



Public Service Electric and Gas Company 80 Park Place Newark, N.J. 07101 Phone 201/430-7000

January 20, 1978

Region I
United States Nuclear Regulatory Commission
Office of Inspection and Enforcement
631 Park Avenue
King of Prussia, Pennsylvania 19406

Gentlemen:

SALEM NUCLEAR GENERATING STATION
UNIT NO. 1
IMPINGEMENT MONITORING PROGRAM
REPORT NO. 9 DECEMBER 1977
DOCKET NO. 50-272

As required by Section 3.1.2.2 of Appendix B of the Operating License for the Salem Nuclear Generating Station Unit No. 1 (DPR-70), we hereby transmit two (2) copies of the Impingement Monitoring Program Report for December 1977.

Very truly yours,

Original Signed
F. P. Librizzi

F. P. Librizzi
General Manager -
Electric Production

Enclosure

CC: ✓ Director, Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission

Mr. H. Lunenfeld, Chief, Energy and Wastes Section
U.S. Environmental Protection Agency - Region II

Mr. B. A. Pyle, Chief, Bureau of Fisheries
N.J. Department of Environmental Protection

Mr. J. Callen, Office of Regulatory Affairs
N.J. Department of Environmental Protection

Mr. P. Hamer, Division of Fish, Game and Shell Fisheries
N.J. Department of Environmental Protection

Mr. O. F. Ayres, Township Clerk
Lower Alloways Creek Township

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IMPINGEMENT MONITORING PROGRAM

REPORT NO. 9 - DECEMBER 1977

SALEM NUCLEAR GENERATING STATION
UNIT NO. 1

DOCKET NO. 50-272
OPERATING LICENSE NO. DPR-70

PUBLIC SERVICE ELECTRIC AND GAS COMPANY
NEWARK, NEW JERSEY
JANUARY 20, 1978

SUMMARY

This is the ninth monthly impingement monitoring program report required by Section 3.1.2.2 of the Environmental Technical Specifications (ETS). The ETS are Appendix B of the Salem Nuclear Generating Station (SNGS) Operating License No. DPR-70. The tabular summaries attached include daily estimates of the number and weight of fish impinged on the Circulating Water System (CWS) traveling screens (Table 2) and the Service Water System (SWS) traveling screens (Table 3). CWS operation is also summarized (Table 1).

The monitoring program at both the CWS and SWS consists of three 24-hour sampling periods per week. The CWS screens were sampled four times per 24-hour period at approximately six-hour intervals. Samples were collected by diverting approximately three minutes of screen wash water to the counting pool located on the north end of the CWS intake structure. Survival rates are calculated for CWS samples only. SWS screen samples consisted of either one 24-hour or two 12-hour samples per day. These samples consisted of all fish impinged and found in the trash baskets located on the intake structure proper.

MDL:aec

TABLE 1. - START TIME AND DURATION OF IMPINGEMENT SAMPLES AT THE CIRCULATING WATER INTAKE, S-M-G-S. UNIT 1

1 DECEMBER 1977 THROUGH 1 JANUARY 1978. NUMBER OF PUMPS AND SCREENS IN OPERATION, SCREEN OPERATING MODE (I= INTERMITTENT, C= CONTINUOUS), WEIGHT (G/3 MIN. SAMPLE) OF DETRITUS, AND WATER TEMPERATURE (C) ARE INDICATED.

DATE	SAMPLE START TIME	DUR. (MIN)	PUMPS	SCREENS	OPERATING MODE	DETRITUS WEIGHT (G/3 MIN SAMPLE)	WATER TEMPERATURE (C)
12/01/77	0001	3	2	5	C	2,300	8.0
12/01/77	0600	3	2	5	C	8,400	8.0
12/01/77	1200	3	2	3	C	3,600	9.0
12/01/77	1800	3	2	5	C	8,900	10.0
12/02/77	0000	3	2	5	C	2,700	8.5
12/02/77	0603	3	1	5	C	2,000	8.0
12/05/77	1200	3	5	5	C	2,500	8.0
12/05/77	1800	3	6	6	C	1,100	8.0
12/06/77	0000	3	6	6	C	67,000	8.5
12/06/77	0600	3	6	6	C	1,600	8.0
12/07/77	1200	3	5	5	C	5,100	5.5
12/07/77	1800	3	6	6	C	1,100	5.5
12/08/77	0000	3	6	6	C	6,100	5.0
12/08/77	0600	3	6	6	C	4,000	6.0
12/08/77	1200	3	5	5	C	4,100	6.5
12/08/77	1800	3	6	6	C	6,800	6.0
12/09/77	0000	3	6	6	C	5,800	9.0
12/09/77	0600	3	6	6	C	4,700	6.0
12/12/77	1200	3	5	5	C	1,400	4.0
12/12/77	1800	3	6	6	C	40,000	4.0
12/13/77	0000	3	5	6	C	3,000	4.0
12/13/77	0600	3	6	6	C	24,000	3.0
12/14/77	1200	3	6	6	C	2,800	3.0
12/14/77	1800	3	5	6	C	32,800	3.0
12/15/77	0000	3	6	6	C	3,600	3.0
12/15/77	0600	3	5	6	C	10,000	3.0
12/15/77	1200	3	6	6	C	3,000	3.5
12/15/77	1805	3	6	6	C	21,400	3.5
12/16/77	0000	3	6	6	C	70,000	3.0
12/16/77	0600	3	6	6	C	30,000	3.0
12/19/77	1200	3	6	6	C	13,200	3.5
12/19/77	1800	3	6	6	C	1,000	3.5
12/20/77	0000	3	6	6	C	19,000	5.5
12/20/77	0600	3	6	6	C	3,700	5.5
12/21/77	1206	3	6	6	C	45,000	4.5
12/21/77	1800	3	6	6	C	6,000	4.5
12/22/77	0000	3	6	6	C	70,000	3.5
12/22/77	0600	3	6	6	C	6,300	4.0
12/22/77	1200	3	6	6	C	66,000	4.0
12/22/77	1800	3	6	6	C	6,600	5.0
12/23/77	0000	3	6	6	C	11,000	4.0
12/23/77	0600	3	5	5	C	12,400	3.0
12/27/77	1200	3	5	5	C	3,600	2.7
12/27/77	1800	3	6	6	C	34,000	4.0
12/28/77	0000	3	6	6	C	3,000	4.0
12/28/77	0600	3	6	6	C	80,600	1.8
12/28/77	1200	3	5	5	C	1,900	3.0
12/28/77	1800	3	6	6	C	30,000	3.0
12/29/77	0000	3	6	6	C	2,800	2.0
12/29/77	0600	3	6	6	C	55,000	1.7
12/29/77	1200	3	5	6	C	2,900	2.0
12/29/77	1800	3	5	6	C	20,000	2.5
12/30/77	0000	3	6	6	C	5,700	3.0
12/30/77	0600	3	6	6	C	20,000	3.0

TABLE 2. - IMPINGEMENT - S.M.G.S. CIRCULATING WATER SYSTEM INTAKE, 1 DECEMBER 1977 TO 1 JANUARY 1978.

SAMPLING PERIOD - 12/01/77 1200 THROUGH 12/02/77 0603

SPECIES	N	CF	X SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
L. XANTHURUS	4	3	54	20	25	24	2,880	2182.1	26.79	19.2	5.0	21.6	72.5	117.5
A. AESTIVALIS	4	2	0	50	50	2	240	277.1	.64	.7	2.0	3.4	62.5	67.5
A. MITCHILLI	4	1	100	0	0	1	120	240.0	.37	.7	3.1	3.1	67.5	67.5
T. MACULATUS	4	4	100	0	0	7	840	240.0	1.34	.4	.9	2.2	37.5	57.5
M. AMERICANA	4	4	89	3	6	29	3,480	6000.0	23.82	42.0	2.9	12.8	62.5	92.5
D. CEPEDIANUM	4	2	40	0	60	5	600	908.6	7.18	11.0	7.8	18.1	87.5	117.5
U. CHUSS	4	2	66	33	0	3	360	459.5	1.07	1.6	1.8	4.8	67.5	92.5
C. SAPIDUS	4	1	0	0	100	1	120	240.0	1.08	2.1	9.0	9.0	52.5	52.5
P. CROMIS	4	1	0	0	100	1	120	240.0	.58	1.1	4.9	4.9	72.5	72.5
M. UNDULATUS	4	1	0	100	0	1	120	240.0	.04	.4	.4	.4	32.5	32.5
M. MENIDIA	4	2	100	0	0	5	600	908.6	1.24	1.6	1.3	3.4	62.5	82.5
TOTAL						79	9,480		64.15					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

X SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE&G, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/05/77 1200 THROUGH 12/06/77 0600

SPECIES	N	CF	X SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
M. AMERICANA	4	4	37	17	45	313	37,560	31564.3	239.45	182.8	2.3	58.5	52.5	167.5
D. CEPEDIANUM	4	4	38	8	53	86	10,320	7684.9	126.74	91.6	6.4	37.4	82.5	142.5
L. XANTHURUS	4	4	33	22	43	48	5,760	2251.3	51.50	33.6	.1	41.2	32.5	147.5
H. NUHALIS	4	2	80	0	20	5	600	720.0	7.40	9.0	7.4	14.1	87.5	117.5
M. UNDULATUS	4	4	19	52	28	21	2,520	3144.5	1.03	1.5	.1	1.0	27.5	47.5
A. AESTIVALIS	4	4	28	22	48	35	4,200	4526.1	14.22	15.1	2.2	5.2	62.5	82.5
B. TYRANNUS	4	2	0	50	50	2	240	277.1	.68	1.3	.2	5.5	42.5	67.5
M. BILINEARIS	4	2	0	100	0	2	240	277.1	2.15	3.1	3.9	14.1	72.5	127.5
U. CHUSS	4	2	0	50	50	2	240	277.1	1.12	1.5	2.6	6.8	72.5	102.5
T. MACULATUS	4	4	93	2	4	46	5,520	5380.8	13.76	19.5	.5	30.0	32.5	102.5
M. MENIDIA	4	2	33	33	33	3	360	459.5	.95	1.1	2.2	3.1	72.5	82.5
A. PSEUDOHARENGUS	4	1	0	100	0	1	120	240.0	.66	1.3	5.5	5.5	77.5	77.5
M. SAXATILIS	4	1	100	0	0	1	120	240.0	1.03	2.0	8.6	8.6	87.5	87.5
A. ROSTRATA	4	1	66	33	0	3	360	720.0	8.68	17.3	17.8	31.8	227.5	287.5
C. SAPIDUS	4	1	100	0	0	1	120	240.0	.02		.2	.2	17.5	17.5

TOTAL						569	68,280		469.39					
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N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

X SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE86, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/07/77 1200 THROUGH 12/08/77 0600

SPECIES	N	CF	X SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
M. AMERICANA	4	4	42	25	32	40	4,800	2853.2	45.26	26.2	2.1	51.3	52.5	147.5
D. CEPEDIANUM	4	4	26	26	47	19	2,280	1853.8	29.09	24.7	6.5	26.9	77.5	127.5
T. MACULATUS	4	4	100	0	0	12	1,440	876.3	2.49	1.9	.7	5.9	37.5	62.5
M. NUHALIS	4	3	70	10	20	10	1,200	999.1	18.22	13.1	8.4	21.6	87.5	127.5
A. ROSTRATA	4	2	80	0	20	5	600	720.0	27.15	33.2	23.8	58.4	247.5	342.5
L. XANTHURUS	4	1	0	0	100	1	120	240.0	.81	1.6	6.8	6.8	82.5	82.5
L. MACROCHIRUS	4	1	0	100	0	1	120	240.0	.25	.5	2.1	2.1	52.5	52.5

TOTAL						88	10,560		123.27					
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N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

X SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSERG, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/08/77 1200 THROUGH 12/09/77 0600.

SPECIES	N	CF	Σ SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
M. AMERICANA	4	4	30	19	50	178	21,360	32561.0	138.20	221.9	2.5	54.3	57.5	147.5
M. SAXATILIS	4	2	57	5	36	19	2,280	3663.4	14.81	22.3	3.7	14.5	67.5	102.5
D. CEPEDIANUM	4	4	16	12	70	48	5,760	3325.5	67.56	23.8	5.8	61.2	82.5	167.5
H. NUCHALIS	4	4	50	12	37	8	960	391.9	14.86	10.3	4.7	25.3	77.5	132.5
T. MACULATUS	4	4	93	0	6	16	1,920	1239.3	7.53	9.0	.1	37.7	32.5	117.5
M. MENIDIA	4	3	33	25	41	12	1,440	1175.7	5.58	5.1	2.0	7.2	62.5	107.5
M. BILINEARIS	4	3	25	50	25	4	480	391.9	1.47	1.1	2.0	5.2	62.5	92.5
U. CHUSS	4	3	25	25	50	4	480	391.9	2.15	1.4	2.6	6.5	77.5	102.5
A. AESTIVALIS	4	2	0	33	66	3	360	459.5	1.22	1.7	2.6	4.3	67.5	82.5
M. UNDULATUS	4	2	25	50	25	4	480	678.8	.19	.3	.2	.5	32.5	37.5
A. ROSTRATA	4	4	75	0	25	8	960	554.2	47.20	19.5	31.2	92.4	237.5	412.5
L. XANTHURUS	4	1	0	100	0	1	120	240.0	1.21	2.4	10.1	10.1	87.5	87.5
L. MACROCHIRUS	4	1	0	0	100	1	120	240.0	.39	.7	3.3	3.3	62.5	62.5
TOTAL						306	36,720		302.37					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

Σ SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
 SALEM NUCLEAR GENERATING STATION UNIT 1
 PSEB6, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/12/77 1200 THROUGH 12/13/77 0600

SPECIES	N	CF	Σ SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
M. AMERICANA	4	3	30	23	46	13	1,560	1200.0	9.35	7.6	3.3	9.4	57.5	77.5
D. CEPEDIANUM	4	4	21	28	50	46	5,520	4965.1	165.98	201.4	9.0	182.3	82.5	232.5
M. MACHALIS	4	3	70	10	20	10	1,200	1492.3	24.31	30.8	10.7	30.6	92.5	127.5
U. CRUSS	4	3	0	66	33	6	720	619.6	2.29	2.1	2.2	3.6	77.5	82.5
L. XANTHURUS	4	2	50	50	0	2	240	277.1	1.90	2.3	6.1	9.8	97.5	277.5
P. FLAVESCENS	4	1	100	0	0	1	120	240.0	10.02	20.0	83.5	83.5	167.5	167.5
M. SAXATILIS	4	1	100	0	0	1	120	240.0	1.28	2.5	10.7	10.7	87.5	87.5
T. MACULATUS	4	1	100	0	0	2	240	480.0	.40	.8	1.7	1.7	42.5	42.5
A. ROSTRATA	4	2	60	20	20	5	600	720.0	13.00	15.5	3.7	44.3	127.5	392.5
M. UNDULATUS	4	2	0	50	50	2	240	277.1	.23	.4	.2	1.8	27.5	32.5
C. CARPIO	4	1	100	0	0	1	120	240.0	32.88	65.7	274.0	274.0	207.5	207.5
A. SAPIDISSIMA	4	1	0	0	100	1	120	240.0	1.08	2.1	9.0	9.0	92.5	92.5
TOTAL						90	10,800		262.72					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

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MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM

SALEM NUCLEAR GENERATING STATION UNIT 1
PSERG, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/14/77 1200 THROUGH 12/15/77 0600

SPECIES	N	CF	Z SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	4	4	32	8	59	83	9,960	6050.9	137.25	94.3	4.8	56.0	72.5	157.5
M. AMERICANA	4	4	48	12	40	25	3,000	2551.2	20.60	15.2	2.0	15.5	57.5	97.5
M. NUCHALIS	4	2	57	14	28	7	840	1378.6	11.64	21.0	4.5	27.4	77.5	132.5
M. SAXATILIS	4	1	50	50	0	2	240	480.0	1.70	3.4	4.0	10.2	67.5	97.5
M. MENIDIA	4	1	66	0	33	3	360	720.0	1.22	2.4	3.0	4.1	82.5	87.5
F. MAJALIS	4	1	100	0	0	1	120	240.0	1.27	2.5	10.6	10.6	92.5	92.5
A. AESTIVALIS	4	1	0	100	0	1	120	240.0	.66	1.3	5.5	5.5	82.5	82.5
M. UNDULATUS	4	1	0	100	0	1	120	240.0	.06	.1	.5	.5	27.5	27.5
A. ROSTRATA	4	2	100	0	0	4	480	554.2	19.89	25.0	22.2	84.5	202.5	387.5
P. FLAVESCENS	4	1	100	0	0	1	120	240.0	10.18	20.3	84.9	84.9	177.5	177.5
M. BILINEARIS	4	1	0	100	0	1	120	240.0	.32	.6	2.7	2.7	62.5	62.5
TOTAL						129	15,480		204.79					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

Z SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEB6, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/15/77 1200 THROUGH 12/16/77 0600

SPECIES	N	CF	% SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	4	4	19	7	72	162	19,440	14079.0	289.26	215.2	5.5	93.7	77.5	182.5
M. AMERICANA	4	4	53	6	40	65	7,800	3287.7	73.95	48.5	2.1	89.2	57.5	172.5
M. NUCHALIS	4	4	60	0	40	5	600	240.0	8.90	5.5	4.2	21.5	77.5	117.5
F. HETEROCLITUS	4	2	100	0	0	2	240	277.1	.94	1.1	3.2	4.7	52.5	67.5
M. MENIDIA	4	2	50	0	50	2	240	277.1	.68	.8	1.8	3.9	62.5	72.5
B. TYRANNUS	4	1	0	0	100	1	120	240.0	.86	1.7	7.2	7.2	72.5	72.5
P. FLAVESCENS	4	1	100	0	0	1	120	240.0	11.67	23.3	97.3	97.3	287.5	287.5
M. SAXATILIS	4	3	85	0	14	7	840	720.0	5.12	4.8	3.1	12.9	67.5	102.5
M. BILINEARIS	4	1	0	100	0	1	120	240.0	1.56	3.1	13.0	13.0	122.5	122.5
A. ROSTRATA	4	3	50	0	50	6	720	619.6	19.76	17.3	19.1	38.3	207.5	277.5
M. UMDULATUS	4	1	0	100	0	1	120	240.0	.10	.2	.9	.9	42.5	42.5

TOTAL						253	30,360		412.80					
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N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

% SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE6, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/19/77 1200 THROUGH 12/20/77 0600

SPECIES	N	CF	% SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	4	4	35	11	52	59	7,080	5896.7	95.71	77.2	9.0	37.7	87.5	142.5
M. AMERICANA	4	4	63	9	27	76	9,120	2906.5	57.42	16.8	2.8	15.6	57.5	97.5
L. MACROCHIRUS	4	1	100	0	0	1	120	240.0	.37	.7	3.1	3.1	52.5	52.5
F. HETEROCLITUS	4	1	100	0	0	1	120	240.0	.66	1.3	5.5	5.5	72.5	72.5
M. SAXATILIS	4	2	50	0	50	2	240	277.1	1.69	1.9	6.9	7.2	82.5	82.5
M. UNDULATUS	4	3	20	60	20	5	600	459.5	.59	.5	.4	1.9	32.5	52.5
M. MUCALIS	4	3	25	0	75	4	480	391.9	4.65	4.1	3.1	18.0	72.5	112.5
T. MACULATUS	4	1	100	0	0	2	240	480.0	.73	1.4	2.9	3.2	37.5	47.5
A. ROSTRATA	4	2	66	0	33	3	360	459.5	8.25	9.8	15.7	28.5	197.5	252.5

TOTAL						153	18,360		170.07					
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N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

% SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE86, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/21/77 1206 THROUGH 12/22/77 0600

SPECIES	N	CF	X SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
M. AMERICANA	4	4	36	36	26	41	4,920	1585.9	30.39	13.4	1.9	19.1	57.5	107.5
D. CEPEDIANUM	4	4	40	16	43	55	6,600	4209.7	88.47	58.6	8.2	28.8	2.5	117.5
F. HETEROCITUS	4	1	100	0	0	1	120	240.0	.18	.3	1.5	1.5	57.5	57.5
M. UNDULATUS	4	4	20	60	20	20	2,400	1175.7	1.90	1.9	.1	3.5	27.5	67.5
A. ROSTRATA	4	1	0	100	0	1	120	240.0	8.77	17.5	73.1	73.1	432.5	432.5
L. MACROCHIRUS	4	1	100	0	0	1	120	240.0	.37	.7	3.1	3.1	57.5	57.5
A. AESTIVALIS	4	1	100	0	0	1	120	240.0	.32	.6	2.7	2.7	67.5	67.5
M. MENIDIA	4	2	50	50	0	6	720	831.3	2.74	3.2	1.2	5.2	62.5	97.5
U. CHUSS	4	2	33	66	0	3	360	459.5	1.34	1.8	3.1	5.0	77.5	92.5
M. MUCALIS	4	1	0	0	100	1	120	240.0	1.68	3.3	14.0	14.0	112.5	112.5
T. MACULATUS	4	1	100	0	0	2	240	480.0	.44	.8	1.8	1.9	47.5	47.5
P. FLAVESCENS	4	1	100	0	0	1	120	240.0	13.92	27.8	116.0	116.0	197.5	197.5
M. SAXATILIS	4	1	100	0	0	1	120	240.0	.61	1.2	5.1	5.1	72.5	72.5

TOTAL						134	16,080		151.13					
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N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

X SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE&G, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/22/77 1200 THROUGH 12/23/77 0600

SPECIES	N	CF	% SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	4	4	38	18	43	60	7,200	4553.6	114.10	92.8	8.9	59.0	82.5	167.5
M. AMERICANA	4	4	62	18	18	37	4,440	3287.7	34.48	23.3	1.7	56.0	57.5	147.5
U. CHUSS	4	2	100	0	0	2	240	277.1	.56	.7	1.5	3.2	72.5	87.5
A. ROSTRATA	4	2	50	0	50	2	240	277.1	12.49	14.4	49.1	55.0	282.5	347.5
T. MACULATUS	4	3	100	0	0	3	360	240.0	.70	.5	1.2	3.0	42.5	52.5
H. NUCHALIS	4	2	75	0	25	4	480	678.8	6.36	7.8	5.0	20.0	82.5	122.5
M. UMDULATUS	4	3	0	73	26	15	1,800	2363.7	1.89	2.6	.2	1.9	32.5	57.5
TOTAL						123	14,760		170.58					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

% SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE&G, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/27/77 1200 THROUGH 12/28/77 0600

SPECIES	N	CF	X SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
P. FLAVESCENS	4	2	100	0	0	2	240	277.1	53.45	62.6	195.1	250.4	232.5	247.5
D. CEPEDIANUM	4	4	11	17	70	62	7,440	4545.2	121.19	78.9	5.9	63.4	72.5	172.5
A. AESTIVALIS	4	1	0	0	100	1	120	240.0	1.42	2.8	11.9	11.9	82.5	82.5
H. MICHALIS	4	3	72	2	24	37	4,440	4757.8	69.05	70.2	4.8	26.0	72.5	132.5
M. AMERICANA	4	3	50	50	0	6	720	480.0	3.03	2.2	2.9	7.1	57.5	77.5
M. UNDULATUS	4	3	0	100	0	7	840	603.9	.51	.4	.3	1.3	27.5	47.5
T. MACULATUS	4	1	100	0	0	1	120	240.0	.10	.2	.9	.9	47.5	47.5
C. CARPIO	4	1	100	0	0	1	120	240.0	12.64	25.2	105.4	105.4	167.5	167.5
A. ROSTRATA	4	1	100	0	0	1	120	240.0	4.75	9.5	39.6	39.6	277.5	277.5
U. CHUSS	4	1	0	100	0	1	120	240.0	.72	1.4	6.0	6.0	102.5	102.5
M. SAXATILIS	4	1	100	0	0	1	120	240.0	.50	1.0	4.2	4.2	72.5	72.5

TOTAL						120	14,400		267.36					
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N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

X SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
 SALEM NUCLEAR GENERATING STATION UNIT 1
 PSEB, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/28/77 1200 THROUGH 12/29/77 0600

SPECIES	N	CF	Σ SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
M. AMERICANA	4	2	25	50	25	4	480	678.8	5.30	8.9	3.1	30.6	67.5	127.5
M. MUCALIS	4	3	46	33	20	15	1,800	2087.6	27.06	29.2	3.6	23.0	72.5	127.5
D. CEPEDIANUM	4	4	0	22	77	44	5,280	3183.9	77.31	41.8	6.9	42.1	82.5	137.5
P. FLAVESCENS	4	2	50	0	50	2	240	277.1	7.55	13.9	3.8	59.2	72.5	162.5
U. CHUSS	4	2	0	50	50	4	480	678.8	3.02	3.5	3.2	11.5	67.5	122.5
M. UNDULATUS	4	2	0	100	0	4	480	678.8	.29	.4	.3	1.0	32.5	37.5
TOTAL						73	8,760		120.53					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

Σ SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE66, NEWARK, N.J.

TABLE 2. - (CONTINUED).

SAMPLING PERIOD - 12/29/77 1200 THROUGH 12/30/77 0600

SPECIES	N	CF	X SURVIVAL			TOTAL NUMBER COLLECTED	MEAN ESTIMATED NUMBER/ 24 HOURS	STANDARD DEVIATION	MEAN ESTIMATED WT/24 HRS (KG)	STANDARD DEVIATION	WEIGHT (GM)		LENGTH (MM)	
			L	D	D*						MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	4	4	6	40	53	15	1,800	720.0	36.54	35.7	7.5	137.3	92.5	202.5
H. MICHALIS	4	3	38	15	46	13	1,560	2195.2	18.83	25.6	4.3	28.4	72.5	142.5
M. AMERICANA	4	3	20	40	40	5	600	603.9	6.32	8.1	3.0	37.4	52.5	132.5
P. FLAVESCENS	4	2	50	0	50	2	240	277.1	12.85	20.7	16.6	90.5	112.5	187.5
U. CHUSS	4	2	0	100	0	2	240	277.1	.92	1.0	3.5	4.2	87.5	87.5
A. ROSTRATA	4	1	100	0	0	1	120	240.0	4.22	8.4	35.2	35.2	237.5	237.5
TOTAL						38	4,560		79.68					

N = NUMBER OF 3-MINUTE SAMPLES.

CF = CATCH FREQUENCY (NUMBER OF SAMPLES IN WHICH THE SPECIES APPEARED).

X SURVIVAL: L = LIVE; D = DEAD; D* = DAMAGED.

MEAN ESTIMATED NUMBER PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY MULTIPLYING THE NUMBER OF SPECIMENS IN EACH 3-MINUTE SAMPLE BY 480 TO OBTAIN A 24-HOUR ESTIMATE. THE ESTIMATED NUMBER FOR EACH SAMPLE WAS SUMMED AND DIVIDED BY THE NUMBER OF SAMPLES TO OBTAIN THE MEAN.

MEAN ESTIMATED WEIGHT PER 24 HOURS FOR EACH SPECIES WAS CALCULATED BY THE SAME METHOD AS MEAN ESTIMATED NUMBER.

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEZG, NEWARK, N.J.

TABLE 3. - IMPINGEMENT - S.N.G.S. SERVICE WATER SYSTEM INTAKE, 1 DECEMBER 1977 TO 1 JANUARY 1978.

SAMPLING PERIOD - 12/01/77 0830 TO 12/02/77 0830

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	92	1162.70	3.5	49.2	67.5	157.5
A. MITCHILLI	3	10.20	2.7	3.5	67.5	72.5
A. AESTIVALIS	8	27.00	1.9	4.5	57.5	82.5
M. MENIDIA	5	15.70	1.3	5.1	62.5	92.5
U. CHUSS	3	9.40	1.6	4.0	67.5	77.5
M. UNDULATUS	8	3.50	.1	1.2	27.5	52.5
T. MACULATUS	3	3.30	.9	1.4	37.5	42.5
I. NEBULOSUS	1	137.60	137.6	137.6	227.5	227.5
M. AMERICANA	91	612.30	2.6	16.0	57.5	102.5
L. XANTHURUS	147	1313.30	4.0	26.2	67.5	122.5
B. TYRANNUS	2	17.00	9.8	9.8	87.5	87.5
A. ROSTRATA	1	53.40	53.4	53.4	362.5	362.5
C. REGALIS	1	1.00	1.0	1.0	57.5	57.5

TOTAL 365 3366.40

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE86, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/05/77 0830 TO 12/06/77 0830

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
M. AMERICANA	110	664.00	2.3	15.5	52.5	97.5
L. XANTHURUS	51	482.70	4.0	23.1	62.5	117.5
D. CEPEDIANUM	109	1179.20	4.3	21.4	67.5	122.5
M. UNDULATUS	6	4.10	.1	1.2	27.5	47.5
A. AESTIVALIS	14	47.80	2.4	5.5	62.5	82.5
T. MACULATUS	8	20.20	.6	10.9	27.5	77.5
L. MACROCHIRUS	1	1.40	1.4	1.4	42.5	42.5
A. ROSTRATA	5	291.70	39.7	81.5	282.5	382.5
M. SAXATILIS	1	4.40	4.4	4.4	77.5	77.5
F. MAJALIS	1	10.00	10.0	10.0	92.5	92.5
M. MENIDIA	3	14.30	4.4	5.4	87.5	92.5
M. BILINEARIS	1	15.70	15.7	15.7	132.5	132.5
U. CHUSS	3	13.70	2.6	8.2	72.5	112.5

TOTAL	313	2749.20				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEGG, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/07/77 0830 TO 12/08/77 0830

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	50	649.90	8.4	50.7	82.5	152.5
L. XANTHURUS	3	55.20	9.9	29.8	87.5	117.5
M. AMERICANA	21	144.40	3.5	12.4	62.5	92.5
A. AESTIVALIS	2	5.10	2.3	2.8	62.5	72.5
H. NUHALIS	1	18.60	18.6	18.6	117.5	117.5
M. SAXATILIS	1	4.60	4.6	4.6	77.5	77.5
M. UNDULATUS	1	0.10	.1	.1	32.5	32.5

TOTAL	79	877.90				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE66, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/08/77 0830 TO 12/09/77 0830

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	95	1106.40	4.1	34.2	67.5	177.5
M. AMERICANA	75	628.60	2.1	72.5	52.5	162.5
U. CHUSS	4	40.70	3.2	20.5	77.5	152.5
M. BILINEARIS	2	12.20	2.7	9.5	77.5	112.5
L. XANTHURUS	13	109.00	1.8	17.2	52.5	172.5
M. MUCHALIS	8	121.40	3.1	21.4	67.5	122.5
A. ROSTRATA	4	304.20	25.1	250.9	282.5	582.5
B. TYRANNUS	1	30.40	30.4	30.4	122.5	122.5
M. MENIDIA	8	37.80	2.3	15.2	67.5	97.5
A. AESTIVALIS	4	18.70	2.7	3.6	67.5	77.5
M. SAXATILIS	2	16.80	4.5	12.3	72.5	97.5
T. MACULATUS	3	4.60	.3	1.1	32.5	52.5
L. MACROCHIRUS	2	5.70	2.6	3.1	52.5	57.5
M. UNDULATUS	1	0.30	.3	.3	32.5	32.5

TOTAL	222	2436.80
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE86, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/12/77 1100 TO 12/13/77 1100

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
P. FLAVESCENS	2	20.40	7.2	13.2	92.5	102.5
H. MACHALIS	9	117.40	5.8	24.2	87.5	132.5
M. AMERICANA	14	97.60	1.1	11.8	42.5	92.5
D. CEPEDIANUM	121	1807.70	5.9	70.1	77.5	172.5
A. AESTIVALIS	1	4.30	4.3	4.3	182.5	182.5
M. BILINEARIS	1	5.10	5.1	5.1	92.5	92.5
A. MITCHILLI	1	1.50	1.5	1.5	57.5	57.5
I. NEBULOSUS	1	3.50	3.5	3.5	67.5	67.5
M. SAXATILIS	2	11.10	4.5	6.6	72.5	82.5
M. MENIDIA	3	7.10	.7	3.1	52.5	87.5
L. KANTHURUS	2	13.20	3.7	9.5	67.5	92.5
A. ROSTRATA	1	184.70	184.7	184.7	467.5	467.5

TOTAL	158	2273.60				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEG, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/14/77 0800 TO 12/15/77 0800

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	380	4890.00	5.6	64.0	77.5	162.5
M. AMERICANA	32	367.90	1.8	147.0	57.5	197.5
F. MAJALIS	1	4.20	4.2	4.2	77.5	77.5
L. XANTHURUS	1	8.70	8.7	8.7	92.5	92.5
P. FLAVESCENS	2	137.20	14.2	123.0	102.5	202.5
H. NUCHALIS	1	16.00	1.6	1.6	122.5	122.5
M. MENIDIA	2	7.80	3.5	4.3	67.5	82.5
M. BILINEARIS	1	23.10	23.1	23.1	147.5	147.5
U. CHUSS	2	9.70	4.5	5.2	77.5	97.5
T. MACULATUS	1	1.40	1.4	1.4	42.5	42.5
M. SAXATILIS	1	8.10	8.1	8.1	67.5	67.5
A. ROSTRATA	1	78.50	78.5	78.5	342.5	342.5
A. AESTIVALIS	1	6.80	6.8	6.8	82.5	82.5
F. DIAPHANUS	1	7.40	7.4	7.4	77.5	77.5

TOTAL	427	5566.80				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE&G, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/15/77 0800 TO 12/16/77 0800

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	450	6840.00	4.5	104.0	77.5	207.5
M. AMERICANA	87	577.00	2.8	13.9	52.5	97.5
A. MITCHILLI	1	0.20	.2	.2	37.5	37.5
A. AESTIVALIS	6	18.60	2.3	3.5	62.5	72.5
M. UNDULATUS	3	1.00	.2	.5	32.5	37.5
T. MACULATUS	2	4.10	1.1	3.0	42.5	57.5
M. NUCHALIS	5	69.90	5.7	20.7	72.5	122.5
L. XANTHURUS	1	22.10	22.1	22.1	117.5	117.5
U. CHUSS	1	5.30	5.3	5.3	97.5	97.5
C. AURATUS	3	188.40	2.8	149.4	52.5	192.5
P. ANNULARIS	1	4.80	4.8	4.8	82.5	82.5
M. MENIDIA	1	3.40	3.4	3.4	72.5	72.5
P. FLAVESCENS	2	39.20	7.9	31.3	92.5	132.5
A. ROSTRATA	1	48.00	48.0	48.0	402.5	402.5
L. MACROCHIRUS	1	17.60	17.6	17.6	97.5	97.5

TOTAL	565	7839.60				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE&G, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/19/77 0730 TO 12/20/77 0730

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	64	876.20	4.3	62.5	72.5	172.5
M. UNDULATUS	6	10.00	2.4	3.8	32.5	62.5
M. AMERICANA	44	284.50	3.3	29.1	52.5	132.5
T. MACULATUS	2	6.70	2.2	4.5	47.5	52.5
M. MENIDIA	1	3.10	3.1	3.1	77.5	77.5
U. CHUSS	1	3.90	3.9	3.9	87.5	87.5

TOTAL	118	1184.40				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEB6, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/21/77 0830 TO 12/22/77 0830

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	107	1577.60	4.6	150.0	77.5	202.5
M. AMERICANA	23	221.40	2.4	40.9	62.5	132.5
M. MENIDIA	3	9.20	2.6	3.4	67.5	82.5
M. UNDULATUS	13	10.10	.6	3.4	27.5	92.5
U. CHUSS	2	6.50	2.2	4.3	72.5	87.5
A. ROSTRATA	1	135.60	135.6	135.6	422.5	422.5
P. FLAVESCENS	1	8.30	8.3	8.3	92.5	92.5

TOTAL	150	1968.70				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE86, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/22/77 1930 TO 12/23/77 0730

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	44	669.70	10.0	55.3	82.5	157.5
M. AMERICANA	9	64.30	5.0	9.9	62.5	87.5
A. ROSTRATA	1	76.30	76.3	76.3	357.5	357.5
F. HETEROCLITUS	2	9.70	3.5	6.2	72.5	82.5
M. UNDULATUS	6	6.20	.6	1.4	37.5	52.5
TOTAL	62	826.20				

IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEB6, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/27/77 0900 TO 12/28/77 0900

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
D. CEPEDIANUM	163	2510.00	8.5	159.2	82.5	227.5
M. AMERICANA	9	47.80	3.8	9.1	62.5	82.5
H. NUHALIS	5	58.30	5.1	14.4	77.5	117.5
M. UNDULATUS	2	1.50	.3	1.2	32.5	52.5
M. SAXATILIS	1	11.60	11.6	11.6	92.5	92.5
P. FLAVESCENS	2	18.70	5.6	13.1	82.5	102.5
L. MACROCHIRUS	2	15.90	2.2	13.7	47.5	82.5

TOTAL	184	2663.80				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSE86, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/28/77 0900 TO 12/29/77 0900

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
A. ROSTRATA	6	649.90	88.5	151.7	392.5	452.5
D. CEPEDIANUM	197	2600.00	8.9	167.2	87.5	227.5
M. AMERICANA	10	206.80	3.0	130.0	57.5	197.5
H. NUCHALIS	6	85.80	3.5	20.0	67.5	117.5
L. MACROCHIRUS	1	40.00	40.0	40.0	122.5	122.5
U. CHUSS	2	6.00	2.0	4.0	72.5	87.5
P. FLAVESCENS	1	31.50	31.5	31.5	142.5	142.5
P. NIGROMACULATUS	1	43.00	43.0	43.0	142.5	142.5

TOTAL	224	3663.00				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEB, NEWARK, N.J.

TABLE 3. - (CONTINUED).

SAMPLING PERIOD - 12/29/77 0900 TO 12/30/77 0900

SPECIES	NUMBER	WT. (GM)	WEIGHT		LENGTH	
			MIN.	MAX.	MIN.	MAX.
I. NEBULOSUS	1	149.50	149.5	149.5	227.5	227.5
L. MACROCHIRUS	1	135.00	135.0	135.0	162.5	162.5
P. FLAVESCENS	1	9.80	9.8	9.8	87.5	87.5
A. ROSTRATA	3	780.40	167.6	364.3	442.5	592.5
A. AESTIVALIS	2	8.40	3.8	4.6	77.5	77.5
M. AMERICANA	4	19.70	2.7	10.1	62.5	82.5
M. UNDULATUS	1	1.30	1.3	1.3	47.5	47.5
D. CEPEDIANUM	56	1110.70	6.8	184.3	57.5	227.5
U. CHUSS	2	7.30	3.3	4.0	87.5	92.5
H. NUCHALIS	2	7.60	1.0	6.6	62.5	87.5

TOTAL	73	2229.70				
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IMPINGEMENT MONITORING PROGRAM
SALEM NUCLEAR GENERATING STATION UNIT 1
PSEB6, NEWARK, N.J.

ABRPT PRINTS