

REGULATORY DOCKET FILE COPY



INDIANA & MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106

December 5, 1978

Directorate of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20545

Docket No. 50-315
50-316

Gentlemen:

Pursuant to the requirements of Section 4.1.2.1.2 of the Appendix B Environmental Technical Specifications for the Donald C. Cook Nuclear Plant, the attached monthly reports on impingement of fish are submitted.

These reports cover the months of July, August and September 1978.

Sincerely,

for D. V. Shaller
Plant Manager

DVS:ab

cc: R. W. Jurgensen
J. E. Dolan
R. F. Kroger
R. J. Vollen
K. R. Baker RO: III
R. C. Callen, MPSC
Richard Walsh, Esq.
Peter Steketee, Esq.
NRC RO: III
PNSRC File

Attachment

A007
S/11

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MONTH: JULY, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	1		2		3		4		5		6		7		8	
TEMP C	NO SAMPLING		13.2		NO SAMPLING		NO SAMPLING		NO SAMPLING		16.2		NO SAMPLING		NO SAMPLING	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	6	0.07	0	0.0	0	0.0	0	0.0	11	0.12	0	0.0	0	0.0
AL	0	0.0	208	5.84	0	0.0	0	0.0	0	0.0	4564	117.17	0	0.0	0	0.0
SM	0	0.0	19	0.06	0	0.0	0	0.0	0	0.0	160	0.45	0	0.0	0	0.0
YP	0	0.0	34	2.19	0	0.0	0	0.0	0	0.0	16	1.32	0	0.0	0	0.0
TP	0	0.0	223	1.77	0	0.0	0	0.0	0	0.0	85	0.65	0	0.0	0	0.0
JD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.01	0	0.0	0	0.0
VS	0	0.0	1	0.88	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LS	0	0.0	1	1.70	0	0.0	0	0.0	0	0.0	1	1.40	0	0.0	0	0.0
CH	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0
CM	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	2	0.02	0	0.0	0	0.0	0	0.0	7	0.03	0	0.0	0	0.0
GN	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.01	0	0.0	0	0.0
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BG	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.08	0	0.0	0	0.0
TOTALS	0	0.0	494	12.53	0	0.0	0	0.0	0	0.0	4852	121.25	0	0.0	0	0.0
PERCENT	0.0	0.0	0.68	1.38	0.0	0.0	0.0	0.0	0.0	0.0	6.72	13.37	0.0	0.0	0.0	0.0

MONTH: JULY, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	9		10		11		12		13		14		15		16	
TEMP C	NO SAMPLING		11.2		NO SAMPLING		NO SAMPLING		NO SAMPLING		13.8		NO SAMPLING		NO SAMPLING	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	26	0.22	0	0.0	0	0.0	0	0.0	12	0.10	0	0.0	0	0.0
AL	0	0.0	10463	255.09	0	0.0	0	0.0	0	0.0	2272	60.48	0	0.0	0	0.0
SH	0	0.0	932	2.89	0	0.0	0	0.0	0	0.0	168	0.68	0	0.0	0	0.0
YP	0	0.0	17	0.59	0	0.0	0	0.0	0	0.0	3173	96.82	0	0.0	0	0.0
TP	0	0.0	149	0.89	0	0.0	0	0.0	0	0.0	177	1.05	0	0.0	0	0.0
JD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.01	0	0.0	0	0.0
WS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	3.27	0	0.0	0	0.0
LS	0	0.0	1	1.63	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
CH	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0
MS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
CM	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.00	0	0.0	0	0.0
SS	0	0.0	6	0.02	0	0.0	0	0.0	0	0.0	4	0.03	0	0.0	0	0.0
GN	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
YC	0	0.0	59	0.47	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
DG	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0
DR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.0	0	0.0	0	0.0
TOTALS	0	0.0	11654	262.61	0	0.0	0	0.0	0	0.0	5817	162.47	0	0.0	0	0.0
PERCENT	0.0	0.0	16.13	28.95	0.0	0.0	0.0	0.0	0.0	0.0	8.05	17.91	0.0	0.0	0.0	0.0

MONTH: JULY, 1978

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

[illegible]

MONTH: JULY, 1978

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	25		26		27		28		29		30		31			
TEMP C	NO SAMPLING		21.3		NO SAMPLING		NO SAMPLING		NO SAMPLING		13.5		NO SAMPLING		TOT.	TOT.
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NO.	WT.
SP	0	0.0	11	0.11	0	0.0	0	0.0	0	0.0	23621	73.32	0	0.0	23696	74.05
AL	0	0.0	330	8.24	0	0.0	0	0.0	0	0.0	3043	61.63	0	0.0	24753	603.89
SN	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2606	8.72	0	0.0	4423	14.75
YP	0	0.0	6	0.53	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3260	101.99
TP	0	0.0	10	0.08	0	0.0	0	0.0	0	0.0	11848	57.02	0	0.0	12577	62.07
JD	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	0.02
WS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.40	0	0.0	5	5.55
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	5.71
CH	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01
MS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01
CN	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.14
NS	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.01
SS	0	0.0	2	0.02	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	21	0.12
GN	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01
GS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.81	0	0.0	1	0.81
YC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3421	36.84	0	0.0	3487	37.36
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
BG	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.63
WC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.08
TOTALS	0	0.0	361	8.98	0	0.0	0	0.0	0	0.0	44540	239.73	0	0.0	72249	907.20
PERCENT	0.0	0.0	0.50	0.99	0.0	0.0	0.0	0.0	0.0	0.0	61.65	26.43	0.0	0.0	100.00	100.00

MONTH: JULY, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

SPECIES	DAILY AVG NUMBER	STD DEV NUMBER	DAILY AVG WEIGHT	STD DEV WEIGHT	PERCENT NUMBER	TOTAL NUMBER	PERCENT WEIGHT	TOTAL WEIGHT	ESTIMATED TOTALS FOR MONTH NUMBER	WEIGHT
SP	3385.14	8922.73	10.58	27.67	32.80	23696	8.16	74.05	104939	327.95
AL	3536.14	3472.47	86.27	85.27	34.26	24753	66.57	603.89	109620	2674.30
SN	631.86	931.74	2.11	3.10	6.12	4423	1.63	14.75	19587	65.30
YP	465.71	1193.05	14.57	36.28	4.51	3260	11.24	101.99	14437	451.67
TP	1796.71	4432.75	8.87	21.24	17.41	12577	6.84	62.07	55698	274.87
JD	1.29	1.38	0.00	0.00	0.01	9	0.00	0.02	39	0.10
WS	0.71	1.11	0.79	1.23	0.01	5	0.61	5.55	22	24.57
LS	0.57	0.53	0.82	0.80	0.01	4	0.63	5.71	17	25.28
CH	0.14	0.38	0.00	0.00	0.00	1	0.30	0.01	4	0.04
HS	0.14	0.38	0.00	0.00	0.00	1	0.00	0.01	4	0.04
CH	0.43	0.79	0.02	0.05	0.00	3	0.02	0.14	13	0.61
HS	0.43	0.79	0.00	0.00	0.00	3	0.00	0.01	13	0.02
SS	3.00	2.77	0.02	0.01	0.03	21	0.01	0.12	93	0.53
GN	0.14	0.38	0.00	0.00	0.00	1	0.00	0.01	4	0.06
GS	0.14	0.38	0.12	0.30	0.00	1	0.09	0.81	4	3.57
YC	498.14	1289.04	5.34	13.89	4.03	3487	4.12	37.36	15442	165.46
PS	0.14	0.38	0.00	0.00	0.00	1	0.00	0.00	4	0.01
BG	0.14	0.38	0.00	0.00	0.00	1	0.00	0.01	4	0.05
BR	0.14	0.38	0.09	0.24	0.00	1	0.07	0.63	4	2.79
WC	0.14	0.38	0.01	0.03	0.00	1	0.01	0.08	4	0.34
TOTAL	10321.29	0.0	129.60	100.10	100.00	72249	100.00	907.20	319959	4017.61

THERE WERE 7 DAYS ON WHICH SAMPLES WERE TAKEN.
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 31 DAYS OF IMPINGEMENT.

EXECUTION TERMINATED 02:50:40 T=1.477 RC=0 \$.50

MONTH: AUGUST, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	1		2		3		4		5		6		7		8	
TEMP C	NO SAMPLING		NO SAMPLING		17.0		NO SAMPLING		NO SAMPLING		NO SAMPLING		18.1		NO SAMPLING	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	0	0.0	217	1.20	0	0.0	0	0.0	0	0.0	475	3.25	0	0.0
AL	0	0.0	0	0.0	464	10.85	0	0.0	0	0.0	0	0.0	854	20.03	0	0.0
SH	0	0.0	0	0.0	463	2.04	0	0.0	0	0.0	0	0.0	2190	8.76	0	0.0
YP	0	0.0	0	0.0	100	6.77	0	0.0	0	0.0	0	0.0	379	30.84	0	0.0
TP	0	0.0	0	0.0	151	1.03	0	0.0	0	0.0	0	0.0	204	1.38	0	0.0
JD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.01	0	0.0
WS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.95	0	0.0
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
MS	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HS	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	0.01	0	0.0
XC	0	0.0	0	0.0	43	0.52	0	0.0	0	0.0	0	0.0	105	1.13	0	0.0
BR	0	0.0	0	0.0	1	0.09	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	1449	22.58	0	0.0	0	0.0	0	0.0	4215	66.36	0	0.0
PERCENT	0.0	0.0	0.0	0.0	15.99	12.25	0.0	0.0	0.0	0.0	0.0	0.0	46.51	36.00	0.0	0.0

MONTH: AUGUST, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	9		10		11		12		13		14		15		16	
TEMP C	NO SAMPLING		NO SAMPLING		21.1		NO SAMPLING		NO SAMPLING		NO SAMPLING		21.9		NO SAMPLING	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	0	0.0	300	2.04	0	0.0	0	0.0	0	0.0	212	1.53	0	0.0
AL	0	0.0	0	0.0	285	5.62	0	0.0	0	0.0	0	0.0	183	4.11	0	0.0
SM	0	0.0	0	0.0	569	4.20	0	0.0	0	0.0	0	0.0	234	1.39	0	0.0
YP	0	0.0	0	0.0	289	19.81	0	0.0	0	0.0	0	0.0	158	15.10	0	0.0
TP	0	0.0	0	0.0	119	0.75	0	0.0	0	0.0	0	0.0	99	0.73	0	0.0
JD	0	0.0	0	0.0	1	0.00	0	0.0	0	0.0	0	0.0	1	0.09	0	0.0
WS	0	0.0	0	0.0	1	0.86	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.70	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	5.30	0	0.0
MS	0	0.0	0	0.0	3	0.01	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	0.01	0	0.0
XC	0	0.0	0	0.0	7	0.08	0	0.0	0	0.0	0	0.0	10	0.11	0	0.0
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	1574	33.38	0	0.0	0	0.0	0	0.0	903	29.00	0	0.0
PERCENT	0.0	0.0	0.0	0.0	17.37	18.10	0.0	0.0	0.0	0.0	0.0	0.0	9.96	15.73	0.0	0.0

MONTH: AUGUST, 1978

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	17		18		19		20		21		22		23		24	
TEMP C	NO SAMPLING		NO SAMPLING		23.4		NO SAMPLING		NO SAMPLING		NO SAMPLING		22.9		NO SAMPLING	
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT
SP	0	0.0	0	0.0	38	0.30	0	0.0	0	0.0	0	0.0	137	1.08	0	0.0
AL	0	0.0	0	0.0	31	0.63	0	0.0	0	0.0	0	0.0	370	9.31	0	0.0
SH	0	0.0	0	0.0	19	0.24	0	0.0	0	0.0	0	0.0	40	0.23	0	0.0
YP	0	0.0	0	0.0	39	5.16	0	0.0	0	0.0	0	0.0	65	6.12	0	0.0
TP	0	0.0	0	0.0	5	0.05	0	0.0	0	0.0	0	0.0	19	0.19	0	0.0
JD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
WS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	1.50	0	0.0
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
MS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	0.01	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.32	0	0.0
TOTALS	0	0.0	0	0.0	132	6.38	0	0.0	0	0.0	0	0.0	644	19.77	0	0.0
PERCENT	0.0	0.0	0.0	0.0	1.46	3.46	0.0	0.0	0.0	0.0	0.0	0.0	7.11	10.72	0.0	0.0

MONTH: AUGUST, 1978

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP C	25		26		27		28		29		30		31		TOT. NO.	TOT. WT.
	NO SAMPLING	WEIGHT	NO SAMPLING	WEIGHT	NO SAMPLING	WEIGHT	23.1	WEIGHT	NO SAMPLING	WEIGHT	23.2	WEIGHT	NO SAMPLING	WEIGHT		
SPECIES																
SP	0	0.0	0	0.0	0	0.0	38	0.38	0	0.0	0	0.0	0	0.0	1417	9.85
AL	0	0.0	0	0.0	0	0.0	33	0.94	0	0.0	0	0.0	0	0.0	2228	51.49
SH	0	0.0	0	0.0	0	0.0	3	0.05	0	0.0	0	0.0	0	0.0	3518	16.91
YP	0	0.0	0	0.0	0	0.0	64	5.48	0	0.0	0	0.0	0	0.0	1102	89.28
TP	0	0.0	0	0.0	0	0.0	7	0.05	0	0.0	0	0.0	0	0.0	604	4.19
JD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	0.01
WS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	4	3.31
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	5.30
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	5	0.03
NS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.00
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	9	0.03
IC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	165	1.84
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	1.42
TOTALS	0	0.0	0	0.0	0	0.0	145	6.90	0	0.0	0	0.0	0	0.0	9062	184.37
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	1.60	3.74	0.0	0.0	0.0	0.0	0.0	0.0	100.00	100.00

MONTH: AUGUST, 1978

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

SPECIES	DAILY AVG	STD DEV	DAILY AVG	STD DEV	PERCENT	TOTAL	PERCENT	TOTAL	ESTIMATED TOTALS FOR MONTH	
	NUMBER	NUMBER	WEIGHT	WEIGHT	NUMBER	NUMBER	WEIGHT	WEIGHT	NUMBER	WEIGHT
SP	177.13	159.61	1.23	1.07	15.64	1417	5.34	9.85	5490	38.18
AL	278.50	288.78	6.44	6.80	24.59	2228	27.93	51.49	8633	199.52
SH	439.75	741.03	2.11	3.04	38.82	3518	9.17	16.91	13632	65.52
YP	137.75	131.93	11.16	10.11	12.16	1102	48.43	89.28	4270	345.97
TP	75.50	78.57	0.52	0.52	6.67	604	2.27	4.19	2340	16.22
JD	0.50	0.76	0.00	0.00	0.04	4	0.01	0.01	15	0.04
WS	0.50	0.76	0.41	0.60	0.04	4	1.80	3.31	15	12.83
LS	0.13	0.35	0.09	0.25	0.01	1	0.38	0.70	3	2.72
LT	0.13	0.35	0.66	1.87	0.01	1	2.87	5.30	3	20.54
NS	0.63	1.06	0.00	0.01	0.06	5	0.02	0.03	19	0.12
NS	0.13	0.35	0.00	0.00	0.01	1	0.00	0.00	3	0.01
SS	1.13	1.64	0.00	0.01	0.10	9	0.02	0.03	34	0.12
XC	20.63	37.07	0.23	0.40	1.82	165	1.00	1.84	639	7.15
DR	0.38	0.74	0.18	0.46	0.03	3	0.77	1.42	11	5.49
TOTAL	1132.75	1380.83	23.05	21.04	100.00	9062	100.00	184.37	35115	714.42

THERE WERE 8 DAYS ON WHICH SAMPLES WERE TAKEN.
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 31 DAYS OF IMPINGEMENT.

EXECUTION TERMINATED 10:28:42 T=1.502 RC=0 \$.85

MONTH: SEPTEMBER, 1978

WEIGHT IN KILOGRAMS

TEMPERATURE IN DEGREES CENTIGRADE

PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP C	1		2		3		4		5		6		7		8	
	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	23.5 NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT
SPECIES																
SP	0	0.0	0	0.0	0	0.0	111	0.83	0	0.0	0	0.0	0	0.0	0	0.0
AL	0	0.0	0	0.0	0	0.0	56	1.21	0	0.0	0	0.0	0	0.0	0	0.0
SH	0	0.0	0	0.0	0	0.0	13	0.11	0	0.0	0	0.0	0	0.0	0	0.0
YP	0	0.0	0	0.0	0	0.0	60	4.66	0	0.0	0	0.0	0	0.0	0	0.0
TP	0	0.0	0	0.0	0	0.0	81	0.53	0	0.0	0	0.0	0	0.0	0	0.0
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
MS	0	0.0	0	0.0	0	0.0	1	0.02	0	0.0	0	0.0	0	0.0	0	0.0
BT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	1	0.02	0	0.0	0	0.0	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	323	7.39	0	0.0	0	0.0	0	0.0	0	0.0
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	20.69	20.32	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

MONTH: SEPTEMBER, 1978

WEIGHT IN KILOGRAMS

TEMPERATURE IN DEGREES CENTIGRADE

PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP C	9		10		11		12		13		14		15		16	
	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	13.0 NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	20.9 NUMBER	WEIGHT
SPECIES																
SP	0	0.0	0	0.0	0	0.0	356	2.44	0	0.0	0	0.0	0	0.0	30	0.17
AL	0	0.0	0	0.0	0	0.0	131	2.03	0	0.0	0	0.0	0	0.0	36	1.07
SM	0	0.0	0	0.0	0	0.0	54	0.39	0	0.0	0	0.0	0	0.0	1	0.01
YP	0	0.0	0	0.0	0	0.0	71	4.13	0	0.0	0	0.0	0	0.0	15	1.01
TP	0	0.0	0	0.0	0	0.0	65	0.44	0	0.0	0	0.0	0	0.0	5	0.05
LS	0	0.0	0	0.0	0	0.0	1	0.03	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
MS	0	0.0	0	0.0	0	0.0	4	0.07	0	0.0	0	0.0	0	0.0	2	0.01
DT	0	0.0	0	0.0	0	0.0	1	5.50	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PS	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	0	0.0
DR	0	0.0	0	0.0	0	0.0	1	0.95	0	0.0	0	0.0	0	0.0	0	0.0
PD	0	0.0	0	0.0	0	0.0	2	1.10	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	687	17.08	0	0.0	0	0.0	0	0.0	89	2.32
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	44.01	46.94	0.0	0.0	0.0	0.0	0.0	0.0	5.70	6.37

MONTH: SEPTEMBER, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

TEMP. C.	17		18		19		20		21		22		23		24	
	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	18.5 NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	NO SAMPLING NUMBER	WEIGHT	18.6 NUMBER	WEIGHT
SPECIES																
SP	0	0.0	0	0.0	0	0.0	23	0.22	0	0.0	0	0.0	0	0.0	56	0.39
AL	0	0.0	0	0.0	0	0.0	29	0.59	0	0.0	0	0.0	0	0.0	15	0.34
SH	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	1	0.00
YP	0	0.0	0	0.0	0	0.0	12	1.56	0	0.0	0	0.0	0	0.0	11	0.57
TP	0	0.0	0	0.0	0	0.0	6	0.05	0	0.0	0	0.0	0	0.0	11	0.09
LS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	3.00
MS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
RT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
SS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
XC	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
PD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
TOTALS	0	0.0	0	0.0	0	0.0	71	2.44	0	0.0	0	0.0	0	0.0	95	4.73
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	4.55	6.70	0.0	0.0	0.0	0.0	0.0	0.0	6.09	12.99

MONTH: SEPTEMBER, 1978

WEIGHT IN KILOGRAMS

TEMPERATURE IN DEGREES CENTIGRADE

PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

	25		26		27		28		29		30		31					
TEMP C	NO SAMPLING		NO SAMPLING		NO SAMPLING		17.7		NO SAMPLING		NO SAMPLING		NO SAMPLING					
SPECIES	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	NUMBER	WEIGHT	TOT. NO.	TOT. WT.		
SP	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	576	4.06		
AL	0	0.0	0	0.0	0	0.0	181	0.95	0	0.0	0	0.0	0	0.0	448	6.20		
SH	0	0.0	0	0.0	0	0.0	1	0.06	0	0.0	0	0.0	0	0.0	71	0.58		
YP	0	0.0	0	0.0	0	0.0	43	0.59	0	0.0	0	0.0	0	0.0	212	12.52		
TP	0	0.0	0	0.0	0	0.0	64	0.49	0	0.0	0	0.0	0	0.0	232	66		
LS	0	0.0	0	0.0	0	0.0	1	0.30	0	0.0	0	0.0	0	0.0	2	33		
LT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	3.32		
HS	0	0.0	0	0.0	0	0.0	3	0.02	0	0.0	0	0.0	0	0.0	10	0.12		
BT	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	5.50		
SS	0	0.0	0	0.0	0	0.0	1	0.01	0	0.0	0	0.0	0	0.0	2	0.03		
XC	0	0.0	0	0.0	0	0.0	2	0.01	0	0.0	0	0.0	0	0.0	2	0.01		
PS	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.01		
BR	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1	0.95		
PD	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	2	1.10		
TOTALS	0	0.0	0	0.0	0	0.0	296	2.44	0	0.0	0	0.0	0	0.0	1561	36.39		
PERCENT	0.0	0.0	0.0	0.0	0.0	0.0	18.96	6.69	0.0	0.0	0.0	0.0	0.0	0.0	100.00	100.00		

MONTH: SEPTEMBER, 1970

WEIGHT IN KILOGRAMS
TEMPERATURE IN DEGREES CENTIGRADE
PERCENTAGES ARE OF TOTAL SAMPLED THIS MONTH

SPECIES	DAILY AVG NUMBER	STD DEV NUMBER	DAILY AVG WEIGHT	STD DEV WEIGHT	PERCENT NUMBER	TOTAL NUMBER	PERCENT WEIGHT	TOTAL WEIGHT	ESTIMATED TOTALS FOR MONTH NUMBER	ESTIMATED TOTALS FOR MONTH WEIGHT
SP	96.00	132.91	0.68	0.91	36.90	576	11.14	4.06	2976	20.95
AL	74.67	66.29	1.03	0.58	28.70	440	17.02	6.20	2314	32.01
SM	11.83	21.21	0.10	0.15	4.55	71	1.60	0.58	366	3.01
YP	35.33	26.42	2.09	1.83	13.58	212	34.40	12.52	1095	64.68
TP	38.67	34.91	0.28	0.23	14.06	232	4.55	1.66	1198	8.56
LS	0.33	0.52	0.05	0.12	0.13	2	0.91	0.33	10	1.70
LT	0.17	0.41	0.55	1.36	0.06	1	9.14	3.32	5	17.18
HS	1.67	1.63	0.02	0.02	0.64	10	0.34	0.12	51	0.63
DT	0.17	0.41	0.92	2.25	0.06	1	15.11	5.50	5	28.42
SS	0.33	0.52	0.01	0.01	0.13	2	0.08	0.03	10	0.16
YC	0.33	0.82	0.00	0.00	0.13	2	0.03	0.01	10	0.05
PS	0.17	0.41	0.00	0.00	0.06	1	0.03	0.01	5	0.06
BR	0.17	0.41	0.16	0.39	0.06	1	2.61	0.95	5	4.91
PD	0.33	0.82	0.10	0.45	0.13	2	3.02	1.10	10	5.68
TOTAL	260.17	236.55	6.06	5.75	100.00	1561	100.00	36.39	8065	188.01

THERE WERE 6 DAYS ON WHICH SAMPLES WERE TAKEN.
ESTIMATED TOTALS FOR THIS MONTH ARE BASED ON 31 DAYS OF IMPINGEMENT.

EXECUTION TERMINATED 09:57:03 T=657 RC=0 \$30

