

PROGRESS REPORT FOR THE TWENTY-FOURTH QUARTER

on

WOODBORER STUDY ASSOCIATED WITH THE
OYSTER CREEK GENERATING STATION

to

JERSEY CENTRAL POWER & LIGHT COMPANY

June 1, 1981

by

N. Maciolek Blake, C.I. Belmore, and R.E. Hillman

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February 21 to May 22, 1981

BATTELLE
New England Marine Research Laboratory
Duxbury, Massachusetts 02332

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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 Fifth Annual Report titled Study of Woodborer Populations in Relation to the Oyster Creek Generating Station, Report 15040, dated February 27, 1981.

This report presents data for the twenty-fourth quarterly period from February 21 to May 22, 1981.

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 March 9-10, April 6-7, and May 4-5, 1981. Long-term and short-term panels at all stations were retrieved and replaced.

Table 1 describes the geographical locations of the exposure sites. The data for the laboratory examination of the panels may be found in Tables 2 through 5.

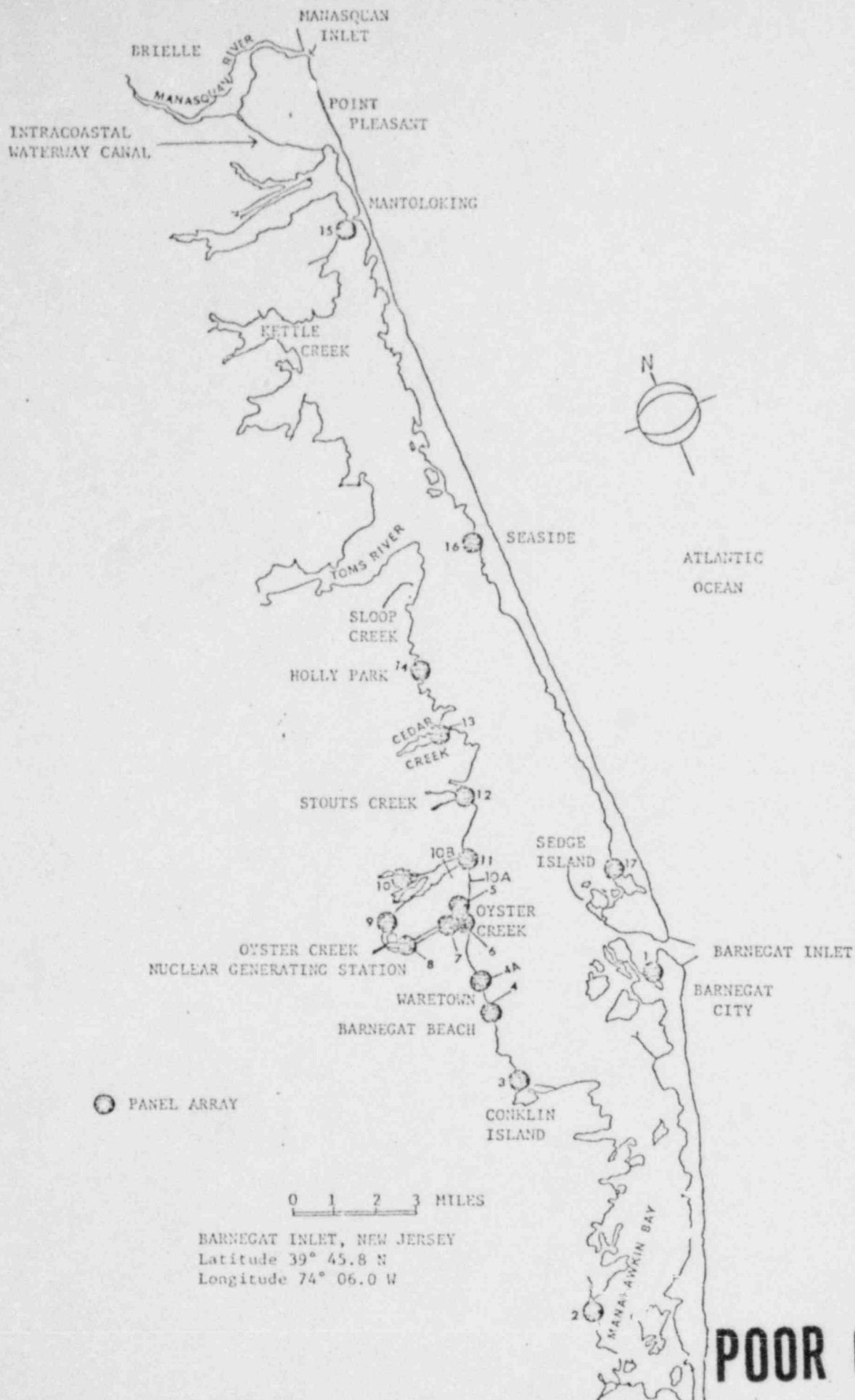


FIGURE 1. OUTLINE OF BARNEGAT BAY SHOWING GEOGRAPHICAL LOCATIONS OF EXPOSURE PANELS

TABLE 1.

GEOGRAPHICAL LOCATIONS OF WILLIAM F. CLAPP LABORATORIES' 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	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
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

POOR ORIGINAL

TABLE 1. (continued)

Site No.	Site	Structure to be used for Suspension of Rack	Nearest Previous Data Stations	Approximate Latitude and Longitude
8.	Oyster Creek-R.R. Bridge Discharge Canal	Cross Member Bridge	WC 26 Rutgers U.	Lat. 39° 48.7'N Long. 74° 12'W
9.	Forked River South Branch Intake Canal	Cross Member R.R. Bridge	WC 31 Rutgers U.	Lat 39° 49.2'N Long. 74° 12.2'W
10.	Teed 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
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

POOR ORIGINAL

TABLE 1. (continued)

Site No.	Site	Structure to be used for Suspension of Rack	Nearest Previous Data Stations	Approximate Latitude and Longitude
14.	Dicks Landing Island Drive Bayville (Molly 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 W. Mantoloking	Pier	WC 57	Lat. 40° 02.5'N Long. 74° 03.5'W
16.	Berkely Yacht Basin J. Street Seaside	Pier	WC 60,61	Lat. 39° 55.9'N Long. 74° 04.9'W
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 10 A, 10 B installed April, 1978.

POOR ORIGINAL

TABLE 2. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED MARCH 9-10, 1981

Site	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	7	<1	<1-7	3 <i>T. navalis</i> , 4 Teredinidae*	
	C	0				
6	P	9	1	<1-35	4 <i>T. bartschi</i> , 5 Teredinidae	None live.
	C	0				
7	P	48	3	<1-40	19 <i>T. bartschi</i> , 29 Teredinidae	
	C	0				
10A	P	5	<1	1-7	1 <i>T. navalis</i> , 4 Teredinidae	
	C	0				
11	P	11	<1	<1-1	11 Teredinidae	
	C	0				

Sites 2-5, 8**-10, 10B, 12-17, no Teredinidae present.

P = Long-term panel, submerged September 2-3, 1980.

C = Short-term panel, submerged February 9-10, 1981.

* = Too small to speciate.

** = Panel #4 removed-submerged October 7, 1980.

TABLE 3. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED APRIL 6-7, 1981

Site	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	4	<1	<1	4 Teredinidae*	Empty pits.
	C	0				
7	P	23	<1	<1-22	1 <i>T. navalis</i> , 22 Teredinidae	
	C	0				
8**	P	1	<1	45	1 <i>T. navalis</i>	
	C	0				
11	P	4	<1	<1	4 Teredinidae	Empty pits.
	C	0				

Sites 2-6, 9-10B, 12-17, no Teredinidae present.

P = Long-term panel, submerged October 6-7, 1980.

C = Short-term panel submerged March 9-10, 1981.

* = Too small to speciate.

** = Panel submerged March 10, 1981.

TABLE 4. INCIDENCE OF TEREDINIDAE IN PANELS REMOVED MAY 4-5, 1981

Site	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
Sites 1 - 17		No Teredinidae present.				

TABLE 5. INCIDENCE OF *Limmoria* IN PANELS REMOVED MARCH, APRIL, AND MAY, 1981

Site	Panel	March		April		May	
		No. of Tunnels	No. of Specimens	No. of Tunnels	No. of Specimens	No. of Tunnels	No. of Specimens
1	P	44	40 <i>L. tripunctata</i>	2	1 <i>L. tripunctata</i>	0	
	C	0		0		1	1 <i>L. lignorum</i>
2	P	14	14 <i>L. tripunctata</i>	0		2	2 <i>L. tripunctata</i>
	C	0		0		0	
4	P	0		0		1	1 <i>Limmoria</i> sp.
	C	0		0		0	
4A	P	290	280 <i>L. tripunctata</i>	0		160	200 <i>L. tripunctata</i>
	C	0		0		115	100 <i>L. tripunctata</i>

Sites 3, 5 through 17 - no *Limmoria* present.

P = Long-term panel, submerged 6 months.

C = Short-term panels, submerged 1 month.

Water Quality

Salinity, water temperature, dissolved oxygen, and pH were determined with a Hydrolab (Model II B), calibrated prior to each day's use. The results for March, April, and May, 1981 may be found in Tables 6 through 8.

Teredinid Gonadal Development Studies

Table 9 shows the gonad condition of the teredinid borers collected from January, February, March, and April, 1981. Included are results from panels exposed for periods ranging from 6 to 12 months.

TABLE 6. WATER QUALITY AT EXPOSURE PANEL STATIONS, MARCH, 1981

Station	Date	Time	Depth in Feet	Salinity(o/oo)	Temperature(°C)	O ₂ (mg/l)	pH
1	3/10/81	0930	3.0	26.0	4.5	11.4	8.0
2	3/10/81	0950	2.0	24.0	5.0	11.4	7.8
3	3/10/81	1020	2.0	25.0	4.5	11.2	8.0
4	3/9/81	1530	2.0	26.0	5.5	11.4	8.1
4A	3/9/81	1550	2.5	25.0	5.5	10.5	7.8
5	3/10/81	1040	2.5	22.0	8.5	12.0	8.0
6	3/9/81	1600	2.0	22.0	9.0	10.3	7.5
7	3/9/81	1615	2.5	22.0	9.5	12.0	7.6
8	3/9/81	1635	2.0	21.0	9.5	11.3	7.5
9	3/9/81	1650	2.0	20.0	5.5	10.8	7.5
10	3/9/81	1755	2.0	19.0	5.5	10.9	7.3
10A	3/9/81	1715	2.5	22.0	5.5	10.7	8.0
10B	3/9/81	1735	3.0	25.0	6.0	10.7	7.7
11	3/9/81	1740	2.0	22.0	5.5	10.8	7.7
12	3/9/81	1800	2.5	19.0	6.0	10.9	7.1
13	3/10/81	1115	2.5	18.0	6.0	11.6	7.8
14	3/10/81	1135	2.0	20.0	5.0	11.0	8.0
15	3/9/81	1300	2.0	22.5	5.0	11.7	8.4
16	3/9/81	1350	2.0	15.0	5.5	12.6	7.9
17	3/9/81	1430	2.0	25.0	7.0	11.7	8.1

TABLE 7. WATER QUALITY AT EXPOSURE PANEL STATIONS, APRIL, 1981

Station	Date	Time	Depth in Feet	Salinity(o/oo)	Temperature(°C)	O ₂ (mg/l)	pH
1	4/6/81	1530	3.0	30.0	11.0	9.9	8.0
2	4/6/81	1555	2.0	27.0	11.0	10.3	7.9
3	4/6/81	1620	2.0	25.0	12.0	10.5	8.0
4	4/6/81	1640	2.5	27.0	13.0	9.9	7.8
4A	4/6/81	1650	2.5	26.0	13.0	9.8	7.9
5	4/7/81	1030	2.5	25.0	14.5	8.8	7.5
6	4/7/81	0915	2.5	25.0	14.0	8.6	7.4
7	4/7/81	0950	3.0	23.0	14.5	9.4	7.8
8	4/6/81	1700	2.5	23.0	14.5	9.1	7.6
9	4/6/81	1720	2.5	25.0	12.0	9.1	7.8
10	4/6/81	1815	2.5	20.0	13.0	9.7	7.6
10A	4/6/81	1735	2.5	22.0	13.0	9.7	7.8
10B	4/6/81	1750	2.0	25.0	13.0	9.5	7.8
11	4/6/81	1800	2.0	25.0	12.0	9.6	7.9
12	4/6/81	1830	2.5	20.0	11.5	9.7	7.3
13	4/7/81	0845	2.5	10.0	8.5	10.4	7.3
14	4/7/81	0830	2.0	20.0	10.0	9.7	7.6
15	4/6/81	1235	2.0	22.0	12.5	8.4	7.5
16	4/6/81	1300	2.0	19.0	12.0	10.2	7.7
17	4/6/81	1345	2.0	26.0	11.0	10.2	7.8

TABLE 8. WATER QUALITY AT EXPOSURE PANEL STATIONS, MAY, 1981

Station	Date	Time	Depth in Feet	Salinity(o/oo)	Temperature(°C)	O ₂ (mg/l)	pH
1	5/5/81	1507	4.0	30.6	12.8	7.3	7.8
2	5/5/81	1557	2.5	26.0	14.9	6.8	7.1
3	5/5/81	1426	3.0	25.8	15.9	6.6	7.6
4	5/5/81	1442	2.5	26.2	15.6	6.1	6.9
4A	5/5/81	1357	3.0	26.3	15.9	6.9	7.6
5	5/5/81	1027	2.0	25.0	15.4	6.5	7.1
6	5/5/81	1042	3.0	25.3	15.5	5.8	7.4
7	5/5/81	1057	2.5	24.8	14.5	6.3	7.4
8	5/5/81	1125	3.0	26.0	14.7	6.3	7.5
9	5/5/81	1142	4.0	26.3	14.7	6.1	7.5
10	5/5/81	0850	4.5	26.1	15.2	5.4	6.6
10A	5/5/81	0925	3.0	26.1	15.2	6.8	7.3
10B	5/5/81	0937	3.0	26.8	14.9	6.2	7.6
11	5/5/81	0955	2.0	26.9	14.5	6.2	7.0
12	5/4/81	1755	2.5	23.2	16.7	8.5	7.3
13	5/4/81	1727	3.0	22.2	17.7	9.1	7.4
14	5/4/81	1708	3.5	23.8	17.2	7.6	7.1
15	5/4/81	1450	3.0	25.7	15.0	9.3	7.3
16	5/4/81	1520	3.0	19.4	17.0	9.4	7.6
17	5/4/81	1550	1.5	29.4	17.4	9.2	7.4

TABLE 9. CONDITION OF GONADS OF TEREDINID BORERS REMOVED FROM EXPOSURE PANELS IN BARNEGAT BAY FROM JANUARY THROUGH APRIL, 1981

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

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
884a	5	Jan 81	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	Many ciliates on gills; leukocytosis
d				<i>Bankia gouldi</i>	M	S	Leukocytic foci
e				<i>Bankia gouldi</i>	M	S	
885a	12	Jan 81	6	<i>Bankia gouldi</i>	F	S	Leukocytic foci
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>	M	S	
f				<i>Bankia gouldi</i>			No discernable gonad
g				<i>Bankia gouldi</i>			No discernable gonad
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>	M	S	
j				<i>Bankia gouldi</i>			No discernable gonad
886	15	Jan 81	6	<i>Bankia gouldi</i>	M	S	
887a	10A	Jan 81	6	<i>Bankia gouldi</i>			No discernable gonad
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	Cysts
d				<i>Bankia gouldi</i>	M	S	Leukocytosis, vacuolated leukocytes
e				<i>Bankia gouldi</i>	M	S	Cysts
f				<i>Bankia gouldi</i>	M	S	Cysts; leukocytosis, vacuolated leukocytes
g				<i>Bankia gouldi</i>	M	S	Cysts; leukocytosis
h				<i>Bankia gouldi</i>	M	S	Cysts; necrotic tissues, abscesses; leukocytosis
i				<i>Bankia gouldi</i>			No discernable gonad; cysts
j				<i>Bankia gouldi</i>	F	S	Cysts; leukocytosis; necrotic tissues
888	13	Jan 81	6	<i>Bankia gouldi</i>			No discernable gonad; leukocytic foci
889	9	Jan 81	6	<i>Bankia gouldi</i>	M	S	
890a	7	Jan 81	6	<i>Bankia gouldi</i>	F	S	
b				<i>Bankia gouldi</i>	M	S	Leukocytosis; vacuolization of leukocytes
c				<i>Bankia gouldi</i>			No discernable gonad; leukocytic foci
891a	7	Jan 81	6	<i>Teredo bartschi</i>	F	R	Cytolysis of gonad; <i>Minchinia</i> ; larvae in brood pouch
b				<i>Teredo bartschi</i>	H	PS	
c				<i>Teredo bartschi</i>	F	S	Moribund <i>Minchinia</i>
d				<i>Teredo bartschi</i>	F	S	Necrotic; moribund <i>Minchinia</i>
e				<i>Teredo bartschi</i>	F	S	
f				<i>Teredo bartschi</i>	M	PS	Necrotic
g				<i>Teredo bartschi</i>	F	S	
h				<i>Teredo bartschi</i>			No discernable gonad
i				<i>Teredo bartschi</i>			No discernable gonad; necrotic
j				<i>Teredo bartschi</i>	H	S	Necrotic
892	6	Jan 81	6	<i>Teredo bartschi</i>	H	S	Necrotic
893	14	Jan 81	6	<i>Bankia gouldi</i>	M	S	Necrotic digestive tubules

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
894a	11	Jan 81	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>			No discernable gonad; necrotic
c				<i>Bankia gouldi</i>	M	S	Cysts; necrotic
d				<i>Bankia gouldi</i>	M	S	Cysts; necrotic
e				<i>Bankia gouldi</i>			No discernable gonad; cysts
f				<i>Bankia gouldi</i>	F	S	
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>			No discernable gonad
j				<i>Bankia gouldi</i>			No discernable gonad
895a	11	Jan 81	6	<i>Teredo navalis</i>	F	EA	
b				<i>Teredo navalis</i>	H	S	<i>Minohinia</i> ; necrotic
896a	1	Jan 81	6	<i>Teredo navalis</i>	M	S	Moribund <i>Minohinia</i> plasmodia
b				<i>Teredo navalis</i>	F	LA	<i>Minohinia</i>
c				<i>Teredo navalis</i>	M	S	<i>Minohinia</i> plasmodia
d				<i>Teredo navalis</i>	M	EA	Gonad undergoing cytolysis, not active; <i>Minohinia</i>
e				<i>Teredo navalis</i>	M	EA	Moribund <i>Minohinia</i>
f				<i>Teredo navalis</i>	M	EA	<i>Minohinia</i> ; necrotic gonads probably not active
g				<i>Teredo navalis</i>	M	EA	Moribund <i>Minohinia</i> ; necrotic
h				<i>Teredo navalis</i>	M	S	<i>Minohinia</i>
i				<i>Teredo navalis</i>	H	LA	
j				<i>Teredo navalis</i>	M	S	<i>Minohinia</i>
k				<i>Teredo navalis</i>	H	EA	Moribund <i>Minohinia</i> ; necrotic
l				<i>Teredo navalis</i>	M	S	<i>Minohinia</i> plasmodia
m				<i>Teredo navalis</i>	F	LA	<i>Minohinia</i> ; necrotic
n				<i>Teredo navalis</i>			No discernable gonad; <i>Minohinia</i>
897a	2	Jan 81	7	<i>Teredo navalis</i>			Special panel; no discernable gonad; necrotic
b				<i>Teredo navalis</i>	M	EA	<i>Minohinia</i>
c				<i>Teredo navalis</i>	M	EA	<i>Minohinia</i>
d				<i>Teredo navalis</i>	H	EA	<i>Minohinia</i>
898a	11	Jan 81	12	<i>Bankia gouldi</i>			Special panel; no discernable gonad
b				<i>Bankia gouldi</i>	M	S	Cysts; abscesses
c				<i>Bankia gouldi</i>			No discernable gonad
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>	M	S	
f				<i>Bankia gouldi</i>	M	S	
g				<i>Bankia gouldi</i>	F	S	Cysts
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>	M	S	
j				<i>Bankia gouldi</i>	M	S	
k				<i>Bankia gouldi</i>	M	S	Leukocytic foci
l				<i>Bankia gouldi</i>	M	S	
899	7	Jan 81	12	<i>Teredo navalis</i>	M	S	Special panel; <i>Minohinia</i>
900a	7	Jan 81	12	<i>Teredo bartschi</i>	M	S	
b				<i>Teredo bartschi</i>	M	S	
901a	7	Jan 81	12	<i>Bankia gouldi</i>			Special panel; no discernable gonad; metaplasia of typhlosole epithelium; vacuolization of leukocytes

POOR ORIGINAL

TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
901b				<i>Bankia gouldi</i>			No discernable gonad
c				<i>Bankia gouldi</i>	M	S	Cyst
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>	M	S	Necrotic
902a	12	Jan 81	12	<i>Bankia gouldi</i>			Special panel; no discernable gonad
b				<i>Bankia gouldi</i>			No discernable gonad
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>	M	S	
f				<i>Bankia gouldi</i>			No discernable gonad; necrotic
g				<i>Bankia gouldi</i>			No discernable gonad; cysts; necrotic tissue
h				<i>Bankia gouldi</i>			No discernable gonad; necrotic
i				<i>Bankia gouldi</i>			No discernable gonad; necrotic
j				<i>Bankia gouldi</i>	M	S	Necrotic areas; leukocytic foci
k				<i>Bankia gouldi</i>			No discernable gonad; necrotic areas
903	10A	Feb 81	6	<i>Teredo navalis</i>	H	S	
904a	12	Feb 81	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>			No discernable gonad
905	5	Feb 81	6	<i>Bankia gouldi</i>	M	S	Vacuolization of connective tissue
906a	7	Feb 81	6	<i>Teredo bartschi</i>	F	S	<i>Minchinia</i> plasmodia
b				<i>Teredo bartschi</i>	H	PS	Early Larvae in brood pouch; few <i>Minchinia</i> plasmodia
907a	14	Feb 81	6	<i>Teredo navalis</i>	M	EA	
b				<i>Teredo navalis</i>	M	EA	
908a	11	Feb 81	6	<i>Teredo navalis</i>	F	S	<i>Minchinia</i>
b				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
c				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
d				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
e				<i>Teredo navalis</i>	F	S	et, early active
f				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
g				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i>
909	11	Feb 81	6	<i>Bankia gouldi</i> (?)			No discernable gonad
910a	17	Feb 81	6	<i>Teredo navalis</i>	M	EA	Necrotic
b				<i>Teredo navalis</i>	M	EA	Necrotic
c				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; necrotic
d				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; necrotic
e				<i>Teredo navalis</i>	M	EA	Necrotic
f				<i>Teredo navalis</i>	M	EA	Necrotic
911	13	Feb 81	6	<i>Bankia gouldi</i>	M	S	
912a	1	Feb 81	6	<i>Teredo navalis</i>	H	EA	
b				<i>Teredo navalis</i>	M	PS	<i>Minchinia</i> plasmodia (mostly moribund)
c				<i>Teredo navalis</i>	H	EA	Gonads undergoing cytotoxicity
d				<i>Teredo navalis</i>	H	EA	Leukocytosis of connective tissue; <i>Minchinia</i> plasmodia
e				<i>Teredo navalis</i>	F	LA	<i>Minchinia</i>
f				<i>Teredo navalis</i>	H	EA	<i>Minchinia</i>
g				<i>Teredo navalis</i>	M	EA	
h				<i>Teredo navalis</i>	M	EA	
i				<i>Teredo navalis</i>	H	EA	

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
912j				<i>Teredo navalis</i>	H	EA	Necrotic
k				<i>Teredo navalis</i>	H	EA	Necrotic
l				<i>Teredo navalis</i>			No discernable gonad; necrotic; <i>Minchinia</i> plasmodia
m				<i>Teredo navalis</i>	M	LA	Necrotic; <i>Minchinia</i> plasmodia
n				<i>Teredo navalis</i>	M	LA	Necrotic
o				<i>Teredo navalis</i>	F	S	Necrotic
p				<i>Teredo navalis</i>			No discernable gonad
913	12	Feb 81	12	<i>Teredo navalis</i>	F	S	Special panel; necrotic
914a	12	Feb 81	12	<i>Bankia gouldi</i>	M	S	Special panel
b				<i>Bankia gouldi</i>		S	Blood sinuses clogged with Leukocytes
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>			No discernable gonad
e				<i>Bankia gouldi</i>			No discernable gonad
f				<i>Bankia gouldi</i>	M	S	Blood sinuses clogged with leukocytes
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>			No discernable gonad
j				<i>Bankia gouldi</i>			No discernable gonad
k				<i>Bankia gouldi</i>			No discernable gonad
l				<i>Bankia gouldi</i>	M	S	
915a	11	Feb 81	12	<i>Teredo navalis</i>	M	EA	Special panel; <i>Minchinia</i>
b				<i>Teredo navalis</i>	M	EA	Early <i>Minchinia</i> plasmodia; extensive leukocytic invasion in mantle
c				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; extensive leukocytosis in mantle; necrotic tissues
d				<i>Teredo navalis</i>	F	S	<i>Minchinia</i> ; extensive leukocytosis; necrosis
916a	11	Feb 81	12	<i>Bankia gouldi</i>	M	S	Special panel; metaplasia, necrosis of digestive tubules
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>			No discernable gonad
e				<i>Bankia gouldi</i>	M	S	
f				<i>Bankia gouldi</i>	M	S	
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>	M	S	Leukocytic foci
j				<i>Bankia gouldi</i>			No discernable gonad; leukocyte plugs in blood sinuses
k				<i>Bankia gouldi</i>			No discernable gonad
l				<i>Bankia gouldi</i>			No discernable gonad; leukocytic infiltration under mantle epithelium
m				<i>Bankia gouldi</i>			No discernable gonad
n				<i>Bankia gouldi</i>			No discernable gonad
917a	2	Feb 81	8	<i>Teredo navalis</i>	H	S	Special panel; <i>Minchinia</i>
b				<i>Teredo navalis</i>	M	EA	Moribund <i>Minchinia</i> plasmodia
918	7	Feb 81	12	<i>Bankia gouldi</i>			Special panel; no discernable gonad; necrosis
919	7	Feb 81	12	<i>Teredo navalis</i>	F	S	Special panel; <i>Minchinia</i> necrotic
920a	1	Mar 81	6	<i>Teredo navalis</i>			No discernable gonad
b				<i>Teredo navalis</i>			No discernable gonad

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
921a	9	Mar 81	6	<i>Teredo bartschi</i>	H	S	
b				<i>Teredo bartschi</i>	H	S	Moribund <i>Minchinia</i> plasmodia
c				<i>Teredo bartschi</i>			No discernable gonad
d				<i>Teredo bartschi</i>			No discernable gonad
e				<i>Teredo bartschi</i>	H	S	Early <i>Minchinia</i> plasmodia
f				<i>Teredo bartschi</i>	F	S	
g				<i>Teredo bartschi</i>			No discernable gonad; cluster of unidentified cells in mantle; surrounded by leukocytes
h				<i>Teredo bartschi</i>	F	S	
i				<i>Teredo bartschi</i>	H	S	
922	1	Mar 81	6	<i>Teredo navalis</i>			No discernable gonad
923a	11	Mar 81	12	<i>Teredo navalis</i>	M	EA	Special panel; <i>Minchinia</i> plasmodia
b				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; leukocytic foci
c				<i>Teredo navalis</i>	M	EA	
924a	11	Mar 81	12	<i>Bankia gouldi</i>			Special panel; no discernable gonad
b				<i>Bankia gouldi</i>			No discernable gonad
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>			No discernable gonad
f				<i>Bankia gouldi</i>	M	S	
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>			No discernable gonad
j				<i>Bankia gouldi</i>	M	S	
k				<i>Bankia gouldi</i>	M	S	
l				<i>Bankia gouldi</i>			No discernable gonad
m				<i>Bankia gouldi</i>			No discernable gonad; <i>Minchinia</i> spores in pallial sinus
n				<i>Bankia gouldi</i>	M	S	
925a	12	Mar 81	12	<i>Bankia gouldi</i>	M	S	Special panel
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>			No discernable gonad; leukocytic infiltration into mantle; blood sinuses occluded
d				<i>Bankia gouldi</i>			No discernable gonad, leukocytic infiltration
e				<i>Bankia gouldi</i>	M	S	Occlusion of blood sinuses
f				<i>Bankia gouldi</i>	M	S	
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>	M	S	
i				<i>Bankia gouldi</i>	M	S	Leukocytic infiltration into mantle
j				<i>Bankia gouldi</i>			No discernable gonad
k				<i>Bankia gouldi</i>			No discernable gonad
l				<i>Bankia gouldi</i>	M	S	
m				<i>Bankia gouldi</i>	M	S	
926a	2	Mar 81	9	<i>Teredo navalis</i>	M	EA	Special panel
b				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; most tissues necrotic
c				<i>Teredo navalis</i>	H	S	
d				<i>Teredo navalis</i>	M	S	<i>Minchinia</i> ; tissues necrotic
927	17	Mar 81	14	<i>Teredo navalis</i>	H	S	Special panel; <i>Minchinia</i> ; necrotic

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
928a	17	Mar 81	12	<i>Teredo navalis</i>	M	EA	Special panel; <i>Minchinia</i> ; necrotic
b				<i>Teredo navalis</i>	F	S	<i>Minchinia</i> ; necrotic
c				<i>Teredo navalis</i>	M	EA	Early <i>Minchinia</i> plasmodia
d				<i>Teredo navalis</i>			No discernable gonad
e				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
f				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i>
g				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
929a	17	Mar 81	13	<i>Teredo navalis</i>	M	S	Special panel; <i>Minchinia</i>
b				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
c				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
d				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
930a	12	Apr 81	L@	<i>Bankia gouldi</i>	M	EA	Special panel
b				<i>Bankia gouldi</i>	M	EA	Leukocytosis; vacuolization of some leukocytes
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>	M	EA	
e				<i>Bankia gouldi</i>	M	S	Leukocytosis; vacuolization of leukocytes; necrosis
f				<i>Bankia gouldi</i>			No discernable gonad; leukocytosis; vacuolization of some leukocytes
g				<i>Bankia gouldi</i>	M	EA	
h				<i>Bankia gouldi</i>	M	EA	Leukocytosis
i				<i>Bankia gouldi</i>	M	EA	
j				<i>Bankia gouldi</i>			No discernable gonad; leukocytosis; vacuolization of leukocytes
k				<i>Bankia gouldi</i>			No discernable gonad; leukocytosis
l				<i>Bankia gouldi</i>	M	S	Leukocytosis
m				<i>Bankia gouldi</i>	M	S	Necrotic
n				<i>Bankia gouldi</i>	M	S	Leukocytic foci in mantle
o				<i>Bankia gouldi</i>	M	EA	
p				<i>Bankia gouldi</i>	M	EA	
q				<i>Bankia gouldi</i>			No discernable gonad; leukocytosis; necrosis
r				<i>Bankia gouldi</i>	M	S	Leukocytosis
s				<i>Bankia gouldi</i>			No discernable gonad
t				<i>Bankia gouldi</i>	M	S	
u				<i>Bankia gouldi</i>			No discernable gonad; leukocytosis
v				<i>Bankia gouldi</i>	M	S	Necrotic tissues
w				<i>Bankia gouldi</i>	M	S	
x				<i>Bankia gouldi</i>			No discernable gonad; old cysts
931	12	Apr 81	12	<i>Bankia gouldi</i>	M	S	Special panel; necrotic, probably dead when fixed
932a	11	Apr 81	12	<i>Teredo navalis</i>			Special panel; no discernable gonad
b				<i>Teredo navalis</i>	H	EA	
c				<i>Teredo navalis</i>	H	EA	<i>Minchinia</i>
d				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
e				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; heavy tissue response
f				<i>Teredo navalis</i>	M	EA	
g				<i>Teredo navalis</i>	F	S	<i>Minchinia</i>

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Mos. Exposed	Species	Sex	Gonad Condition	Comments
933a	11	April 81	12	<i>Bankia gouldi</i>	M	S	Special panel
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	Leukocytosis
d				<i>Bankia gouldi</i>	M	EA	
e				<i>Bankia gouldi</i>	M	EA	Digestive tubules distended, packed with vacuolated leukocytes; metaplasia of digestive tubules
f				<i>Bankia gouldi</i>	M	EA	
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>			No discernable gonad; leukocytosis
i				<i>Bankia gouldi</i>	M	S	
j				<i>Bankia gouldi</i>			No discernable gonad
k				<i>Bankia gouldi</i>	M	S	
l				<i>Bankia gouldi</i>	M	S	
m				<i>Bankia gouldi</i>	M	S	
934	8	Apr 81	7	<i>Teredo navalis</i>	F	LA	
935	7	Apr 81	12	<i>Bankia gouldi</i>	M	S	Special panel
936a	17	Apr 81	12	<i>Teredo navalis</i>	M	S	Special panel; <i>Minchinia</i>
b				<i>Teredo navalis</i>	M	S	<i>Minchinia</i> ; tissue necrosis
c				<i>Teredo navalis</i>	H	S	<i>Minchinia</i> ; necrosis
937	7	Apr 81	12	<i>Teredo navalis</i>	H	S	Special panel; <i>Minchinia</i> ; necrotic
938	7	Apr 81	6	<i>Teredo navalis</i>	M	LA	
939	2	Apr 81	12	<i>Teredo navalis</i>	H	S	Special panel; <i>Minchinia</i> ; necrosis

POOR ORIGINAL