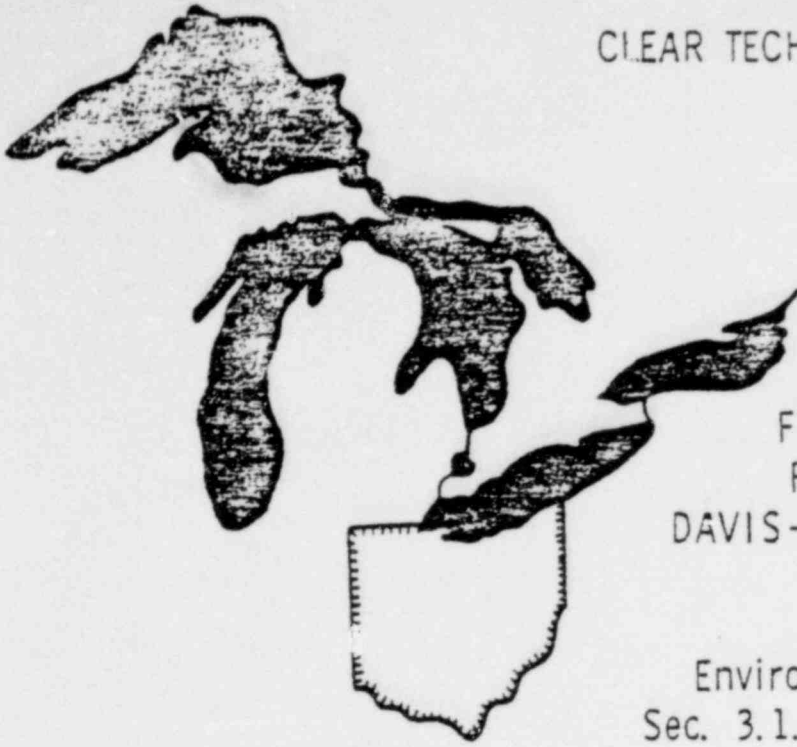


CLEAR TECHNICAL REPORT NO. 105



FISH POPULATION STUDIES
FROM LAKE ERIE NEAR THE
DAVIS-BESSE NUCLEAR POWER STATION
DURING 1978

Environmental Technical Specifications
Sec. 3.1.2. a.3 Fisheries Population Studies

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3.1.2.a.3 Fisheries Population Studies

Procedures

Fish populations at Locust Point were sampled by 3 methods, gill nets, shore seines, and trawls, from May through November 1978 (Table 1). Samples could not be collected during April due to an unusually long winter and the presence of ice. All fish captured were weighed, measured, and identified to species (Trautman, 1957; Bailey et al., 1970). All results were keypunched and stored on magnetic tape at The Ohio State University Computer Center. Results were reported as catch per unit effort (CPE).

Gill Nets. Experimental gill nets were set parallel to the intake pipeline at Stations 8 and 26 and parallel to the discharge pipeline at Stations 3 and 13 (Figure 1). Stations 3 and 26, control stations, were positioned 3000 feet northwest of Station 13 (plume area) and 8 (intake), respectively. Each gill net measuring 125 ft x 6 ft and consisting of five 25-ft contiguous panels of 1/2, 3/4, 1, 1-1/2, and 2 inch bar mesh, was fished for approximately 24 continuous hours monthly (Table 1). One unit of effort consisted of one 24-hr set with one of these gill nets.

Shore Seines. Shore seining was conducted monthly (Table 1) with a 100-ft bag seine (1/4 inch or 6 mm bar mesh) at Stations 23, 24, and 25 (Figure 1). The seine was stretched perpendicular to the shoreline until the shore brail was at the water's edge. The far brail was then dragged through a 90° arc back to shore. Two hauls were made at each station in opposite directions. One unit of effort consisted of the two above described hauls.

Trawls. Four 5-minute bottom tows with a 16-ft trawl (1/8 inch mesh bag) were conducted monthly (Table 1) on a transect between Stations 8 (intake) and 13 (thermal plume area) at a speed of 3-4 knots. For comparative purposes similar tows were conducted on a transect between Stations 3 and 26. One unit of effort consisted of four 5-minute tows.

Results

Of the 48 fish species reported from the Locust Point vicinity since 1963, 24 were captured during 1978, in addition to one newly recorded species, the goldenshiner, *Notemigonus crysoleucas* (Table 2). The three fishing methods combined yielded a total of 19,021 fish, of which 24.4% occurred in gill nets, 6.3% in trawls, and 69.3% in shore seines (Table 3). The combined results of all three methods of capture indicated that the dominant species in the Locust Point vicinity during 1978 in order of abundance were: gizzard shad (67.0%), spottail shiner (6.9%), emerald shiner (6.7%), alewife (5.9%), yellow perch (5.4%), white bass (3.9%), and freshwater drum (2.3%) (Table 4). No other species constituted more than 1.0% of the catch by number.

Gill Nets. Gill nets set from May through November yielded 4,636 fish weighing 286.2 kg and representing 20 species (Table 5). Monthly catches of all stations combined ranged from 310 (CPE = 77.5) in November to 1,516 (CPE = 379.0) in September. Maximum catch occurred at Station 26 in September

TABLE 1

DATES OF SAMPLING DURING 1978 -
FISHERIES

DATE \ GEAR	Gill Nets	Shore Seines	Trawls
May	18-19	10	12
June	29-30	29	30
July	24-25	24	25
August	17-18	17	18
September	24-25	15	15
October	17-18	18	18
November	1-2	2	1

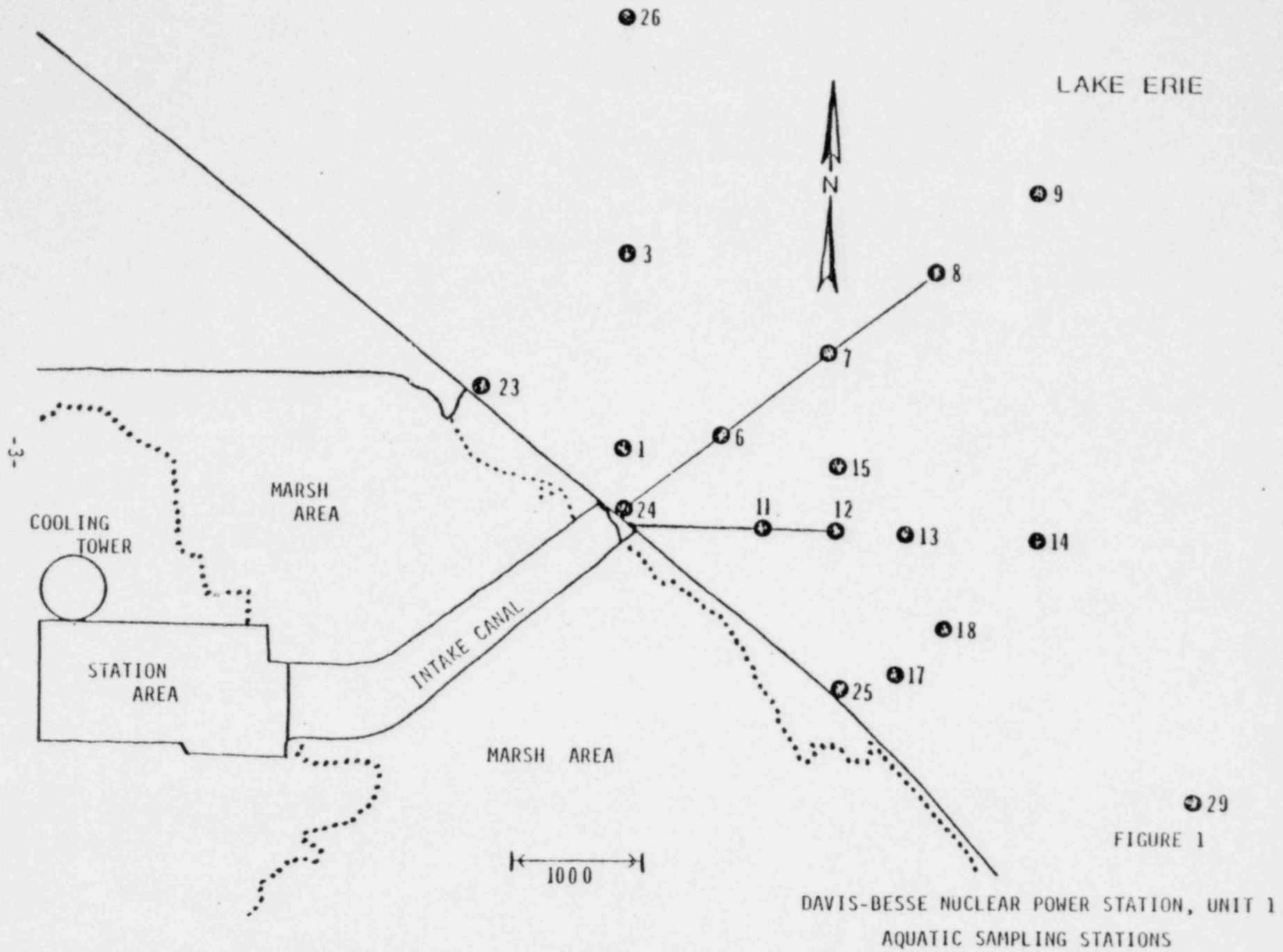


FIGURE 1

DAVIS-BESSE NUCLEAR POWER STATION, UNIT 1
AQUATIC SAMPLING STATIONS

TABLE 2
SPECIES FOUND IN THE LOCUST POINT AREA 1963 - 1978

1972	1973	1974	1975	1976	1977	1978	Scientific Name ¹	Common Name
*		*	*	*			Amiidae <u>Amia calva</u>	bowfin
		*	*	*	*	*	Atherinidae <u>Labidesthes sicculus</u>	brook silversides
*	*	*	*	*	*	*	Catostomidae <u>Carpiodes cyprinus</u>	quillback
*	*	*	*	*	*	*	<u>Catostomus commersoni</u>	white sucker
*		*					<u>Minytrema melanops</u>	spotted sucker
*							<u>Moxostoma erythrurum</u>	golden redhorse
*					*		<u>Moxostoma macrolepidotum</u>	shorthead redhorse
*				*			<u>Ictiobus cyprinellus</u>	bigmouth buffalo fish
				*			<u>Hypentelium nigricans</u>	northern hogsucker
		*					Centrarchidae <u>Ambloplites rupestris</u>	rock bass
	*	*	*				<u>Lepomis cyanellus</u>	green sunfish
	*	*	*				<u>L. gibbosus</u>	pumpkinseed sunfish
	*	*	*				<u>L. humilis</u>	orangespotted sunfish
	*	*	*				<u>L. macrochirus</u>	bluegill
*	*	*				*	<u>L. microlophus</u>	redeer sunfish
	*	*				*	<u>Micropterus dolomieu</u>	smallmouth bass
	*	*	*	*	*	*	<u>M. salmoides</u>	largemouth bass
*	*	*	*	*	*	*	<u>Pomoxis annularis</u>	white crappie
	*	*	*	*	*	*	<u>P. nigromaculatus</u>	black crappie
*	*	*	*	*	*	*	Clupeidae <u>Alosa pseudoharengus</u>	alewife
*	*	*	*	*	*	*	<u>Dorosoma cepedianum</u>	gizzard shad
*	*	*	*	*	*	*	Cyprinidae <u>Carassius auratus</u>	goldfish
*	*	*	*	*	*	*	<u>C. auratus x Cyprinus carpio</u>	carp x goldfish hybrid
*	*	*	*	*	*	*	<u>Cyprinus carpio</u>	carp
*	*	*	*	*	*	*	<u>Hybopsis storeriana</u>	silver chub
*	*	*	*	*	*	*	<u>Notemigonus crysoleucas</u>	golden shiner
*	*	*	*	*	*	*	<u>Notropis atherinoides</u>	emerald shiner
*	*	*	*	*	*	*	<u>N. hudsonius</u>	spottail shiner
	*	*	*	*	*	*	<u>N. spilopterus</u>	spotfin shiner
	*	*	*	*	*	*	<u>N. volucellus</u>	mimic shiner
		*					<u>Pimephales promelas</u>	fathead minnow
							Esocidae <u>Esox lucius</u>	northern pike

TABLE 2 (CON'T)
SPECIES FOUND IN THE LOCUST POINT AREA 1963 - 1978

1972	1973	1974	1975	1976	1977	1978	Scientific Name ¹	Common Name
							Ictaluridae	
*	*	*	*		*	*	<u>Ictalurus melas</u>	black bullhead
*	*	*	*		*	*	<u>I. natalis</u>	yellow bullhead
*	*	*	*	*	*	*	<u>I. nebulosus</u>	brown bullhead
*	*	*	*	*	*	*	<u>I. punctatus</u>	channel catfish
							<u>Noturus flavus</u>	stonecat
							Lepisosteidae	
		*		*	*		<u>Lepisosteus osseus</u>	longnose gar
							Osmeridae	
*	*	*	*	*	*	*	<u>Osmerus mordax</u>	rainbow smelt
							Percidae	
*	*	*	*	*	*	*	<u>Etheostoma nigrum</u>	johnny darter
	*	*	*	*	*	*	<u>Perca flavescens</u>	yellow perch
			*	*	*	*	<u>Percina caprodes</u>	logperch
*	*	*	*	*	*	*	<u>Stizostedion canadense</u>	sauger
							<u>S. v. vitreum</u>	walleye
*	*	*	*	*	*	*	Percichthyidae	
							<u>Morone chrysops</u>	white bass
							Percopsidae	
	*	*	*	*	*	*	<u>Percopsis omiscomaycus</u>	trout-perch
							Petromyzontidae	
		*					<u>Petromyzon marinus</u>	sea lamprey
*		*					Salmonidae	
							<u>Oncorhynchus kisutch</u>	coho salmon
*	*	*	*	*	*	*	Sciaenidae	
							<u>Aplodinotus grunniens</u>	freshwater drum
23	28	34	30	25	27	25		

¹Bailey et al. (1970)

TABLE 3.
 NUMBERS OF FISH COLLECTED AT LOCUST POINT FROM MAY-NOVEMBER 1978
 WITH EQUAL MONTHLY EFFORT¹ WITH EACH TYPE OF FISHING GEAR

METHOD OF CAPTURE	MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		TOTAL	
	No. Fish	No. Species	No. Fish	No. Species	No. Fish	No. Species	No. Fish	No. Species	No. Fish	No. Species	No. Fish	No. Species	No. Fish	No. Species	No. Fish	No. Species
Gill Net ²	643	9	595	13	360	13	897	11	1516	13	315	8	310	11	4636	20
Shore Seine ³	83	9	5869	7	4460	4	1049	7	1052	9	44	2	620	2	13,177	13
Trawl ⁴	41	8	70	11	188	7	340	7	106	11	303	10	160	6	1208	20
TOTAL	767	15	6534	14	5008	15	2286	15	2674	16	662	14	1090	14	19,021	25

¹ Values represent sum of CPE results from all stations at which a type of gear was used each month.

² Four units effort/month.

³ Three units effort/month.

⁴ Two units effort/month.

TABLE 4

MONTHLY CATCH IN NUMBERS OF INDIVIDUALS OF FISH SPECIES AT LOCUST POINT IN 1978,
USING EQUAL EFFORT¹ WITH EACH TYPE OF GEAR (GILL NETS, SHORE SEINES, TRAWLS)

MONTH \ SPECIES	May	June	July	Aug.	Sept.	Oct.	Nov.	TOTAL
Alewife		2		201	599	150	165	1117
Black Bullhead			17		4	1	1	23
Brook Silverside				5				5
Brown Bullhead	1	2		2				5
Carp	3	19	16	22	7		1	68
Channel Catfish	3	48	14	5	2			72
Emerald Shiner	11	102	1	406	191	22	540	1273
Freshwater Drum	24	287	91	10	16	4		432
Gizzard Shad	4	5664	4457	1092	1178	165	180	12,740
Goldenshiner					14			14
Goldfish			7	10	1	1		19
Logperch	3					1	1	5
Quillback		14	1	1				16
Rainbow Smelt	2	1	3	59	4		2	71
Sauger	2	3					1	6
Silver Chub	1							1
Smallmouth Bass			1					1
Spottail Shiner	556	35	54	49	276	234	111	1315
Trout-Perch	5					1		6
Walleye	12	19	9	15	6		1	62
White Bass	9	273	196	163	87	10	4	742
White Crappie			1		1	1		3
White Sucker					3	1	1	5
Yellow Bullhead						1	1	2
Yellow Perch	131	65	140	246	285	70	81	1018
Number of Species	15	14	15	15	16	14	14	25
TOTAL	767	6534	5008	2286	2674	662	1090	19,021

¹ Four units effort/month (gill net), three units effort/month (shore seine), two units effort/month (trawl).

TABLE 5
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	18-19 May 1978						
8	Channel Catfish	1	197.0	197.0-197.0	57.0	57.0	
	Freshwater Drum	9	264.0	171.0-360.0	220.1	1981.0	
	Spottail Shiner	2	113.0	111.0-115.0	10.0	20.0	
	Walleye	2	217.5	210.0-225.0	90.0	180.0	
	Yellow Perch	6	186.5	180.0-200.0	85.7	514.0	
	Subtotal	20				2752.0	
13	Channel Catfish	0	0.0	0.0- 0.0	0.0	0.0	
	Freshwater Drum	1	147.0	147.0-147.0	25.0	25.0	
	Gizzard Shad	1	400.0	400.0-400.0	630.0	630.0	
	Sauger	1	218.0	218.0-218.0	96.0	96.0	
	Silver Chub	1	200.0	200.0-200.0	80.0	80.0	
	Spottail Shiner	224	113.2	103.0-128.0	13.1	2936.0	
	Troutperch	1	110.0	110.0-110.0	12.0	12.0	
	Walleye	1	215.0	215.0-215.0	83.0	83.0	
	Yellow Perch	40	184.5	165.0-208.0	69.3	2771.0	
	Subtotal	270				6633.0	
3	Channel Catfish	1	211.0	211.0-211.0	78.0	78.0	
	Freshwater Drum	6	237.2	167.0-340.0	164.7	988.0	
	Gizzard Shad	0	0.0	0.0- 0.0	0.0	0.0	
	Sauger	1	205.0	205.0-205.0	69.0	69.0	
	Spottail Shiner	246	111.0	90.0-125.0	12.7	3119.0	
	Troutperch	0	0.0	0.0- 0.0	0.0	0.0	
	Walleye	4	218.5	196.0-237.0	86.3	345.0	
	Yellow Perch	61	182.1	145.0-233.0	68.0	4145.0	

TABLE 5 (Cont.)

RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	18-19 May 1978						
26	Channel Catfish	0	0.0	0.0- 0.0	0.0	0.0	
	Freshwater Drum	4	252.5	240.0-265.0	174.8	699.0	
	Gizzard Shad	0	0.0	0.0- 0.0	0.0	0.0	
	Spottail Shiner	9	113.9	106.0-126.0	13.3	120.0	
	Troutperch	1	113.0	113.0-113.0	15.0	15.0	
	Walleye	2	219.0	213.0-225.0	93.5	187.0	
	Yellow Perch	18	181.3	162.0-194.0	66.0	1188.0	
	Subtotal	34				2209.0	
	TOTAL	643				20,308.0	
	29-30 June 1978						
8	Carp	2	363.5	352.0-375.0	682.5	1365.0	
	Freshwater Drum	16	243.3	128.0-340.0	203.3	3253.0	
	Gizzard Shad	13	353.2	320.0-416.0	520.9	6772.0	
	Rainbow Smelt	1	162.0	162.0-162.0	21.0	21.0	
	Sauger	2	391.0	381.0-401.0	616.5	1233.0	
	Spottail Shiner	3	118.7	107.0-132.0	14.0	42.0	
	Walleye	2	222.5	210.0-235.0	85.5	171.0	
	White Bass	3	224.7	152.0-352.0	225.0	675.0	
	Yellow Perch	27	153.0	100.0-211.0	48.9	1319.0	
	Subtotal	69				14,851.0	
13	Alewife	1	165.0	165.0-165.0	40.0	40.0	
	Carp	0	0.0	0.0- 0.0	0.0	0.0	
	Channel Catfish	6	214.5	155.0-294.0	112.0	672.0	
	Freshwater Drum	75	158.7	108.0-375.0	67.3	5048.9	
	Gizzard Shad	9	333.7	246.0-383.0	421.0	3789.0	
	Quillback Carpsucker	10	221.2	150.0-345.0	130.8	1808.0	

TABLE 5 (Con't.)

RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	29-30 June 1978						
13	Rainbow Smelt	0	0.0	0.0- 0.0	0.0	0.0	
	Sauger	0	0.0	0.0- 0.0	0.0	0.0	
	Spottail Shiner	0	0.0	0.0- 0.0	0.0	0.0	
	Walleye	1	192.0	192.0-192.0	49.0	49.0	
	White Bass	8	162.1	135.0-169.0	51.5	412.0	
	Yellow Perch	2	148.0	146.0-150.0	34.5	69.0	
	Subtotal	112				11,887.9	
3	Alewife	1	170.0	170.0-170.0	30.0	30.0	
	Carp	4	384.8	363.0-445.0	782.0	3128.0	
	Channel Catfish	13	228.9	188.0-260.0	95.8	1298.0	
	Emerald Shiner	1	117.0	117.0-117.0	16.0	16.0	
	Freshwater Drum	120	181.3	87.0-326.0	85.4	10,244.0	
	Gizzard Shad	33	333.4	230.0-400.0	421.2	13,899.0	
	Quillback Carpsucker	1	254.0	254.0-254.0	178.0	178.0	
	Rainbow Smelt	0	0.0	0.0-0.0	0.0	0.0	
	Sauger	0	0.0	0.0-0.0	0.0	0.0	
	Spottail Shiner	14	113.7	106.0-122.0	11.7	164.0	
	Walleye	7	214.3	157.0-245.0	91.6	641.0	
	White Bass	37	167.7	138.0-190.0	56.2	2080.0	
	Yellow Perch	8	134.9	91.0-195.0	34.0	272.0	
	Subtotal	239				31,950.0	
26	Alewife	0	0.0	0.0- 0.0	0.0	0.0	
	Carp	2	329.5	227.0-432.0	651.8	1303.6	
	Channel Catfish	5	236.4	184.0-322.0	140.4	702.0	
	Freshwater Drum	53	198.8	101.0-324.0	112.3	5950.0	

TABLE 5 (Con't.)
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
26	29-30 June 1978						
	Gizzard Shad	37	348.4	232.0-420.0	514.7	19,044.6	
	Rainbow Smelt	0	0.0	0.0- 0.0	0.0	0.0	
	Sauger	1	284.0	284.0-284.0	193.0	193.0	
	Spottail Shiner	5	115.8	112.0-122.0	13.8	69.0	
	Walleye	7	230.1	206.0-251.0	97.4	682.0	
	White Bass	38	157.0	132.0-200.0	49.4	1877.0	
	Yellow Perch	27	124.5	96.0-279.0	29.7	803.0	
	Subtotal	175				30,624.2	
	TOTAL	595				89,313.1	
8	24-25 July 1978						
	Carp	3	350.7	310.0-372.0	616.7	1850.0	
	Channel Catfish	6	209.0	116.0-345.0	134.0	804.0	
	Freshwater Drum	23	156.8	118.0-194.0	29.8	686.0	
	Gizzard Shad	9	257.6	85.0-368.0	257.7	2319.0	
	Spottail Shiner	9	109.0	95.0-120.0	15.1	136.0	
	Walleye	2	266.5	265.0-268.0	153.5	307.0	
	White Bass	8	182.1	125.0-213.0	86.5	692.0	
	Yellow Perch	26	158.0	113.0-198.0	49.7	1292.0	
	Subtotal	86				8086.0	
13	Black Bullhead	2	203.5	165.0-242.0	136.4	272.9	
	Carp	6	339.5	230.0-395.0	601.0	3606.0	
	Channel Catfish	3	169.3	107.0-248.0	53.3	159.8	
	Freshwater Drum	14	157.6	131.0-265.0	44.1	617.3	
	Gizzard Shad	3	306.7	250.0-340.0	301.0	903.0	
	Spottail Shiner	14	111.2	100.0-125.0	16.5	230.5	

TABLE 5 (Con't.)
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	24-25 July 1978						
13	Walleye	4	232.8	135.0-268.0	142.9	571.8	
	White Bass	4	175.3	162.0-196.0	76.3	305.4	
	Yellow Perch	35	165.9	105.0-250.0	63.7	2228.2	
	Subtotal	85				8894.9	
3	Black Bullhead	1	180.0	180.0-180.0	72.0	72.0	
	Carp	3	387.3	385.0-390.0	813.3	2440.0	
	Channel Catfish	2	139.5	139.0-140.0	21.0	42.0	
	Freshwater Drum	21	165.5	130.0-245.0	49.3	1036.0	
	Gizzard Shad	4	386.3	340.0-445.0	679.0	2716.1	
	Goldfish	3	282.7	230.0-353.0	355.3	1066.0	
	Spottail Shiner	3	115.0	115.0-115.0	14.0	42.0	
	White Bass	3	158.3	150.0-170.0	52.7	158.0	
	White Crappie	1	120.0	120.0-120.0	20.0	20.0	
	Walleye	0	0.0	0.0-0.0	0.0	0.0	
	Yellow Perch	30	158.9	110.0-282.0	48.9	1468.0	
	Subtotal	71				9060.1	
26	Black Bullhead	1	180.0	180.0-180.0	53.0	53.0	
	Carp	2	370.0	350.0-390.0	688.6	1377.1	
	Channel Catfish	2	130.5	120.0-141.0	19.6	39.2	
	Freshwater Drum	33	163.2	114.0-261.0	41.7	1376.8	
	Gizzard Shad	5	250.8	91.0-371.0	340.3	1701.7	
	Goldfish	4	373.5	165.0-554.0	829.6	3318.3	
	Quillback Carpsucker	1	210.0	210.0-210.0	120.0	120.0	
	Smallmouth Bass	1	46.0	46.0-46.0	1.1	1.1	
	Spottail Shiner	14	109.0	100.0-120.0	13.2	184.6	
	Walleye	3	220.0	180.0-240.0	114.3	343.0	
	White Bass	3	156.7	85.0-200.0	51.0	153.0	
	White Crappie	0	0.0	0.0-0.0	0.0	0.0	
	Yellow Perch	49	166.5	106.0-208.0	57.1	2795.8	
	Subtotal	118				11463.6	
	TOTAL	360				37504.6	

TABLE 5 (Con't.)
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date Species	Number	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
	17-18 August 1978					
8	Brown Bullhead	1	230.0	230.0-230.0	234.0	234.0
	Carp	3	393.7	338.0-471.0	746.7	2240.0
	Channel Catfish	1	232.0	232.0-232.0	121.0	121.0
	Gizzard Shad	27	188.3	96.0-400.0	142.7	3852.0
	Goldfish	2	303.0	288.0-318.0	412.0	824.0
	Spottail Shiner	5	111.6	101.0-135.0	13.8	69.0
	White Bass	17	247.3	178.0-335.0	216.9	3688.0
	Yellow Perch	66	180.6	138.0-245.0	72.7	4800.0
	Subtotal	122				15,828.0
13	Brown Bullhead	0	0.0	0.0- 0.0	0.0	0.0
	Carp	2	302.5	220.0-385.0	564.0	1128.0
	Channel Catfish	0	0.0	0.0- 0.0	0.0	0.0
	Freshwater Drum	6	204.0	157.0-250.0	84.8	509.0
	Gizzard Shad	109	150.0	19.0-402.0	75.8	8260.0
	Goldfish	6	335.8	298.0-413.0	556.7	3340.0
	Quillback Carpsucker	1	270.0	270.0-270.0	248.0	248.0
	Spottail Shiner	4	115.0	106.0-130.0	12.8	51.0
	Walleye	8	297.0	157.0-533.0	288.9	2311.0
	White Bass	7	209.6	85.0-254.0	131.4	920.0
Yellow Perch	43	175.6	114.0-213.0	64.2	2762.0	
Subtotal	186				19,529.0	
3	Brown Bullhead	1	276.0	276.0-276.0	284.0	284.0
	Carp	6	371.0	297.0-457.0	821.3	4928.0
	Channel Catfish	2	246.5	163.0-330.0	216.5	433.0
	Freshwater Drum	1	95.0	95.0- 95.0	8.0	8.0
	Gizzard Shad	171	142.6	85.0-390.0	47.0	8041.0
	Goldfish	2	359.5	314.0-405.0	683.0	1366.0

TABLE 5 (Con't.)

RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	17-18 August 1978						
3		Spottail Shiner	6	108.0	103.0-112.0	9.7	58.0
		Walleye	3	268.7	262.0-277.0	158.0	474.0
		White Bass	1	94.0	94.0- 94.0	11.0	11.0
		Yellow Perch	48	170.2	135.0-212.0	59.8	2872.0
		Subtotal	241				18,475.0
26		Brown Bullhead	0	0.0	0.0- 0.0	0.0	0.0
		Carp	2	315.5	290.0-341.0	460.5	921.0
		Channel Catfish	0	0.0	0.0- 0.0	0.0	0.0
		Freshwater Drum	3	194.7	93.0-319.0	137.7	413.0
		Gizzard Shad	226	160.5	81.0-411.0	89.7	20282.0
		Goldfish	0	0.0	0.0- 0.0	0.0	0.0
		Spottail Shiner	26	114.3	100.0-215.0	13.3	347.0
		Walleye	1	328.0	328.0-328.0	332.0	332.0
		White Bass	1	87.0	87.0- 87.0	8.0	8.0
		Yellow Perch	89	171.4	68.0-285.0	67.4	5996.0
		Subtotal	348				28,299.0
		TOTAL	897				82,131.0
	24-25 September 1978						
8		Alewife	43	98.8	80.0-120.0	8.3	357.0
		Black Bullhead	2	230.5	230.0-231.0	191.0	382.0
		Carp	2	350.0	345.0-355.0	525.0	1050.0
		Freshwater Drum	1	166.0	166.0-166.0	45.0	45.0
		Gizzard Shad	36	132.9	85.0-170.0	26.0	937.0
		Goldfish	1	299.0	299.0-299.0	374.0	374.0
		Spottail Shiner	48	113.5	96.0-134.0	13.1	628.0
		Walleye	2	377.5	305.0-450.0	563.0	1126.0

TABLE 5(Con't.)

RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	24-25 September 1978						
8	White Bass	5	181.4	90.0-252.0	118.0	590.0	
	White Sucker	1	360.0	360.0-360.0	300.0	300.0	
	Yellow Perch	37	162.4	134.0-215.0	50.3	1860.5	
	Subtotal	178				7649.5	
13	Alewife	136	100.5	76.0-117.0	8.5	1151.0	
	Black Bullhead	0	0.0	0.0- 0.0	0.0	0.0	
	Freshwater Drum	3	89.7	84.0- 95.0	6.7	20.0	
	Gizzard Shad	114	119.7	76.0-177.0	20.6	2350.0	
	Goldfish	0	0.0	0.0- 0.0	0.0	0.0	
	Spottail Shiner	38	111.4	98.0-129.0	12.4	473.0	
	Walleye	1	179.0	179.0-179.0	46.0	46.0	
	White Bass	2	135.0	130.0-140.0	31.5	63.0	
	White Sucker	1	350.0	350.0-350.0	475.0	475.0	
	Yellow Perch	71	167.5	130.0-210.0	58.8	4175.0	
	Subtotal	366				8753.0	
3	Alewife	130	98.5	72.0-130.0	5.9	761.0	
	Black Bullhead	0	0.0	0.0- 0.0	0.0	0.0	
	Emerald Shiner	9	109.1	97.0-125.0	7.3	66.0	
	Freshwater Drum	6	115.0	86.0-167.0	14.3	86.0	
	Gizzard Shad	88	119.7	35.0-182.0	16.2	1423.0	
	Goldfish	0	0.0	0.0- 0.0	0.0	0.0	
	Sauger	0	0.0	0.0- 0.0	0.0	0.0	
	Spottail Shiner	53	109.7	87.0-130.0	9.9	524.0	
	Walleye	1	156.0	156.0-156.0	18.0	18.0	
	White Sucker	1	432.0	432.0-432.0	1000.0	1000.0	
	Yellow Perch	47	157.2	48.0-197.0	37.3	1753.0	
	Subtotal	335				5631.0	

TABLE 5 (Con't.)
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date Species	Number	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
	24-25 September 1978					
26	Alewife	220	99.3	82.0-119.0	7.9	1729.6
	Black Bullhead	0	0.0	0.0- 0.0	0.0	0.0
	Emerald Shiner	2	121.0	115.0-127.0	12.5	25.0
	Freshwater Drum	6	221.0	95.0-286.0	141.0	846.0
	Gizzard Shad	210	137.7	72.0-407.0	32.2	6758.0
	Goldfish	0	0.0	0.0- 0.0	0.0	0.0
	Spottail Shiner	72	109.6	84.0-125.0	10.7	772.0
	Walleye	1	125.0	125.0-125.0	65.0	65.0
	White Sucker	0	0.0	0.0- 0.0	0.0	0.0
	Yellow Perch	126	169.0	21.0-209.0	60.0	7566.0
	Subtotal	637				17,761.6
	TOTAL	1516				39,795.1
	17-18 October 1978					
8	Alewife	27	109.5	93.0-145.0	10.4	281.0
	Freshwater Drum	1	256.0	256.0-256.0	144.0	144.0
	Gizzard Shad	3	127.3	126.0-130.0	17.0	51.0
	Goldfish	1	318.0	318.0-318.0	470.0	470.0
	Spottail Shiner	15	111.6	103.0-122.0	12.4	186.0
	Yellow Perch	7	179.1	142.0-202.0	59.0	413.0
	Subtotal	54				1545.0
13	Alewife	36	105.7	85.0-135.0	9.6	346.0
	Gizzard Shad	19	127.0	77.0-168.0	22.9	435.0
	Spottail Shiner	27	110.0	100.0-125.0	11.2	303.0
	White Sucker	1	270.0	270.0-270.0	244.0	244.0
	Yellow Perch	10	176.6	135.0-192.0	70.4	704.0
	Subtotal	93				2032.0

TABLE 5 (Con't.)
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	17-18 October 1978						
3		Alewife	57	105.0	87.0-128.0	8.7	498.0
		Gizzard Shad	13	114.1	86.0-150.0	14.5	189.0
		Spottail Shiner	32	111.5	100.0-124.0	11.0	351.0
		White Bass	1	137.0	137.0-137.0	31.0	31.0
		White Sucker	0	0.0	0.0- 0.0	0.0	0.0
		Yellow Perch	11	163.6	141.0-190.0	53.5	589.0
		Subtotal	114				1658.0
26		Alewife	8	104.0	96.0-124.0	8.8	70.0
		Freshwater Drum	3	240.0	161.0-314.0	166.7	500.0
		Gizzard Shad	3	148.3	127.0-162.0	24.0	72.0
		Spottail Shiner	25	111.3	99.0-125.0	10.9	273.0
		White Bass	1	243.0	243.0-243.0	96.0	96.0
		White Sucker	0	0.0	0.0- 0.0	0.0	0.0
		Yellow Perch	14	170.4	91.0-210.0	70.1	981.0
		Subtotal	54				1992.0
		TOTAL	315				7227.0
	1-2 November 1978						
8		Alewife *	3	108.7	106.0-110.0	6.3	19.0
		Gizzard Shad	3	149.0	135.0-175.0	32.7	98.0
		Rainbow Smelt	1	148.0	148.0-148.0	21.0	21.0
		Spottail Shiner	2	102.5	90.0-115.0	14.0	28.0
		White Bass	1	259.0	259.0-259.0	224.0	224.0
		Yellow Perch	25	166.7	20.0-211.0	65.0	1625.0
		Subtotal	35				2015.0

TABLE 5 (Con't.)
RESULTS OF GILL NETTING IN LAKE ERIE AT LOCUST POINT DURING 1978

Station	Date	Species	Number	Length (mm)		Weight (g)	
				Mean	Range	Mean	Total
	1-2 November 1978						
13		Alewife	41	103.5	85.0-132.0	9.1	372.0
		Carp	1	297.0	297.0-297.0	378.0	378.0
		Gizzard Shad	9	133.4	122.0-156.0	24.9	224.0
		Spottail Shiner	26	109.2	96.0-128.0	11.9	310.0
		White Bass	1	131.0	131.0-131.0	32.0	32.0
		Yellow Perch	7	178.4	157.0-195.0	69.3	485.0
		Subtotal	85				1801.0
3		Alewife	121	103.9	80.0-143.0	9.7	1173.0
		Carp	0	0.0	0.0- 0.0	0.0	0.0
		Gizzard Shad	11	127.8	87.0-152.0	22.3	245.0
		Sauger	1	345.0	345.0-345.0	405.0	405.0
		Spottail Shiner	18	112.2	102.0-132.0	14.5	261.0
		White Bass	2	127.5	125.0-130.0	26.0	52.0
		White Sucker	1	377.0	377.0-377.0	720.0	720.0
		Yellow Perch	8	178.8	160.0-221.0	72.6	581.0
		Subtotal	162				3437.0
26		Alewife	0	0.0	0.0- 0.0	0.0	0.0
		Carp	0	0.0	0.0- 0.0	0.0	0.0
		Gizzard Shad	1	165.0	165.0-165.0	50.0	50.0
		Logperch	1	112.0	112.0-112.0	15.0	15.0
		Rainbow Smelt	1	156.0	156.0-156.0	19.0	19.0
		Sauger	0	0.0	0.0- 0.0	0.0	0.0
		Spottail Shiner	8	110.0	102.0-120.0	11.1	89.0
		Walleye	1	492.0	492.0-492.0	1625.0	1625.0
		White Bass	0	0.0	0.0- 0.0	0.0	0.0
		White Sucker	0	0.0	0.0- 0.0	0.0	0.0
		Yellow Perch	16	158.3	130.0-190.0	52.9	847.0
		Subtotal	28				2645.0
		TOTAL	310				9898.0

(637 fish), and minimum catch occurred at Station 8 in May (20 fish). Species captured were both adult fish and young-of-the-year, with yellow perch, spottail shiner, freshwater drum, gizzard shad, and white bass predominating.

Shore Seines. Shore seining during 1978 yielded 13,177 fish weighing 28.9 kg and representing 13 species (Table 6). Monthly catches of all three stations combined ranged from 44 in October (CPE = 14.7) to 5,869 in June (CPE = 1,956.3). The large June catch consisted primarily of young-of-the-year gizzard shad (mean length = 37.8 mm). Species captured shore seining were primarily young-of-the-year, with gizzard shad, alewife, emerald shiner, spottail shiner, and white bass predominating.

Trawls. Trawling in the Locust Point vicinity during 1978 yielded 1,208 fish weighing 40.5 kg and representing 20 species (Table 7). Monthly catches from both transects combined ranged from 41 (CPE = 20.5) in May to 340 (CPE = 170.0) in August. Maximum catch occurred at Transect 8-13 in August (219 fish), and minimum catch occurred at Transect 8-13 in May (15 fish). Gizzard shad, white bass, and spottail shiner were the dominant species. Rainbow smelt, occasionally taken in larger numbers, were primarily young-of-the-year.

Analysis

The Lake Erie fish community at Locust Point in previous years has been dominated by gizzard shad, alewife, spottail shiner, yellow perch, white bass, emerald shiner, and freshwater drum. Percentages of these species varied from year to year, but the same species dominated. During 1978, fish sampling at Locust Point yielded similar results. Large numbers of all the dominant species were young-of-the-year taken close to shore by seining, but adults of these species were also numerically more abundant than other species captured during 1978. The open, wave-swept nature of the nearshore zone at Locust Point precludes the establishment of large populations of species which require more sheltered, quiescent conditions (i.e. carp, bullheads, smallmouth bass), although small populations or transient individuals of such species do occur in the area. The less abundant species captured during 1978 were generally of this type. Pelagic and benthipelagic schooling species consisting of intermediate predators (i.e., white bass, freshwater drum, and yellow perch) and forage fish (i.e. alewife, gizzard shad, spottail shiner, and emerald shiner) make up the bulk of the community, with terminal predators (i.e., walleye, sauger, and channel catfish) being common but less abundant.

The total number of fish captured at Locust Point during 1978 was greater than in 1977, but less than in 1978 (Reutter and Herdendorf, 1977). Variability in catch from year to year at Locust Point is a function of both sample timing and actual density of fish in the vicinity. The largest component of variability is found in shore seine catch, which consists primarily of young-of-the-year. Time of day, as well as season and actual population densities, can affect the abundance of young-of-the-year within range of shore seining on any sampling day. Results of this type are typical of schooling species, which are generally not uniformly distributed over a given area, and become more variable as sampling frequency decreases.

TABLE 6

RESULTS OF SHORE SEINING IN LAKE ERIE AT LOCUST POINT DURING 1978¹

DATE	SPECIES	NUMBER	LENGTH (mm)		WEIGHT (g)	
			MEAN	RANGE	MEAN	TOTAL
10 May 1978 ²	Brown Bullhead	1	148.0	148.0 - 148.0	51.0	51.0
	Carp	3	491.3	438.0 - 546.0	1768.7	5306.2
	Emerald Shiner	11	69.8	50.0 - 113.0	4.4	48.0
	Freshwater Drum	1	341.0	341.0 - 341.0	450.0	450.0
	Gizzard Shad	3	281.0	135.0 - 403.0	280.0	840.0
	Logperch	3	62.7	42.0 - 75.0	4.0	12.0
	Rainbow Smelt	1	135.0	135.0 - 135.0	14.0	14.0
	Spottail Shiner	57	92.9	66.0 - 121.0	11.0	625.0
	White Bass	3	141.3	124.0 - 159.0	35.7	107.0
	subtotal	83				7453.2
29 June 1978	Carp	4	380.3	28.0 - 605.0	1265.6	5062.3
	Channel Catfish	2	112.0	110.0 - 114.0	9.0	18.0
	Emerald Shiner	101	71.3	35.0 - 104.0	2.6	263.0
	Freshwater Drum	1	117.0	117.0 - 117.0	12.0	12.0
	Gizzard Shad	5572	37.8	21.0 - 205.0	0.4	2031.2
	Spottail Shiner	9	92.7	84.0 - 108.0	7.2	65.0
	White Bass	180	33.6	18.0 - 188.0	2.1	386.6
	subtotal	5869				7838.1
24 July 1978	Emerald Shiner	1	67.0	67.0 - 67.0	2.0	2.0
	Gizzard Shad	4433	42.2	30.0 - 75.0	1.0	4615.3
	Spottail Shiner	4	39.3	30.0 - 49.0	0.6	2.5
	White Bass	22	46.0	30.0 - 190.0	5.1	113.0
	subtotal	4460				4732.8
17 August 1978	Alewife	164	55.8	33.0 - 67.0	1.1	174.6
	Brook Silverside	5	27.2	22.0 - 34.0	0.3	1.5
	Channel Catfish	2	56.0	52.0 - 60.0	0.5	1.0
	Emerald Shiner	406	46.4	24.0 - 92.0	0.5	189.7
	Gizzard Shad	418	61.9	20.0 - 130.0	2.2	925.0
	Spottail Shiner	7	57.6	52.0 - 65.0	0.7	5.0

TABLE 6 (CONTINUED)
RESULTS OF SHORE SEINING IN LAKE FRIE AT LOCUST POINT DURING 1978¹

DATE	SPECIES	NUMBER	LENGTH (mm)		WEIGHT (g)	
			MEAN	RANGE	MEAN	TOTAL
17 August 1978 (cont'd)	White Bass	47	74.6	32.0 - 210.0	5.4	200.5
	subtotal	1049				1497.3
15 September 1978	Alewife	12	66.7	36.0 - 113.0	3.8	46.0
	Carp	2	312.5	83.0 - 542.0	7.0	7.0
	Channel Catfish	2	59.5	53.0 - 66.0	3.0	6.0
	Emerald Shiner	187	58.3	34.0 - 98.0	3.6	76.0
	Gizzard Shad	723	93.2	38.0 - 404.0	8.5	5959.0
	Golden Shiner	5	69.4	45.0 - 84.0	5.0	10.0
	Rainbow Smelt	1	46.0	46.0 - 46.0	0.5	0.5
	Spottail Shiner	52	65.6	46.0 - 106.0	6.8	89.0
subtotal	1052				6290.0	
18 October 1978	Emerald Shiner	22	49.5	41.0 - 59.0	0.9	19.5
	Gizzard Shad	22	57.9	39.0 - 69.0	1.0	22.5
	subtotal	44				42.0
2 November 1978	Emerald Shiner	539	51.3	35.0 - 112.0	1.4	742.2
	Gizzard Shad	81	68.8	48.0 - 120.0	3.9	315.0
	subtotal	620				1057.2
	TOTAL	13,177				28,910.6

¹ Data presented as the sum of catch per unit effort (2 seine hauls) results from Stations 23, 24 and 25.

² Only two stations (23 and 24) were sampled due to inclement weather.

TABLE 7

RESULTS OF TRAWLING IN LAKE ERIE AT LOCUST POINT DURING 1978

Transect Date	Species	Number	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
12 May 1978 3 - 26	Freshwater Drum	2	203.5	132.0 - 275.0	130.6	261.3
	Spottail Shiner	13	93.9	70.0 - 130.0	13.0	168.4
	Trout-perch	1	75.0	75.0 - 75.0	5.2	5.2
	Walleye	1	181.0	181.0 - 181.0	50.0	50.0
	White Bass	4	144.3	122.0 - 163.0	39.3	157.4
	Yellow Perch	5	161.0	88.0 - 190.0	58.9	294.5
	subtotal	26				936.8
8 - 13	Channel Catfish	1	410.0	410.0 - 410.0	860.0	860.0
	Freshwater Drum	1	175.0	175.0 - 175.0	54.9	54.9
	Rainbow Smelt	1	130.0	130.0 - 130.0	11.2	11.2
	Spottail Shiner	5	88.6	75.0 - 127.0	9.6	48.0
	Trout-perch	2	86.0	34.0 - 88.0	7.2	14.4
	Walleye	2	225.0	200.0 - 250.0	105.0	210.0
	White Bass	2	151.5	148.0 - 155.0	45.9	91.8
	Yellow Perch	1	185.0	185.0 - 185.0	86.2	86.2
subtotal	15				1376.5	
TOTAL	41				2313.3	
30 June 1978 3 - 26	Brown Bullhead	2	196.0	161.0 - 231.0	100.0	200.0
	Carp	3	453.0	440.0 - 479.0	1116.1	3348.3
	Channel Catfish	8	235.0	210.0 - 256.0	121.9	975.0
	Freshwater Drum	6	189.8	120.0 - 325.0	134.2	805.2
	Spottail Shiner	1	25.0	25.0 - 25.0	0.5	0.5
	Walleye	2	136.5	43.0 - 230.0	51.9	103.8
	White Bass	2	92.0	27.0 - 157.0	29.8	59.5
	subtotal	24				5492.3

TABLE 7 (CONTINUED)

RESULTS OF TRAWLING IN LAKE ERIE AT LOCUST POINT DURING 1978

Transect Date	Species	Number	Length (mm)		Weight (g)		
			Mean	Range	Mean	Total	
30 June 1978 (cont'd) 8 - 13	Carp	4	428.8	365.0 - 455.0	1099.7	4398.9	
	Channel Catfish	14	250.5	188.0 - 373.0	145.8	2041.0	
	Freshwater Drum	16	180.5	113.0 - 277.0	88.1	1409.2	
	Quillback	3	204.7	198.0 - 208.0	117.7	353.0	
	Spottail Shiner	3	43.7	29.0 - 72.0	2.0	5.9	
	White Bass	5	54.0	22.0 - 163.0	13.6	68.2	
	Yellow Perch	1	175.0	175.0 - 175.0	67.4	67.4	
	subtotal	46				8343.6	
TOTAL	70				13,335.9		
25 July 1978 3 - 26	Carp	1	446.0	446.0 - 446.0	1645.8	1645.8	
	Gizzard Shad	1	34.0	34.0 - 34.0	0.5	0.5	
	Rainbow Smelt	2	39.5	37.0 - 42.0	0.5	1.0	
	Spottail Shiner	8	45.3	38.0 - 52.0	0.8	6.5	
	White Bass	54	42.6	29.0 - 57.0	1.1	59.5	
	subtotal	66				1713.3	
	8 - 13	Black Bullhead	13	166.2	155.0 - 187.0	61.6	801.0
		Carp	1	449.0	449.0 - 449.0	1532.3	1532.3
		Channel Catfish	1	105.0	105.0 - 105.0	12.0	12.0
		Gizzard Shad	2	96.5	90.0 - 103.0	10.0	20.0
Rainbow Smelt		1	36.0	36.0 - 36.0	0.5	0.5	
Spottail Shiner		2	43.5	43.0 - 44.0	1.0	2.0	
White Bass		102	43.5	22.0 - 212.0	2.1	213.3	
subtotal		122				2581.1	
TOTAL	188				4294.4		

TABLE 7 (CONTINUED)

RESULTS OF TRAWLING IN LAKE ERIE AT LOCUST POINT DURING 1978

Transect Date	Species	Number	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
18 August 1978 3 - 26	Alewife	20	58.6	38.0 - 75.0	1.9	39.0
	Carp	7	432.9	360.0 - 500.0	924.6	6472.0
	Gizzard Shad	32	94.4	15.0 - 127.0	12.2	389.5
	Rainbow Smelt	12	35.7	28.0 - 56.0	1.2	14.7
	Spottail Shiner	1	58.0	58.0 - 58.0	0.5	0.5
	White Bass	49	45.1	24.0 - 82.0	1.5	74.4
	subtotal	121				6990.4
8 - 13	Alewife	17	66.4	55.0 - 76.0	1.7	23.9
	Carp	2	432.0	429.0 - 435.0	1000.0	2000.0
	Gizzard Shad	109	87.1	27.0 - 132.0	6.9	749.4
	Rainbow Smelt	47	36.4	22.0 - 49.0	0.3	10.6
	Walleye	3	169.0	115.0 - 275.0	61.3	184.0
	White Bass	41	46.3	24.0 - 86.0	1.4	56.6
	subtotal	219				3029.5
	TOTAL	340				10,019.9
15 September 1978 3 - 26	Alewife	19	97.6	87.0 - 108.0	5.7	109.0
	Black Bullhead	1	255.0	255.0 - 255.0	218.0	218.0
	Carp	3	363.3	302.0 - 450.0	556.3	1669.0
	Gizzard Shad	6	107.5	60.0 - 155.0	13.2	79.0
	Rainbow Smelt	2	44.5	42.0 - 47.0	0.5	1.0
	Spottail Shiner	8	85.0	55.0 - 117.0	6.6	53.0
	Walleye	1	191.0	191.0 - 191.0	65.0	65.0
	White Bass	7	59.1	40.0 - 74.0	2.3	16.0
	White Crappie	1	57.0	57.0 - 57.0	1.0	1.0
	Yellow Perch	1	150.0	150.0 - 150.0	30.0	30.0
	subtotal	49				2241.0

TABLE 7 (CONTINUED)

RESULTS OF TRAWLING IN LAKE ERIE AT LOCUST POINT DURING 1978

Transect Date	Species	Number	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
15 September 1978 (cont'd) 8 - 13	Alewife	39	101.1	89.0 - 117.0	8.4	326.0
	Black Bullhead	1	202.0	202.0 - 202.0	8.6	8.6
	Emerald Shiner	2	82.5	80.0 - 85.0	2.5	5.0
	Gizzard Shad	1	114.0	114.0 - 114.0	10.0	10.0
	Rainbow Smelt	1	39.0	39.0 - 39.0	1.0	1.0
	Spottail Shiner	5	100.2	73.0 - 127.0	8.2	41.0
	White Bass	5	74.0	46.0 - 140.0	6.7	33.5
	Yellow Perch	3	131.7	59.0 - 205.0	46.0	138.0
	subtotal	57				563.1
	TOTAL	106				2804.1
19 October 1978 3 - 26 8 - 13	Alewife	4	83.0	63.0 - 105.0	4.0	16.0
	Gizzard Shad	79	92.9	50.0 - 117.0	6.9	548.0
	Spottail Shiner	92	97.1	30.0 - 135.0	9.3	860.0
	White Bass	6	126.8	110.0 - 142.0	26.5	159.0
	Yellow Perch	12	142.9	132.0 - 162.0	32.1	385.0
	subtotal	193				1968.0
	Alewife	18	108.1	91.0 - 127.0	8.6	154.0
	Black Bullhead	1	227.0	227.0 - 227.0	130.0	130.0
	Gizzard Shad	26	96.8	75.0 - 128.0	7.5	196.0
	Logperch	1	60.0	60.0 - 60.0	1.0	1.0
	Spottail Shiner	43	104.3	72.0 - 140.0	9.4	404.0
	Trout-perch	1	67.0	67.0 - 67.0	1.0	1.0
	White Bass	2	125.5	123.0 - 128.0	24.0	48.0
	White Crappie	1	60.0	60.0 - 60.0	1.0	1.0
	Yellow Bullhead	1	221.0	221.0 - 221.0	136.0	136.0
Yellow Perch	16	141.1	62.0 - 185.0	29.8	476.0	
subtotal	110				1547.0	
TOTAL	303				3515.0	

TABLE 7 (CONTINUED)

RESULTS OF TRAWLING IN LAKE ERIE AT LOCUST POINT DURING 1978

Transect Date	Species	Number	Length (mm)		Weight (g)	
			Mean	Range	Mean	Total
1 November 1978 3 - 26	Black Bullhead	1	210.0	210.0 - 210.0	105.0	105.0
	Emerald Shiner	1	82.0	82.0 - 82.0	2.0	2.0
	Gizzard Shad	18	111.4	70.0 - 180.0	17.5	315.0
	Spottail Shiner	15	103.5	68.0 - 135.0	11.7	175.0
	Yellow Bullhead	1	207.0	207.0 - 207.0	110.0	110.0
	Yellow Perch	3	143.4	136.0 - 150.0	35.5	284.0
	subtotal	44				991.0
8 - 13	Gizzard Shad	57	104.9	66.0 - 190.0	16.1	918.3
	Spottail Shiner	42	103.8	72.0 - 135.0	12.8	537.0
	Yellow Perch	17	174.2	125.0 - 205.0	74.2	1262.0
	subtotal	116				2717.3
	TOTAL	160				3708.3

In the past, analyses of gill netting results at individual stations indicated that fish densities were generally greatest closer to shore. This pattern was not highly evident during 1978 except during May and June (Figure 2). Larger numbers of fish captured at all four stations during September consisted primarily of alewife and gizzard shad. Abundance trends at control stations (3 and 26) were not markedly different from trends at test stations (8 and 13). Large numbers of fish captured during September at Station 26 may have been an artifact of commercial trapnetting in the area. Station 26 is relatively isolated northwest of the main commercial netting field and may be more advantageously situated to intercept schools of fish, which are otherwise diverted or obstructed among the trap net mazes. No trend of attraction to or repulsion from the plume area (Station 13) or the intake area (Station 8) was evident.

Trawling results indicated that fish populations in the vicinity of the intake-discharge complex (Transect 8-13) exhibited abundance trends similar to those around the control transect (Transect 3-26) (Figure 3). Somewhat greater abundance of fish around transect 8-13 may be attributed to increased cover for fish around the rip-rap material in the vicinity, but gill net results (Figure 2) do not support this conjecture.

In conclusion, fish populations at Locust Point during 1978 were similar to those observed in the past. No indication of adverse impact due to the Davis-Besse Nuclear Power Station was observed.

FIGURE 2

COMPARISON OF GILL NETTING RESULTS FROM STATIONS 3, 8, 13, AND 26 DURING 1978

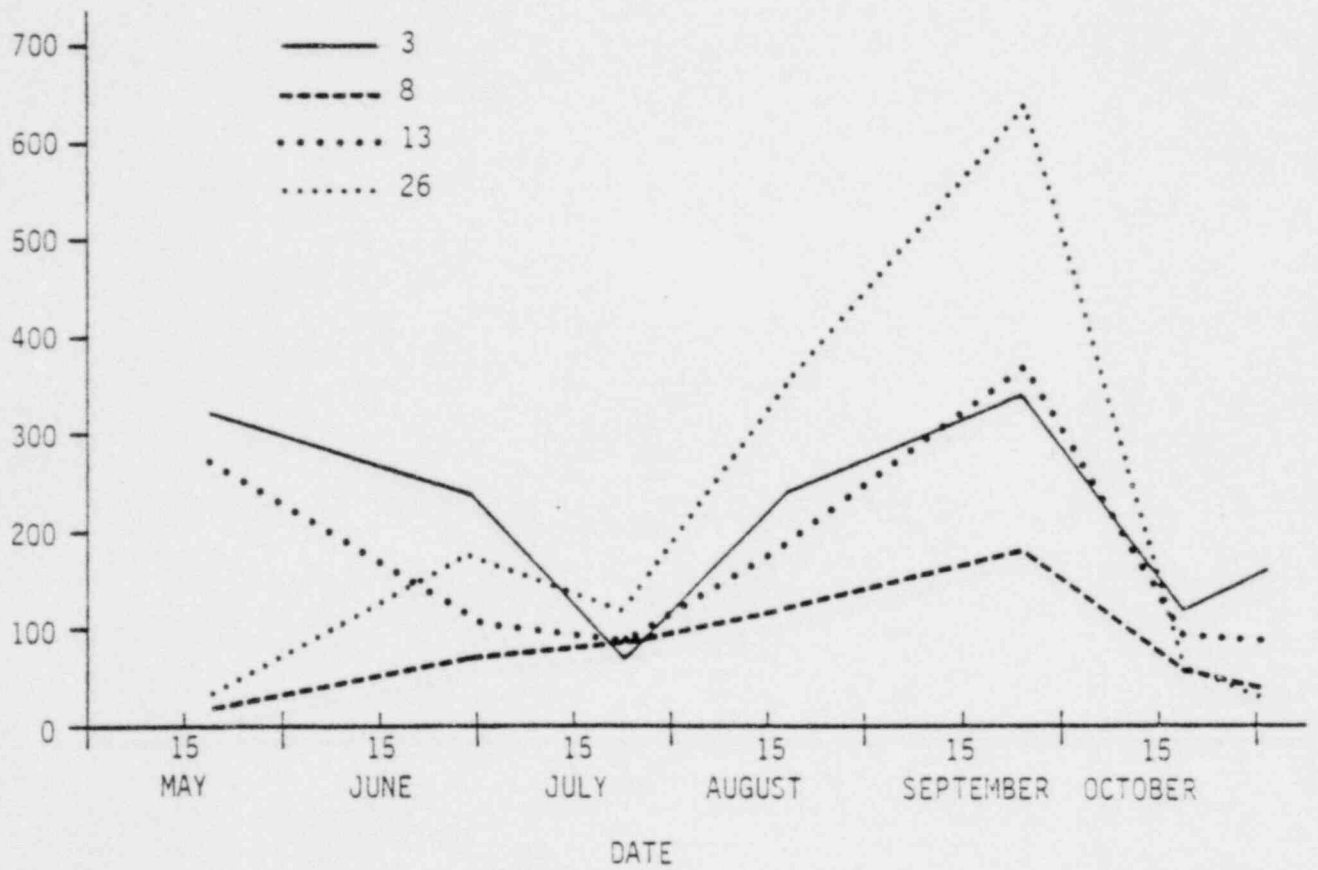
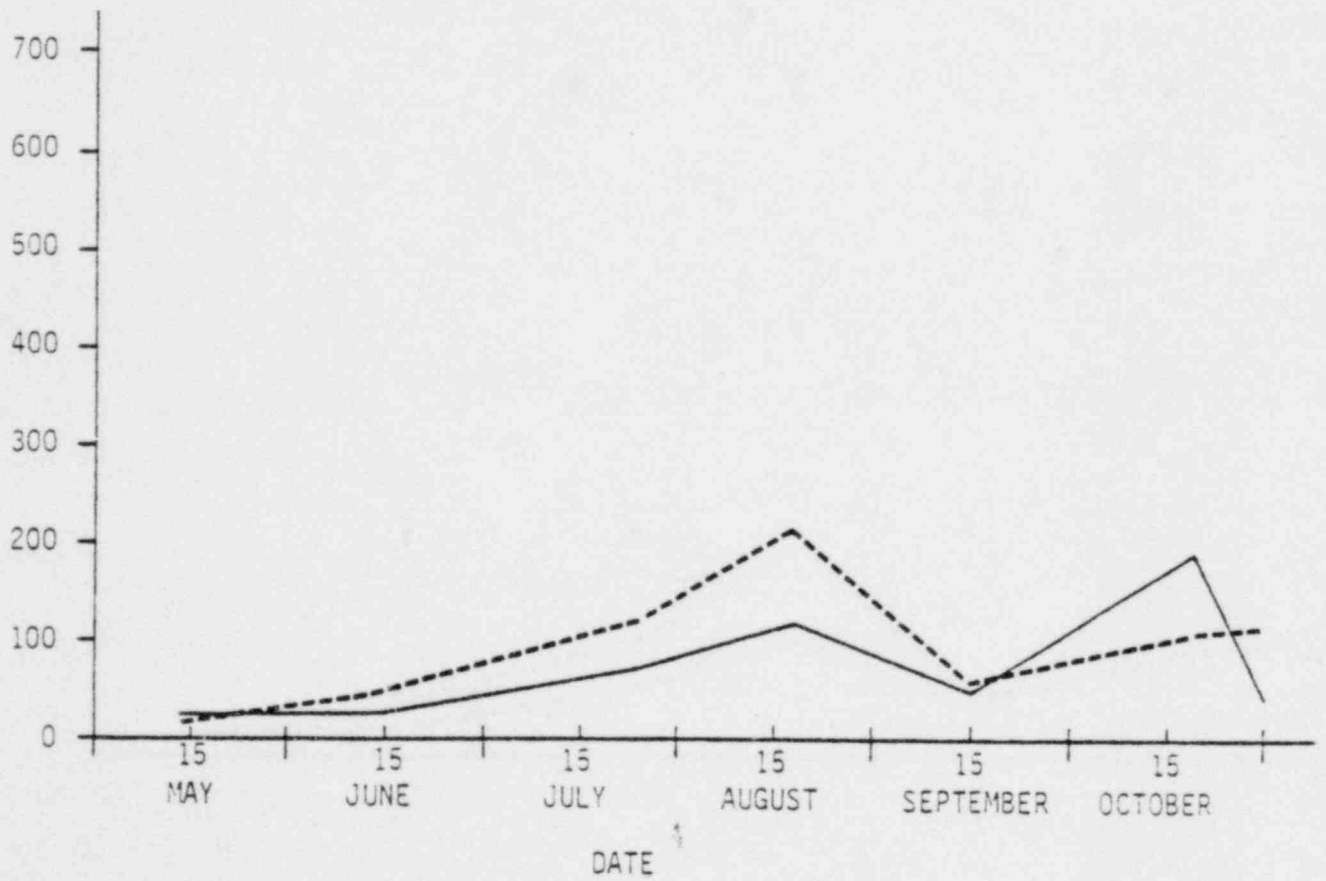


FIGURE 3

COMPARISON OF TRAWLING RESULTS FROM TRANSECTS 8-13 AND 3-26 DURING 1978



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SECTION 3.1.2.A.4
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