

PROGRESS REPORT  
FOR THE THIRTY-FIFTH QUARTER

On

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

To

GPU NUCLEAR CORPORATION

February 29, 1984

by

R.E. Hillman and C.I. Belmore

REPORT NO. 15220

October 21, 1983 to January 31, 1984

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## EXECUTIVE SUMMARY

This progress report presents data from field and laboratory work during the period October 21, 1983 to January 3, 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.

Exposure panel racks at Stations 1 and 7 were moved to different locations on the same docks. Station 8 and 9 were relocated to other sites. Station 8 was moved about 2,000 feet further away from the generating plant and Station 9 was moved about 2,000 feet closer to the plant.

No Teredo bartschi were found in any of the exposure panels examined from Barnegat Bay during 1983.

No unusual patterns of gonad development were noted for the months of October, November, and December, 1983.

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INTRODUCTION

Battelle's New England Marine Research Laboratory is conducting an investigation to determine whether the 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 seventh annual report titled, "Study of Woodborer Populations in Relation to the Oyster Creek Generating Station", dated May 15, 1983.

This report presents data for the thirty-fifth quarterly period from October 21, 1983 to January 31, 1984.

## 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 7-8, December 5-6, 1983, and January 9-10, 1984. Long-term and short-term panels at all stations were retrieved and replaced by personnel from GPU's Oyster Creek Nuclear Generating Station.

At the time of the November, 1983 panel exchange period, the exposure panel rack at Station 1 was moved to the opposite side of the bulkhead and about 40 feet closer to shore. The exposure panel rack at Station 7 was relocated to the end of the same dock into deeper water. Station 8 was changed to a company-owned dock about 2,000 feet nearer to the mouth of Oyster Creek. Also, Station 9 was changed to company-owned property about 2000 feet closer to the 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, 1983, and January, 1984 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, 1983. Included are results from panels exposed for periods ranging from 6 to 12 months. No unusual patterns of development were observed.

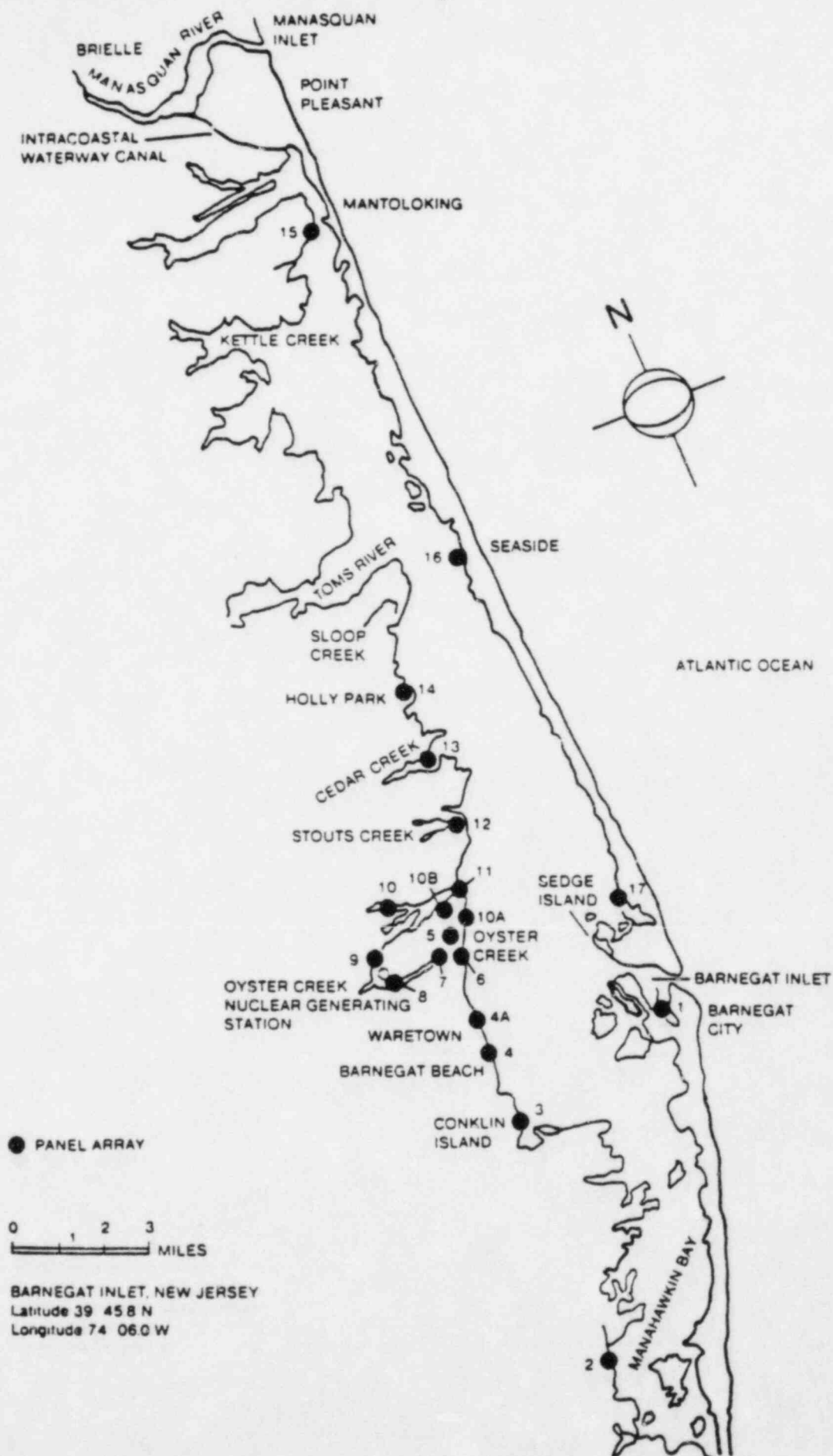


FIGURE 1. OUTLINE OF BARNEGAT BAY SHOWING GEOGRAPHIC LOCATIONS OF EXPOSURE PANELS



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 R. Turner Rutgers U.	WC 21 Long. 74° 11'N	Lat. 39° 48'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 Bridge Discharge Canal	Bulkhead 1500 ft. east of the R.R. bridge	WC 26 Long. 74° 12'W	Lat. 39° 48.7'N
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. Racks at Forked River railroad bridge and Oyster Creek railroad bridge suspended with wire rope.

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.

TABLE 2. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED NOVEMBER 7-8, 1983.

Station	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	400	99		25 <u>T. navalis</u> , 375 Teredinidae*	Only 1 alive
	C	42	<1	<1	42 Teredinidae*	
2	P	1	3	255	1 <u>Teredo</u> spp.	
	C	0				
5	P	1	6	355	1 <u>B. gouldi</u>	
	C	0				
7	P	4	20	170-330	4 <u>B. gouldi</u>	
	C	0				
8	P	3	10	75-265	3 <u>B. gouldi</u>	1 of 3 dead
	C	0				
9	P	1	<1	4	1 <u>B. gouldi</u>	
	C	0				
10A	P	2	5	55-290	1 <u>B. gouldi</u> , 1 Teredinidae*	1 of 2 dead
	C	0				
11	P	52	97	25-200	44 <u>B. gouldi</u> , 8 <u>T. navalis</u>	
	C	0				
12	P	1	1	130	1 <u>B. gouldi</u>	
	C	0				
13	P	18	75	110-340	17 <u>B. gouldi</u> , 1 <u>T. navalis</u>	
	C	0				
14	P	80	98	15-230	18 <u>B. gouldi</u> , 62 Teredinidae*	62 dead
	C	0				
15	P	5	25	120-280	4 <u>B. gouldi</u> , 1 <u>T. navalis</u>	
	C	0				
16B	P	1	3	220	1 <u>B. gouldi</u>	
	C	0				
17	P	17	12	<1-115	1 <u>B. gouldi</u> ; 10 <u>T. navalis</u> ; 6 Teredinidae*	
	C	5	<1	<1		

Stations 3-4A, 6, 10, and 10B - No Teredinidae present.

P = Long-term panel submerged May 2-3, 1983.

C = Short-term panel submerged October 4-5, 1983.

\* = Not speciated due to size or condition.

TABLE 3. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED DECEMBER 5-6, 1983.

Station	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	400+	99		400 Teredinidae*	Only section 2"x4" received. Tubes broken. None alive.
	C	60	<1	<1	60 Teredinidae*	
5	P	5	35	180-410	5 <u>B. gouldi</u>	
	C	0				
7	P	7	18	<1-250	6 <u>B. gouldi</u> , 1 Teredinidae*	
	C	0				
8	P	10	60	<1-335	9 <u>B. gouldi</u> , 1 Teredinidae*	1 <u>B. gouldi</u> dead
	C	0				
10A	P	4	25	<2-460	3 <u>B. gouldi</u> , 1 <u>Teredo</u> spp.*	
	C	0				
10B	P	1	4	260	1 <u>B. gouldi</u>	
	C	0				
11	P	47	98	40-160	47 <u>B. gouldi</u>	
	C	0				
12	P	3	12	15-400	3 <u>B. gouldi</u>	1 dead
	C	0				
13	P	18	90	95-230	18 <u>B. gouldi</u>	3 dead
	C	0				
14	P	90	90	<1-170	40 <u>B. gouldi</u> , 2 <u>T. navalis</u> , 48 Teredinidae*	
	C	0				
15	P	7	8	<1-250	1 <u>B. gouldi</u> , 3 <u>T. navalis</u> , 3 Teredinidae*	
	C	0				
17	P	23	15	<1-160	15 <u>T. navalis</u> ; 8 Teredinidae*	1 dead
	C	0				

Stations 2-4A, 6, 9-10, and 16B - No Teredinidae present.

P = Long-term panel submerged June 6-7, 1983.

C = Short-term panel submerged November 7-8, 1983.

\* = Not speciated due to size or condition.

TABLE 4. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED JANUARY 9-10, 1984

Station	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P*	400±	99		4 <u>T. navalis</u> , 396+ Teredinidae**	Wood crumbling, None alive
	C	0				
2	P	1	2	160	1 <u>T. navalis</u>	
	C	0				
5	P	2	<1	<1-1	2 Teredinidae**	
	C	0				
7	P	2	4	<1-220	1 <u>B. gouldi</u> , 1 Teredinidae**	
	C	0				
8	P	5	15	65-200	5 <u>B. gouldi</u>	
	C	0				
10A	P	1	<1	1	1 Teredinidae**	
	C	0				
11	P	16	50	11-260	13 <u>B. gouldi</u> , 3 <u>T. navalis</u>	
	C	0				
12	P	1	4	230	1 <u>B. gouldi</u>	
	C	0				
13	P	5	20	180-200	5 <u>B. gouldi</u>	
	C	0				
14	P	36	85	90-240	36 <u>B. gouldi</u>	
	C	0				
15	P	3	8	140-230	3 <u>T. navalis</u>	
	C	0				
17	P	24	10	7-110	24 <u>T. navalis</u>	
	C	0				

Stations 3-4A, 6, 9, 10, 10B, and 16B - No Teredinidae present.

P = Long-term panel submerged July 5-6, 1983.

C = Short-term panel submerged December 5-6, 1983.

\* = Long-term panel removed November 7, 1983 due to severity of attack.

\*\* = Not speciated due to size or condition.

TABLE 5. INCIDENCE OF LIMNORIA IN PANELS REMOVED NOVEMBER, DECEMBER, 1983, AND JANUARY, 1984

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	0		0		0*	
	C	2	0	0		0	
2	P	2400	2010	1500	800	280	165
	C	2	2	0		0	
3	P	80	70	27	15	4	0
	C	0		0		0	
4	P	610	510	3	2	2	1
	C	0		0		0	
4A	P	7800	5000	6000	4500	3600	1500
	C	1	0	0		0	

Stations 5-17, no Limnoria present.

P = Long-term panel, submerged 6 months.

C = Short-term panel, submerged 1 month.

\* = Panel removed November 7, 1983 due to severe teredinid attack.



TABLE 6. WATER QUALITY AT EXPOSURE PANEL STATIONS  
NOVEMBER, 1983

Station	Date	Time	Depth in Feet	Salinity 0/00	Temperature (°C)	O <sub>2</sub> (mg/l)	pH
1	11/7/83	0902	7.5	27.5	9.4	10.0	8.0
2	11/7/83	0942	4.0	25.2	9.2	8.6	8.0
3	11/7/83	1017	2.0	24.2	9.2	8.2	8.0
4	11/7/83	1040	3.0	26.9	10.2	8.0	8.0
4A	11/7/83	1058	2.0	27.0	11.4	8.4	8.1
5	11/7/83	1118	2.0	21.2	10.5	8.2	7.9
6	11/7/83	1130	2.2	21.0	9.7	9.0	7.9
7	11/7/83	1153	4.0	25.8	12.2	8.6	8.0
8	11/7/83	1450	2.2	22.9	12.2	9.3	8.0
9	11/7/83	1335	7.0	24.5	13.2	7.7	7.9
10	11/8/83	1237	4.0	23.8	13.5	7.8	7.8
10A	11/7/83	1510	2.0	24.8	11.0	9.4	8.0
10B	11/7/83	1525	4.0	25.0	11.3	9.0	7.9
11	11/7/83	1537	2.0	22.0	11.0	9.7	8.0
12	11/8/83	1208	3.0	22.1	12.1	9.7	8.0
13	11/8/83	1132	3.0	22.6	12.2	8.6	8.0
14	11/8/83	1108	3.5	17.0	10.5	8.7	7.9
15	11/8/83	0847	3.5	21.0	9.7	9.9	8.0
16B	11/8/83	0915	4.5	17.5	9.5	9.4	8.1
17	11/8/83	1000	1.0	24.5	10.2	8.7	7.8

TABLE 7. WATER QUALITY AT EXPOSURE PANEL STATIONS  
DECEMBER, 1983

Station	Date	Time	Depth in Feet	Salinity 0/00	Temperature (°C)	O <sub>2</sub> (mg/l)	pH
1	12/5/83	0905	9.0	29.1	9.0	9.2	8.1
2	12/5/83	0940	3.0	22.6	7.0	10.0	8.1
3	12/5/83	1012	3.0	24.2	6.6	10.2	8.1
4	12/5/83	1033	4.5	25.0	7.2	9.9	8.1
4A	12/5/83	1052	3.0	24.0	7.1	10.1	8.2
5	12/5/83	1109	3.0	20.8	7.8	10.0	8.0
6	12/5/83	1121	3.5	21.9	7.8	10.3	7.9
7	12/5/83	1136	2.5	15.1	8.0	11.0	7.3
8	12/5/83	1200	4.0	22.0	8.1	9.9	7.7
9	12/5/83	1222	5.5	21.1	9.1	7.8	7.0
10	12/5/83	1420	5.5	20.8	8.0	8.6	7.8
10A	12/5/83	1330	3.0	21.8	8.2	9.6	7.7
10B	12/5/83	1342	4.5	23.1	7.3	9.8	7.9
11	12/5/83	1400	3.0	21.2	7.3	9.6	8.1
12	12/5/83	1442	3.0	20.9	7.3	9.6	7.9
13	12/5/83	1505	3.0	20.8	6.8	9.3	7.9
14	12/5/83	1522	5.5	21.8	6.6	9.4	7.9
15	12/6/83	0850	4.5	17.9	7.3	10.6	7.7
16B	12/6/83	0920	5.5	14.0	7.1	11.1	7.6
17	12/6/83	0956	2.0	28.6	8.9	10.6	8.0

TABLE 8. WATER QUALITY AT EXPOSURE PANEL STATIONS  
JANUARY, 1984

Station	Date	Time	Depth in Feet	Salinity 0/00	Temperature (°C)	O <sub>2</sub> (mg/l)	pH
1	1/9/84	0910	7.0	23.1	0.3	11.4	8.2
2	1/9/84	0945	3.5	21.2	0.2	12.0	8.1
3	1/9/84	1025	1.0	20.5	0.5	11.4	8.1
4	1/9/84	1055	3.0	24.9	1.2	11.6	8.2
4A	1/9/84	1115	1.5	23.1	2.0	11.4	8.1
5	1/9/84	1130	1.0	14.0	1.2	12.0	7.6
6	1/9/84	1150	1.3	14.1	0.7	11.6	7.3
7	1/9/84	1204	3.0	24.2	3.0	11.2	8.2
8	1/9/84	1225	2.0	22.4	3.0	10.8	8.2
9	1/9/84	1355	6.0	23.8	4.0	9.4*	7.8
10	1/9/84	1526	3.5	19.9	3.3	10.7	7.8
10A	1/9/84	1438	0.8	19.0	3.3	10.9	7.5
10B	1/9/84	1458	3.0	20.2	3.3	10.4	7.6
11	1/9/84	1510	1.0	17.6	2.3	11.6	7.9
12	1/9/84	1601	1.8	11.3	2.8	11.6	7.3
13	1/10/84	1128	2.0	9.8	5.3	13.0	7.4
14	1/10/84	1110	2.5	10.0	3.5	12.2	7.5
15	1/10/84	0858	3.0	15.0	2.4	12.8	7.5
16B	1/10/84	0935	3.5	17.2	4.2	9.4	7.4
17	1/10/84	1012	0.8	16.8	4.1	5.0	7.1

\*Changed DO meters after Station 9. Air bubble under membrane.

TABLE 9. CONDITION OF GONADS OF TEREDINID BORERS  
REMOVED FROM EXPOSURE PANELS IN BARNEGAT  
BAY FROM OCTOBER THROUGH DECEMBER, 1983

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
1281	14	Oct 83	6	<u>Teredo navalis</u>	F	R	
1282	6	Oct 83	6	<u>Bankia gouldi</u>			No discernable gonad
1283 a	14	Oct 83	6	<u>Bankia gouldi</u>	F	S	
b				<u>Bankia gouldi</u>	M	PS	
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>	F	S	
e				<u>Bankia gouldi</u>	M	S	
f				<u>Bankia gouldi</u>	F	S	
g				<u>Bankia gouldi</u>	F	S	
h				<u>Bankia gouldi</u>	F	S	
i				<u>Bankia gouldi</u>	F	S	
j				<u>Bankia gouldi</u>	F	S	
k				<u>Bankia gouldi</u>	M	EA	
l				<u>Bankia gouldi</u>	F	S	
m				<u>Bankia gouldi</u>	M	EA	
n				<u>Bankia gouldi</u>	F	S	
o				<u>Bankia gouldi</u>	F	S	
p				<u>Bankia gouldi</u>	F	S	
1284	10B	Oct 83	6	<u>Bankia gouldi</u>	F	S	
1285 a	8	Oct 83	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	F	S	
1286 a	13	Oct 83	6	<u>Bankia gouldi</u>	M	PS	
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	M	PS	
d				<u>Bankia gouldi</u>	F	S	
e				<u>Bankia gouldi</u>	F	PS	
f				<u>Bankia gouldi</u>	F	S	
g				<u>Bankia gouldi</u>	F	S	
h				<u>Bankia gouldi</u>	F	S	
i				<u>Bankia gouldi</u>	F	S	
j				<u>Bankia gouldi</u>	F	S	
k				<u>Bankia gouldi</u>	M	S	
l				<u>Bankia gouldi</u>	F	S	
m				<u>Bankia gouldi</u>	M	S	
n				<u>Bankia gouldi</u>	M	S	
o				<u>Bankia gouldi</u>	F	S	
p				<u>Bankia gouldi</u>	F	S	
q				<u>Bankia gouldi</u>	F	S	
r				<u>Bankia gouldi</u>	M	S	
1287 a	17	Oct 83	6	<u>Teredo navalis</u>			No discernable gonad
b				<u>Teredo navalis</u>			No discernable gonad
c				<u>Teredo navalis</u>	F	S	
d				<u>Teredo navalis</u>	F	S	
e				<u>Teredo navalis</u>	F	S	
f				<u>Teredo navalis</u>	M	S	
1288	17	Oct 83	6	<u>Bankia gouldi</u>	F	S	
1289	12	Oct 83	6	<u>Bankia gouldi</u>	F	S	
1290	15	Oct 83	6	<u>Bankia gouldi</u>			No discernable gonad

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1291 a	7	Oct 83	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	F	S	
c				<u>Bankia gouldi</u>	M	S	
1292	10A	Oct 83	6	<u>Bankia gouldi</u>			No discernable gonad
1293 a	11	Oct 83	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	F	S	
d				<u>Bankia gouldi</u>	M	S	
e				<u>Bankia gouldi</u>	M	S	
f				<u>Bankia gouldi</u>	M	S	
g				<u>Bankia gouldi</u>	F	S	
h				<u>Bankia gouldi</u>	M	S	
i				<u>Bankia gouldi</u>	M	S	
j				<u>Bankia gouldi</u>	F	S	
k				<u>Bankia gouldi</u>	F	S	
l				<u>Bankia gouldi</u>	M	S	
1294 a	17	Oct 83	12	<u>Teredo navalis</u>	F	EA	Special panel
b				<u>Teredo navalis</u>	M	S	
c				<u>Teredo navalis</u>			No discernable gonad
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>			No discernable gonad
1295 a	17	Oct 83	12	<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>			No discernable gonad
1296 a	11	Oct 83	12	<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>			No discernable gonad
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>			No discernable gonad
e				<u>Bankia gouldi</u>			No discernable gonad
f				<u>Bankia gouldi</u>			No discernable gonad
g				<u>Bankia gouldi</u>			No discernable gonad
1297	7	Oct 83	7	<u>Bankia gouldi</u>	M	S	Special panel
1298	15	Nov 83	6	<u>Teredo navalis</u>	F	R	
1299	13	Nov 83	6	<u>Teredo navalis</u>	H	S	
1300 a	15	Nov 83	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	M	S	No discernable gonad
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>	M	S	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1301 a b c d e f g h i j k l	13	Nov 83	6	<u>Bankia gouldi</u>	M	S	No discernable gonad
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>			
				<u>Bankia gouldi</u>	F	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
1302 a b c d e f g h i	14	Nov 83	6	<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	LA	
				<u>Bankia gouldi</u>	F	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	F	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	F	S	
				<u>Bankia gouldi</u>	F	S	
				<u>Bankia gouldi</u>	F	S	
1303	8	Nov 83	6	<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
1304	5	Nov 83	6	<u>Bankia gouldi</u>	M	S	
1305	10A	Nov 83	6	<u>Bankia gouldi</u>	M	S	
1306	16B	Nov 83	6	<u>Bankia gouldi</u>	M	S	
1307	12	Nov 83	6	<u>Bankia gouldi</u>	M	PS	
1308 a b c d e f g h i j	11	Nov 83	6	<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	LA	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	LA	
				<u>Bankia gouldi</u>	M	LA	
				<u>Bankia gouldi</u>	M	S	
				<u>Bankia gouldi</u>	M	S	
1309 a b c d e f g h	17	Nov 83	6	<u>Teredo navalis</u>	M	EA	
				<u>Teredo navalis</u>	M	S	
				<u>Teredo navalis</u>	F	EA	
				<u>Teredo navalis</u>	F	R	
				<u>Teredo navalis</u>	H	S	
				<u>Teredo navalis</u>	M	LA	
				<u>Teredo navalis</u>	F	LA	
				<u>Teredo navalis</u>	F	PS	



TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1310 a	11	Nov 83	6	<u>Teredo nautilus</u>	F	S	
b				<u>Teredo nautilus</u>	F	S	
1311 a	7	Nov 83	6	<u>Bankia gouldi</u>			No discernable gonad
b				<u>Bankia gouldi</u>	M	S	
c				<u>Bankia gouldi</u>			No discernable gonad
d				<u>Bankia gouldi</u>			No discernable gonad
1312 a	17	Nov 83		<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>	F	S	
1313	2	Nov 83	6	<u>Teredo spp.</u>	F	S	
1314 a	17	Nov 83	12	<u>Teredo nautilus</u>	M	EA	Special panel
b				<u>Teredo nautilus</u>	F	EA	
c				<u>Teredo nautilus</u>	M	LA	
d				<u>Teredo nautilus</u>	M	EA	
e				<u>Teredo nautilus</u>	F	LA	
f				<u>Teredo nautilus</u>	F	LA	
g				<u>Teredo nautilus</u>	H	LA	
h				<u>Teredo nautilus</u>	M	S	
i				<u>Teredo nautilus</u>	M	EA	
j				<u>Teredo nautilus</u>	F	EA	
k				<u>Teredo nautilus</u>	F	S	
l				<u>Teredo nautilus</u>	M	EA	
m				<u>Teredo nautilus</u>	F	LA	
n				<u>Teredo nautilus</u>	M	EA	
o				<u>Teredo nautilus</u>	M	EA	
1315	17	Nov 83	6	<u>Bankia gouldi</u>	M	S	
1316	1	Nov 83	6	<u>Teredo nautilus</u>	M	S	
1317	12	Nov 83	12	<u>Bankia gouldi</u>	M	S	Special panel
1318 a	7	Nov 83	12	<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>			No discernable gonad
1319 a	11	Nov 83	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>			No discernable gonad
e				<u>Bankia gouldi</u>			No discernable gonad
f				<u>Bankia gouldi</u>			No discernable gonad
g				<u>Bankia gouldi</u>	M	S	
h				<u>Bankia gouldi</u>			No discernable gonad
i				<u>Bankia gouldi</u>	M	S	
j				<u>Bankia gouldi</u>	M	PS	
k				<u>Bankia gouldi</u>	M	S	
l				<u>Bankia gouldi</u>	M	S	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1320 a	17	Dec 83	6	<u>Teredo naavalis</u>	M	PS	
b				<u>Teredo naavalis</u>	H	LA	
c				<u>Teredo naavalis</u>	H	LA	
d				<u>Teredo naavalis</u>	F	PS	
e				<u>Teredo naavalis</u>	M	LA	
f				<u>Teredo naavalis</u>	F	LA	
g				<u>Teredo naavalis</u>	H	S	
h				<u>Teredo naavalis</u>	F	LA	
1321 a	14	Dec 83	6	<u>Bankia gouldi</u>	M	S	
b				<u>Bankia gouldi</u>	F	EA	
c				<u>Bankia gouldi</u>	M	EA	
d				<u>Bankia gouldi</u>	F	S	
e				<u>Bankia gouldi</u>	M	EA	
f				<u>Bankia gouldi</u>	M	EA	
g				<u>Bankia gouldi</u>	M	EA	
h				<u>Bankia gouldi</u>	M	EA	
i				<u>Bankia gouldi</u>	M	EA	
j				<u>Bankia gouldi</u>	M	S	
k				<u>Bankia gouldi</u>	M	EA	
l				<u>Bankia gouldi</u>	F	S	
m				<u>Bankia gouldi</u>	F	S	
n				<u>Bankia gouldi</u>	M	S	
o				<u>Bankia gouldi</u>	M	S	
1322	15	Dec 83	6	<u>Bankia gouldi</u>	M	S	
1323 a	15	Dec 83	6	<u>Teredo naavalis</u>	F	PS	No discernable gonad
b				<u>Teredo naavalis</u>			
c				<u>Teredo naavalis</u>	M	LA	
1324 a	14	Dec 83	6	<u>Teredo naavalis</u>	F	PS	
b				<u>Teredo naavalis</u>	F	PS	
1325 a	13	Dec 83	6	<u>Bankia gouldi</u>	M	S	No discernable gonad
b				<u>Bankia gouldi</u>	M	EA	
c				<u>Bankia gouldi</u>	M	S	
d				<u>Bankia gouldi</u>	F	EA	
e				<u>Bankia gouldi</u>			
f				<u>Bankia gouldi</u>	F	EA	
g				<u>Bankia gouldi</u>	F	EA	
h				<u>Bankia gouldi</u>	F	S	
i				<u>Bankia gouldi</u>	F	EA	
j				<u>Bankia gouldi</u>	F	S	
k				<u>Bankia gouldi</u>	M	EA	
l				<u>Bankia gouldi</u>	F	S	
m				<u>Bankia gouldi</u>	M	S	
n				<u>Bankia gouldi</u>	M	S	
o				<u>Bankia gouldi</u>	M	S	
1326	12	Dec 83	6	<u>Bankia gouldi</u>	M	EA	
1327 a	12	Dec 83	6	<u>Bankia gouldi</u>	M	S	No discernable gonad
b				<u>Bankia gouldi</u>			

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1328 a	8	Dec 83	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	No discernable gonad
f				<u>Bankia gouldi</u>	M	S	
g				<u>Bankia gouldi</u>	M	S	No discernable gonad
h				<u>Bankia gouldi</u>	M	S	
1329 a	7	Dec 83	6	<u>Bankia gouldi</u>	F	S	
b				<u>Bankia gouldi</u>			No discernable gonad
c				<u>Bankia gouldi</u>			No discernable gonad
d				<u>Bankia gouldi</u>			
e				<u>Bankia gouldi</u>			No discernable gonad
1330	7	Dec 83	12	<u>Bankia gouldi</u>			Special panel; no discernable gonad
1331	10B	Dec 83	6	<u>Bankia gouldi</u>			No discernable gonad
1332 a	12	Dec 83	12	<u>Bankia gouldi</u>	F	S	Special panel
b				<u>Bankia gouldi</u>			No discernable gonad
1333 a	10A	Dec 83	6	<u>Bankia gouldi</u>	M	S	No discernable gonad
b				<u>Bankia gouldi</u>			
c				<u>Bankia gouldi</u>			No discernable gonad
1334 a	17	Dec 83	12	<u>Bankia gouldi</u>	F	EA	Special panel; no discernable gonad
b				<u>Bankia gouldi</u>			
1335 a	17	Dec 83	12	<u>Teredo navalis</u>	M	EA	Special panel
b				<u>Teredo navalis</u>	F	S	
c				<u>Teredo navalis</u>	M	EA	
d				<u>Teredo navalis</u>	M	S	
e				<u>Teredo navalis</u>	H	S	
f				<u>Teredo navalis</u>	H	S	
g				<u>Teredo navalis</u>	H	S	
h				<u>Teredo navalis</u>	F	PS	
i				<u>Teredo navalis</u>	M	LA	
j				<u>Teredo navalis</u>	M	LA	
k				<u>Teredo navalis</u>	M	LA	
l				<u>Teredo navalis</u>	M	LA	
m				<u>Teredo navalis</u>	F	EA	
n				<u>Teredo navalis</u>	M	LA	
o				<u>Teredo navalis</u>	M	EA	

TABLE 9. (Continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
1336 a	11	Dec 83	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>	M	S	
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>	F	S	
l				<u>Bankia gouldi</u>	F	S	
m				<u>Bankia gouldi</u>	F	S	
n				<u>Bankia gouldi</u>	M	S	
1337 a	5	Dec 83	6	<u>Bankia gouldi</u>			No discernable gonad
b				<u>Bankia gouldi</u>			No discernable gonad
c				<u>Bankia gouldi</u>			No discernable gonad
d				<u>Bankia gouldi</u>	F	S	
e				<u>Bankia gouldi</u>			No discernable gonad
1338 a	11	Dec 83	12	<u>Bankia gouldi</u>	M	S	Special panel
b				<u>Bankia gouldi</u>			No discernable gonad
c				<u>Bankia gouldi</u>			No discernable gonad
d				<u>Bankia gouldi</u>			No discernable gonad
e				<u>Bankia gouldi</u>			No discernable gonad
f				<u>Bankia gouldi</u>			No discernable gonad



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