

PROGRESS REPORT FOR THE TWENTY-THIRD QUARTER

on

WOODBORER STUDY ASSOCIATED WITH THE
OYSTER CREEK GENERATING STATION

to

JERSEY CENTRAL POWER & LIGHT COMPANY

February 27, 1981

by

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Report No. 15039

November 11, 1980 to February 20, 1981

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WOODBORER STUDY ASSOCIATED WITH THE
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N. Maciolek-Blake, C.I. Belmore, and R.E. Hillman

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 Annual Report on Woodborer Study Associated with the Oyster Creek Generating Station, Report 14968, dated February 29, 1980.

This report presents the summary data for the twenty-third quarterly period from November 11, 1980 to February 20, 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 period December 2, 1980, January 6-7, and February 9-10, 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 summary data for the laboratory examination of the panels may be found in Tables 2 through 5.

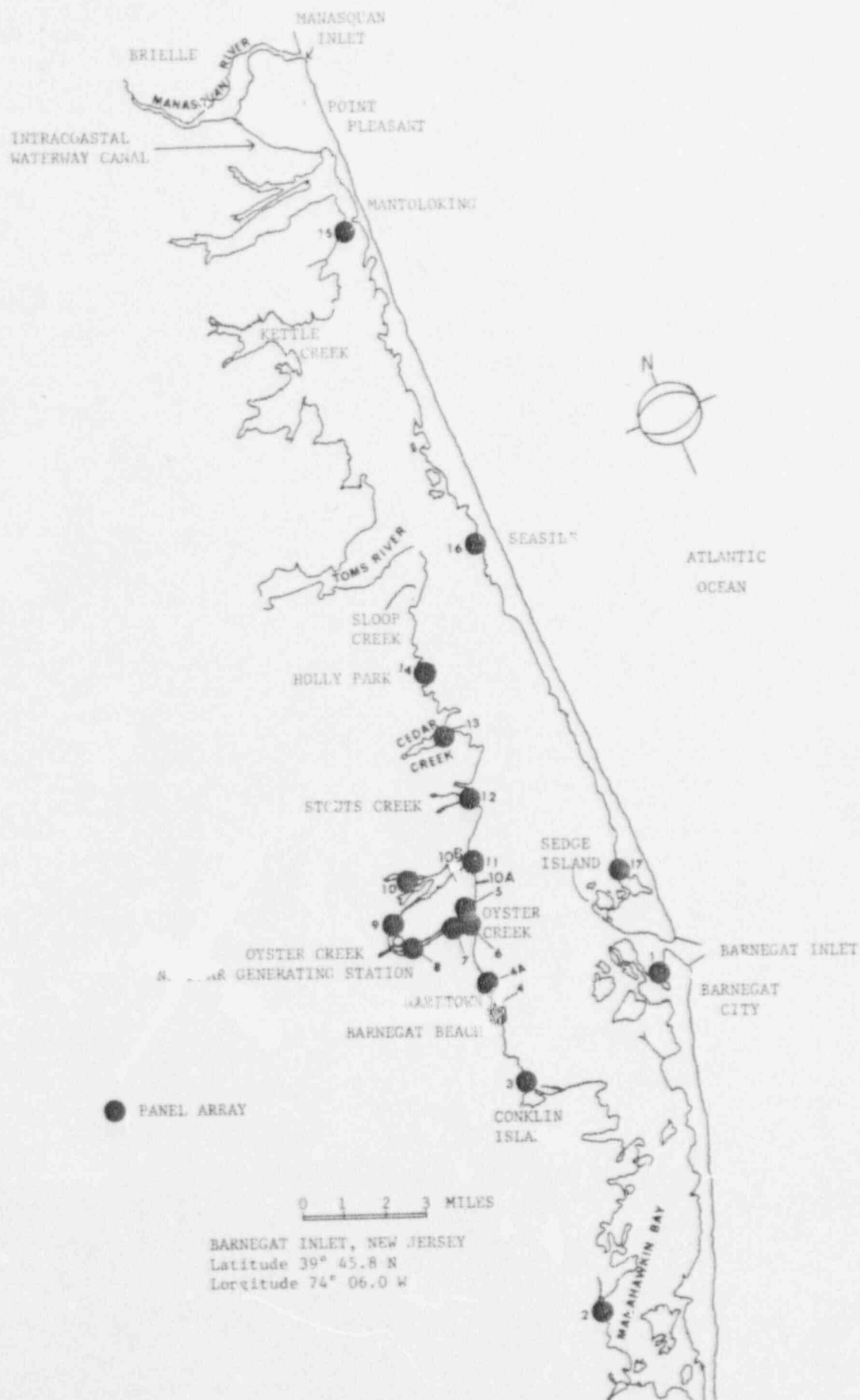


FIGURE 1. OUTLINE OF BARNEGAT BAY SHOWING GEOGRAPHICAL LOCATIONS OF EXPOSURE PANELS

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

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.	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
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

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 (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 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.

TABLE 2. SUMMARY DATA FOR INCIDENCE OF TEREDINIDAE IN PANELS REMOVED DECEMBER 2, 1980

Site	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	300	95	10-30	300 <i>T. navalis</i>	
	C	0				
2	P	1	2	143	1 <i>T. navalis</i>	
	C	0				
5	P	3	20	245-375	3 <i>E. gouldi</i>	
	C	0				
6	P	5	20	24-270	4 <i>B. gouldi</i> , 1 <i>T. bartschi</i>	
	C	0				
7	P	270	10	<1-255	1 <i>B. gouldi</i> , 6 <i>T. bartschi</i> , 263 Teredinidae*	
	C	0				
10A	P	1	6	270	1 <i>B. gouldi</i>	
	C	0				
10B	P	3	13	145-290	2 <i>B. gouldi</i> , 1 <i>T. navalis</i>	
	C	0				
11	P	26	85	55-250	18 <i>B. gouldi</i> , 8 <i>T. navalis</i>	
	C	0				
12	P	14	42	<1-195	13 <i>B. gouldi</i> , 1 Teredinidae*	
	C	0				
13	P	2	10	103-340	2 <i>B. gouldi</i>	
	C	0				
14	P	1	5	290	1 <i>B. gouldi</i>	
	C	0				
15	P	3	5	73-168	3 <i>B. gouldi</i>	
	C					

Sites 3-4A, 8-10, 16-17, no Teredinidae present.

P = Long-term panel submerged June 5-6, 1980.

C = Short-term panel submerged November 5-6, 1980.

* = Damaged or too small to speciate.

TABLE 3. SUMMARY DATA FOR INCIDENCE OF TEREDINIDAE IN PANELS REMOVED JANUARY 6-7, 1981

Site	Panel	No. of Specimens	Percent Filled	Size Range in mm.	Species Identification	Remarks
1	P	350	97	14-120	350 <i>T. navalis</i>	
	C	0				
5	P	5	18	50-250	5 <i>B. gouldi</i>	
	C	0				
6	P	2	<1	14-15	2 <i>T. bartschi</i>	
	C	0				
7	P	66	30	8-330	3 <i>B. gouldi</i> , 63 <i>T. bartschi</i>	3 <i>T. bartschi</i> dead
	C	0				
9	P	1	5	285	1 <i>B. gouldi</i>	
	C	0				
10A	P	19	80	1-310	17 <i>B. gouldi</i> , 2 Teredinidae*	1 <i>B. gouldi</i> dead
	C	0				
11	P	15	70	70-350	13 <i>B. gouldi</i> , 2 <i>T. navalis</i>	
	C	0				
12	P	17	70	80-230	17 <i>B. gouldi</i>	
	C	0				
13	P	1	5	247	1 <i>B. gouldi</i>	
	C	0				
14	P	1	3	140	1 <i>B. gouldi</i>	
	C	0				
15	P	2	7	180-200	2 <i>B. gouldi</i>	
	C	0				

Sites 2-4A, 8, 10, 10B, 16-17, no Teredinidae present.

P = Long-term panel submerged July 7-8, 1980.

C = Short-term panel submerged December 2, 1980.

* = Damaged or too small to speciate.

TABLE 4. SUMMARY DATA FOR INCIDENCE OF TEREDINIDAE
IN PANELS REMOVED FEBRUARY 9-10, 1981

Site	Panel	No. of Specimens	Percent Filled	Size Range in mm	Species Identification	Remarks
1	P	72	70	35-110	72 <i>T. navalis</i>	
	C	0				
5	P	1	6	290	1 <i>B. gouldi</i>	
	C	0				
7	P	60	3	<1-82	5 <i>T. bartse. l.</i> , 55 Tere- dinidae*	58 Dead
	C	0				
10A	P	2	3	<1-150	1 <i>T. navalis</i> , 1 Tere- dinidae*	
	C	0				
11	P	9	12	8-195	1 <i>B. gouldi</i> , 8 <i>T. navalis</i>	1 <i>T. navalis</i> dead
	C	0				
12	P	2	5	122-180	2 <i>B. gouldi</i>	
	C	0				
13	P	1	<1	25	1 <i>B. gouldi</i>	
	C	0				
14	P	2	2	64-72	2 <i>T. navalis</i>	
	C	0				
17	P	6	2	16-45	6 <i>T. navalis</i>	
	C	0				

Sites 2-4A, 6, 8-10, 10B, 15-16, no Teredinidae present.

P = Long-term panel submerged August 4-5, 1980

C = Short-term panel submerged January 6-7, 1981

* = Damaged or too small to speciate

TABLE 5. SUMMARY DATA FOR INCIDENCE OF *Limnoria tripunctata* IN PANELS REMOVED DECEMBER, 1980, JANUARY AND FEBRUARY, 1981

Site	Panel	No. of Tunnels	No. of Specimens	No. of Tunnels	No. of Specimens	No. of Tunnels	No. of Specimens
		December		January		February	
1	P	850	850*	145	100 ^x	57	51
	C	0		0		0	
2	P	2500	2500*	850	800 ^x	27	12 ^x
	C	0		0		0	
3	P	105	35 ^x	0		0	
	C	0		0		0	
4	P	2	0	0		0	
	C	0		0		0	
4A	P	7200	6000 ^x	4500	4000 ^x	1050	1100 ^x
	C	0		0		0	

Sites 5 through 17 - no *Limnoria* present.

P = Long-term panel, submerged 6 months
 C = Short-term panel, submerged 1 month
 * = Gravid females and juveniles present
 x = Juveniles present

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 December, 1980, January, and February, 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 November and December, 1980. Included are results from panels exposed for periods ranging from 6 to 12 months.

TABLE 6. WATER QUALITY AT EXPOSURE PANEL STATIONS, DECEMBER 2, 1980

Station	Date	Time	Depth in Feet	Salinity(o/oo)	Temperature(°C)	O ₂ (mg/l)	pH
1	12/2/80	0845	4.0	31.5	8.0	8.4	7.2
2	12/2/80	0925	2.0	25.6	7.3	8.8	6.6
3	12/2/80	0945	2.0	28.6	7.6	8.7	7.1
4	12/2/80	1000	3.0	26.7	6.9	8.8	7.5
4A	12/2/80	1008	3.0	26.6	6.8	9.4	7.7
5	12/2/80	1020	3.0	25.6	10.9	9.4	7.5
6	12/2/80	1028	3.0	25.6	10.8	8.4	7.5
7	12/2/80	1035	3.0	25.6	12.0	8.5	7.5
8	12/2/80	1045	3.0	23.7	11.8	9.1	7.6
9	12/2/80	1100	3.0	25.8	9.0	9.5	7.8
10	12/2/80	1300	3.0	21.3	9.5	10.6	7.0
10A	12/2/80	1120	2.5	25.6	9.7	8.8	7.7
10B	12/2/80	1132	3.0	26.2	9.3	8.5	7.7
11	12/2/80	1145	1.5	26.4	8.6	8.8	7.7
12	12/2/80	1330	3.0	24.3	7.9	9.2	7.5
13	12/2/80	1400	4.0	21.5	7.9	9.8	7.7
14	12/2/80	1425	3.0	20.5	7.4	9.4	7.8
15	12/2/80	1505	3.0	21.0	7.6	9.8	7.9
16	12/2/80	1530	3.0	16.9	7.6	9.7	7.7
17	12/2/80	1600	1.0	28.1	9.1	9.4	8.2

TABLE 7. WATER QUALITY AT EXPOSURE PANEL STATIONS, JANUARY 6-7, 1981

Station	Date	Time	Depth in Feet	Salinity(o/oo)	Temperature(°C)	O ₂ (mg/l)	pH
1	1/7/81	0900	6.0	14.9	1.8	8.0	7.0
2	1/7/81	0930	2.0	13.7	0.6	8.7	6.8
3	1/7/81	1000	3.0	13.2	0.8	9.3	7.1
4	1/7/81	1020	3.5	14.0	0.1	10.7	7.6
	1/7/81	1030	3.5	14.0	0.2	11.0	7.8
5	1/7/81	1045	4.0	12.8	3.5	11.0	7.8
6	1/7/81	1055	4.0	12.8	1.8	10.9	7.8
7	1/7/81	1100	3.0	12.6	4.1	10.9	7.7
8	1/7/81	1115	6.0	12.5	4.1	11.6	7.9
9	1/7/81	1130	6.0	13.3	0.1	11.3	8.0
10	1/7/81	1150	3.0	3.4	1.1	11.6	7.3
10A	1/7/81	1200	3.5	13.2	1.6	10.5	7.7
10B	1/7/81	1220	3.5	12.7	1.6	10.6	6.4
11	1/7/81	1230	4.0	13.4	0.5	11.6	6.4
12	1/7/81	1330	3.5	12.0	0.2	10.1	6.6
13	1/7/81	1400	3.0	5.9	1.1	9.8	6.5
14	1/7/81	1415	3.0	11.0	0.0	11.8	6.9
15	1/6/81	1430	3.5	24.4	0.6	10.2	6.5
16	1/7/81	1455	4.5	9.7	-0.6	11.3	6.6
17	1/7/81	1530	1.5	14.0	-0.5	10.6	6.8

TABLE 8. WATER QUALITY AT EXPOSURE PANEL STATIONS, FEBRUARY 9-10, 1981

Station	Date	Time	Depth in Feet	Salinity - o/oo	Temp. - °C	O ₂ (mg/l)	pH
1	2/10/81	0933	3.0	20.6	0.0	9.5	6.8
2	2/10/81	1015	2.0	16.7	0.5	10.1	7.0
3	2/10/81	1051	2.0	11.5	0.0	10.5	7.0
4	2/10/81	1112	2.5	19.3	1.0	9.6	6.9
4A	2/10/81	1131	2.0	19.3	2.0	9.6	7.3
5	2/9/81	1517	2.5	16.7	3.5	11.6	7.8
6	2/9/81	1526	2.0	16.7	3.5	11.1	7.8
7	2/9/81	1540	2.5	17.4	5.0	11.9	8.0
8	2/9/81	1603	3.0	19.3	5.0	11.8	8.0
9	2/9/81	1624	3.0	18.0	1.0	12.9	8.1
10	2/9/81	1734	2.5	1.1	2.0	15.8	7.9
10A	2/9/81	1650	2.0	18.0	1.5	12.5	7.9
10B	2/9/81	1704	2.5	27.2	2.0	11.6	8.0
11	2/9/81	1716	2.0	27.0	1.0	11.8	8.1
12	2/9/81	1754	2.5	14.1	0.5	12.8	6.8
13	2/10/81	0804	3.0	5.0	1.0	12.1	7.6
14	2/10/81	0744	2.0	11.5	0.5	11.6	7.0
15	2/9/81	1200	2.0	15.4	1.0	14.4	8.6
16	2/9/81	1412	2.0	7.6	0.0	14.7	7.6
17	2/9/81	1330	2.0	14.1	0.5	14.4	8.0

TABLE 9. CONDITION OF GONADS OF TEREDINID BORELS REMOVED FROM EXPOSURE PANELS IN BARNEGAT BAY DURING NOVEMBER AND DECEMBER, 1980

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

Specimen No.	Station	Month	No. Months Exposed	Species	Sex	Gonad Condition	Comments
841	D	Nov 80	6	<i>Bankia gouldi</i>			No discernable gonad
842a	15	Nov 80	6	<i>Bankia gouldi</i>			No discernable gonad; leukocytic foci
842b				<i>Bankia gouldi</i>			No discernable gonad
842c				<i>Bankia gouldi</i>	M	EA	
842d				<i>Bankia gouldi</i>	M	S	
843a	13	Nov 80	6	<i>Bankia gouldi</i>	F	S	Leukocytic foci
b				<i>Bankia gouldi</i>			No discernable gonad
c				<i>Bankia gouldi</i>			No discernable gonad
844a	17	Nov 80	6	<i>Teredo navalis</i>	F	S	<i>Minchinia</i> plasmodia
b				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
c				<i>Teredo navalis</i>	F	EA	<i>Minchinia</i> plasmodia
d				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
e				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
845a	12	Nov 80	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	F	EA	Gonad being resorbed
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>			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
k				<i>Bankia gouldi</i>	M	S	Granulocytomas
846a	5	Nov 80	6	<i>Bankia gouldi</i>			No discernable gonad
b				<i>Bankia gouldi</i>	M	S	
847	7	Nov 80	6	<i>Teredo bantachi</i>	H	S	<i>Minchinia</i> ; larvae in brood pouch
848	10B	Nov 80	6	<i>Bankia gouldi</i>	M	S	Leukocytosis
849a	10A	Nov 80	6	<i>Bankia gouldi</i>	M	S	Many ciliates; metaplasia, necrosis of digestive tubules; leukocytosis
b				<i>Bankia gouldi</i>			No discernable gonad
c				<i>Bankia gouldi</i>	F	S	Leukocytic foci
d				<i>Bankia gouldi</i>			No discernable gonad
e				<i>Bankia gouldi</i>			No discernable gonad
850a	1	Nov 80	6	<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
b				<i>Teredo navalis</i>	M	S	<i>Minchinia</i> plasmodia, mostly moribund
c				<i>Teredo navalis</i>	M	LA	<i>Minchinia</i>
d				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
e				<i>Teredo navalis</i>	M	EA	
f				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
g				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
h				<i>Teredo navalis</i>	F	S	Moribund <i>Minchinia</i> plasmodia
i				<i>Teredo navalis</i>	F	S	<i>Minchinia</i>
j				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
k				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
l				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>

POOR ORIGINAL

TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
851a	11	Nov 80	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	M	S	Cysts; leukocytosis; abscesses; many ciliates in mantle cavity
c				<i>Bankia gouldi</i>	M	S	Leukocytic foci; many ciliates in mantle cavity
d				<i>Bankia gouldi</i>			No discernable gonad
e				<i>Bankia gouldi</i>	M	S	Necrotic typhlosole
f				<i>Bankia gouldi</i>	M	S	Cyst in digestive gland
g				<i>Bankia gouldi</i>			No discernable gonad
h				<i>Bankia gouldi</i>			No discernable gonad
i				<i>Bankia gouldi</i>			No discernable gonad; cytolysis of connective tissue
j				<i>Bankia gouldi</i>			No discernable gonad
k				<i>Bankia gouldi</i>			No discernable gonad
l				<i>Bankia gouldi</i>			No discernable gonad
m				<i>Bankia gouldi</i>			No discernable gonad
852a	11	Nov 80	6	<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
b				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i>
c				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
853a	7	Nov 80	12	<i>Teredo bartolachi</i>			Special panel; no discernable gonad; <i>Minchinia</i> ; necrotic
b				<i>Teredo bartolachi</i>	F	PS	Gonads being resorbed; <i>Minchinia</i>
854	7	Nov 80	12	<i>Teredo navalis</i>	F	S	Special panel; <i>Minchinia</i>
855a	7	Nov 80	12	<i>Bankia gouldi</i>			Special panel; no discernable gonad
b				<i>Bankia gouldi</i>			No discernable gonad
856a	12	Nov 80	12	<i>Bankia gouldi</i>	F	EA	Special panel
b				<i>Bankia gouldi</i>	F	S	
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>			No discernable gonad; leukocytic foci
g				<i>Bankia gouldi</i>			No discernable gonad
h				<i>Bankia gouldi</i>			No discernable gonad
i				<i>Bankia gouldi</i>			No discernable gonad
j				<i>Bankia gouldi</i>	M	S	
857a	2	Nov 80	6	<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
b				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i> ; necrotic
c				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
d				<i>Teredo navalis</i>	F	S	<i>Minchinia</i>
858	12	Nov 80	12	<i>Teredo navalis</i>	H	PS	Special panel; gonad being resorbed
859a	17	Nov 80	12	<i>Teredo navalis</i>	M	S	Special panel; <i>Minchinia</i>
b				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
c				<i>Teredo navalis</i>	F	S	<i>Minchinia</i>

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TABLE 9. (continued)

Specimen No.	Strain	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
860a		Nov 80	12	<i>Teredo navalis</i>			Special panel; no discernable gonad
b				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
c				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i>
861a	11	Nov 80	12	<i>Bankia gouldi</i>	M	S	Special panel
b				<i>Bankia gouldi</i>	M	EA	
c				<i>Bankia gouldi</i>	M	S	
d				<i>Bankia gouldi</i>	M	S	
862a	10B	Dec 80	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	F	EA	
863	10B	Dec 80	6	<i>Teredo navalis</i>	F	LA	<i>Minchinia</i> ; leukocytic foci
864a	5	Dec 80	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	
865	6	Dec 80	6	<i>Teredo bartachi</i>			No discernable gonad; early larvae in brood pouch
866a	6	Dec 80	6	<i>Bankia gouldi</i>	F	S	Leukocytic foci
b				<i>Bankia gouldi</i>	M	S	Leukocytosis
c				<i>Bankia gouldi</i>	M	S	Cysts; cytolysis of connective tissue
d				<i>Bankia gouldi</i>	M	S	Cysts; cytolysis of connective tissue
867	10A	Dec 80	6	<i>Bankia gouldi</i>	M	S	Leukocytic foci
868a	12	Dec 80	6	<i>Bankia gouldi</i>	F	S	
b				<i>Bankia gouldi</i>			No discernable gonad; metaplasia of digestive tubules
c				<i>Bankia gouldi</i>	F	S	Cyst
d				<i>Bankia gouldi</i>	M	S	Cytolysis of connective tissue
e				<i>Bankia gouldi</i>			No discernable gonad; cyst
f				<i>Bankia gouldi</i>	M	S	
g				<i>Bankia gouldi</i>	M	S	
h				<i>Bankia gouldi</i>	M	S	Cysts
i				<i>Bankia gouldi</i>	M	S	
j				<i>Bankia gouldi</i>	F	S	
k				<i>Bankia gouldi</i>	M	S	
l				<i>Bankia gouldi</i>			No discernable gonad
m				<i>Bankia gouldi</i>	M	S	
869	14	Dec 80	6	<i>Bankia gouldi</i>			No discernable gonad
870a	7	Dec 80	6	<i>Teredo bartachi</i>	H	S	Early <i>Minchinia</i> plasmodia
b				<i>Teredo bartachi</i>	H	PS	<i>Minchinia</i> plasmodia
c				<i>Teredo bartachi</i>	H	S	
d				<i>Teredo bartachi</i>	H	PS	
e				<i>Teredo bartachi</i>	H	S	
871	7	Dec 80	6	<i>Bankia gouldi</i>	M	S	
872a	13	Dec 80	6	<i>Bankia gouldi</i>	F	S	
b				<i>Bankia gouldi</i>	M	S	

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
873a	1	Dec 80	6	<i>Teredo navalis</i>	F	S	<i>Minchinia</i>
b				<i>Teredo navalis</i>			No discernable gonad
c				<i>Teredo navalis</i>	H	EA	<i>Minchinia</i>
d				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
e				<i>Teredo navalis</i>	H	LA	<i>Minchinia</i>
f				<i>Teredo navalis</i>	H	S	<i>Minchinia</i> plasmodia
g				<i>Teredo navalis</i>	M	LA	<i>Minchinia</i>
h				<i>Teredo navalis</i>	F	LA	<i>Minchinia</i>
i				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
j				<i>Teredo navalis</i>	H	EA	
k				<i>Teredo navalis</i>	H	S	
l				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
m				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
n				<i>Teredo navalis</i>	H	S	<i>Minchinia</i>
o				<i>Teredo navalis</i>	H	S	Meribund <i>Minchinia</i> plasmodia
p				<i>Teredo navalis</i>	H	LA	
874a	15	Dec 80	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	M	S	
c				<i>Bankia gouldi</i>	M	S	
875a	11	Dec 80	6	<i>Bankia gouldi</i>	M	S	
b				<i>Bankia gouldi</i>	M	S	Many vacuolated leukocytes
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>	F	S	
g				<i>Bankia gouldi</i>	M	S	Leukocytic foci
h				<i>Bankia gouldi</i>	M	S	Leukocytic foci
i				<i>Bankia gouldi</i>	M	S	
j				<i>Bankia gouldi</i>	H	S	
k				<i>Bankia gouldi</i>	M	S	
876a	11	Dec 80	6	<i>Teredo navalis</i>	F	S	<i>Minchinia</i>
b				<i>Teredo navalis</i>	M	LA	Meribund <i>Minchinia</i> plasmodia
c				<i>Teredo navalis</i>	H	EA	<i>Minchinia</i>
d				<i>Teredo navalis</i>	M	EA	<i>Minchinia</i>
e				<i>Teredo navalis</i>			No discernable gonad; <i>Minchinia</i>
f				<i>Teredo navalis</i>	F	S	<i>Minchinia</i>
g				<i>Teredo navalis</i>	M	S	<i>Minchinia</i>
877	2	Dec 80	6	<i>Teredo navalis</i>	F	S	<i>Minchinia</i> ; necrotic
878a	7	Dec 80	12	<i>Teredo navalis</i>	F	S	Special panel; <i>Minchinia</i> ; necrotic
b				<i>Teredo navalis</i>	M	S	<i>Minchinia</i> ; necrotic
879a	7	Dec 80	12	<i>Teredo bartschi</i>	F	S	Special panel; larvae in brood pouch; <i>Minchinia</i>
b				<i>Teredo bartschi</i>	F	S	<i>Minchinia</i>
880	17	Dec 80	12	<i>Teredo navalis</i>	M	S	Special panel
881a	11	Dec 80	12	<i>Bankia gouldi</i>	M		Special panel
b				<i>Bankia gouldi</i>			No discernable gonad; cysts; leukocytic foci; cytolysis of connective tissue
c				<i>Bankia gouldi</i>			No discernable gonad; cytolysis of connective tissue
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>	M	S	
f				<i>Bankia gouldi</i>	M	S	

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TABLE 9. (continued)

Specimen No.	Station	Month Removed	No. Months Exposed	Species	Sex	Gonad Condition	Comments
882a	11	Dec 80	12	<i>Teredo navalis</i>	M	S	Special panel; <i>Minohinia</i> ; leukocytosis; excessive connective tissue formation; granulocytomas
b				<i>Teredo navalis</i>			No discernable gonad; <i>Minohinia</i>
c				<i>Teredo navalis</i>			No discernable gonad; <i>Minohinia</i>
d				<i>Teredo navalis</i>	F	S	<i>Minohinia</i>
e				<i>Teredo navalis</i>	M	S	<i>Minohinia</i>
f				<i>Teredo navalis</i>	M	S	<i>Minohinia</i>
g				<i>Teredo navalis</i>	M	S	<i>Minohinia</i>
883a	12	Dec 80	12	<i>Bankia gouldi</i>	M	S	Special panel;
b				<i>Bankia gouldi</i>	M	EA	Cysts
c				<i>Bankia gouldi</i>	M	S	Necrotic, metaplastic digestive tubules
d				<i>Bankia gouldi</i>	M	S	
e				<i>Bankia gouldi</i>			No discernable gonad; cysts
f				<i>Bankia gouldi</i>	M	S	
g				<i>Bankia gouldi</i>			No discernable gonad
h				<i>Bankia gouldi</i>	M	S	Large abscess in digestive gland
i				<i>Bankia gouldi</i>	M	EA	
j				<i>Bankia gouldi</i>			No discernable gonad; granulocytomas
k				<i>Bankia gouldi</i>	M	S	
l				<i>Bankia gouldi</i>	M	EA	

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