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35061 Intake
RZ-NY-Albany

Docket OW-2002-0049 DCN# 6-2056
Lawler Matusky & Skelly Engineers
Albany Steam Generating Station SPDES Aquatic Monitoring Program April 1984 - April 1985. Prepared for Niagara Mohawk Power Corporation. July, Revised December 1985.

NIAGARA MOHAWK POWER CORPORATION

Syracuse, New York

ALBANY STEAM GENERATING STATION SPDES AQUATIC MONITORING PROGRAM

April 1984 – April 1985

July 1985
(Revised December 1985)

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NIAGARA MOHAWK POWER CORPORATION
Syracuse, New York

ALBANY STEAM GENERATING STATION
SPDES
AQUATIC MONITORING PROGAM

April 1984 - April 1985

In Reference to Sections 13c, f, and g
of Permit No. NY 000 5959

July 1985
(Revised December 1985)

LMSE-85/0301&191/073

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SUMMARY

This report provides the results from the second year of two years of impingement monitoring as required by State Pollutant Discharge Elimination System (SPDES) Permit No. NY 0005959 (Sections 13c, f, and g) for Niagara Mohawk Power Corporation's (NMPC) Albany Steam Generating Station. The report summarizes data collected by Lawler, Matusky & Skelly Engineers (LMS) to:

> "...conduct a program to determine the number and total weights by species of fish impinged on all intake traveling screens"

An impingement sampling program was conducted between 23 April 1984 and 8 April 1985. The impingement data, based on 24-hr sampling efforts, were collected to supplement impingement data collected during the previous study year (October 1982 - September 1983). A total of 37,117 fish representing 39 species were collected in 34 regular surveys and eight extra surveys (Conditions I and II).

Overall impingement was greatest during the spring (April, May, and June). Slightly lower numbers were impinged during the fall (October). The first of the eight Condition I surveys required by impingement collections of greater than 1500 fish was triggered by a catch of 2581 fish (72% white perch) on 30 April 1984. Three days later the impingement abundance was down to 244 fish and remained low until 14 May 1984, when it rose to 2908 fish (65% white perch). The daily impingement abundances reported from mid-May through June 1984 typically exceeded 1000 fish and reached a maximum of 3114 fish (58% white perch) on 11 June 1984. This spring run of white perch prompted five Condition I surveys.

A similar pattern of high and low impingement developed in the fall of 1984 when the catch of 376 fish on 2 October 1984 was followed a week later by a catch of 2161 fish (98% blueback herring). Im-

pingement abundances fluctuated for the next four weeks during which time seven impingement surveys (three Condition I surveys) were conducted. A maximum catch of 2427 fish (90% blueback herring) was reported on 25 October 1984. The fall run of predominantly young-of-the-year (YOY) blueback herring prompted three Condition I surveys.

Estimated monthly and program total impingement was calculated based on rates calculated from daily impingement abundance and fish collected per cooling water flow sampled. The estimated white perch impingement for the annual study period was 123,086 and 122,746 fish, respectively, for the two methods. White perch was the dominant species impinged, representing approximately 50% of the total estimated impingement. Estimated impingement totals for blueback herring were 63,740 and 79,023 fish, respectively, for the two methods, or approximately 26 to 30% of the total estimated impingement. Spottail shiner (18,476 and 18,675 fish), alewife (17,510 and 17,490 fish), and gizzard shad (4036 and 4286 fish) round out the five species with the highest estimated impingement. The five accounted for 92% of the total estimated impingement (226,848 and 242,220 fish) that occurred at the Albany Steam Generating Station during the study period.

Collection efficiencies based on the return of marked dead fish introduced into the cooling water intake tunnel were calculated using major species. Estimated impingement for total fish corrected for an overall collection efficiency of 82.0% is 300,127 fish based on an average daily impingement rate, and 320,101 fish based on a rate using cooling water flow.

Estimated impingement based on cooling water flow for the two-year period April 1974 - March 1976 and the one-year period October 1982 - September 1983 was compared to that of the recently completed period April 1984 - March 1985. The estimated 242,139 fish im-

pinged during the current study is less than the mean annual impingement of 327,590 for 1974-1976 and the highest annual impingement of 518,385 for 1982-1983. The major difference between 1984-1985 and 1982-1983 is a substantial decrease in the spring and fall blueback herring and white perch impingement. The 1984-1985 spring and fall impingement values are similar to the 1974-1976 values, suggesting a strong year-class influence on the 1982-1983 data. The numbers of American shad and spottail shiner impinged during 1984-1985 were less than they were in either 1974-1975 or 1975-1976.

The sampling program was designed to be increased in the event that a sturgeon (Atlantic or shortnose) was collected. In such a case, daily monitoring was conducted until two sequential days (samples) provided no additional sturgeon. No Atlantic sturgeon were collected at the Albany Steam Generating Station, but 11 shortnose sturgeon were collected. Nine of the sturgeon were collected from April 1984 through July 1984, with four being collected in June. An estimated 54 shortnose sturgeon were impinged during the 1984-1985 study year as compared to 163 during the 1982-1983 study year. Seventy-two percent of the total were impinged during the four-month period April-July 1984. The number of sturgeon collected under the current program is similar to the five sturgeon collected in 1974-1976.

In general, the results of the four annual ASGS impingement monitoring surveys exhibit the same temporal patterns of representation and abundance. Actual numbers impinged reflect the high degree of variability related to fishery data, but strongly suggest that the 1982-1983 impingement year is the least reflective of normal plant impingement.

If strong year classes occur in the Hudson River, large numbers could be impinged at the Albany Steam Generating Station, as noted

in 1982-1983. Average year classes should result in impingement numbers similar to both 1974-1976 and the April 1984 - March 1985 program results.

CHAPTER 1

INTRODUCTION

This report provides the results from the second year of two years of impingement sampling required by State Pollutant Discharge Elimination System (SPDES) Permit No. NY 0005959 (Sections 13c, f, g) for Niagara Mohawk Power Corporation's (NMPC) Albany Steam Generating Station (ASGS). The report summarizes data collected by Lawler, Matusky & Skelly Engineers (LMS) to:

> "...conduct a program to determine the number and total weights by species of fish impinged on all intake traveling screens"

The data are presented herein as outlined in the reporting requirements in Section 12g (1-9).

Chapter 2 describes the general characteristics of ASGS and its operation. Chapter 3 provides the impingement results. An impingement survival study was also conducted during this second year of sampling. The results of the impingement survival study have been presented in a separate report (LMS 1984a).

CHAPTER 2

STATION AND SITE DESCRIPTION

The Albany Steam Generating Station is located on the western shore of the Hudson River in the town of Glenmont, Albany County. The site is in the northern section of the Hudson River estuary, approximately 19 km (12 miles) south of the Troy Dam and 228 km (142 miles) north of the Battery (Figure 2-1).

ASGS has four generating units, each with a maximum capacity of 100 MWe and a reported 1982 load factor of 68.07%. The station commenced commercial operation in 1952. The station was coal-fired until 1970 when it was converted to burn fuel oil. In 1979 the station converted all four units to a natural gas firing capability.

The once-though cooling water flow is supplied by eight pumps, each with a rated capacity of 2.78 m^3/sec (44,000 gpm). Cooling water is drawn from the Hudson River through a shoreline intake structure, circulated through the condensers, and returned to the river through a surface level shoreline discharge (Figure 2-2).

The intake structure consists of a skimmer wall that extends just below the mean low water level and, below the skimmer wall, three intake openings, each measuring 3.4 x 5.5 m (11.2 x 18.0 ft) (Figure 2-3). The resulting average velocity at the face of the intake with the plant operating at maximum capacity is calculated to be 0.4 m/sec (1.32 fps). Chained logs float in front of the skimmer wall to deflect floating debris; behind the intake opening, trash racks constructed of metal bars with 7.6-cm (3-in.) spacings prevent coarse material from entering the intake tunnel. The material impinged on the trash racks is removed periodically.

FIGURE 2-1

PLANT LOCATION ON THE HUDSON RIVER

ALBANY STEAM GENERATING STATION

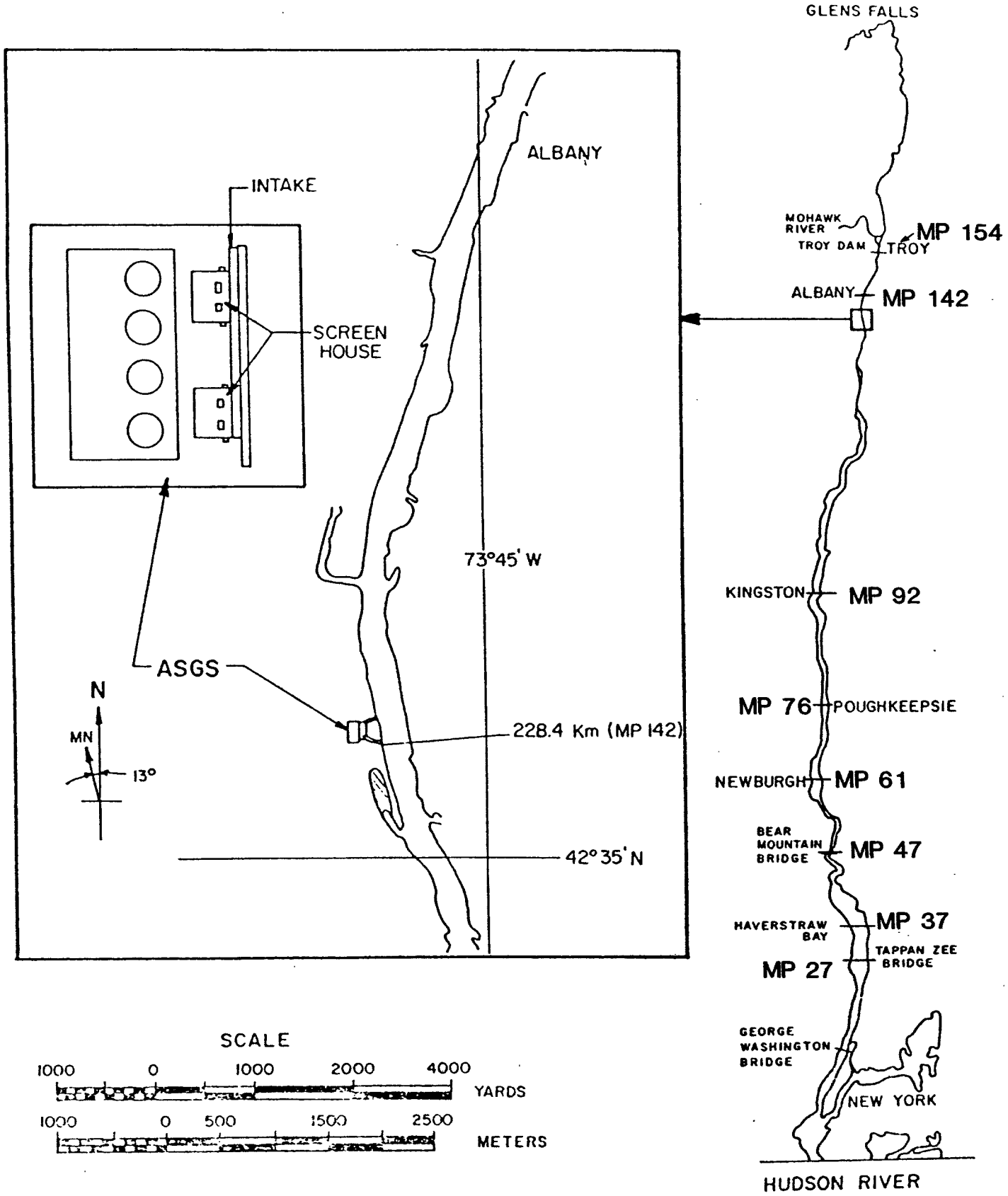


FIGURE 2-2

CIRCULATING WATER TUNNELS

ALBANY STEAM GENERATING STATION

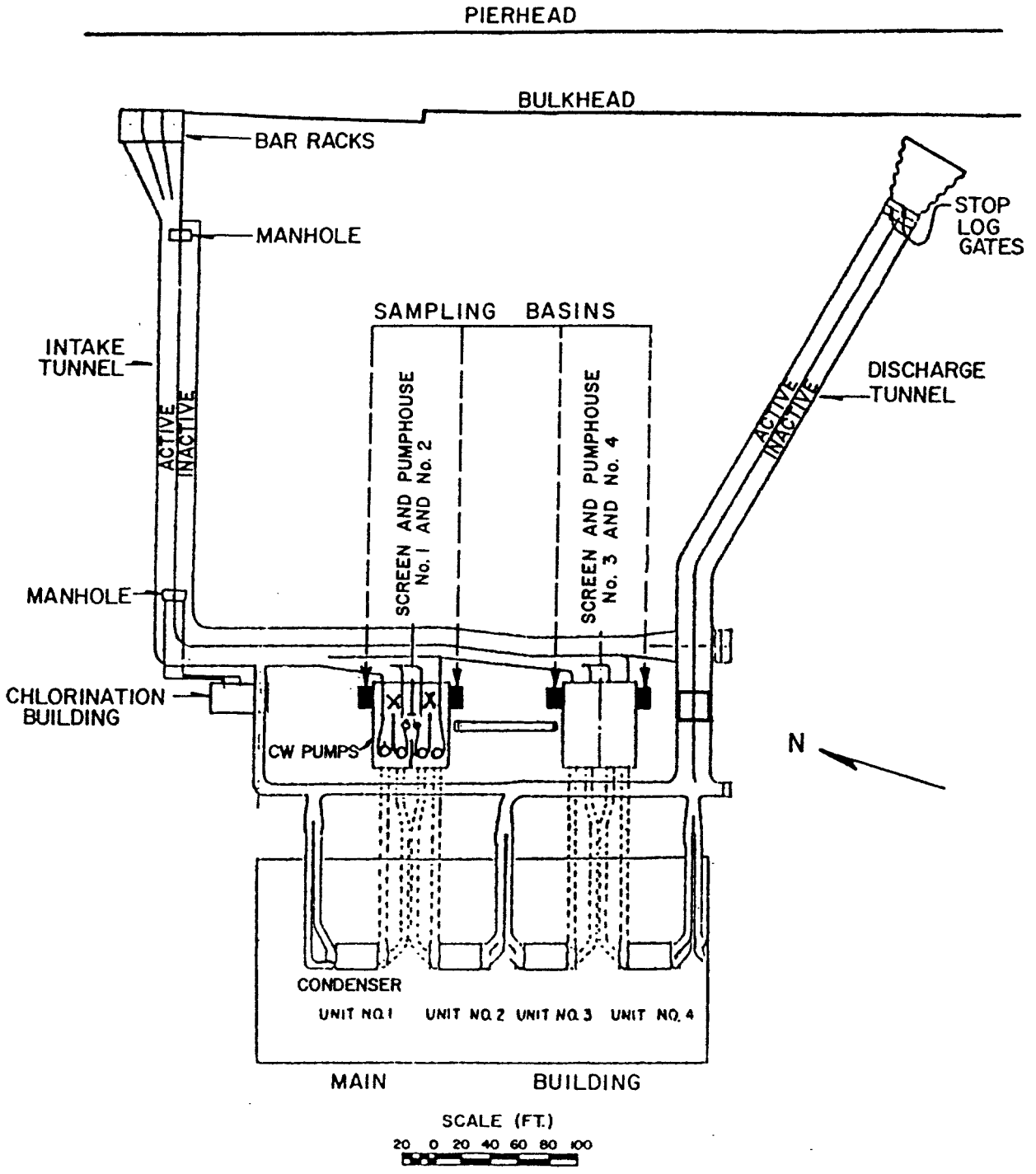
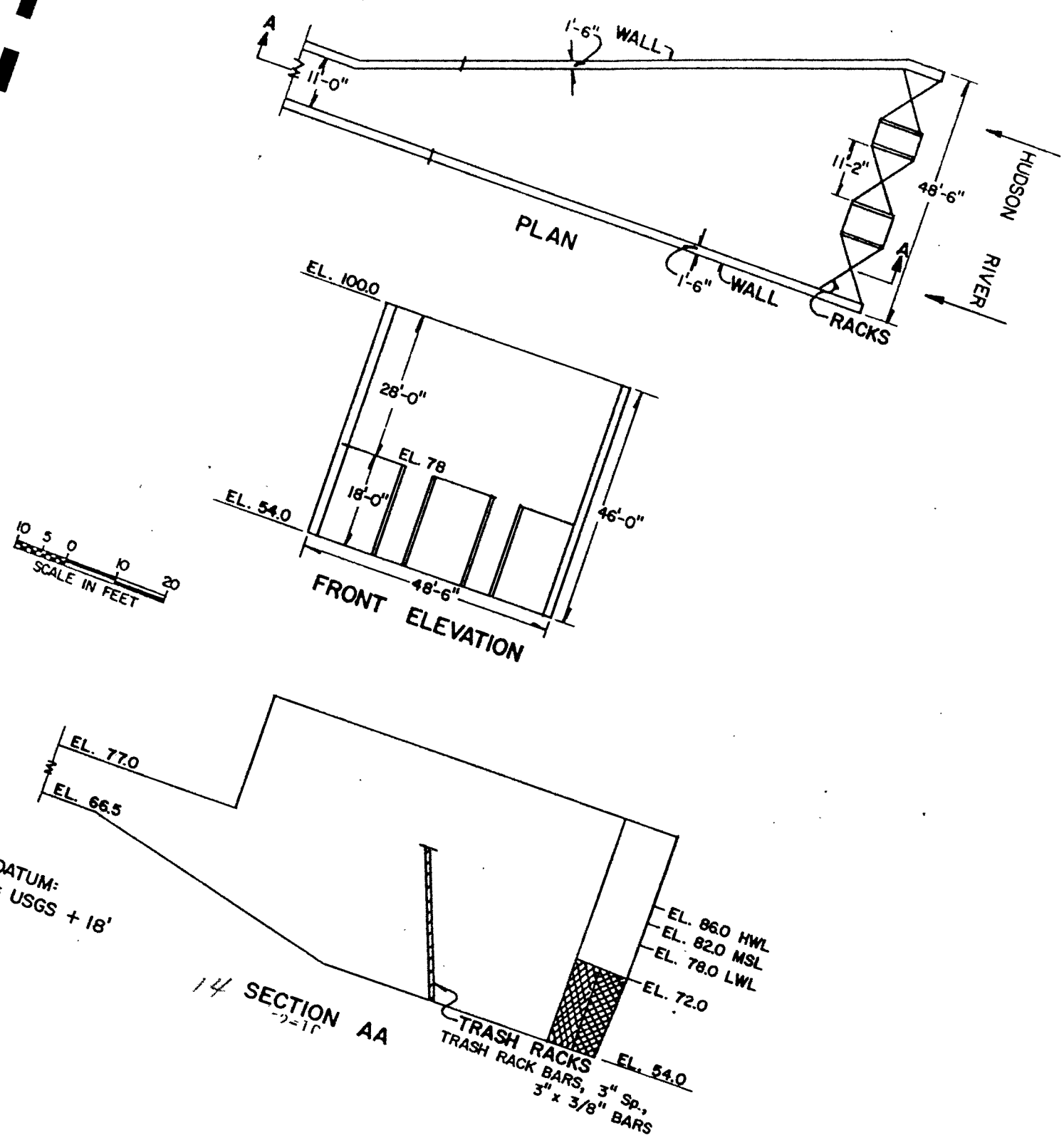


FIGURE 2-3

INTAKE CHANNEL

ALBANY STEAM GENERATING STATION



A common intake tunnel approximately 120 m (400 ft) long carries the cooling water from the intake structure to the individual generating units. The intake tunnel, which measures 3.2 x 3.3 m (10.5 x 11 ft), is constructed below the mean low water level and runs westward from the intake structure, turning southward along the east side of the plant (Figure 2-2). Calculated water velocity in the intake tunnel is 2.1 m/sec (6.8 fps). A baffle in the intake tunnel in front of the northern screenhouse shunts a portion of the intake water to Units 1 and 2; the remainder flows to Units 3 and 4. Cooling water is supplied to each unit through an intake forebay equipped with a 9.5-mm (0.375-in.) mesh traveling screen that removes smaller material from the circulating water upstream of the pumps and condenser tubes.

Traveling screens from Units 1 and 2 are backwashed simultaneously with those from Units 3 and 4. A 2-hr wash cycle is generally used. However, if the screens become clogged, they are washed automatically based on pressure differentials across the screens. The wash water and debris from each screen drains into a sluice that runs in front of the screens and drains into the discharge tunnel.

After passage through the condensers, the cooling water is transported back to the Hudson River through a tunnel approximately 105 m (350 ft) long and 3.7 m (12 ft) deep by 3.4 m (11 ft) wide. A surface outfall structure 7.3 m (24 ft) wide and 3.4 m (11 ft) high is situated approximately 170 m (550 ft) south of the intake structure. Velocity in the discharge tunnel at maximum plant flow rate is calculated to be 1.7 m/sec (5.8 fps), resulting in a maximum discharge velocity at the face of the outfall of 0.4 m/sec (1.4 fps). The actual discharge structure is oriented in a southerly direction, discharging downstream at an angle of 56.5° to the river shoreline.

CHAPTER 3

IMPINGEMENT

3.1 INTRODUCTION

The Albany Steam Generating Station SPDES permit Condition 13c required the permittee to conduct (1) a program to determine the numbers and total weights by species of fish impinged on all intake traveling screens, and (2) a collection efficiency study to determine the efficiency of the vertical traveling screens at recovering marked fish released into the screenwell. The duration of these studies was set at one year, beginning in the first full week of October 1982 and continuing through September 1983. This study was conducted and reported in LMS 1984b.

The SPDES permit Condition 13f requires a second year of study beginning in April 1984 if the results of the first year of impingement monitoring showed abundances substantially higher than those reported in the 316 Demonstration Study, which was based on sampling from April 1974 through March 1976. In correspondence to Ms. Cheryl A. Young dated 20 March 1984, the New York State Department of Environmental Conservation (NYSDEC) judged that the 1982-1983 impingement results did indicate substantial increases in the numbers of certain fish species over 1974-1976 impingement, warranting an additional year of sampling. The second year of impingement sampling was initiated on 23 April 1984 and extended through 8 April 1985. The results of the studies conducted in fulfillment of these requirements are provided in this chapter. In Section 3.4 the impingement abundance reported during 1984-1985 is compared with that of the October 1982 - September 1983 study (LMS 1984b) and with the historical impingement sampling conducted from April 1974 through March 1976 as reported in the Albany Steam Generating Station 316 (a) Demonstration (NMPC 1979).

An impingement survival study was also performed during 1984. The results of this study have been previously reported by LMS (1984a).

3.2 METHODS AND MATERIALS

3.2.1 Schedule

As required by the SPDES permit, scheduled impingement collections were made once per week (each Monday) from April 1984 through October 1984, once per month (the first Monday of the month) from November 1984 through March 1985, and once per week during the first two weeks of April 1985. Thirty-four impingement surveys were conducted under the specified schedule. Additional sampling was conducted under any one of three conditions:

> Condition I: From April through October, an additional sample was collected on Thursdays if the preceding Monday collection exceeded 1500 total fish.
>
> Condition II: From November through March, samples were collected weekly (Monday) for two additional weeks if the regularly scheduled monthly sample or one of the subsequent additional collections exceeded 1000 total fish.
>
> Condition III: If either shortnose or Atlantic sturgeon were collected in any given impingement sample, additional samples were collected on each succeeding day until there were two consecutive days without sturgeon present.

In addition to the 34 regular surveys, eight Condition I and 18 Condition III surveys were conducted. No Condition II surveys were necessary. Table 3-1 lists the sampling dates. Impingement collections were routinely initiated at 1000 hrs (± 0.5 hr) on each sampling day and terminated 25 ± 1 hr later.

TABLE 3-1

IMPINGEMENT SAMPLING DATES

Albany Steam Generating Station - April 1984 - April 1985

SAMPLING DATE	SURVEY TYPE	SAMPLING DATE	SURVEY TYPE
23 Apr 1984	REG	10 Jul	COND III
30 Apr	REG	11 Jul	COND III
1 May	COND III	16 Jul	REG
2 May	COND III	23 Jul	REG
3 May	COND I AND III	30 Jul	REG
4 May	COND III	6 Aug	REG
7 May	REG	13 Aug	REG
14 May	REG	20 Aug	REG
17 May	COND I	27 Aug	REG
21 May	REG	4 Sep	REG
28 May	REG	10 Sep	REG
29 May	COND III	17 Sep	REG
30 May	COND III	24 Sep	REG
31 May	COND I	25 Sep	COND III
4 Jun	REG	26 Sep	COND III
7 Jun	COND I	2 Oct	REG
11 Jun	VOID[a]	8 Oct	REG
15 Jun	COND I	11 Oct	COND I
18 Jun	REG	15 Oct	REG
19 Jun	COND III	22 Oct	REG
20 Jun	COND III	25 Oct	COND I
21 Jun	COND III	29 Oct	REG
25 Jun	REG	1 Nov	COND I
27 Jun[b]	COND III	5 Nov	REG
28 Jun[b]	COND III	3 Dec	REG
29 Jun	COND III	7 Jan 1985	REG
2 Jul	REG	9 Jan	COND III
9 Jul	REG	10 Jan	COND III
		4 Feb	REG
		4 Mar	REG
		4 Apr	REG
		8 Apr	REG

[a]Void due to plant operational problems.
[b]Make-up for samples missed on 22 and 23 June due to technician error.

REG - Regular survey.
COND I - Additional survey as per Condition I.
COND II - Additional survey as per Conditon II.
COND III - Additional Survey as per Condition III.

3.2.2 Sampling Procedures and Techniques

At the initiation of a survey, each traveling screen was rotated and washed for 30 min. At the conclusion of the 30-min prewash, screen housings and transport troughs were visually inspected for fish and cleaned if necessary. The gates in each discharge sluice were then switched to redirect the screen washings (debris and fish) from the normal sluiceway and offshore return to the collection pit located on the north and south sides of each screenhouse. A 0.95-cm (0.375-in.) mesh steel screen insert fitted inside the sampling pit was used to collect the impingement sample.

Sample start time was recorded as the time of completion of the prewash. The screens then operated under the normal 2-hr wash cycle. At the end of 24 hrs the screens were rotated again and washed for 30 min. The screen housings and transport troughs were then checked for fish. All fish collected from the screen housings or transport troughs were added to the sample. Depending upon seasonal fish numbers and debris, the collection screen and its contents were cleaned periodically during the 24-hr sample period to avoid overflow of the sample.

Complete field records were maintained on plant operating conditions (number of operating screens and cooling water pumps) and pertinent sampling conditions (such as amount of debris and weather conditions). Cooling water flow information for the impingement monitoring period is presented in Appendix A. Measurements of conductivity and dissolved oxygen were made at the initiation of sampling at surface, mid-, and bottom depths at the intake. Depth mean physical and chemical information is presented in Appendix B.

3.2.3 Impingement Analysis

Sample analysis commenced immediately following collection. If conditions precluded completion of analysis at this time, all aquatic organisms were picked from the debris, enumerated and weighed by species, subsampled if necessary, and frozen pending individual length and weight analysis. The sample from each screen received initial analysis to include species counts and weight before it was composited for secondary analysis (length and weight). Secondary analysis was made on up to 25 individuals per species for all four screens combined. Subsampling, if necessary, was done on a random basis.

Additional samples collected under one of the three conditions (I-III) were handled somewhat differently. Samples collected under Conditions I and II (as a result of high numbers during the preceding impingement collection) received preliminary analysis (species counts and total biomass) but no secondary analysis (individual lengths and weights). Samples collected under Condition III (resulting from the impingement of a sturgeon) were checked only for sturgeon and no further analysis was conducted.

Dead sturgeon were identified, counted, weighed, measured, examined for tags, and preserved pending salvage by NYSDEC staff. Live sturgeon collected were identified, weighed, measured, examined for tags, and returned to the river as quickly as possible. Sturgeon identification, and differentiation between Atlantic and shortnose sturgeon was accomplished using criteria presented in Murawski and Pacheco (1977).

All fish collected and not frozen pending secondary analysis were deposited in the hopper for subsequent disposal by NMPC personnel. Representatives of each species were maintained as a permanent reference collection for quality assurance purposes.

3.2.4 Data Presentation

Data are presented according to the requirements set forth in the SPDES permit.

- "Monthly 'mean' is equal to the total number of fish impinged by species on sampling days in month divided by the total number of sampling days."*

- "Annual 'mean' is equal to the total number of fish impinged by species on sampling days in year divided by the total number of sampling days."*

- The average monthly impingement rates are presented as the numbers impinged per day (synonymous with the monthly mean) and the number impinged per million cubic meters (MCM). The former value is equal to the total number of fish collected by species on the sampling days in the month divided by the number of sampling days. The latter value is equal to the total number of fish impinged by species on the sampling days in the month divided by the total volume (in MCM) drawn through the screens during the sampling periods.

- Estimated monthly impingement is presented as the monthly rate based on (1) numbers impinged per day multiplied by the number of days in the month and on (2) the number of fish/MCM multiplied by the total plant flow for the month.

3.2.5 Collection Efficiency Determination

To assess the loss of fish as a result of settling out, traveling screen carryover, or passage around the screens, a collection effi-

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*It should be noted that because the sampling effort was increased during the periods of heaviest impingement, both the monthly and annual means as calculated are biased toward the higher impingement rate.

ciency study was conducted in the spring and fall. Representative fish from each of the selected species were saved and frozen following routine analysis. When sufficient numbers (20 to 30 fish) of a specific species were collected, they were tested.

The procedure entailed thawing a selected group of fish and marking them with a fin clip and a visible dye. The marked fish were released into the manhole downstream of the bar racks and upstream of the traveling screens. A release was made at the beginning of a scheduled impingement survey immediately following the prewash. The impingement collection was then monitored for the tagged fish and the percent recovery was expressed as the number recovered over the number released.

Species tested during 1984 were blueback herring, white perch, striped bass, alewife, spottail shiner, and gizzard shad. Table 3-2 lists the dates of the collection efficiency studies as well as the species and numbers tested by size category. Overall collection efficiency for the three test dates combined was 82.0%, ranging from 65.1% for spottail shiner to 91.6% for alewife. No consistent infuence on the recovery rate was observed based on the size (length) of the marked specimens released. Collection efficiency tests using the same methodology were conducted at ASGS during the impingement monitoring program conducted between October 1982 and September 1983 (LMS 1984b). Table 3-3 presents the collection efficiency information for the 1982-1983 and 1984-1985 programs combined.

3.3 IMPINGEMENT ABUNDANCE AND BIOMASS

A total of 37,117 fish representing 39 species were collected from the vertical traveling screens in the 34 regular surveys and the eight additional Condition I surveys (Table 3-4). Another four sturgeon were collected in the 18 Condition III surveys conducted

TABLE 3-2

COLLECTION EFFICIENCY INFORMATION

Albany Steam Generating Station - April 1984 - April 1985

		MARKED FISH RELEASE INFORMATION AND PERCENT RECOVERY								
		FISH <15 cm			FISH >15 cm			ALL FISH COMBINED		
DATE	TAXA	No. RELEASED	No. RECOVERED	PERCENT RECOVERY[b]	No. RELEASED	No. RECOVERED	PERCENT RECOVERY[b]	No. RELEASED	No. RECOVERED	PERCENT RECOVERY[b]
11 Jul 1984	Alewife	-	-	-	59	56	94.9	59	56	94.9
	Blueback herring	-	-	-	100	90	90.0	100	90	90.0
	Spottail shiner	47	29	61.7	-	-	-	47	29	61.7
	Striped bass[a]	100	84	84.0	11	7	63.6	111	91	82.0
	White perch	82	72	87.8	60	51	85.0	142	123	86.6
29 Oct 1984	Alewife	60	53	88.3	-	-	-	60	53	88.3
	Blueback herring	30	21	70.0	-	-	-	30	21	70.0
	Gizzard shad	40	36	90.0	-	-	-	40	36	90.0
	Striped bass[a]	-	-	-	8	8	100.0	8	8	100.0
	White perch	20	16	80.0	-	-	-	20	16	80.0
7 Jan 1985	Spottail shiner	105	70	66.7	-	-	-	105	70	66.7
	Striped bass[a]	22	16	72.7	-	-	-	22	16	72.7
	White perch	10	10	100.0	17	13	76.5	27	23	85.2
Dates Combined	Alewife	60	53	88.3	59	56	94.9	119	109	91.6
	Blueback herring	30	21	70.0	100	90	90.0	130	111	85.4
	Gizzard shad	40	36	90.0	-	-	-	40	36	90.0
	Spottail shiner	152	99	65.1	-	-	-	152	99	65.1
	Striped bass[a]	122	100	82.0	19	15	78.9	141	115	81.6
	White perch	112	98	87.5	77	64	83.1	189	162	85.7
	Total	516	407	78.9	255	225	88.2	771	632	82.0

[a]Size class for striped bass was <10 cm and ≥10 cm.

[b]Percent Recovery = $\frac{\text{Number Recovered}}{\text{Number Released}} \times 100$

TABLE 3-3

COMBINED PROGRAM COLLECTION EFFICIENCY INFORMATION

Albany Steam Generating Station - 1982-1985

TAXA	COLLECTION EFFICIENCY TEST INFORMATION NUMBER FISH RELEASED	NUMBER FISH RECOVERED	PERCENT RECOVERY[a] (%)
Alewife	244	179	73.4
American shad[b]	100	75	75.0
Blueback herring	271	234	86.3
Gizzard shad	65	56	86.2
Spottail shiner	180	122	67.8
Striped bass	150	122	81.3
White perch	289	250	86.5
Total	1299	1038	79.9

[a]Percent Recovery = $\frac{\text{Number Recovered}}{\text{Number Released}} \times 100$

[b]Test Data from 1982-1983 program only.

TABLE 3-4 (Page 1 of 2)

ACTUAL MONTHLY IMPINGEMENT COLLECTION INFORMATION

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM TOTAL
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
No. OF SAMPLES	2	7	5	5	4	4	7	2	1	1	1	1	2	42
FLOW SAMPLED[a]	3.104	11.046	9.508	9.549	7.666	7.590	11.970	2.845	1.439	1.716	1.862	1.439	3.833	73.567
TOTAL MONTHLY FLOW[a]	47.01	48.14	56.94	58.77	58.11	56.49	53.67	49.09	52.10	56.35	41.14	46.63	54.46	678.90
SPECIES														
Alewife	570	1757	135	4	0	0	7	3	0	0	0	0	20	2496
Alosa spp.	0	4	0	0	0	0	0	0	0	0	0	0	0	4
American eel	55	34	19	10	0	1	37	22	1	0	1	2	8	190
American shad	2	8	14	92	64	52	237	21	0	0	0	0	0	490
Atlantic tomcod	0	0	29	10	0	0	1	1	2	3	1	0	0	47
Banded killifish	0	1	3	1	1	1	1	0	0	1	0	0	0	9
Bay anchovy	0	0	9	3	0	0	0	0	0	0	0	0	0	12
Black crappie	1	23	3	0	0	0	0	2	0	0	0	1	6	36
Blueback herring	19	2459	1600	42	105	112	8140	1160	1	0	0	0	0	13638
Bluegill	2	165	54	3	2	2	6	2	1	0	0	0	0	237
Bluntnose minnow	2	3	0	0	0	0	0	0	0	0	0	0	3	8
Brown bullhead	1	26	9	10	3	0	2	2	2	0	0	0	0	55
Central mudminnow	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Chain pickerel	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Common shiner	0	0	0	0	0	0	1	0	0	0	0	0	0	1
Gizzard shad	2	13	0	0	1	0	11	1	5	119	1	0	1	154
Golden shiner	1	17	12	2	0	0	0	1	0	1	0	3	3	40
Goldfish	0	3	1	1	0	0	0	0	0	0	0	1	1	7
Hogchoker	0	2	35	21	3	0	1	0	0	0	0	0	0	62
Lampreys	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Largemouth bass	0	0	1	0	0	0	1	0	0	0	0	0	0	2
Longear sunfish	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Minnows & Carps	2	5	0	0	0	0	0	0	0	0	0	0	0	7
Pumpkinseed	20	109	36	6	1	1	21	2	0	2	0	2	6	206

[a]Flow as million cubic meters (MCM).
[b]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

TABLE 3-4 (Page 2 of 2)

ACTUAL MONTHLY IMPINGEMENT COLLECTION INFORMATION

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL
SPECIES (cont)														
Rainbow smelt	0	3	0	0	0	0	0	0	0	0	0	0	2	5
Redbreast sunfish	0	7	9	2	0	1	0	0	0	0	0	0	0	19
Redfin pickerel	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Rock bass	7	7	25	4	1	1	1	0	0	0	0	0	0	46
Shortnose sturgeon[b]	1	1	1	2	0	1	0	0	0	1	0	0	0	7
Silvery minnow	3	2	0	0	0	1	2	0	0	0	0	0	5	13
Smallmouth bass	2	0	0	0	0	0	1	0	0	1	0	0	0	4
Spottail shiner	97	843	205	35	36	10	64	9	106	23	23	36	354	1841
Striped bass	0	39	163	25	32	8	26	5	22	0	0	1	0	321
Summer flounder	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Tadpole madtom	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Tessellated darter	11	15	6	2	0	0	2	2	0	0	0	1	10	49
Trout-perch	2	4	7	0	0	0	0	0	0	0	0	0	2	15
White catfish	8	17	9	26	56	45	182	118	0	0	1	0	1	463
White perch	2702	6420	4681	838	69	30	524	172	29	3	0	0	946	16414
White sucker	0	3	3	1	0	0	0	0	0	0	0	0	2	9
Yellow perch	47	48	31	5	0	1	2	2	2	0	0	4	61	203
Total	3557	12041	7100	1147	374	267	9270	1525	171	154	27	52	1432	37117

[a]Flow as million cubic meters (MCM).
[b]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

to further document sturgeon abundance. These additional surveys and the resulting sturgeon impingement estimate are discussed in Section 3.5.

Based on the impingement data collected from April 1984 through April 1985, white perch and blueback herring were the two dominant species impinged. Of the 37,117 fish impinged, 16,414 (44%) were white perch and 13,638 (37%) were blueback herring. White perch impingement reached a maximum daily average of 1351 fish per day (Table 3-5) or 870 per MCM (Table 3-6) in April 1984 and remained high through June 1984. Blueback herring daily average impingement was highest during October 1984 (1163 fish per day or 680 fish per MCM).

For the 42 impingement collection dates, a total of 2317.3 kg of fish biomass was collected (Table 3-7). The dominant white perch accounted for 40.7% (943.3 kg) of the total biomass. The second most abundant fish, blueback herring, ranked second in biomass, with 31.3% (725.1 kg) of the total. Alewife, which ranked third in abundance, also ranked third in biomass, with 20.4% (473.5 kg) of the total. Estimated monthly biomass, based on cooling water flow, is presented in Appendix C. Weight-frequency information for the major taxa is included in Appendix D.

Overall impingement abundance and biomass was greatest during the spring (April, May, and June), with the lowest abundance and biomass recorded during February. The first of the eight Condition I surveys required by impingement abundances in excess of 1500 total fish (Section 3.2.1) was initiated by a catch of 2581 fish (72% white perch) on 30 April 1984. Three days later the impingement abundance was down to 244 fish and remained low until 14 May 1984 when it rose to 2908 fish (65% white perch). Daily impingement abundances reported from mid-May through June 1984 typically exceeded 1000 fish and reached a maximum of 3114 fish (58% white

TABLE 3-5 (Page 1 of 2)

MEAN DAILY IMPINGEMENT RATE[a] BY SPECIES

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM TOTAL
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
No. OF SAMPLES	2	7	5	5	4	4	7	2	1	1	1	1	2	42
FLOW SAMPLED[b]	3.104	11.046	9.508	9.549	7.666	7.590	11.970	2.845	1.439	1.716	1.862	1.439	3.833	73.567
TOTAL MONTHLY FLOW[b]	47.01	48.14	56.94	58.77	58.11	56.49	53.67	49.09	52.10	56.35	41.14	46.63	54.46	678.90
SPECIES														
Alewife	285.00	251.00	27.00	0.80	0	0	1.00	0.43	0	0	0	0	10.00	575.23
Alosa spp.	0	0.57	0	0	0	0	0	0	0	0	0	0	0	.57
American eel	27.50	4.86	3.80	2.00	0	0.25	5.29	3.14	1.00	0	1.00	2.00	4.00	54.84
American shad	1.00	1.14	2.80	18.40	16.00	13.00	33.86	3.00	0	0	0	0	0	89.20
Atlantic tomcod	0	0	5.80	2.00	0	0	0.14	0.14	2.00	3.00	1.00	0	0	14.08
Banded killifish	0	0.14	0.60	0.20	0.25	0.25	0.14	0	0	1.00	0	0	0	2.58
Bay anchovy	0	0	1.80	0.60	0	0	0	0	0	0	0	0	0	2.40
Black crappie	0.50	3.29	0.60	0	0	0	0	0.29	0	0	0	1.00	3.00	8.68
Blueback herring	9.50	351.29	320.00	8.40	26.25	28.00	1162.86	165.71	1.00	0	0	0	0	2073.01
Bluegill	1.00	23.57	10.80	0.60	0.50	0.50	0.86	0.29	1.00	0	0	0	0	39.12
Bluntnose minnow	1.00	0.43	0	0	0	0	0	0	0	0	0	0	1.50	2.93
Brown bullhead	0.50	3.71	1.80	2.00	0.75	0	0.29	0.29	2.00	0	0	0	0	11.34
Central mudminnow	0	0	0	0	0	0	0	0	0	0	0	0	0.50	0.50
Chain pickerel	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0.14
Common shiner	0	0	0	0	0	0	0.14	0	0	0	0	0	0	0.14
Gizzard shad	1.00	1.86	0	0	0.25	0	1.57	0.14	5.00	119.00	1.00	0	0.50	130.32
Golden shiner	0.50	2.43	2.40	0.40	0	0	0	0.14	0	1.00	0	3.00	1.50	11.37
Goldfish	0	0.43	0.20	0.20	0	0	0	0	0	0	0	1.00	0.50	2.33
Hogchoker	0	0.29	7.00	4.20	0.75	0	0.14	0	0	0	0	0	0	12.38
Lampreys	0	0	0	0.20	0	0	0	0	0	0	0	0	0	0.20
Largemouth bass	0	0	0.20	0	0	0	0.14	0	0	0	0	0	0	0.34
Longear sunfish	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0.14
Minnows & Carps	1.00	0.71	0	0	0	0	0	0	0	0	0	0	0	1.71
Pumpkinseed	10.00	15.57	7.20	1.20	0.25	0.25	3.00	0.29	0	2.00	0	2.00	3.00	44.76

[a]Number impinged per day
[b]Flow as million cubic meters (MCM).
[c]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

TABLE 3-5 (Page 2 of 2)

MEAN DAILY IMPINGEMENT RATE[a] BY SPECIES

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL
SPECIES (cont)														
Rainbow smelt	0	0.43	0	0	0	0	0	0	0	0	0	0	1.00	1.43
Redbreast sunfish	0	1.00	1.80	0.40	0	0.25	0	0	0	0	0	0	0	3.45
Redfin pickerel	0	0	0	0	0	0	0	0	0	0	0	1.00	0	1.00
Rock bass	3.50	1.00	5.00	0.80	0.25	0.25	0.14	0	0	0	0	0	0	10.94
Shortnose sturgeon[c]	0.50	0.14	0.20	0.40	0	0.25	0	0	0	1.00	0	0	0	2.49
Silvery minnow	1.50	0.29	0	0	0	0.25	0.29	0	0	0	0	0	2.50	4.83
Smallmouth bass	1.00	0	0	0	0	0	0.14	0	0	1.00	0	0	0	2.14
Spottail shiner	48.50	120.43	41.00	7.00	9.00	2.50	9.14	4.50	106.00	23.00	23.00	36.00	177.00	607.07
Striped bass	0	5.57	32.60	5.00	8.00	2.00	3.71	2.50	22.00	0	0	1.00	0	82.38
Summer flounder	0	0	0	0.20	0	0	0	0	0	0	0	0	0	0.20
Tadpole madtom	0	0.14	0	0	0	0	0	0	0	0	0	0	0	0.14
Tessellated darter	5.50	2.14	1.20	0.40	0	0	0.29	1.00	0	0	0	1.00	5.00	16.53
Trout-perch	1.00	0.57	1.40	0	0	0	0	0	0	0	0	0	1.00	3.97
White catfish	4.00	2.43	1.80	5.20	14.00	11.25	26.00	59.00	0	0	1.00	0	0.50	125.18
White perch	1351.00	917.14	936.20	167.60	17.25	7.50	74.86	86.00	29.00	3.00	0	0	473.00	4062.55
White sucker	0	0.43	0.60	0.20	0	0	0	0	0	0	0	0	1.00	2.23
Yellow perch	23.50	6.86	6.20	1.00	0	0.25	0.29	1.00	2.00	0	0	4.00	30.50	75.60
Total	1778.50	1720.14	1420.00	229.40	93.50	66.75	1324.29	327.86	171.00	154.00	27.00	52.00	716.00	8080.44

[a]Number impinged day
[b]Flow as million cubic meters (MCM).
[c]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

TABLE 3-6 (Page 1 of 2)

MONTHLY IMPINGEMENT RATE[a] BASED ON PLANT FLOW

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL
No. OF SAMPLES	2	7	5	5	4	4	7	2	1	1	1	1	2	42
FLOW SAMPLED[b]	3.104	11.046	9.508	9.549	7.666	7.590	11.970	2.845	1.439	1.716	1.862	1.439	3.833	73.567
TOTAL MONTHLY FLOW[b]	47.01	48.14	56.94	58.77	58.11	56.49	53.67	49.09	52.10	56.35	41.14	46.63	54.46	678.90
SPECIES														
Alewife	183.63	159.06	14.20	0.42	0	0	0.58	1.05	0	0	0	0	5.22	33.93
Alosa spp.	0	0.36	0	0	0	0	0	0	0	0	0	0	0	0.05
American eel	17.72	3.08	2.00	1.05	0	0.13	3.09	7.73	0.69	0	0.54	1.39	2.09	2.58
American shad	0.64	0.72	1.47	9.63	8.35	6.85	19.80	7.38	0	0	0	0	0	6.66
Atlantic tomcod	0	0	3.05	1.05	0	0	0.08	0.35	1.39	1.75	0.54	0	0	0.64
Banded killifish	0	0.09	0.32	0.10	0.13	0.13	0.08	0	0	0.58	0	0	0	0.12
Bay anchovy	0	0	0.95	0.31	0	0	0	0	0	0	0	0	0	0.16
Black crappie	0.32	2.08	0.32	0	0	0	0	0.70	0	0	0	0.69	1.57	0.49
Blueback herring	6.12	222.61	168.28	4.40	13.70	14.76	680.03	407.73	0.69	0	0	0	0	185.38
Bluegill	0.64	14.94	5.68	0.31	0.26	0.26	0.50	0.70	0.69	0	0	0	0	3.22
Bluntnose minnow	0.64	0.27	0	0	0	0	0	0	0	0	0	0	0.78	0.11
Brown bullhead	0.32	2.35	0.95	1.05	0.39	0	0.17	0.70	1.39	0	0	0	0	0.75
Central mudminnow	0	0	0	0	0	0	0	0	0	0	0	0	0.26	0.01
Chain pickerel	0	0.09	0	0	0	0	0	0	0	0	0	0	0	0.01
Common shiner	0	0	0	0	0	0	0.08	0	0	0	0	0	0	0.01
Gizzard shad	0.64	1.18	0	0	0.13	0	0.92	0.35	3.47	69.35	0.54	0	0.26	2.09
Golden shiner	0.32	1.54	1.26	0.21	0	0	0	0.35	0	0.58	0	2.08	0.78	0.54
Goldfish	0	0.27	0.11	0.10	0	0	0	0	0	0	0	0.69	0.26	0.10
Hogchoker	0	0.18	3.68	2.20	0.39	0	0.08	0	0	0	0	0	0	0.84
Lampreys	0	0	0	0.10	0	0	0	0	0	0	0	0	0	0.01
Largemouth bass	0	0	0.11	0	0	0	0.08	0	0	0	0	0	0	0.03
Longear sunfish	0	0.09	0	0	0	0	0	0	0	0	0	0	0	0.01
Minnows & Carps	0.64	0.45	0	0	0	0	0	0	0	0	0	0	0	0.10
Pumpkinseed	6.44	9.87	3.79	0.63	0.13	0.13	1.75	0.70	0	1.17		1.39	1.57	2.80

[a]Number impinged per million cubic meters (MCM).
[b]Flow as MCM.
[c]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

TABLE 3-6 (Page 2 of 2)

MONTHLY IMPINGEMENT RATE[a] BASED ON PLANT FLOW

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM TOTAL
	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	
SPECIES (cont)														
Rainbow smelt	0	0.27	0	0	0	0	0	0	0	0	0	0	0.52	0.07
Redbreast sunfish	0	0.63	0.95	0.21	0	0.13	0	0	0	0	0	0	0	0.26
Redfin pickerel	0	0	0	0	0	0	0	0	0	0	0	0.69	0	0.01
Rock bass	2.26	0.63	2.63	0.42	0.13	0.13	0.08	0	0	0	0	0	0	0.63
Shortnose sturgeon[c]	0.32	0.09	0.11	0.21	0	0.13	0	0	0	0.58	0	0	0	0.10
Silvery minnow	0.97	0.18	0	0	0	0.13	0.17	0	0	0	0	0	1.30	0.18
Smallmouth bass	0.64	0	0	0	0	0	0.08	0	0	0.58	0	0	0	0.05
Spottail shiner	31.25	76.32	21.56	3.67	4.70	1.32	5.35	3.16	73.66	13.40	12.35	25.02	92.36	25.02
Striped bass	0	3.53	17.14	2.62	4.17	1.05	2.17	1.76	15.29	0	0	0.69	0	4.36
Summer flounder	0	0	0	0.10	0	0	0	0	0	0	0	0	0	0.01
Tadpole madtom	0	0.09	0	0	0	0	0	0	0	0	0	0	0	0.01
Tessellated darter	3.54	1.36	0.63	0.21	0	0	0.17	0.70	0	0	0	0.69	2.61	0.67
Trout-perch	0.64	0.36	0.74	0	0	0	0	0	0	0	0	0	0.52	0.20
White catfish	2.58	1.54	0.95	2.72	7.30	5.93	15.20	41.48	0	0	0.54	0	0.26	6.29
White perch	870.49	581.21	492.32	87.76	9.00	3.95	43.78	60.46	20.15	1.75	0	0	246.80	223.12
White sucker	0	0.27	0.32	0.10	0	0	0	0	0	0	0	0	0.52	0.12
Yellow perch	15.14	4.35	3.26	0.52	0	0.13	0.17	0.70	1.39	0	0	2.78	15.91	2.76
Total	1145.94	1090.08	746.74	120.12	48.79	35.18	774.44	536.03	118.83	89.74	14.50	36.14	373.60	504.53

[a]Number impinged per million cubic meters (MCM).
[b]Flow as MCM.
[c]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

TABLE 3-7 (Page 1 of 2)

BIOMASS[a] OF COLLECTED TAXA

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL (kg)
No. OF SAMPLES	2	7	5	5	4	4	7	2	1	1	1	1	2	42
FLOW SAMPLED[b]	3.104	11.046	9.508	9.549	7.666	7.590	11.970	2.845	1.439	1.716	1.862	1.439	3.833	73.567
TOTAL MONTHLY FLOW[b]	47.01	48.14	56.94	58.77	58.11	56.49	53.67	49.09	52.10	56.35	41.14	46.63	54.46	678.90
SPECIES														
Alewife	142789	309451	15456	86	0	0	29	136	0	0	0	0	5585	473.53
Alosa spp.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
American eel	5172	2967	1412	924	0	30	4324	1598	47	0	51	200	851	17.58
American shad	2383	7682	14542	55	165	169	699	112	0	0	0	0	0	25.81
Atlantic tomcod	0	0	101	50	0	0	3	5	50	95	33	0	0	0.34
Banded killifish	0	7	12	6	6	5	6	0	0	7	0	0	0	0.05
Bay anchovy	0	0	29	11	0	0	0	0	0	0	0	0	0	0.04
Black crappie	320	632	456	0	0	0	0	32	0	0	0	67	15	1.52
Blueback herring	3584	444068	239619	3889	357	206	28619	4733	10	0	0	0	0	725.08
Bluegill	24	5347	3195	87	33	42	222	4	2	0	0	0	0	8.96
Bluntnose minnow	8	9	0	0	0	0	0	0	0	0	0	0	13	0.03
Brown bullhead	411	1690	1117	314	283	0	347	201	117	0	0	0	0	4.48
Central mudminnow	0	0	0	0	0	0	0	0	0	0	0	0	18	0.02
Chain pickerel	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Common shiner	0	0	0	0	0	0	16	0	0	0	0	0	0	0.02
Gizzard shad	12	1037	0	0	4	0	232	0	123	3590	35	0	4	5.04
Golden shiner	5	311	327	20	0	0	0	11	0	77	0	139	100	0.99
Goldfish	0	667	55	46	0	0	0	0	0	0	0	579	199	1.55
Hogchoker	0	35	401	300	9	0	41	0	0	0	0	0	0	0.79
Lampreys	0	0	0	12	0	0	0	0	0	0	0	0	0	0.01
Largemouth bass	0	0	303	0	0	0	343	0	0	0	0	0	0	0.65
Longear sunfish	0	19	0	0	0	0	0	0	0	0	0	0	0	0.02
Minnows & Carps	30	0	0	0	0	0	0	0	0	0	0	0	0	0.00
Pumpkinseed	1429	7962	3715	787	96	78	1243	163	0	274	0	331	506	16.58

[a]All weights as grams unless indicated otherwise.
[b]Flow as million cubic meters (MCM).
[c]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

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TABLE 3-7 (Page 2 of 2)

BIOMASS[a] OF COLLECTED TAXA

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL (kg)
SPECIES (cont.)														
Rainbow smelt	0	23	0	0	0	0	0	0	0	0	0	0	26	0.05
Redbreast sunfish	0	697	809	175	0	72	0	0	0	0	0	0	0	1.75
Redfin pickerel	0	0	0	0	0	0	0	0	0	0	0	21	0	0.02
Rock bass	871	726	2847	361	70	119	25	0	0	0	0	0	0	5.02
Shortnose sturgeon[c]	0	99	106	219	0	38	0	0	0	57	0	0	0	0.52
Silvery minnow	32	13	0	0	0	11	16	0	0	0	0	0	36	0.11
Smallmouth bass	386	0	0	0	0	0	8	0	0	239	0	0	0	0.63
Spottail shiner	645	6311	1398	240	235	68	386	83	1084	223	233	385	2740	14.03
Striped bass	0	2049	2192	2323	552	42	306	38	132	0	0	6	0	7.64
Summer flounder	0	0	0	218	0	0	0	0	0	0	0	0	0	0.22
Tadpole madtom	0	4	0	0	0	0	0	0	0	0	0	0	0	0.00
Tessellated darter	38	57	24	5	0	0	5	4	0	0	0	5	51	0.19
Trout-perch	9	27	22	0	0	0	0	0	0	0	0	0	12	0.07
White catfish	1962	1578	2136	2445	4597	6098	9156	2665	0	0	343	0	5	30.98
White perch	183066	364768	278188	39850	3482	1297	15455	7176	1530	98	0	0	48394	943.30
White sucker	0	825	838	280	0	0	0	0	0	0	0	0	21	1.96
Yellow perch	7278	6349	3908	657	0	9	37	69	314	0	0	558	8550	27.73
Total (kg)	350.4	1165.4	573.2	53.4	9.9	8.3	61.5	17.0	3.4	4.7	0.7	2.3	67.1	2317.3

[a]All weights as grams unless indicated otherwise.
[b]Flow as million cubic meters (MCM).
[c]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

perch) on 11 June 1984. This spring run of white perch prompted five Condition I surveys.

A similar pattern developed in the fall of 1984 when the catch of 376 fish on 2 October 1984 was followed a week later by a catch of 2161 fish (98% blueback herring). Impingement abundances fluctuated for the next four weeks during which time seven impingement surveys (three Condition I surveys) were conducted. A maximum catch of 2427 fish (90% blueback herring) was reported on 25 October 1984. The fall run of predominantly blueback herring prompted three Condition I surveys.

The blueback herring collected during the fall period (October-December) were predominantly young-of-the-year, with a seasonal mean total length of 8.6 cm and a range of 6.4 to 27.5 cm (Table 3-8). White perch collected during the same time frame were split between YOY (total length between 6.0 and 8.0 cm) and subadults/adults (total length between 13.0 and 16.0 cm) (Table 3-8). Length-frequency information for major fish taxa collected at ASGS is presented in Appendix E.

Spring impingement was dominated by subadult/adult white perch (total length between 13.0 and 18.0 cm) and slightly fewer adult blueback herring (total length between 25.0 and 31.0 cm) and alewife (total length between 25.0 and 32.0 cm).

The lowest impingement was recorded during the winter months (January-March). The dominant taxon collected during this period was gizzard shad with a mean length of 13.3 cm, indicating primarily yearling fish (Carlander 1969), and spottail shiner with a seasonal average mean length of 10.2 cm.

Estimated monthly and program total impingement was calculated based on the daily average impingement rate (Table 3-9) and a rate

TABLE 3-8

MONTHLY LENGTH INFORMATION (cm) FOR MAJOR TAXA

Albany Steam Generating Station - April 1984 - April 1985

		IMPINGEMENT SAMPLING MONTH												
		1984									1985			
TAXA	SAMPLE PARAMETER	23-30 APRIL	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	1-8 APR
Alewife	Number analyzed	50	70	44	4	0	0	3	1	0	0	0	0	19
	Mean length	29.4	28.1	19.5	14.1	-	-	10.6	12.0	-	-	-	-	29.6
	Min. length	25.7	10.4	9.7	12.8	-	-	10.1	12.0	-	-	-	-	25.8
	Max. length	34.3	32.3	30.8	15.2	-	-	11.7	12.0	-	-	-	-	32.1
American eel	Number analyzed	36	10	10	10	0	1	25	18	1	0	1	2	8
	Mean length	37.6	30.8	33.8	35.0	-	25.1	35.2	32.3	30.0	-	31.3	38.6	37.8
	Min. length	28.2	22.4	23.8	23.4	-	25.1	22.8	22.2	30.0	-	31.3	34.6	30.7
	Max. length	45.4	38.0	43.6	42.4	-	25.1	83.6	41.2	30.0	-	31.3	42.6	43.5
American shad	Number analyzed	2	4	10	27	58	49	89	5	0	0	0	0	0
	Mean length	47.4	51.7	45.0	5.4	6.9	7.6	8.6	10.1	-	-	-	-	-
	Min. length	45.0	42.3	14.7	3.8	4.4	6.2	7.3	8.5	-	-	-	-	-
	Max. length	49.7	74.7	58.8	6.6	8.7	9.7	13.1	11.9	-	-	-	-	-
Blueback herring	Number analyzed	19	75	75	41	76	81	100	25	1	0	0	0	0
	Mean length	27.9	28.5	22.9	20.8	6.7	6.9	8.5	9.1	11.0	-	-	-	-
	Min. length	26.1	24.7	10.2	3.2	4.0	4.5	6.4	7.8	11.0	-	-	-	-
	Max. length	29.6	32.3	32.9	30.6	30.2	13.2	27.5	10.4	11.0	-	-	-	-
Gizzard shad	Number analyzed	2	5	0	0	1	0	11	0	5	25	1	0	1
	Mean length	9.7	11.3	-	-	7.4	-	12.8	-	12.3	13.5	14.8	-	8.3
	Min. length	8.7	7.6	-	-	7.4	-	11.0	-	7.5	11.7	14.8	-	8.3
	Max. length	10.7	20.9	-	-	7.4	-	15.3	-	14.6	16.3	14.8	-	8.3
Spottail shiner	Number analyzed	49	82	56	34	30	8	32	2	25	23	23	25	50
	Mean length	9.4	8.6	9.4	9.0	9.5	10.1	9.9	10.2	10.4	10.0	10.2	10.3	10.3
	Min. length	6.7	4.5	6.6	7.2	8.5	9.4	6.8	8.1	6.7	7.2	7.6	6.6	7.3
	Max. length	12.5	12.0	13.2	12.4	11.4	11.4	12.7	12.2	12.9	13.2	11.6	11.2	11.6
Striped bass	Number analyzed	0	19	53	22	32	8	15	0	22	0	0	1	0
	Mean length	-	14.6	10.9	17.1	8.9	8.4	10.5	-	8.5	-	-	9.0	-
	Min. length	-	7.8	8.6	4.2	5.6	7.4	5.4	-	6.7	-	-	9.0	-
	Max. length	-	28.1	16.6	40.4	29.6	11.5	18.5	-	10.0	-	-	9.0	-
White catfish	Number analyzed	8	5	7	26	51	37	82	25	0	0	1	0	1
	Mean length	25.6	16.6	23.3	18.4	19.1	20.8	14.6	13.9	-	-	30.2	-	8.0
	Min. length	9.1	8.4	8.6	12.4	6.3	13.5	6.4	8.8	-	-	30.2	-	8.0
	Max. length	36.6	24.9	31.8	36.3	33.2	34.9	34.6	24.7	-	-	30.2	-	8.0
White perch	Number analyzed	50	75	75	125	56	21	82	25	25	3	0	0	50
	Mean length	17.0	16.1	17.1	14.0	14.9	14.6	14.2	14.8	14.2	13.0	-	-	14.9
	Min. length	13.7	12.3	8.3	7.6	5.3	7.0	7.0	11.1	5.5	10.6	-	-	10.5
	Max. length	25.4	19.8	59.0	22.0	20.4	19.8	19.5	20.7	21.3	15.5	-	-	19.4

TABLE 3-9 (Page 1 of 2)

ESTIMATED IMPINGEMENT BASED ON DAILY AVERAGE RATE

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM TOTAL
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	
No. OF SAMPLES	2	7	5	5	4	4	7	2	1	1	1	1	2	42
FLOW SAMPLED[a]	3.104	11.046	9.508	9.549	7.666	7.590	11.970	2.845	1.439	1.716	1.862	1.439	3.833	73.567
TOTAL MONTHLY FLOW[a]	47.01	48.14	56.94	58.77	58.11	56.49	53.67	49.09	52.10	56.35	41.14	46.63	54.46	678.90
SPECIES														
Alewife	8550	7781	810	25	0	0	31	13	0	0	0	0	300	17510
Alosa spp.	0	18	0	0	0	0	0	0	0	0	0	0	0	18
American eel	825	151	114	62	0	8	164	94	31	0	28	62	120	1659
American shad	30	35	84	570	496	390	1050	90	0	0	0	0	0	2745
Atlantic tomcod	0	0	174	62	0	0	4	4	62	93	28	0	0	427
Banded killifish	0	4	18	6	8	8	4	0	0	31	0	0	0	79
Bay anchovy	0	0	54	19	0	0	0	0	0	0	0	0	0	73
Black crappie	15	102	18	0	0	0	0	9	0	0	0	31	90	265
Blueback herring	285	10890	9600	260	814	840	36049	4971	31	0	0	0	0	63740
Bluegill	30	731	324	19	16	15	27	9	31	0	0	0	0	1202
Bluntnose minnow	30	13	0	0	0	0	0	0	0	0	0	0	45	88
Brown bullhead	15	115	54	62	23	0	9	9	62	0	0	0	0	349
Central mudminnow	0	0	0	0	0	0	0	0	0	0	0	0	15	15
Chain pickerel	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Common shiner	0	0	0	0	0	0	4	0	0	0	0	0	0	4
Gizzard shad	30	58	0	0	8	0	49	4	155	3689	28	0	15	4036
Golden shiner	15	75	72	12	0	0	0	4	0	31	0	93	45	347
Goldfish	0	13	6	6	0	0	0	0	0	0	0	31	15	71
Hogchoker	0	9	210	130	23	0	4	0	0	0	0	0	0	376
Lampreys	0	0	0	6	0	0	0	0	0	0	0	0	0	6
Largemouth bass	0	0	6	0	0	0	4	0	0	0	0	0	0	10
Longear sunfish	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Minnows & Carps	30	22	0	0	0	0	0	0	0	0	0	0	0	52
Pumpkinseed	300	483	216	37	8	8	93	9	0	62	0	62	90	1368

[a]Flow as million cubic meters (MCM).
[b]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

TABLE 3-9 (Page 2 of 2)

ESTIMATED IMPINGEMENT BASED ON DAILY AVERAGE RATE

Albany Steam Generating Station - April 1984 - April 1985

	1984									1985				PROGRAM
	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	TOTAL
SPECIES (cont)														
Rainbow smelt	0	13	0	0	0	0	0	0	0	0	0	0	30	43
Redbreast sunfish	0	31	54	12	0	8	0	0	0	0	0	0	0	105
Redfin pickerel	0	0	0	0	0	0	0	0	0	0	0	31	0	31
Rock bass	105	31	150	25	8	8	4	0	0	0	0	0	0	331
Shortnose sturgeon[b]	15	4	6	12	0	8	0	0	0	31	0	0	0	76
Silvery minnow	45	9	0	0	0	8	9	0	0	0	0	0	75	146
Smallmouth bass	30	0	0	0	0	0	4	0	0	31	0	0	0	65
Spottail shiner	1455	3733	1230	217	279	75	283	135	3286	713	644	1116	5310	18476
Striped bass	0	173	978	155	248	60	115	75	682	0	0	31	0	2517
Summer flounder	0	0	0	6	0	0	0	0	0	0	0	0	0	6
Tadpole madtom	0	4	0	0	0	0	0	0	0	0	0	0	0	4
Tessellated darter	165	66	36	12	0	0	9	30	0	0	0	31	150	499
Trout-perch	30	18	42	0	0	0	0	0	0	0	0	0	30	120
White catfish	120	75	54	161	434	338	806	1770	0	0	28	0	15	3801
White perch	40530	28431	28086	5196	535	225	2321	2580	899	93	0	0	14190	123086
White sucker	0	13	18	6	0	0	0	0	0	0	0	0	30	67
Yellow perch	705	213	186	31	0	8	9	30	62	0	0	124	915	2283
Total	53355	53322	42600	7109	2900	2007	41052	9836	5301	4774	756	1612	21480	246104

[a]Flow as million cubic meters (MCM).
[b]Summarized separately on Table 3-14; this presentation includes only the regular surveys and the additional Condition I collections.

obtained from the plant cooling water flow (Table 3-10). Results from these two approaches were similar; the differences (6% between the two estimates for total fish) were attributable to the changes in pump operations during the month. Estimated white perch impingement for the annual study period was 123,086 and 122,746 fish, respectively, for the two methods. By either method of calculation, white perch represented 47 to 50% of the total estimated impingement. Estimated impingement totals for blueback herring were 63,740 and 79,023 fish, respectively, for the two methods, or approximately 26 to 30% of the total estimated impingement. Spottail shiner (18,476 and 18,675 fish), alewife (17,510 and 17,490 fish), and gizzard shad (4036 and 4286 fish) round out the five species with the highest estimated impingement. These five accounted for 92% of the total estimated impingement (226,848 and 242,220 fish) at the Albany Steam Generating Station during the April 1984 - April 1985 study period.

Collection efficiency study results (Section 3.2) suggest that a portion of the total impinged population may be lost due to traveling screen carryover, passage around the traveling screens, predation, or possibly decomposition. The results measured during 1984-1985 are similar to those reported for the Albany Steam Generating Station in the 1982-1983 program. Adjusted impingement for the major taxa used in the 1984-1985 collection efficiency tests and for total fish, based on a mean collection efficiency value for the annual impingement monitoring program and for collection efficiency information combined from the two annual impingement monitoring programs, is presented in Table 3-11. Adjusted impingement estimates are given for both methods of calculating estimated impingement. Adjusted impingement estimates were obtained by dividing the estimated impingement by the recovery rate from the collection efficiency tests. Adjusted estimates for total fish based on the 1984-1985 collection efficiency tests increased from 246,104 to 300,127 and from 262,483 to 320,101 for the two calculation

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF AMERICAN SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/04/01 NO.	84/04/01 PCNT	84/05/01 NO.	84/05/01 PCNT	84/06/01 NO.	84/06/01 PCNT	84/07/01 NO.	84/07/01 PCNT	84/08/01 NO.	84/08/01 PCNT	84/09/01 NO.	84/09/01 PCNT
.1- 10.0	0	.0	0	.0	0	.0	27	100.0	58	100.0	49	100.0
10.1- 20.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
20.1- 30.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
30.1- 40.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
40.1- 50.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
50.1- 60.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
60.1- 70.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
70.1- 80.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
80.1- 90.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
90.1- 100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
100.1- 110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
110.1- 120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
120.1- 130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
130.1- 140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
140.1- 150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
150.1- 160.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
160.1- 170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
170.1- 180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
180.1- 190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
190.1- 200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
200.1- 210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
210.1- 220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
220.1- 230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
230.1- 240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
240.1- 250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
250.1- 260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
260.1- 270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
270.1- 280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
280.1- 290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
290.1- 300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
300.1- 310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
310.1- 320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
320.1- 330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
330.1- 340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
340.1- 350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
350.1- 360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
360.1- 370.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
370.1- 380.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF AMERICAN SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/04/01 NO.	PCNT	84/05/01 NO.	PCNT	84/06/01 NO.	PCNT	84/07/01 NO.	PCNT	84/08/01 NO.	PCNT	84/09/01 NO.	PCNT
380.1- 390.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
390.1- 400.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
400.1- 410.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
410.1- 420.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
420.1- 430.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
430.1- 440.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
440.1- 450.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
450.1- 460.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
460.1- 470.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
470.1- 480.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
480.1- 490.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
490.1- 500.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
500.1- 510.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
510.1- 520.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
520.1- 530.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
530.1- 540.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
540.1- 550.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
550.1- 560.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
560.1- 570.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
570.1- 580.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
580.1- 590.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
590.1- 600.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
600.1- 610.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
610.1- 620.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
620.1- 630.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
630.1- 640.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
640.1- 650.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
650.1- 660.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
660.1- 670.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
670.1- 680.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
680.1- 690.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
690.1- 700.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
700.1- 710.0	0	.0	1	25.0	0	.0	0	.0	0	.0	0	.0
710.1- 720.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
720.1- 730.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
730.1- 740.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
740.1- 750.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
750.1- 760.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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760.1- 770.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
770.1- 780.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
780.1- 790.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
790.1- 800.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
800.1- 810.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
810.1- 820.0	0	.0	1	25.0	0	.0	0	.0	0	.0	0	.0
820.1- 830.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
830.1- 840.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
840.1- 850.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
850.1- 860.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
860.1- 870.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
870.1- 880.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
880.1- 890.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
890.1- 900.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
900.1- 910.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
910.1- 920.0	1	50.0	0	.0	0	.0	0	.0	0	.0	0	.0
920.1- 930.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
930.1- 940.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
940.1- 950.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
950.1- 960.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
960.1- 970.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
970.1- 980.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
980.1- 990.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
990.1-1000.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
1000.1-1010.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1010.1-1020.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1020.1-1030.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1030.1-1040.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1040.1-1050.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1050.1-1060.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
1060.1-1070.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1070.1-1080.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1080.1-1090.0	0	.0	1	25.0	0	.0	0	.0	0	.0	0	.0
1090.1-1100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1100.1-1110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1110.1-1120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1120.1-1130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1130.1-1140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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1140.1-1150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1150.1-1160.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1160.1-1170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1170.1-1180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1180.1-1190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1190.1-1200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1200.1-1210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1210.1-1220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1220.1-1230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1230.1-1240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1240.1-1250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1250.1-1260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1260.1-1270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1270.1-1280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1280.1-1290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1290.1-1300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1300.1-1310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1310.1-1320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1320.1-1330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1330.1-1340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1340.1-1350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1350.1-1360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1360.1-1370.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1370.1-1380.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1380.1-1390.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1390.1-1400.0	1	50.0	0	.0	0	.0	0	.0	0	.0	0	.0
1400.1-1410.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1410.1-1420.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1420.1-1430.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1430.1-1440.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1440.1-1450.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1450.1-1460.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1460.1-1470.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1470.1-1480.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1480.1-1490.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
1490.1-1500.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1500.1-1510.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1510.1-1520.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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1520.1-1530.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1530.1-1540.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1540.1-1550.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1550.1-1560.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1560.1-1570.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1570.1-1580.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1580.1-1590.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1590.1-1600.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1600.1-1610.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1610.1-1620.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1620.1-1630.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1630.1-1640.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1640.1-1650.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1650.1-1660.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1660.1-1670.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
1670.1-1680.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1680.1-1690.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1690.1-1700.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1700.1-1710.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1710.1-1720.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1720.1-1730.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1730.1-1740.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1740.1-1750.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1750.1-1760.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1760.1-1770.0	0	.0	0	.0	1	10.0	0	.0	0	.0	0	.0
1770.1-1780.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1780.1-1790.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1790.1-1800.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1800.1-1810.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1810.1-1820.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1820.1-1830.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1830.1-1840.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1840.1-1850.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1850.1-1860.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1860.1-1870.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1870.1-1880.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1880.1-1890.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1890.1-1900.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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1900.1-1910.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1910.1-1920.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1920.1-1930.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1930.1-1940.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1940.1-1950.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1950.1-1960.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1960.1-1970.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1970.1-1980.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1980.1-1990.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1990.1-2000.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2000.1-2010.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2010.1-2020.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2020.1-2030.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2030.1-2040.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2040.1-2050.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2050.1-2060.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2060.1-2070.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2070.1-2080.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2080.1-2090.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2090.1-2100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2100.1-2110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2110.1-2120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2120.1-2130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2130.1-2140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2140.1-2150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2150.1-2160.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2160.1-2170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2170.1-2180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2180.1-2190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2190.1-2200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2200.1-2210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2210.1-2220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2220.1-2230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2230.1-2240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2240.1-2250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2250.1-2260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2260.1-2270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2270.1-2280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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2280.1-2290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2290.1-2300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2300.1-2310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2310.1-2320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2320.1-2330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2330.1-2340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2340.1-2350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2350.1-2360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2360.1-2370.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2370.1-2380.0	0	.0	1	25.0	0	.0	0	.0	0	.0	0	.0
TOTAL ANALYZE	2		4		10		27		58		49	
MEAN WEIGHT	1156.5		1245.9		996.9		1.3		2.8		3.3	
VARIANCE	113764.50		591925.69		280906.51		.28		.98		.98	
WGT RANGE(MIN)	918.0		709.0		23.1		.4		.7		1.8	
(MAX)	1395.0		2376.0		1770.0		2.5		6.2		6.7	
NO.SAMPLES	2		7		5		5		4		4	

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AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
.1- 10.0	82	92.1	4	80.0	0	.0	0	.0	0	.0	0	.0
10.1- 20.0	7	7.9	1	20.0	0	.0	0	.0	0	.0	0	.0
20.1- 30.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
30.1- 40.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
40.1- 50.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
50.1- 60.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
60.1- 70.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
70.1- 80.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
80.1- 90.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
90.1- 100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
100.1- 110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
110.1- 120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
120.1- 130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
130.1- 140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
140.1- 150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
150.1- 160.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
160.1- 170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
170.1- 180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
180.1- 190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
190.1- 200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
200.1- 210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
210.1- 220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
220.1- 230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
230.1- 240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
240.1- 250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
250.1- 260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
260.1- 270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
270.1- 280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
280.1- 290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
290.1- 300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
300.1- 310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
310.1- 320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
320.1- 330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
330.1- 340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
340.1- 350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
350.1- 360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
360.1- 370.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
370.1- 380.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

1984 AQUATIC ECOLOGY STUDIES
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WEIGHT-FREQUENCY OF AMERICAN SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
380.1- 390.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
390.1- 400.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
400.1- 410.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
410.1- 420.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
420.1- 430.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
430.1- 440.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
440.1- 450.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
450.1- 460.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
460.1- 470.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
470.1- 480.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
480.1- 490.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
490.1- 500.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
500.1- 510.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
510.1- 520.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
520.1- 530.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
530.1- 540.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
540.1- 550.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
550.1- 560.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
560.1- 570.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
570.1- 580.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
580.1- 590.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
590.1- 600.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
600.1- 610.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
610.1- 620.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
620.1- 630.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
630.1- 640.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
640.1- 650.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
650.1- 660.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
660.1- 670.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
670.1- 680.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
680.1- 690.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
690.1- 700.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
700.1- 710.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
710.1- 720.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
720.1- 730.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
730.1- 740.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
740.1- 750.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
750.1- 760.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

1984 AQUATIC ECOLOGY STUDIES
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AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
760.1- 770.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
770.1- 780.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
780.1- 790.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
790.1- 800.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
800.1- 810.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
810.1- 820.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
820.1- 830.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
830.1- 840.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
840.1- 850.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
850.1- 860.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
860.1- 870.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
870.1- 880.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
880.1- 890.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
890.1- 900.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
900.1- 910.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
910.1- 920.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
920.1- 930.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
930.1- 940.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
940.1- 950.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
950.1- 960.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
960.1- 970.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
970.1- 980.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
980.1- 990.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
990.1-1000.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1000.1-1010.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1010.1-1020.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1020.1-1030.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1030.1-1040.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1040.1-1050.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1050.1-1060.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1060.1-1070.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1070.1-1080.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1080.1-1090.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1090.1-1100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1100.1-1110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1110.1-1120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1120.1-1130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1130.1-1140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
1140.1-1150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1150.1-1160.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1160.1-1170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1170.1-1180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1180.1-1190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1190.1-1200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1200.1-1210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1210.1-1220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1220.1-1230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1230.1-1240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1240.1-1250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1250.1-1260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1260.1-1270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1270.1-1280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1280.1-1290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1290.1-1300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1300.1-1310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1310.1-1320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1320.1-1330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1330.1-1340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1340.1-1350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1350.1-1360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1360.1-1370.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1370.1-1380.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1380.1-1390.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1390.1-1400.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1400.1-1410.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1410.1-1420.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1420.1-1430.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1430.1-1440.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1440.1-1450.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1450.1-1460.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1460.1-1470.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1470.1-1480.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1480.1-1490.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1490.1-1500.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1500.1-1510.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1510.1-1520.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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WEIGHT-FREQUENCY OF AMERICAN SHAD

AT STATION ALBANY IMPINGEMENT

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1520.1-1530.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1530.1-1540.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1540.1-1550.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1550.1-1560.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1560.1-1570.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1570.1-1580.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1580.1-1590.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1590.1-1600.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1600.1-1610.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1610.1-1620.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1620.1-1630.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1630.1-1640.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1640.1-1650.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1650.1-1660.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1660.1-1670.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1670.1-1680.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1680.1-1690.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1690.1-1700.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1700.1-1710.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1710.1-1720.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1720.1-1730.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1730.1-1740.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1740.1-1750.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1750.1-1760.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1760.1-1770.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1770.1-1780.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1780.1-1790.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1790.1-1800.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1800.1-1810.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1810.1-1820.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1820.1-1830.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1830.1-1840.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1840.1-1850.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1850.1-1860.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1860.1-1870.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1870.1-1880.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1880.1-1890.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1890.1-1900.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF AMERICAN SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/10/01 NO.	PCNT	84/11/01 NO.	PCNT	84/12/01 NO.	PCNT	85/01/01 NO.	PCNT	85/02/01 NO.	PCNT	85/03/01 NO.	PCNT
1900.1-1910.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1910.1-1920.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1920.1-1930.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1930.1-1940.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1940.1-1950.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1950.1-1960.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1960.1-1970.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1970.1-1980.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1980.1-1990.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
1990.1-2000.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2000.1-2010.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2010.1-2020.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2020.1-2030.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2030.1-2040.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2040.1-2050.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2050.1-2060.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2060.1-2070.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2070.1-2080.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2080.1-2090.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2090.1-2100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2100.1-2110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2110.1-2120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2120.1-2130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2130.1-2140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2140.1-2150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2150.1-2160.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2160.1-2170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2170.1-2180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2180.1-2190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2190.1-2200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2200.1-2210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2210.1-2220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2220.1-2230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2230.1-2240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2240.1-2250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2250.1-2260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2260.1-2270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2270.1-2280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF AMERICAN SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/10/01 NO.	PCNT	84/11/01 NO.	PCNT	84/12/01 NO.	PCNT	85/01/01 NO.	PCNT	85/02/01 NO.	PCNT	85/03/01 NO.	PCNT
2280.1-2290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2290.1-2300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2300.1-2310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2310.1-2320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2320.1-2330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2330.1-2340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2340.1-2350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2350.1-2360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2360.1-2370.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
2370.1-2380.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
TOTAL ANALYZE	89		5		0		0		0		0	
MEAN WEIGHT	4.6		7.6									
VARIANCE	5.91		10.91									
WGT RANGE(MIN)	2.8		4.3									
(MAX)	15.2		12.3									
NO.SAMPLES	7		2		1		1		1		1	

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1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF BLUEBACK HERRING

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/04/01 NO.	84/04/01 PCNT	84/05/01 NO.	84/05/01 PCNT	84/06/01 NO.	84/06/01 PCNT	84/07/01 NO.	84/07/01 PCNT	84/08/01 NO.	84/08/01 PCNT	84/09/01 NO.	84/09/01 PCNT
.1- 10.0	0	.0	0	.0	9	12.0	6	14.6	75	98.7	80	98.8
10.1- 20.0	0	.0	0	.0	11	14.7	7	17.1	0	.0	1	1.2
20.1- 30.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
30.1- 40.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
40.1- 50.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
50.1- 60.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
60.1- 70.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
70.1- 80.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
80.1- 90.0	0	.0	0	.0	0	.0	1	2.4	0	.0	0	.0
90.1- 100.0	0	.0	0	.0	2	2.7	2	4.9	0	.0	0	.0
100.1- 110.0	0	.0	0	.0	7	9.3	6	14.6	0	.0	0	.0
110.1- 120.0	0	.0	1	1.3	5	6.7	2	4.9	0	.0	0	.0
120.1- 130.0	0	.0	1	1.3	7	9.3	2	4.9	0	.0	0	.0
130.1- 140.0	0	.0	0	.0	3	4.0	5	12.2	0	.0	0	.0
140.1- 150.0	0	.0	5	6.7	4	5.3	3	7.3	0	.0	0	.0
150.1- 160.0	1	5.3	3	4.0	5	6.7	2	4.9	1	1.3	0	.0
160.1- 170.0	1	5.3	11	14.7	3	4.0	2	4.9	0	.0	0	.0
170.1- 180.0	4	21.1	3	4.0	5	6.7	0	.0	0	.0	0	.0
180.1- 190.0	5	26.3	8	10.7	6	8.0	3	7.3	0	.0	0	.0
190.1- 200.0	4	21.1	5	6.7	2	2.7	0	.0	0	.0	0	.0
200.1- 210.0	2	10.5	8	10.7	1	1.3	0	.0	0	.0	0	.0
210.1- 220.0	1	5.3	6	8.0	0	.0	0	.0	0	.0	0	.0
220.1- 230.0	0	.0	2	2.7	1	1.3	0	.0	0	.0	0	.0
230.1- 240.0	1	5.3	3	4.0	0	.0	0	.0	0	.0	0	.0
240.1- 250.0	0	.0	7	9.3	0	.0	0	.0	0	.0	0	.0
250.1- 260.0	0	.0	2	2.7	1	1.3	0	.0	0	.0	0	.0
260.1- 270.0	0	.0	3	4.0	2	2.7	0	.0	0	.0	0	.0
270.1- 280.0	0	.0	2	2.7	0	.0	0	.0	0	.0	0	.0
280.1- 290.0	0	.0	1	1.3	0	.0	0	.0	0	.0	0	.0
290.1- 300.0	0	.0	2	2.7	0	.0	0	.0	0	.0	0	.0
300.1- 310.0	0	.0	1	1.3	0	.0	0	.0	0	.0	0	.0
310.1- 320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
320.1- 330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
330.1- 340.0	0	.0	1	1.3	0	.0	0	.0	0	.0	0	.0
340.1- 350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
350.1- 360.0	0	.0	0	.0	1	1.3	0	.0	0	.0	0	.0

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF BLUEBACK HERRING

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/04/01 NO.	PCNT	84/05/01 NO.	PCNT	84/06/01 NO.	PCNT	84/07/01 NO.	PCNT	84/08/01 NO.	PCNT	84/09/01 NO.	PCNT
TOTAL ANALYZE	19		75		75		41		76		81	
MEAN WEIGHT	188.6		205.0		116.8		92.2		3.9		2.3	
VARIANCE	369.79		2112.86		6012.53		3945.12		285.21		2.71	
WGT RANGE(MIN)	156.3		117.5		8.2		.2		.5		.6	
(MAX)	236.5		334.5		357.7		185.1		150.1		14.9	
NO.SAMPLES	2		7		5		5		4		4	

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1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF BLUEBACK HERRING

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
.1- 10.0	99	99.0	25	100.0	1	100.0	0	.0	0	.0	0	.0
10.1- 20.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
20.1- 30.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
30.1- 40.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
40.1- 50.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
50.1- 60.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
60.1- 70.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
70.1- 80.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
80.1- 90.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
90.1- 100.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
100.1- 110.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
110.1- 120.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
120.1- 130.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
130.1- 140.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
140.1- 150.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
150.1- 160.0	1	1.0	0	.0	0	.0	0	.0	0	.0	0	.0
160.1- 170.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
170.1- 180.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
180.1- 190.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
190.1- 200.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
200.1- 210.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
210.1- 220.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
220.1- 230.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
230.1- 240.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
240.1- 250.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
250.1- 260.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
260.1- 270.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
270.1- 280.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
280.1- 290.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
290.1- 300.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
300.1- 310.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
310.1- 320.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
320.1- 330.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
330.1- 340.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
340.1- 350.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
350.1- 360.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0

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1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF BLUEBACK HERRING

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM) (CONT'D)	84/10/01 NO.	PCNT	84/11/01 NO.	PCNT	84/12/01 NO.	PCNT	85/01/01 NO.	PCNT	85/02/01 NO.	PCNT	85/03/01 NO.	PCNT
TOTAL ANALYZE	100		25		1		0		0		0	
MEAN WEIGHT	5.3		4.4		9.6							
VARIANCE	224.53		1.54									
WGT RANGE(MIN)	1.8		2.7		9.6							
(MAX)	153.2		6.6		9.6							
NO.SAMPLES	7		2		1		1		1		1	

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF GIZZARD SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/04/01 NO.	84/04/01 PCNT	84/05/01 NO.	84/05/01 PCNT	84/06/01 NO.	84/06/01 PCNT	84/07/01 NO.	84/07/01 PCNT	84/08/01 NO.	84/08/01 PCNT	84/09/01 NO.	84/09/01 PCNT
.1- 10.0	2	100.0	3	60.0	0	.0	0	.0	1	100.0	0	.0
10.1- 20.0	0	.0	1	20.0	0	.0	0	.0	0	.0	0	.0
20.1- 30.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
30.1- 40.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
40.1- 50.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
50.1- 60.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
60.1- 70.0	0	.0	1	20.0	0	.0	0	.0	0	.0	0	.0
TOTAL ANALYZE	2		5		0		0		1		0	
MEAN WEIGHT	6.3		17.9						3.6			
VARIANCE	7.60		729.53									
WGT RANGE(MIN)	4.3		2.7						3.6			
(MAX)	8.2		65.7						3.6			
NO.SAMPLES	2		7		5		5		4		4	

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1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF GIZZARD SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
.1- 10.0	0	.0	0	.0	1	20.0	0	.0	0	.0	0	.0
10.1- 20.0	5	45.5	0	.0	1	20.0	2	8.0	0	.0	0	.0
20.1- 30.0	5	45.5	0	.0	1	20.0	12	48.0	0	.0	0	.0
30.1- 40.0	1	9.1	0	.0	2	40.0	7	28.0	1	100.0	0	.0
40.1- 50.0	0	.0	0	.0	0	.0	4	16.0	0	.0	0	.0
50.1- 60.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
60.1- 70.0	0	.0	0	.0	0	.0	0	.0	0	.0	0	.0
TOTAL ANALYZE	11		0		5		25		1		0	
MEAN WEIGHT	21.0				24.3		29.3		35.0			
VARIANCE	51.34				174.86		81.71					
WGT RANGE(MIN)	12.0				3.8		17.8		35.0			
(MAX)	36.7				37.7		47.7		35.0			
NO.SAMPLES	7		2		1		1		1		1	

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF GIZZARD SHAD

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	85/04/01 NO.	PCNT
.1- 10.0	1	100.0
10.1- 20.0	0	.0
20.1- 30.0	0	.0
30.1- 40.0	0	.0
40.1- 50.0	0	.0
50.1- 60.0	0	.0
60.1- 70.0	0	.0

TOTAL ANALYZE	1
MEAN WEIGHT	4.3
VARIANCE	
WGT RANGE(MIN)	4.3
(MAX)	4.3
NO.SAMPLES	2

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF SPOTTAIL SHINER

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/04/01 NO.	84/04/01 PCNT	84/05/01 NO.	84/05/01 PCNT	84/06/01 NO.	84/06/01 PCNT	84/07/01 NO.	84/07/01 PCNT	84/08/01 NO.	84/08/01 PCNT	84/09/01 NO.	84/09/01 PCNT
.1- 10.0	38	77.6	69	84.1	43	76.8	32	94.1	28	93.3	6	75.0
10.1- 20.0	11	22.4	13	15.9	11	19.6	2	5.9	2	6.7	2	25.0
20.1- 30.0	0	.0	0	.0	2	3.6	0	.0	0	.0	0	.0
TOTAL ANALYZE	49		82		56		34		30		8	
MEAN WEIGHT	7.1		6.0		8.1		7.0		7.5		8.6	
VARIANCE	15.43		13.02		21.17		6.90		2.67		4.19	
WGT RANGE(MIN)	1.8		1.9		3.1		3.1		5.3		6.4	
(MAX)	17.8		16.3		22.1		18.0		13.8		12.7	
NO.SAMPLES	2		7		5		5		4		4	

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF SPOTTAIL SHINER

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	84/10/01 NO.	84/10/01 PCNT	84/11/01 NO.	84/11/01 PCNT	84/12/01 NO.	84/12/01 PCNT	85/01/01 NO.	85/01/01 PCNT	85/02/01 NO.	85/02/01 PCNT	85/03/01 NO.	85/03/01 PCNT
.1- 10.0	24	75.0	1	50.0	11	44.0	9	39.1	11	47.8	11	44.0
10.1- 20.0	8	25.0	1	50.0	14	56.0	13	56.5	12	52.2	14	56.0
20.1- 30.0	0	.0	0	.0	0	.0	1	4.3	0	.0	0	.0
TOTAL ANALYZE	32		2		25		23		23		25	
MEAN WEIGHT	8.4		10.5		10.2		10.3		10.1		10.5	
VARIANCE	10.59		96.60		9.01		20.88		6.49		6.74	
WGT RANGE(MIN)	2.6		3.5		2.7		3.2		3.6		2.4	
(MAX)	16.8		17.4		19.8		26.0		15.7		15.8	
NO.SAMPLES	7		2		1		1		1		1	

1984 AQUATIC ECOLOGY STUDIES
NIAGARA MOHAWK POWER CORP.

WEIGHT-FREQUENCY OF SPOTTAIL SHINER

AT STATION ALBANY IMPINGEMENT

INTERVAL (GM)	85/04/01 NO.	PCNT
.1- 10.0	28	56.0
10.1- 20.0	22	44.0
20.1- 30.0	0	.0

TOTAL ANALYZE	50
MEAN WEIGHT	9.7
VARIANCE	6.10
WGT RANGE(MIN)	3.5
(MAX)	14.3
NO.SAMPLES	2