2003	TRS	15:50	16:50	3	3	3
3/20/2003	CP	14:05	15:05	0	0	0
3/20/2003	FNS	13:00	14:00	0	0	0
3/20/2003	LLS	16:25	17:25	1	0	0.5
3/20/2003	AP	15:20	16:20	1	0	0.5
3/20/2003						4

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
3/21/2003	TRS	15:50	16:50	0	0	0
3/21/2003	CP	13:00	14:00	0	0	0
3/21/2003	DP	15:25	16:25	0	0	0
3/21/2003	FNS	14:10	15:10	0	0	0
3/21/2003	LLS	16:40	17:40	0	1	0.5
3/21/2003	AP	17:45	18:45	0	0	0
3/21/2003						0.5
3/22/2003	TRS	10:20	11:20	0	0	0
3/22/2003	CP	8:32	9:42	0	0	0
3/22/2003	DP	9:39	10:39	0	0	
3/22/2003	FNS	7:30	8:30	0	0	0
3/22/2003	LLS	10:42	11:42	2	2	2
3/22/2003	AP	11:45	12:45	7	10	8.5
3/22/2003						10.5
3/23/2003	TRS	7:30	8:30	0	0	0
3/23/2003	CP	10:55	11:55	0	0	0
3/23/2003	DP	7:30	8:30	0	0	0
3/23/2003	FNS	12:00	13:00	0	0	0
3/23/2003	LLS	9:45	10:45	2	0	1
3/23/2003	AP	8:40	9:40	4	5	4.5
3/23/2003						5.5
3/24/2003	TRS	15:50	16:50	0	0	0
3/24/2003	CP	16:25	17:25	0	0	0
3/24/2003	DP	15:15	16:15	0	0	0
3/24/2003	FNS	17:40	18:40	0	0	0
3/24/2003	LLS	13:00	14:00	2	0	1
3/24/2003	AP	14:05	15:05	4	4	4
3/24/2003						5
3/25/2003	TRS	10:50	11:50	0	0	0
3/25/2003	CP	8:35	9:35	0	0	0
3/25/2003	DP	9:45	10:45	0	0	0
3/25/2003	FNS	7:30	8:30	0	0	0
3/25/2003	AP	12:10	13:00	2	2	2
3/25/2003	LLS	11:05	12:05	0	0	0
3/25/2003						2

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
3/28/2003	TRS	15:50	16:50	0	0	0
3/28/2003	CP	14:05	15:05	0	0	0
3/28/2003	DP	13:00	14:00	0	0	0
3/28/2003	FNS	15:10	16:10	0	0	0
3/28/2003	LLS	17:35	18:35	0	0	0
3/28/2003	AP	16:30	17:30	0	11	5.5
3/28/2003						5.5
3/29/2003	TRS	7:30	8:30	0	0	0
3/29/2003	CP	12:03	13:00	0	0	0
3/29/2003	DP	9:45	10:45	0	0	0
3/29/2003	FNS	11:00	12:00	0	0	0
3/29/2003	AP	8:34	9:34	0	0	0
3/29/2003	LLS	7:30	8:30	0	0	0
3/29/2003						0
3/30/2003	TRS	7:30	8:30	0	0	0
3/30/2003	CP	10:55	11:55	0	0	0
3/30/2003	DP	9:45	10:45	0	0	0
3/30/2003	FNS	12:00	13:00	0	0	0
3/30/2003	LLS	8:35	9:35	0	0	0
3/30/2003	AP	7:30	8:30	7	6	6.5
3/30/2003						6.5
4/1/2003	TRS	12:55	13:55	0	0	0
4/1/2003	CP	16:35	17:35	0	0	0
4/1/2003	DP	15:15	16:15	0	0	0
4/1/2003	FNS	17:45	18:45	0	0	0
4/1/2003	LLS	14:05	15:05	0	0	0
4/1/2003	AP	13:00	14:00	2	2	2
4/1/2003						2
4/2/2003	TRS	9:35	10:35	0	0	0
4/2/2003	CP	10:55	11:55	0	0	0
4/2/2003	FNS	12:00	13:00	0	0	0
4/2/2003	LLS	8:35	9:35	0	0	0
4/2/2003	AP	7:30	8:30	0	0	0
4/2/2003						0

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Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
4/4/2003	TRS	15:50	16:50	0	0	0
4/4/2003	CP	16:28	17:28	0	0	0
4/4/2003	DP	15:18	16:18	0	0	0
4/4/2003	FNS	17:33	18:33	0	0	0
4/4/2003	LLS	13:00	14:00	0	0	0
4/4/2003	AP	14:05	15:05	0	0	0
4/4/2003						0
4/5/2003	TRS	7:30	8:30	0	0	0
4/5/2003	CP	7:30	8:30	0	0	0
4/5/2003	DP	9:45	10:45	0	0	0
4/5/2003	FNS	8:35	9:35	0	0	0
4/5/2003	LLS	10:55	11:55	0	0	0
4/5/2003	AP	12:00	13:00	1	3	2
4/5/2003						2
4/6/2003	DP	9:40	10:40	0	1	0.5
4/6/2003	CPS	8:33	9:33	0	0	0
4/6/2003	FNS	7:30	8:30	0	0	0
4/6/2003	LLS	10:48	11:48	0	0	0
4/6/2003	AP	11:51	12:51	2	4	3
4/6/2003						3.5
4/7/2003	CP	15:03	16:03	0	0	0
4/7/2003	DP	16:06	17:06	0	0	0
4/7/2003	FNS	14:00	15:00	0	0	0
4/7/2003	LLS	16:22	17:22	0	0	0
4/7/2003	AP	18:26	19:26	0	0	0
4/7/2003						0
4/10/2003	CP	17:26	18:26	0	0	0
4/10/2003	DP	16:16	17:16	0	0	0
4/10/2003	FNS	18:34	19:34	0	0	0
4/10/2003	LLS	15:02	16:02	0	0	0
4/10/2003	AP	14:00	15:00	1	1	1
4/10/2003						1

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
4/12/2003	CP	15:37	16:37	0	0	0
4/12/2003	DP	16:47	17:47	0	0	0
4/12/2003	FNS	14:30	15:30	0	0	0
4/12/2003	LLS	18:00	19:00	1	0	0.5
4/12/2003	AP	19:03	20:03	0	4	2
4/12/2003						2.5
4/13/2003	CP	15:37	16:37	0	0	0
4/13/2003	DP	16:45	17:45	2	0	1
4/13/2003	FNS	14:30	15:30	0	0	0
4/13/2003	LLS	18:00	19:00	0	0	0
4/13/2003	AP	19:02	20:02	2	0	1
4/13/2003						2
4/15/2003	CP	17:53	18:53	0	0	0
4/15/2003	DP	16:45	17:45	0	0	0
4/15/2003	FNS	19:00	20:00	0	0	0
4/15/2003	LLS	15:35	16:35	1	3	2
4/15/2003	AP	14:30	15:30	0	2	1
4/15/2003						3
4/16/2003	CP	16:40	17:40	0	0	0
4/16/2003	DP	14:30	15:30	0	0	0
4/16/2003	LLS	19:00	20:00	0	0	0
4/16/2003	AP	17:55	18:55	0	0	0
4/16/2003	FNS	15:35	16:35	0	0	0
4/16/2003						0
4/17/2003	CP	9:45	10:45	0	0	0
4/17/2003	DP	7:30	8:30	0	0	0
4/17/2003	FNS	8:35	9:35	0	0	0
4/17/2003	LLS	11:00	12:00	0	0	0
4/17/2003	AP	12:05	13:05	0	1	0.5
4/17/2003						0.5
4/19/2003	CP	14:45	15:45	0	2	1
4/19/2003	DP	17:08	18:08	0	0	0
4/19/2003	LLS	19:26	20:26	4	8	6
4/19/2003	AP	18:18	19:18	2	4	3
4/19/2003	FNS	15:50	16:50	0	0	0
4/19/2003						10

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
4/20/2003	DP	16:45	17:45	2	0	1
4/20/2003	FNS	15:35	16:35	0	0	0
4/20/2003	LLS	17:55	18:55	9	5	7
4/20/2003	AP	19:00	20:00	1	0	0.5
4/20/2003	CP	14:30	15:30	0	0	0
4/20/2003						8.5
4/21/2003	CP	7:30	8:30	0	0	0
4/21/2003	DP	9:45	10:45	0	0	0
4/21/2003	FNS	8:35	9:35	0	0	0
4/21/2003	LLS	10:55	11:55	1		1
4/21/2003	AP	12:00	13:00	0	0	0
4/21/2003						1
4/22/2003	CP	10:55	11:55	0	0	0
4/22/2003	DP	9:45	10:45	0	0	0
4/22/2003	FNS	12:00	13:00	0	0	0
4/22/2003	LLS	7:30	8:30	3	3	3
4/22/2003	AP	8:35	9:35	1	1	1
4/22/2003						4
4/24/2003	CP	16:25	17:25	1	1	1
4/24/2003	DP	15:15	16:15	0	0	0
4/24/2003	FNS	17:30	18:30	0	0	0
4/24/2003	LLS	13:00	14:00	7	7	7
4/24/2003	AP	14:05	15:05	1	1	1
4/24/2003						9
4/26/2003	CP	8:35	9:35	0	0	0
4/26/2003	DP	9:44	10:44	0	0	0
4/26/2003	FNS	7:30	8:30	0	0	0
4/26/2003	LLS	12:00	13:00	0	2	1
4/26/2003	AP	10:55	11:55	0	4	2
4/26/2003						3
4/27/2003	CP	17:52	18:52	0	0	0
4/27/2003	DP	16:45	17:45	2	2	2
4/27/2003	FNS	19:00	20:00	0	0	0
4/27/2003	LLS	15:35	16:35	0	4	2
4/27/2003	AP	14:30	15:30	3	7	5
4/27/2003						9

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
4/28/2003	CP	15:30	16:30	0	0	0
4/28/2003	DP	16:47	17:47	0	0	0
4/28/2003	FNS	14:30	15:30	0	0	0
4/28/2003	LLS	18:48	19:48	3	14	8.5
4/28/2003	AP	17:47	18:47	0	2	1
4/28/2003						9.5
4/30/2003	CP	8:40	9:40	0	0	0
4/30/2003	DP	9:50	10:50	0	1	0.5
4/30/2003	FNS	7:30	8:30	0	0	0
4/30/2003	LLS	11:00	12:00	4	2	3
4/30/2003	AP	12:30	13:30	0	0	0
4/30/2003						3.5
5/3/2003	CP	17:55	18:55	2	2	2
5/3/2003	DP	16:45	17:45	6	6	6
5/3/2003	FNS	19:00	20:00	0	0	0
5/3/2003	LLS	14:30	15:30	5	8	6.5
5/3/2003	AP	15:35	16:35	6	6	6
5/3/2003						20.5
5/4/2003	CP	15:35	16:35	0	0	0
5/4/2003	DP	16:45	17:45	1	0	0.5
5/4/2003	FNS	14:30	15:30	0	0	0
5/4/2003	LLS	17:54	18:54	7	8	7.5
5/4/2003	AP	18:59	19:59	0	0	0
5/4/2003						8
5/5/2003	CP	15:35	16:35	0	0	0
5/5/2003	DP	16:43	17:43	0	0	0
5/5/2003	FNS	14:30	15:30	0	0	0
5/5/2003	LLS	18:00	19:00	3	0	1.5
5/5/2003	AP	19:04	20:04	0	0	0
5/5/2003						1.5

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/8/2003	CP	8:39	9:39	0	0	0
5/8/2003	DP	7:30	8:30	0	0	0
5/8/2003	FNS	9:57	10:57	0	0	0
5/8/2003	LLS	11:10	12:10	8	7	7.5
5/8/2003	AP	12:12	13:12	0	0	0
5/8/2003						7.5
5/9/2003	CP	10:43	11:43	0	0	0
5/9/2003	DP	9:40	10:40	1	1	1
5/9/2003	FNS	11:46	12:46	0	0	0
5/9/2003	LLS	8:32	9:32	6	3	4.5
5/9/2003	AP	7:30	8:30	0	0	0
5/9/2003						5.5
5/10/2003	CP	18:25	19:25	2	0	1
5/10/2003	AP	15:00	16:00	1	3	2
5/10/2003	DP	17:20	18:20	0	2	1
5/10/2003	FNS	19:30	20:30	0	0	0
5/10/2003	LLS	16:01	17:01	9	13	11
5/10/2003						15
5/11/2003	CP	14:30	15:30	0	0	0
5/11/2003	DP	16:50	17:50	0	0	0
5/11/2003	FNS	15:35	16:35	0	0	0
5/11/2003	LLS	19:05	20:05	1	0	0.5
5/11/2003	AP	18:00	19:00	1	2	1.5
5/11/2003						2
5/12/2003	CP	17:42	18:42	0	0	0
5/12/2003	DP	16:38	17:38	0	0	0
5/12/2003	FNS	18:44	19:44	0	0	0
5/12/2003	LLS	14:27	15:27	0	0	0
5/12/2003	AP	15:30	16:30	0	0	0
5/12/2003						0

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/13/2003	CP	15:35	16:35	0	0	0
5/13/2003	DP	16:45	17:45	0	0	0
5/13/2003	FNS	14:30	15:30	0	0	0
5/13/2003	AP	17:55	18:55	0	0	0
5/13/2003	LLS	19:00	20:00	2	0	1
5/13/2003						1
5/14/2003	CP	18:08	19:08	0	0	0
5/14/2003	DP	17:00	18:00	0	0	0
5/14/2003	FNS	19:13	20:13	0	0	0
5/14/2003	LLS	15:55	16:50	1	1	1
5/14/2003	AP	14:50	15:50	1	1	1
5/14/2003						2
5/17/2003	CP	11:05	12:05	1	1	1
5/17/2003	DP	9:45	10:45	0	0	0
5/17/2003	FNS	12:20	13:20	0	0	0
5/17/2003	LLS	8:35	9:35	1	0	0.5
5/17/2003	AP	7:30	8:30	0	0	0
5/17/2003						1.5
5/18/2003	CP	15:40	16:40	6	0	3
5/18/2003	DP	14:30	15:30	0	2	1
5/18/2003	FNS	16:47	17:47	0	0	0
5/18/2003	LLS	19:10	20:10	8	9	8.5
5/18/2003	AP	18:05	19:05	0		0
5/18/2003						12.5
5/20/2003	CP	8:38	9:38	2	2	2
5/20/2003	DP	7:30	8:30	0	0	0
5/20/2003	FNS	10:00	11:00	0	0	0
5/20/2003	LLS	12:24	13:24	4	0	2
5/20/2003	AP	11:20	12:20	0	0	0
5/20/2003						4

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/22/2003	CP	11:00	12:00	2	2	2
5/22/2003	DP	9:45	10:45	0	0	0
5/22/2003	FNS	12:05	13:05	0	0	0
5/22/2003	LLS	7:30	8:30	0	1	0.5
5/22/2003	AP	8:35	9:35	1	1	1
5/22/2003						3.5
5/23/2003	CP	8:40	9:40	0	0	0
5/23/2003	DP	9:48	10:48	0	0	0
5/23/2003	FNS	7:30	8:30	0	0	0
5/23/2003	LLS	11:00	12:00	8	4	6
5/23/2003	AP	12:05	13:05	3	3	3
5/23/2003						9
5/24/2003	CP	17:55	18:55	0	0	0
5/24/2003	DP	16:45	17:45	0	0	0
5/24/2003	FNS	19:00	20:00	0	0	0
5/24/2003	LLS	15:35	16:35	8	4	6
5/24/2003	AP	14:30	15:30	0	0	0
5/24/2003						6
5/25/2003	CP	10:57	11:57	2	1	1.5
5/25/2003	DP	9:45	10:45	5	3	4
5/25/2003	FNS	12:02	13:02	0	0	0
5/25/2003	LLS	8:35	9:35	3	2	2.5
5/25/2003	AP	7:30	8:30	1	3	2
5/25/2003						10
5/26/2003	CP	7:30	8:30	0	0	0
5/26/2003	DP	9:45	10:45	0	3	1.5
5/26/2003	FNS	8:35	9:35	0	0	0
5/26/2003	LLS	11:00	12:00	3	8	5.5
5/26/2003	AP	12:10	13:10	0	0	0
5/26/2003						7

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LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
5/27/2003	CP	8:36	9:36	1	1	1
5/27/2003	DP	7:30	8:30	1	1	1
5/27/2003	FNS	9:41	10:41	0	0	0
5/27/2003	LLS	12:15	13:15	2	2	2
5/27/2003	AP	11:10	12:10	0	1	0.5
5/27/2003						4.5
5/29/2003	DP	14:30	15:30	0	0	0
5/29/2003	CP	15:35	16:35	0	0	0
5/29/2003	FNS	16:40	17:40	0	0	0
5/29/2003	AP	18:00	19:00	0	0	0
5/29/2003	LLS	19:05	20:05	2	5	3.5
5/29/2003						3.5
5/30/2003	CP	11:00	12:00	0	0	0
5/30/2003	DP	9:45	10:45	0	0	0
5/30/2003	FNS	12:05	13:05	0	0	0
5/30/2003	LLS	7:30	8:30	2	2	2
5/30/2003	AP	8:35	9:35	0	0	0
5/30/2003						2
5/31/2003	CP	10:55	11:55	0	0	0
5/31/2003	DP	9:45	10:45	0	0	0
5/31/2003	FNS	12:00	13:00	0	0	0
5/31/2003	LLS	8:35	9:35	2	2	2
5/31/2003	AP	7:30	8:30	0	5	2.5
5/31/2003						4.5
6/1/2003	CP	8:40	9:40	1	3	2
6/1/2003	DP	7:30	8:30	0	3	1.5
6/1/2003	FNS	9:45	10:45	0	0	0
6/1/2003	LLS	11:00	12:00	1	3	2
6/1/2003	AP	12:05	13:05	5	5	5
6/1/2003						10.5
6/2/2003	CP	11:00	12:00	0	1	0.5
6/2/2003	DP	9:45	10:45	0	0	0
6/2/2003	FNS	12:05	13:05	0	0	0
6/2/2003	LLS	7:30	8:30	4	3	3.5
6/2/2003	AP	8:35	9:35	0	2	1
6/2/2003						5

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**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/3/2003	CP	15:45	16:45	0	0	0
6/3/2003	DP	17:00	18:00	0	0	0
6/3/2003	FNS	14:30	15:30	0	0	0
6/3/2003	LLS	19:15	20:15	12	4	8
6/3/2003	AP	18:10	19:10	0	0	0
6/3/2003						8
6/6/2003	CP	14:30	15:30	1	1	1
6/6/2003	DP	16:50	17:50	0	2	1
6/6/2003	FNS	15:35	16:35	0	0	0
6/6/2003	LLS	18:02	19:02	0	5	2.5
6/6/2003	AP	19:09	20:09	0	0	0
6/6/2003						4.5
6/7/2003	CP	18:00	19:00	0	0	0
6/7/2003	DP	16:50	17:50	0	0	0
6/7/2003	FNS	19:05	20:05	0	0	0
6/7/2003	LLS	14:30	15:30	13	6	9.5
6/7/2003	AP	15:35	16:35	3	3	3
6/7/2003						12.5
6/8/2003	CP	14:30	15:30	3	5	4
6/8/2003	DP	16:55	17:55	4	0	2
6/8/2003	FNS	15:35	16:35	1	1	1
6/8/2003	LLS	18:10	19:10	9	7	8
6/8/2003	AP	19:15	20:15	0	0	0
6/8/2003						15
6/12/2003	CP	10:55	11:55	1	0	0.5
6/12/2003	DP	9:47	10:47	0	0	0
6/12/2003	FNS	12:00	13:00	0	0	0
6/12/2003	LLS	7:30	8:30	0	1	0.5
6/12/2003	AP	8:37	9:37	0	0	0
6/12/2003						1
6/13/2003	CP	17:58	18:58	0	1	0.5
6/13/2003	DP	16:50	17:50	1	1	1
6/13/2003	FNS	19:03	20:03	0	0	0
6/13/2003	LLS	15:37	16:37	0	2	1
6/13/2003	AP	14:30	15:30	0	0	0
6/13/2003						2.5

**NIAGARA POWER PROJECT (FERC NO. 2216)
A RECREATIONAL FISHING SURVEY OF LOWER NIAGARA RIVER IN 2002**

**INSTANTANEOUS ANGLER COUNTS ON THE LOWER NIAGARA RIVER IN 2002-2003 BY
LOCATION**

Date	Interview and count site*	Time start	Time end	Total number of anglers arriving	Total number of anglers departing	Mean or total count
6/14/2003	CP	11:00	12:00	2	2	2
6/14/2003	DP	9:45	10:45	1	3	2
6/14/2003	FNS	12:05	13:05	0	0	0
6/14/2003	LLS	7:30	8:30	4	5	4.5
6/14/2003	AP	8:35	9:35	2	5	3.5
6/14/2003						12
6/15/2003	CP	15:35	16:35	1	3	2
6/15/2003	DP	16:45	17:45	3	5	4
6/15/2003	FNS	14:30	15:30	6	5	5.5
6/15/2003	LLS	19:00	20:00	10	7	8.5
6/15/2003	AP	17:55	18:55	2	4	3
6/15/2003						23
6/17/2003	CP	7:30	8:30	0	0	0
6/17/2003	DP	9:46	10:46	0	1	0.5
6/17/2003	FNS	8:35	9:35	0	0	0
6/17/2003	LLS	12:00	13:00	1	2	1.5
6/17/2003	AP	10:55	11:55	0	0	0
6/17/2003						2
6/18/2003	CP	18:05	19:05	6	4	5
6/18/2003	DP	16:50	17:50	0	0	0
6/18/2003	FNS	19:10	20:10	0	3	1.5
6/18/2003	LLS	14:30	15:30	4	4	4
6/18/2003	AP	15:40	16:40	0	0	0
6/18/2003						10.5
6/19/2003	CP	14:30	15:30	0	0	0
6/19/2003	DP	16:50	17:50	0	0	0
6/19/2003	FNS	15:35	16:35	0	0	0
6/19/2003	LLS	18:03	19:03	4	3	3.5
6/19/2003	AP	19:08	20:08	0	0	0
						3.5
*Key to locations: AP=Artpark, CP=Constitution Park, DP=Joe Davis State Park, FNS=Fort Niagara State Park,						
LLS=Lewiston Landing, TRP=Power Project fishing pier, TRS=Power Project shoreline						