

PROGRESS REPORT
FOR THE THIRTY-NINTH QUARTER

On

STUDY OF WOODBORER POPULATIONS
IN RELATION TO THE OYSTER CREEK
NUCLEAR GENERATING STATION

To

GPU NUCLEAR CORPORATION
February 28, 1985

by

R.E. Hillman and C.I. Belmore

REPORT NO. 15274

November 1, 1984 to January 31, 1985

BATTELLE
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Duxbury, Massachusetts 02332

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EXECUTIVE SUMMARY

This progress report presents data from field and laboratory work during the period November 1, 1984 to January 31, 1985. Also included are the results of observations on gonad development in samples collected in October, November, and December, 1984.

All field work during this quarter was carried out by GPU Nuclear personnel. Temperature, salinity, dissolved oxygen and pH were measured and recorded at each of the 20 stations during the three periods of exposure panel exchange.

The long-term exposure panel from Station 1, which was scheduled for removal in January, 1985 was taken out of the water in November, 1984 due to the deteriorating condition of the panel.

One empty Limnoria tunnel was found in the long-term exposure panel removed from Station 10A in December, 1984. This was the first time that any Limnoria tunnels have been recorded from the exposure panels submerged at this station.

With the exception of Station No. 1, where the teredinid attack continues to be very heavy, the borer attack at the other stations has been light or absent in the exposure panels examined during the past quarter.

Most gonads from the October, November and December samples were in the spent stage, although some gonads showed signs of early activity. This activity was probably begun in the late summer and early fall, and ceased as water temperatures fell through October, November and December.

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INTRODUCTION

Battelle's New England Marine Research Laboratory is conducting an investigation to determine whether the Oyster Creek Nuclear Generating Station is affecting the resident marine borer population in Oyster Creek to the extent that that population is contributing significantly to marine borer-caused damage in Barnegat Bay.

A description of the program and procedures used may be found in the eighth annual report titled, "Study of Woodborer Populations in Relation to the Oyster Creek Generating Station", dated May 15, 1984.

This report presents data for the thirty-ninth quarterly period from November 1, 1984 to January 31, 1985.

PROCEDURES AND INTERIM DATA

Exposure panels

The long-term and short-term exposure panels were retrieved and replaced with new untreated pre-soaked (for two weeks) panels at the 20 exposure sites in Barnegat Bay and adjacent waters (Figure 1) during the periods of November 12-13, December 10-11, 1984 and January 14-15, 1985. Long-term and short-term panels at all stations were retrieved and replaced by personnel from GPU's Oyster Creek Nuclear Generating Station.

Table 1 describes the geographical locations of the exposure sites. Data from the laboratory examination of the panels are presented in Tables 2 through 5.

Water Quality

Salinity, water temperature, dissolved oxygen and pH were taken at each site by the GPU Nuclear field team. Results for November, December, 1984 and January, 1985 are presented in Tables 6 through 8.

Teredinid Gonadal Development Studies

Table 9 shows the gonad condition of teredinid borers collected in October, November and December, 1984. Included are results from panels exposed for periods ranging from 4 to 12 months.

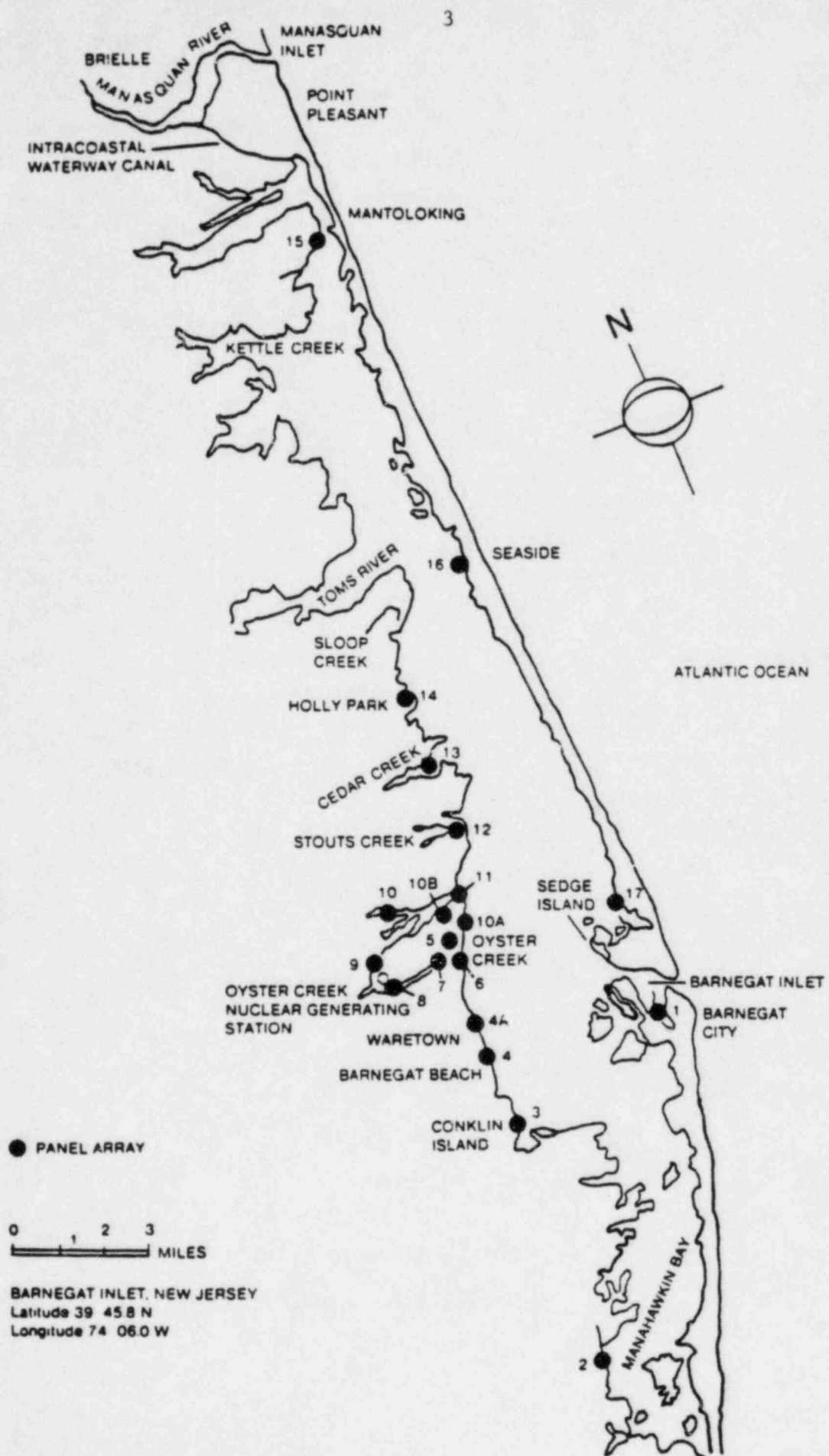


FIGURE 1. OUTLINE OF BARNEGAT BAY SHOWING GEOGRAPHIC LOCATIONS OF EXPOSURE PANELS

TABLE 1. GEOGRAPHICAL LOCATIONS OF BATTELLE NEW ENGLAND MARINE RESEARCH LABORATORY'S EXPOSURE PANEL ARRAYS IN BARNEGAT BAY, NEW JERSEY

Site No.	Site	Structure to be used for Suspension of Rack	Nearest Previous Data Stations	Approximate Latitude and Longitude
1.	Barnegat Coast Guard Station, Barnegat Inlet	Finger Pier Bulkhead	WC 1 WFCL 1948-1967	Lat. 39° 45.8'N Long. 74° 06.5'W
2.	Ashton Marina 1450 Bay Ave. Manahawkin	Bulkhead	WC 13, 14	Lat. 39° 40'N Long. 74° 13'W
3.	Iggie's Marina East Bay Ave. Barnegat (Conklin Island)	Bulkhead	WC 16, 17, 18, 19	Lat. 39° 45'N Long. 74° 12.5'W
4.	Liberty Harbor Marina Washington Ave. Waretown	Bulkhead	WC 21 R. Turner Rutgers U.	Lat. 39° 47'N Long. 74° 11'W
4-A*.	Holiday Harbor Marina Lighthouse Drive Waretown	Bulkhead	WC 21 R. Turner Rutgers U.	Lat. 39° 48'N Long. 74° 11'N
5.	Mouth of Oyster Creek, Lot 4, Compass Road Offshore End	Dock	WC 29, 30 Rutgers U.	Lat. 39° 48.5'N Long. 74° 10.3'W
6.	Oyster Creek 1 Lagoon, Inshore End 37 Capstan Drive	Dock		Lat. 39° 48.5'N Long. 74° 10.35'W

TABLE 1. (Continued)

Site No.	Site	Structure to be used for Suspension of Rack	Nearest Previous Data Stations	Approximate Latitude and Longitude
7.	Private Dock Dock Ave. Oyster Creek Sands Pt. Harbor Waretown	End of Dock	WC 27,28 R. Turner Rutgers U.	Lat. 39° 48.5'N Long. 74° 11.1'W
8.*	Oyster Creek Discharge Canal	Bulkhead 1500 ft. east of the R.R. bridge	WC 26	Lat. 39° 48.7'N Long. 74° 12'W
9.*	Forked River South Branch Intake Canal	Metal pier	WC 31	Lat. 39° 49.2'N Long. 74° 12.2'W
10.	Teds Marina Bay Ave. Forked River	Pier	WC 33, 34	Lat. 39° 50.1'N Long. 74° 11.6'W
10A*.	Private Dock 1217 Aquarius Ct. Forked River	Under Dock		Lat. 39° 49'N Long. 74° 10'W
10B*.	Private Dock 1307 Beach Blvd. Forked River	Under Dock		Lat. 39° 49.4'N Long. 74° 10.1'W
11.	Forked River (near mouth) 1413 River View Drive	Bulkhead	WC 35 Rutgers U.	Lat. 39° 49.7'N Long. 74° 10'W

TABLE 1. (Continued)

Site No.	Site	Structure to be used for Suspension of Rack	Nearest Previous Data Stations	Approximate Latitude and Longitude
12.	Stouts Creek 1273 Capstan Drive	Bulkhead	WC 38, 40, 41 R. Turner Wurtz Rutgers U.	Lat. 39° 50.5'N Long. 74° 08.8'W
13.	Rocknak's Yacht Basin Seaview Ave. Lanoka Harbor Cedar Creek	End of Pier	WC 46	Lat. 39° 52'N Long. 74° 09'W
14.	Dicks Landing Island Drive Bayville (Holly Park)	Pier	WC 49 R. Turner Nelson	Lat. 39° 54'W Long. 74° 08.1'W
15.	Winter Yacht Basin Inc. Rt. 528 Mantoloking Bridge	Pier	WC 57	Lat. 40° 02.5'N Long. 74° 04.9'W
16.	Berkely Yacht Basin J. Street Seaside	Pier	WC 60, 61	Lat. 39° 55.9'N Long. 74° 04.9'W
16A*.	Municipal Dock Seaside Heights	Pier	WC 60, 61	Lat. 39° 56.6'N Long. 74° 04.9'W
16B*.	Bayside Boats State Highway 35 and Bay Boulevard Seaside Heights, NJ	Pier	WC 60, 61	Lat. 39° 56.6'N Long. 74° 04.9'W

TABLE 1. (Continued)

Site No.	Site	Structure to be used for Suspension of Rack	Nearest Previous Data Stations	Approximate Latitude and Longitude
17.	Island Beach State Park (Sedge Island)	Pier	WC 68	Lat. 39° 47.1'N Long. 74° 05.9'W

All exposure panel racks suspended in a minimum water depth at mean low water of at least three feet. Racks hung with nylon line from existing structures so the bottom panels are close to, but not touching the bottom.

WC = Woodward-Clyde

WFCL = William F. Clapp Laboratories

- * Site 4-A installed April, 1977.
- Sites 10A, 10B installed April, 1978.
- Site 16 discontinued November, 1981.
- Site 16A installed December, 1981 - discontinued June, 1982.
- Site 16B installed June, 1982.
- Sites 8 and 9 moved from original locations November, 1983.

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TABLE 2. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED NOVEMBER 12-13, 1984

Station	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	500	99	2-60	25 <u>T. navalis</u> , 475 Teredinidae*	95% of specimens dead
	C	1400	1	<1-1	1400 Teredinidae*	
2	P	3	7	155-225	3 <u>T. navalis</u>	
	C	0				
8	P	2	<1	1	2 Teredinidae*	
	C	0				
10B	P	1	1	82	1 <u>B. gouldi</u>	
	C	0				
11	P	31	75	80-235	20 <u>B. gouldi</u> , 11 <u>T. navalis</u>	
	C	0				
12	P	5	7	22-220	5 <u>B. gouldi</u>	
	C	0				
13	P	1	5	265	1 <u>B. gouldi</u>	
	C	0				
14	P	1	2	125	1 Teredinidae*	Broken pallets
	C	0				
15	P	3	2	2-107	2 <u>T. navalis</u> , 1 Teredinidae*	
	C	0				
17	P	2	<1	3-13	1 <u>T. navalis</u> , 1 Teredinidae*	
	C	0				

Stations 3-7, 9-10A, and 16B - No Teredinidae present.

P = Long-term panel submerged May 14-15, 1984.

C = Short-term panel submerged October 8-9, 1984.

* = Not speciated due to size or condition.

TABLE 3. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED DECEMBER 10-11, 1984

Station	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	350	97	2-130	45 <u>T. navalis</u> , 105 Teredinidae*	95% of specimens dead
	C	0				
2	P	2	10	240-280	2 <u>T. navalis</u>	
	C	0				
4A	P	2	6	160-230	2 <u>B. gouldi</u>	
	C	0				
7	P	1	4	240	1 <u>T. navalis</u>	
	C	0				
8	P	2	<1	2-3	2 Teredinidae*	
	C	0				
10A	P	1	5	295	1 <u>B. gouldi</u>	
	C	0				
11	P	22	70	2-270	11 <u>B. gouldi</u> , 6 <u>T. navalis</u> , 5 Teredinidae*	
	C	0				
12	P	8	7	60-105	8 <u>B. gouldi</u>	
	C	0				
15	P	2	1	32-34	1 <u>B. gouldi</u> , 1 <u>T. navalis</u>	
	C	0				
17	P	1	<1	5	1 <u>Teredo</u> spp.	
	C	0				

Stations 3,4,5,6,9,10,10B,13,14, and 16B - no Teredinidae present.

P = Long-term panel submerged June 11-12, 1984.

C = Short-term panel submerged November 12-13, 1984.

* = Not speciated due to size or condition.

TABLE 4. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED JANUARY 14-15, 1985

Station	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	500*	99	<1-70	45 <u>T. navalis</u> , 455 Teredinidae**	90% of specimens dead
	C	0				
4A	P	1	1	80	1 <u>B. gouldi</u>	
	C	0				
5	P	3	5	125-150	3 <u>B. gouldi</u>	
	C	0				
9	P	1	1	125	1 <u>B. gouldi</u>	
	C	0				
10A	P	1	1	115	1 <u>T. navalis</u>	
	C	0				
11	P	12	18	38-175	3 <u>B. gouldi</u> , 8 <u>T. navalis</u> , 1 Teredinidae**	
	C	0				
12	P	2	2	72-135	2 <u>B. gouldi</u>	
	C	0				
17	P	3	2	43-65	2 <u>T. navalis</u> , 1 Teredinidae**	
	C	0				

Stations 2-4, 6-8, 10, 10B, 13-16B - No Teredinidae present.

P = Long-term panel submerged July 9-10, 1984.

C = Short-term panel submerged December 10-11, 1984.

* = Long-term panel removed 2 months early due to severe borer attack.

** = Not speciated due to size or condition.

TABLE 5. INCIDENCE OF LIMNORIA IN PANELS REMOVED NOVEMBER, DECEMBER, 1984 AND JANUARY, 1985

Station	Panel	November		December		January	
		No. of Tunnels	No. of Specimens	No. of Tunnels	No. of Specimens	No. of Tunnels	No. of Specimens
1	P	16	0	1	0	0	
	C	0		0		0	
2	P	2000	2000	900	780	105	65
	C	0		0		0	
3	P	0		0		0	
	C	0		0		0	
4	P	0		0		0	
	C	0		0		0	
4A	P	220	200	150	76	0	
	C	0		0		0	
10A	P	0		1	0	0	
	C	0		0		0	

Stations 5 through 10 and 10B through 17 - no Limnoria present.

P = Long-term panel, submerged 6 months.

C = Short-term panel, submerged 1 month.

TABLE 6. WATER QUALITY AT EXPOSURE PANEL STATIONS
NOVEMBER, 1984

Station	Date	Time	Depth in Feet	Salinity o/oo	Temperature (°C)	O ₂ (mg/l)	pH
1	11/12/84	0903	6.5	25.6	12.2	7.6	7.9
2	11/12/84	0935	5.0	23.2	11.5	7.6	7.8
3	11/12/84	1005	2.5	23.6	11.2	8.0	7.8
4	11/12/84	1030	4.0	24.5	11.8	7.8	7.8
4A	11/12/84	1045	3.0	24.7	12.2	7.5	7.9
5	11/12/84	1100	2.0	22.4	11.8	7.9	7.8
6	11/12/84	1115	2.5	21.0	10.3	8.3	7.7
7	11/12/84	1134	4.5	20.7	11.5	8.4	7.7
8	11/12/84	1150	3.0	21.5	11.6	7.8	7.8
9	11/12/84	1312	6.0	22.5	11.5	8.5	7.9
10	11/12/84	1440	5.5	21.2	11.5	8.2	7.8
10A	11/12/84	1330	2.5	22.4	11.5	8.2	7.9
10B	11/12/84	1345	4.0	22.5	11.2	8.3	7.9
11	11/12/84	1422	2.5	22.3	10.0	9.0	8.0
12	11/12/84	1508	3.5	19.8	11.1	8.4	7.7
13	11/12/84	1528	2.5	15.1	10.8	9.0	7.6
14	11/12/84	1552	5.0	20.7	10.4	8.6	7.9
15	11/13/84	0857	4.0	21.3	9.8	8.4	7.8
16B	11/13/84	0928	4.5	18.5	8.6	8.4	7.6
17	11/13/84	1008	2.0	25.4	6.8	9.4	7.7

TABLE 7. WATER QUALITY AT EXPOSURE PANEL STATIONS
DECEMBER, 1984

Station	Date	Time	Depth in Feet	Salinity o/oo	Temperature (°C)	O ₂ (mg/l)	pH
1	12/10/84	0900	6.0	29.1	7.1	9.6	7.9
2	12/10/84	0935	5.0	23.2	4.1	10.1	7.8
3	12/10/84	1003	1.5	22.2	5.9	10.1	7.9
4	12/10/84	1020	3.0	23.3	5.5	10.0	7.9
4A	12/10/84	1037	1.5	20.9	6.1	10.0	7.9
5	12/10/84	1050	2.0	20.8	7.0	9.7	7.8
6	12/10/84	1100	2.0	21.1	6.5	9.8	7.9
7	12/10/84	1110	2.5	19.6	7.1	9.9	7.8
8	12/10/84	1127	2.5	19.0	7.1	10.3	7.8
9	12/10/84	1143	4.5	19.0	5.1	10.2	7.9
10	12/10/84	1336	3.5	19.6	6.7	9.8	7.5
10A	12/10/84	1245	1.5	19.2	6.2	10.3	7.8
10B	12/10/84	1300	3.0	20.0	5.5	10.2	7.8
11	12/10/84	1312	1.5	20.3	5.1	10.3	7.9
12	12/10/84	1358	3.0	18.8	5.5	10.4	7.8
13	12/10/84	1425	2.5	16.2	5.5	10.8	7.8
14	12/10/84	1447	3.5	17.5	5.2	11.0	7.9
15	12/11/84	0910	3.0	18.8	5.3	10.8	7.8
16B	12/11/84	0938	4.0	16.2	4.7	11.1	7.8
17	12/11/84	1019	1.5	27.0	6.8	9.7	7.9

TABLE 8. WATER QUALITY AT EXPOSURE PANEL STATIONS
JANUARY, 1985

Station	Date	Time	Depth in Feet	Salinity o/oo	Temperature (°C)	O ₂ (mg/l)	pH
1	1/14/85	0912	5.0	28.4	0.3	11.7	7.9
2	1/14/85	0954	4.0	24.3	-0.5	12.0	7.7
3	1/14/85	1018	1.2	25.1	-0.2	11.9	7.9
4	1/14/85	1045	3.0	26.9	0.2	11.6	7.9
4A	1/14/85	1103	2.5	25.2	0.1	11.1	7.9
5	1/14/85	1119	1.5	23.5	4.2	10.5	7.8
6	1/14/85	1130	1.8	23.5	3.5	10.4	7.7
7	1/14/85	1142	2.0	23.7	5.4	10.6	7.8
8	1/14/85	1147	2.5	23.4	5.8	10.8	7.8
9	1/14/85	1306	4.0	24.3	1.4	11.6	7.9
10	1/14/85	1421	4.0	20.7	2.0	10.9	7.7
10A	1/14/85	1327	1.5	24.8	3.9	11.1	7.9
10B	1/14/85	1342	3.0	24.3	2.7	11.1	7.9
11	1/14/85	1400	1.5	24.8	1.6	11.4	7.9
12	1/14/85	1443	3.0	22.9	3.9	9.7	7.6
13	1/14/85	1517	3.0	19.5	0.1	12.3	7.8
14	1/14/85	1540	3.5	21.9	0.2	11.7	7.8
15	1/15/85	0907	3.5	24.2	1.3	11.6	7.9
16B	1/15/85	0938	4.0	18.9	0.2	11.8	7.7
17	1/15/85	1014	1.8	27.8	0.8	11.3	8.0

TABLE 9. CONDITION OF GONADS OF TEREDINID BORERS
REMOVED FROM EXPOSURE PANELS IN BARNEGAT
BAY FROM OCTOBER THROUGH DECEMBER, 1984

EA=Early active; LA=Late active; R=Ripe; PS=Partially
spawned; S=Spent; M=Male; F=Female; H=Hermaphrodite

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1433 a	12	Oct 84	6	<u>Bankia</u> <u>gouldi</u>	M	S	No discernable gonad
b				<u>Bankia</u> <u>gouldi</u>			
c				<u>Bankia</u> <u>gouldi</u>	M	S	
d				<u>Bankia</u> <u>gouldi</u>	M	S	
1434 a	2	Oct 84	6	<u>Teredo</u> <u>navalis</u>	H	S	
b				<u>Teredo</u> <u>navalis</u>	H	S	
1435 a	9	Oct 84	6	<u>Bankia</u> <u>gouldi</u>	M	S	
b				<u>Bankia</u> <u>gouldi</u>	M	S	
1436 a	17	Oct 84	12	<u>Teredo</u> <u>navalis</u>			Special panel; no discernable gonad No discernable gonad
b				<u>Teredo</u> <u>navalis</u>			
1437 a	12	Oct 84	12	<u>Bankia</u> <u>gouldi</u>	M	S	Special panel
1438 a	10B	Oct 84	6	<u>Teredo</u> <u>navalis</u>	M	S	
b				<u>Teredo</u> <u>navalis</u>	F	S	
1439 a	2	Oct 84	12	<u>Teredo</u> <u>navalis</u>	M	S	Special panel
b					F	S	
c					M	S	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1440 a b	14	Oct 84	6	<u>Bankia gouldi</u> <u>Bankia gouldi</u>	M	S	No discernable gonad
1441 a b	10B	Oct 84	6	<u>Bankia gouldi</u> <u>Bankia gouldi</u>	M	S	No discernable gonad
1442 a b	7	Oct 84	6	<u>Bankia gouldi</u> <u>Bankia gouldi</u>	M	S	No discernable gonad
1443	5	Oct 84	6	<u>Bankia gouldi</u>	M	S	
1444 a b	1	Oct 84	6	<u>Bankia gouldi</u> <u>Bankia gouldi</u>	F M	PS EA	
1445 a b c d e f g h	1	Oct 84	6	<u>Teredo navalis</u> <u>Teredo navalis</u> <u>Teredo navalis</u> <u>Teredo navalis</u> <u>Teredo navalis</u> <u>Teredo navalis</u> <u>Teredo navalis</u> <u>Teredo navalis</u>	H M M F M M M M	LA S EA S S S S S	
1446 a b c d e f g	11	Oct 84	6	<u>Bankia gouldi</u> <u>Bankia gouldi</u> <u>Bankia gouldi</u> <u>Bankia gouldi</u> <u>Bankia gouldi</u> <u>Bankia gouldi</u> <u>Bankia gouldi</u>	 M M F F F	 S EA EA EA EA	No discernable gonad Arrested development Arrested development No discernable gonad Arrested development Arrested development

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1446 h				<u>Bankia gouldi</u>			No discernable gonad
i				<u>Bankia gouldi</u>	M	EA	Arrested development
j				<u>Bankia gouldi</u>	F	EA	Arrested development
k				<u>Bankia gouldi</u>	M	EA	Arrested development
l				<u>Bankia gouldi</u>	M	EA	Arrested development
1447 a	11	Oct 84	6	<u>Teredo navalis</u>	H	S	
b				<u>Teredo navalis</u>	H	S	
c				<u>Teredo navalis</u>	H	S	
d				<u>Teredo navalis</u>	F	S	
e				<u>Teredo navalis</u>	F	S	
f				<u>Teredo navalis</u>	F	S	
1448 a	7	Oct 84	12	<u>Bankia gouldi</u>	M	EA	Special panel; arrested development
b				<u>Bankia gouldi</u>	M	EA	Arrested development
1449 a	11	Oct 84	12	<u>Teredo navalis</u>	M	EA	Special panel; arrested development
b				<u>Teredo navalis</u>	M	EA	Arrested development
1450 a	11	Oct 84	12	<u>Bankia gouldi</u>			Special panel; no discernable gonad
b				<u>Bankia gouldi</u>			No discernable gonad
1451 a	15	Nov 84	6	<u>Teredo navalis</u>	F	EA	
b				<u>Teredo navalis</u>	F	S	
1452	13	Nov 84	6	<u>Bankia gouldi</u>	F	EA	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1453	14	Nov 84	6	Teredinidae	F	S	
1454	10B	Nov 84	6	<u>Bankia gouldi</u>	M	S	
1455 a	11	Nov 84	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>	M	S	
e				<u>Bankia gouldi</u>	M	S	
f				<u>Bankia gouldi</u>			No discernable gonad
g				<u>Bankia gouldi</u>			No discernable gonad
h				<u>Bankia gouldi</u>	M	S	
i				<u>Bankia gouldi</u>	M	S	
j				<u>Bankia gouldi</u>	M	S	
k				<u>Bankia gouldi</u>	M	S	
1456 a	12	Nov 84	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>	M	S	
1457 a	11	Nov 84	6	<u>Teredo navalis</u>	M	EA	
b				<u>Teredo navalis</u>	F	S	
c				<u>Teredo navalis</u>	H	EA	
d				<u>Teredo navalis</u>	H	EA	
e				<u>Teredo navalis</u>	H	S	
f				<u>Teredo navalis</u>	H	S	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1458 a	2	Nov 84	6	<u>Teredo navalis</u>			No discernable gonad
b				<u>Teredo navalis</u>	F	LA	
c				<u>Teredo navalis</u>	H	LA	
1459	17	Nov 84	6	<u>Teredo navalis</u>			No discernable gonad
1460	12	Nov 84	12	<u>Bankia gouldi</u>	M	S	Special panel
1461 a	1	Nov 84	4	<u>Teredo navalis</u>	F	LA	
b				<u>Teredo navalis</u>	M	S	
c				<u>Teredo navalis</u>	M	EA	
d				<u>Teredo navalis</u>	M	S	
e				<u>Teredo navalis</u>	M	S	
f				<u>Teredo navalis</u>	M	S	
g				<u>Teredo navalis</u>	M	S	
h				<u>Teredo navalis</u>	H	S	
i				<u>Teredo navalis</u>	M	S	
1462 a	1	Nov 84	6	<u>Teredo navalis</u>	H	PS	No discernable gonad
b				<u>Teredo navalis</u>			
c				<u>Teredo navalis</u>	M	LA	
d				<u>Teredo navalis</u>	M	LA	
e				<u>Teredo navalis</u>	H	S	
f				<u>Teredo navalis</u>	M	LA	
g				<u>Teredo navalis</u>	M	S	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1463 a	11	Nov 84	12	<u>Bankia gouldi</u>			Special panel; no discernable gonad
b				<u>Bankia gouldi</u>			No discernable gonad
c				<u>Bankia gouldi</u>			No discernable gonad
d				<u>Bankia gouldi</u>	M	S	No discernable gonad
1464	2	Nov 84	12	<u>Teredo navalis</u>	F	PS	Special panel
1465	15	Dec 84	6	<u>Bankia gouldi</u>			No discernable gonad
1466	15	Dec 84	6	<u>Teredo navalis</u>			No discernable gonad
1467 a	12	Dec 84	6	<u>Bankia gouldi</u>	M	EA	No discernable gonad
b				<u>Bankia gouldi</u>	M	EA	
c				<u>Bankia gouldi</u>			
d				<u>Bankia gouldi</u>	M	EA	
e				<u>Bankia gouldi</u>	M	EA	
f				<u>Bankia gouldi</u>	M	S	
g				<u>Bankia gouldi</u>	M	EA	
h				<u>Bankia gouldi</u>	M	EA	
1468	7	Dec 84	6	<u>Teredo navalis</u>	F	S	
1469	10A	Dec 84	6	<u>Bankia gouldi</u>	M	EA	
1470 a	2	Dec 84	6	<u>Teredo navalis</u>	F	S	
b				<u>Teredo navalis</u>	M	EA	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1471	17	Dec 84	6	<u>Teredo</u> spp.			No discernable gonad
1472 a	11	Dec 84	6	<u>Bankia</u> <u>gouldi</u>	M	EA	
b				<u>Bankia</u> <u>gouldi</u>	M	S	
c				<u>Bankia</u> <u>gouldi</u>	M	S	
d				<u>Bankia</u> <u>gouldi</u>	M	S	
e				<u>Bankia</u> <u>gouldi</u>	M	S	
f				<u>Bankia</u> <u>gouldi</u>	M	S	
g				<u>Bankia</u> <u>gouldi</u>	M	S	
h				<u>Bankia</u> <u>gouldi</u>	M	EA	
i				<u>Bankia</u> <u>gouldi</u>	M	S	
j				<u>Bankia</u> <u>gouldi</u>			No discernable gonad
k				<u>Bankia</u> <u>gouldi</u>	M	EA	
1473 a	11	Dec 84	6	<u>Teredo</u> <u>navalis</u>	H	EA	
b				<u>Teredo</u> <u>navalis</u>	H	S	
c				<u>Teredo</u> <u>navalis</u>	F	S	
d				<u>Teredo</u> <u>navalis</u>	H	S	
e				<u>Teredo</u> <u>navalis</u>	H	S	
f				<u>Teredo</u> <u>navalis</u>	H	S	
1474 a	1	Dec 84	6	<u>Teredo</u> <u>navalis</u>	H	S	
b				<u>Teredo</u> <u>navalis</u>	M	EA	
c				<u>Teredo</u> <u>navalis</u>	M	S	
d				<u>Teredo</u> <u>navalis</u>	H	S	
e				<u>Teredo</u> <u>navalis</u>	H	EA	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1475 a	12	Dec 84	12	<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	M	S	
1476 a	4A	Dec 84	6	<u>Bankia gouldi</u>	M	S	No discernable gonad
b				<u>Bankia gouldi</u>			
1477	7	Dec 84	12	<u>Bankia gouldi</u>			Special panel; no discernable gonad
1478 a	11	Dec 84	12	<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	M	S	



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