

FISHERMEN'S CLAM REPORT  
Surfclam - Ocean Quahog Survey  
Preliminary Catch Summary DELAWARE II  
Cape Hatteras - Georges Bank  
June 03 - July 21, 1999

**Submitted to:** NOAA, NEFSC

For further information contact Thomas Azarovitz (508-495-2283), Ecosystem Surveys Branch, National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543-1097.

**Date:** 1999

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The 1999 region-wide survey for Atlantic surfclam, *Spisula solidissima*; and Ocean Quahog, *Arctica islandica* was conducted in continental shelf waters, from Cape Hatteras, North Carolina to Georges Bank aboard the R/V DELAWARE II. The survey, by the NMFS, Northeast Fisheries Science Center, provides indices of abundance and recruitment for both species. In addition, tows were made at 153 non-random sites during the survey to evaluate gear performance.

The following charts and station data indicate the distribution of surfclams and ocean quahogs during the survey. Five-minute tows were made at the speed of 1.5 knots with a hydraulic jet dredge equipped with a 5-foot wide blade and submersible pump positioned on the dredge. Survey stations were randomly selected to give unbiased abundance measurements. Therefore, these data were not always on or near known locations of clam concentrations.

In this report, catch quantity is recorded in numbers of clams, depth in fathoms and bottom temperature in degrees Fahrenheit. Temperature data were recorded for 10 stations. Percent estimates of surfclams are also given by four categories of shell height between 0 to 4.75", 4.76 to 5.00", 5.01 to 5.50", and greater than 5.50". Distribution plots indicate relative numbers of surfclams and ocean quahogs caught on each tow.

In an effort to make this report timely, the data are summarized from unaudited catch files. Therefore, all information in this report is considered provisional and subject to change.

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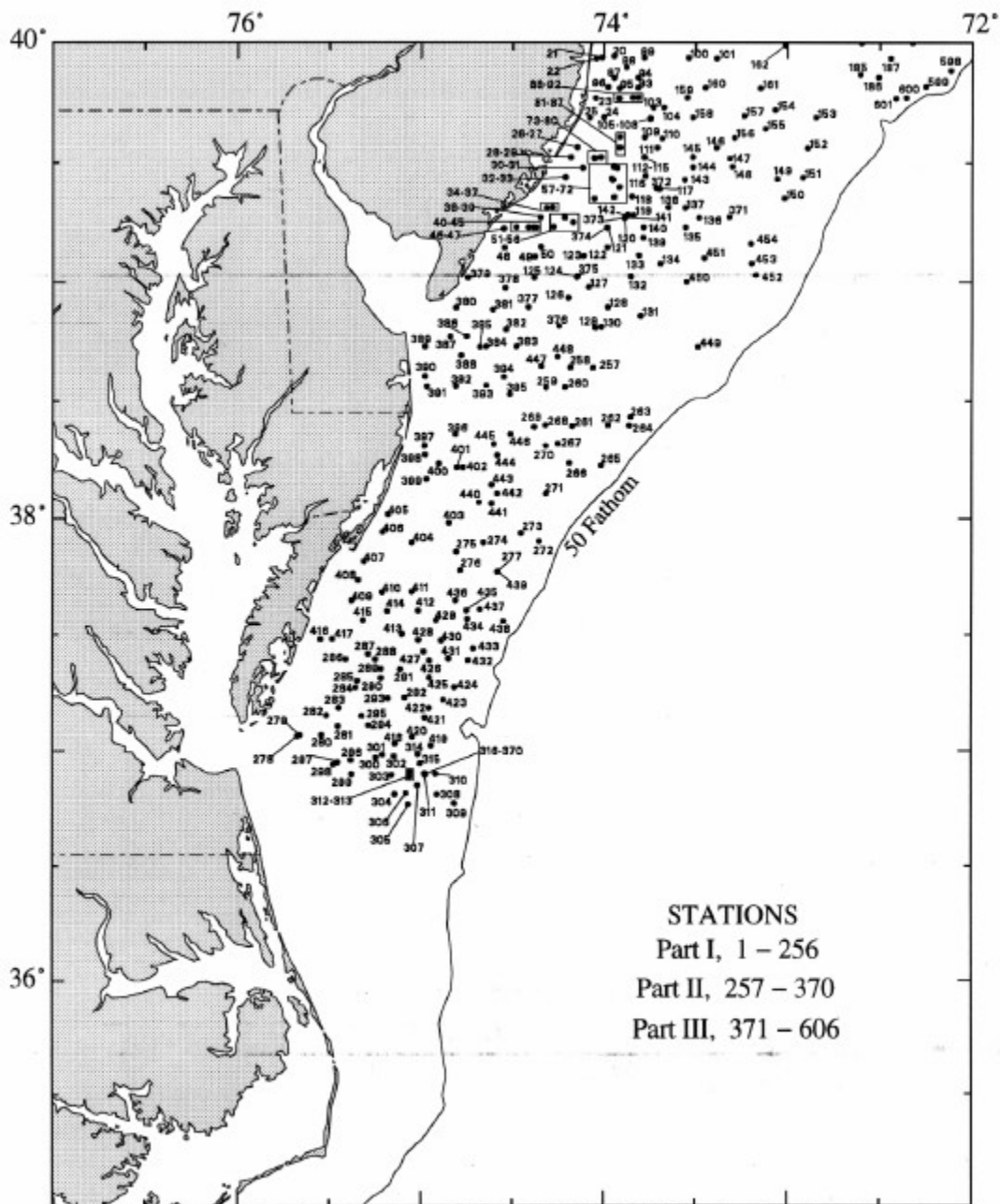


Figure 1. Dredge hauls made from R/V DELAWARE II, during National Marine Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog Survey (99-07), June 03 - July 21, 1999.  
 Map 1 of 3

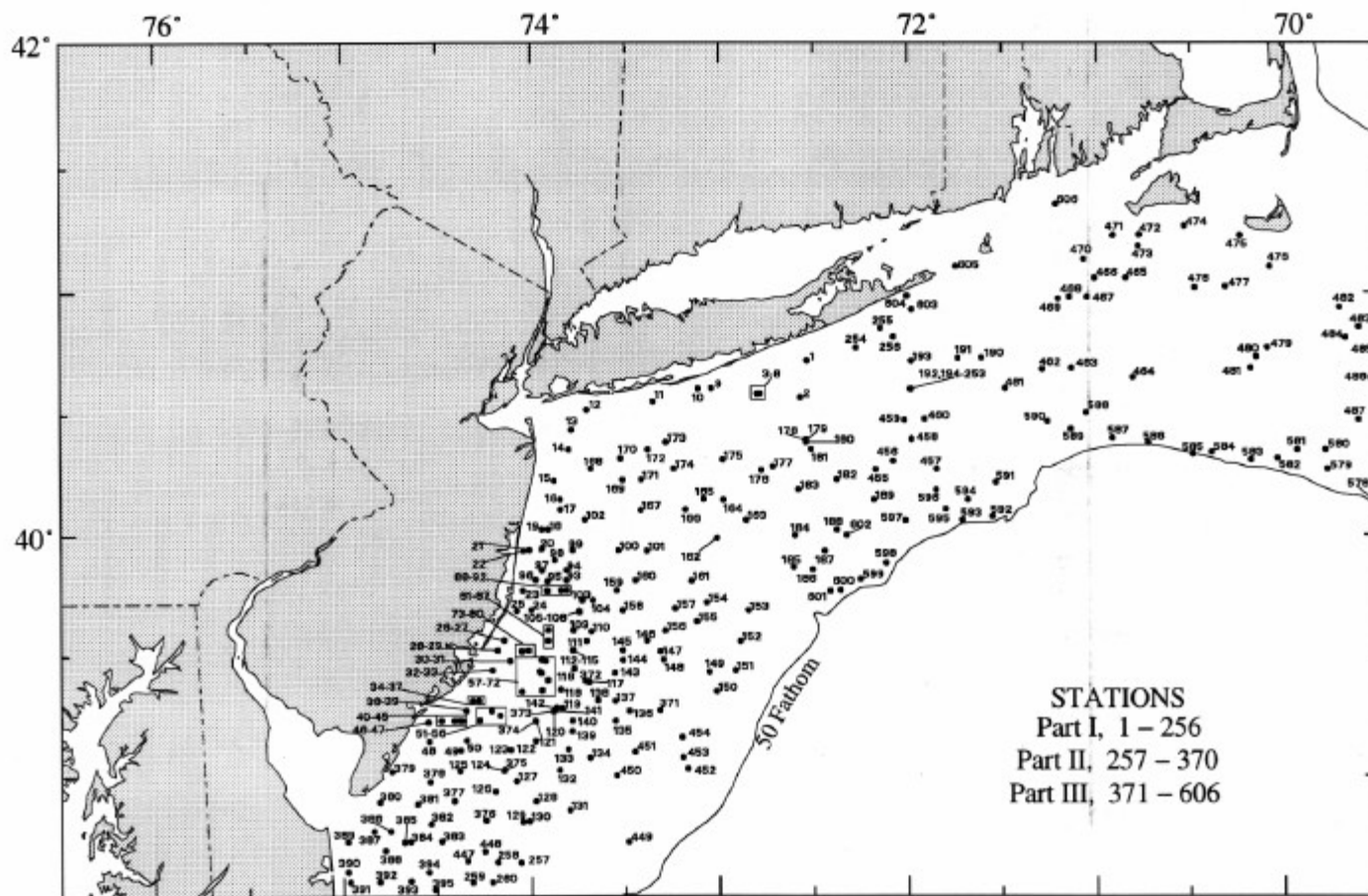


Figure 2. Dredge hauls made from R/V DELAWARE II, during National Marine Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog Survey (99 - 07), June 03 - July 21, 1999.  
 Map 2 of 3

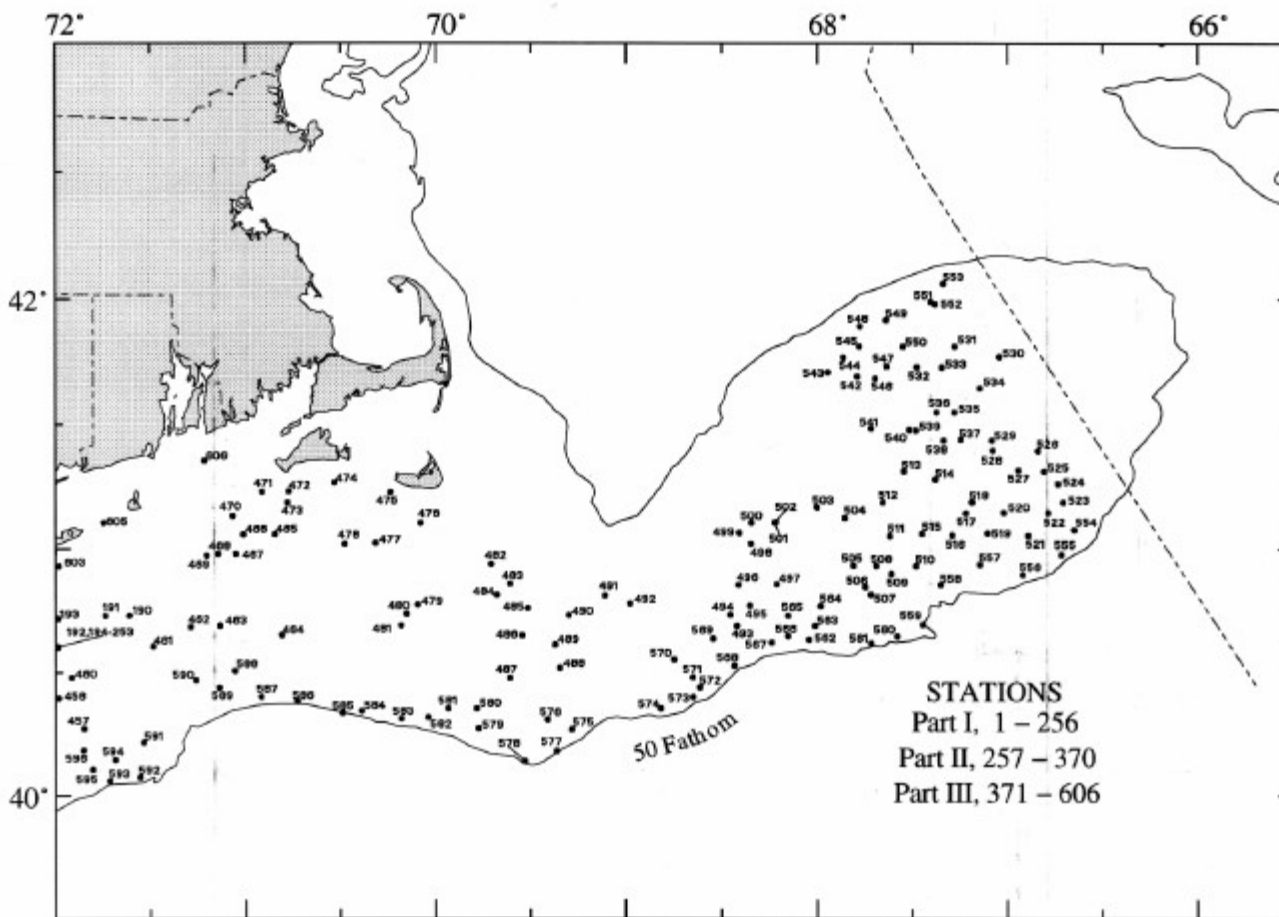


Figure 3. Dredge hauls made from R/V DELAWARE II, during National Marine Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog Survey (99 - 07), June 03 - July 21, 1999.  
 Map 3 of 3

1999 NMFS-NEFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Depth (FM)	Bottom Temperature (F)	Surf Clams				Ocean Quahogs Catch Number	
	Station Number	Position		Loran				Catch Number	Percent of Survey Catch				
		Latitude	Longitude	Time	Delays				0-4.74"	4.76-5.00"	5.01-5.50"		>5.50"
09	0276	3746.0	7446.0	X26931.5	Y41964.2	21.3		65	44.6	18.5	24.6	12.3	27
09	0280	3704.0	7532.0	X27074.5	Y41421.3	13.7		0	0.0	0.0	0.0	0.0	0
09	0281	3706.0	7527.0	X27056.3	Y41453.2	14.8		0	0.0	0.0	0.0	0.0	0
*	09	0282	3709.0	7530.0	X27074.3	Y41481.2		0	0.0	0.0	0.0	0.0	0
*	09	0283	3711.0	7526.0	X27060.2	Y41511.1		0	0.0	0.0	0.0	0.0	0
*	09	0284	3716.0	7521.0	X27046.5	Y41576.1		15	6.7	0.0	13.3	80.0	0
09	0285	3718.0	7520.0	X27045.4	Y41600.3	15.3		0	0.0	0.0	0.0	0.0	0
09	0286	3723.0	7524.0	X27071.9	Y41649.5	14.2		0	0.0	0.0	0.0	0.0	0
*	09	0287	3724.0	7517.0	X27042.0	Y41672.6		0	0.0	0.0	0.0	0.0	0
09	0288	3723.0	7514.0	X27026.8	Y41666.5	15.3		0	0.0	0.0	0.0	0.0	0
*	09	0289	3721.0	7513.0	X27018.9	Y41645.9		38	42.1	50.0	7.9	0.0	0
09	0290	3718.0	7513.0	X27014.1	Y41612.6	14.8		255	20.4	38.8	36.9	3.9	0
09	0291	3720.0	7506.0	X26985.6	Y41647.1	14.2		5	20.0	40.0	20.0	20.0	0
09	0292	3713.0	7505.0	X26970.4	Y41572.1	17.5		40	65.0	12.5	12.5	10.0	0
09	0293	3713.0	7510.0	X26992.8	Y41562.8	12.0		15	33.3	13.3	13.3	40.0	0
09	0294	3706.0	7516.0	X27008.5	Y41474.3	18.6		0	0.0	0.0	0.0	0.0	0
09	0295	3708.0	7519.0	X27024.8	Y41490.7	16.4		17	29.4	0.0	23.5	47.1	1
09	0296	3657.0	7522.0	X27020.6	Y41363.1	17.0		0	0.0	0.0	0.0	0.0	0
*	09	0297	3657.0	7527.0	X27041.9	Y41353.0		0	0.0	0.0	0.0	0.0	0
09	0298	3656.0	7528.0	X27044.6	Y41339.8	14.8		5	0.0	0.0	0.0	100.0	0
09	0299	3653.0	7522.0	X27014.6	Y41319.1	15.9		4	75.0	0.0	0.0	25.0	0
*	09	0300	3658.0	7514.0	X26987.8	Y41390.5		4	100.0	0.0	0.0	0.0	0
09	0301	3658.0	7512.0	X26979.2	Y41394.6	20.2		8	100.0	0.0	0.0	0.0	0
09	0302	3658.0	7508.0	X26961.9	Y41402.8	20.2		221	55.7	14.0	19.9	10.4	0
09	0303	3653.0	7509.0	X26959.2	Y41346.6	16.4		136	68.4	22.1	7.4	2.2	0
09	0304	3648.0	7508.0	X26948.1	Y41294.9	16.4		499	55.9	34.1	9.0	1.0	0
09	0305	3646.0	7504.0	X26928.4	Y41282.4	15.9		235	80.0	18.7	1.3	0.0	0
09	0306	3648.0	7504.0	X26931.0	Y41303.7	18.0		139	78.4	15.1	3.6	2.9	0
*	09	0307	3651.0	7501.0	X26922.1	Y41342.3		238	69.7	18.5	6.3	5.5	0
09	0308	3648.0	7454.0	X26888.2	Y41325.8	19.7		275	88.0	9.5	1.8	0.7	0
*	09	0310	3654.0	7454.0	X26895.6	Y41389.2		61	91.8	1.6	3.3	3.3	0
09	0311	3653.0	7458.0	X26911.7	Y41370.1	19.7		630	80.2	9.7	5.4	4.8	0
*	09	0312	3653.0	7503.0	X26933.4	Y41359.4		0	0.0	0.0	0.0	0.0	0
*	09	0313	3654.0	7503.0	X26934.7	Y41370.1		322	74.2	11.2	9.3	5.3	0
*	09	0314	3659.0	7500.0	X26928.4	Y41430.0		23	100.0	0.0	0.0	0.0	0
09	0315	3656.0	7500.0	X26924.4	Y41397.8	21.3		149	0.0	0.0	0.0	0.0	0
*	09	0316	3653.0	7458.0	X26911.7	Y41370.1		477	70.2	21.0	5.9	2.9	0
*	09	0317	3654.0	7458.0	X26913.0	Y41380.7		340	0.0	0.0	0.0	0.0	0
*	09	0318	3654.0	7458.0	X26913.0	Y41380.7		243	0.0	0.0	0.0	0.0	0
*	09	0319	3653.0	7458.0	X26911.7	Y41370.1		525	0.0	0.0	0.0	0.0	0
*	09	0320	3654.0	7458.0	X26913.0	Y41380.7		723	0.0	0.0	0.0	0.0	0
*	09	0321	3654.0	7458.0	X26913.0	Y41380.7		387	0.0	0.0	0.0	0.0	0
*	09	0322	3653.0	7458.0	X26911.7	Y41370.1		210	0.0	0.0	0.0	0.0	0
*	09	0323	3654.0	7458.0	X26913.0	Y41380.7		519	70.9	18.1	8.3	2.7	0
*	09	0324	3654.0	7458.0	X26913.0	Y41380.7		150	0.0	0.0	0.0	0.0	0
*	09	0325	3653.0	7458.0	X26911.7	Y41370.1		334	0.0	0.0	0.0	0.0	0
*	09	0326	3654.0	7458.0	X26913.0	Y41380.7		657	0.0	0.0	0.0	0.0	0
*	09	0327	3653.0	7458.0	X26911.7	Y41370.1		516	0.0	0.0	0.0	0.0	0
*	09	0328	3654.0	7458.0	X26913.0	Y41380.7		720	0.0	0.0	0.0	0.0	0

\*\* Signifies a non-random station

1999 NMFS-NEFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Surf Clams				Ocean Quahogs			
	Station Number	Position		Loran Time Delays	Heading	Depth (FM)	Bottom Temperature (F)	Catch Number	Percent of Survey Catch				Catch Number
		Latitude	Longitude						0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	
* 09	0329	3654.0	7458.0	X26913.0	Y41380.7	19.1		311	0.0	0.0	0.0	0.0	0
* 09	0330	3654.0	7458.0	X26913.0	Y41380.7	19.1		211	67.3	24.6	5.7	2.4	0
* 09	0331	3653.0	7458.0	X26911.7	Y41370.1	19.1		771	0.0	0.0	0.0	0.0	0
* 09	0332	3653.0	7458.0	X26911.7	Y41370.1	19.1		389	0.0	0.0	0.0	0.0	0
* 09	0333	3654.0	7458.0	X26913.0	Y41380.7	19.1		477	0.0	0.0	0.0	0.0	0
* 09	0334	3654.0	7458.0	X26913.0	Y41380.7	19.7		600	0.0	0.0	0.0	0.0	0
* 09	0335	3654.0	7458.0	X26913.0	Y41380.7	19.7		211	0.0	0.0	0.0	0.0	0
* 09	0336	3654.0	7458.0	X26913.0	Y41380.7	19.7		751	0.0	0.0	0.0	0.0	0
* 09	0337	3654.0	7458.0	X26913.0	Y41380.7	19.7		143	74.1	14.7	7.0	4.2	0
* 09	0338	3654.0	7458.0	X26913.0	Y41380.7	19.1		660	0.0	0.0	0.0	0.0	0
* 09	0339	3654.0	7458.0	X26913.0	Y41380.7	19.1		722	0.0	0.0	0.0	0.0	0
* 09	0340	3654.0	7458.0	X26913.0	Y41380.7	19.1		216	0.0	0.0	0.0	0.0	0
* 09	0341	3654.0	7458.0	X26913.0	Y41380.7	19.1		744	0.0	0.0	0.0	0.0	0
* 09	0342	3653.0	7458.0	X26911.7	Y41370.1	19.1		637	0.0	0.0	0.0	0.0	0
* 09	0343	3654.0	7458.0	X26913.0	Y41380.7	19.1		479	0.0	0.0	0.0	0.0	0
* 09	0344	3654.0	7458.0	X26913.0	Y41380.7	19.1		907	73.5	18.1	6.1	2.3	0
* 09	0345	3654.0	7458.0	X26913.0	Y41380.7	19.1		628	0.0	0.0	0.0	0.0	0
* 09	0346	3654.0	7458.0	X26913.0	Y41380.7	19.1		765	0.0	0.0	0.0	0.0	0
* 09	0347	3654.0	7458.0	X26913.0	Y41380.7	19.1		0	0.0	0.0	0.0	0.0	0
* 09	0348	3654.0	7458.0	X26913.0	Y41380.7	19.1		596	0.0	0.0	0.0	0.0	0
* 09	0349	3654.0	7458.0	X26913.0	Y41380.7	19.7		63	0.0	0.0	0.0	0.0	0
* 09	0350	3654.0	7458.0	X26913.0	Y41380.7	19.7		330	0.0	0.0	0.0	0.0	0
* 09	0351	3654.0	7458.0	X26913.0	Y41380.7	19.7		202	70.3	18.8	7.9	3.0	0
* 09	0352	3654.0	7458.0	X26913.0	Y41380.7	19.7		575	0.0	0.0	0.0	0.0	0
* 09	0353	3654.0	7458.0	X26913.0	Y41380.7	19.7		548	0.0	0.0	0.0	0.0	0
* 09	0354	3654.0	7458.0	X26913.0	Y41380.7	19.7		599	0.0	0.0	0.0	0.0	0
* 09	0355	3654.0	7458.0	X26913.0	Y41380.7	19.1		723	0.0	0.0	0.0	0.0	0
* 09	0356	3654.0	7458.0	X26913.0	Y41380.7	19.1		354	0.0	0.0	0.0	0.0	0
* 09	0357	3654.0	7458.0	X26913.0	Y41380.7	19.1		393	0.0	0.0	0.0	0.0	0
* 09	0358	3654.0	7458.0	X26913.0	Y41380.7	19.7		440	74.1	15.9	6.1	3.9	0
* 09	0359	3653.0	7458.0	X26911.7	Y41370.1	19.1		476	0.0	0.0	0.0	0.0	0
* 09	0360	3654.0	7458.0	X26913.0	Y41380.7	19.1		345	0.0	0.0	0.0	0.0	0
* 09	0361	3654.0	7458.0	X26913.0	Y41380.7	19.1		300	0.0	0.0	0.0	0.0	0
* 09	0362	3654.0	7458.0	X26913.0	Y41380.7	19.1		189	0.0	0.0	0.0	0.0	0
* 09	0363	3653.0	7458.0	X26911.7	Y41370.1	19.1		457	0.0	0.0	0.0	0.0	0
* 09	0364	3653.0	7458.0	X26911.7	Y41370.1	19.7		851	0.0	0.0	0.0	0.0	0
* 09	0365	3654.0	7458.0	X26913.0	Y41380.7	19.1		786	0.0	0.0	0.0	0.0	0
* 09	0366	3654.0	7458.0	X26913.0	Y41380.7	19.1		487	72.3	17.7	5.7	4.3	0
* 09	0367	3654.0	7458.0	X26913.0	Y41380.7	19.1		629	0.0	0.0	0.0	0.0	0
* 09	0368	3654.0	7458.0	X26913.0	Y41380.7	19.1		195	0.0	0.0	0.0	0.0	0
* 09	0369	3654.0	7458.0	X26913.0	Y41380.7	19.1		249	0.0	0.0	0.0	0.0	0
* 09	0370	3654.0	7458.0	X26913.0	Y41380.7	19.7		143	0.0	0.0	0.0	0.0	0
09	0404	3753.0	7502.0	X27021.9	Y42019.6	10.9		45	0.0	0.0	13.3	86.7	0
09	0410	3740.0	7512.0	X27046.7	Y41859.9	14.2		0	0.0	0.0	0.0	0.0	0
09	0411	3741.0	7502.0	X27001.0	Y41885.9	14.2		79	19.0	20.3	41.8	19.0	0
09	0412	3736.0	7500.0	X26983.2	Y41833.5	14.2		36	8.3	16.7	44.4	30.6	0
* 09	0413	3730.0	7506.0	X27001.5	Y41757.6	15.9		336	53.0	31.2	15.2	0.6	0
09	0414	3736.0	7511.0	X27035.0	Y41816.6	15.3		0	0.0	0.0	0.0	0.0	0
09	0415	3733.0	7518.0	X27062.2	Y41772.0	11.5		0	0.0	0.0	0.0	0.0	0

\*\* Signifies a non-random station

1999 NMFS-NEPSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data				Loran Time Delays	Heading	Bottom Temperature		Surf Clams				Ocean Quahogs Catch Number
	Station Number	Position		Depth (FM)			Catch Number	Percent of Survey Catch					
		Latitude	Longitude					(F)	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	
* 09	0418	3701.0	7508.0	X26966.1	Y41435.3	20.8	4	25.0	50.0	25.0	0.0	0	
09	0419	3701.0	7456.0	X26913.4	Y41459.6	25.2	53	88.7	3.8	7.5	0.0	0	
09	0420	3703.0	7502.0	X26942.6	Y41469.1	21.9	4	100.0	0.0	0.0	0.0	0	
* 09	0421	3708.0	7458.0	X26931.8	Y41530.9	21.9	21	90.5	9.5	0.0	0.0	0	
* 09	0422	3711.0	7457.0	X26931.5	Y41565.3	21.9	122	76.2	9.8	9.0	4.9	3	
09	0423	3713.0	7452.0	X26911.7	Y41596.2	26.8	1	100.0	0.0	0.0	0.0	0	
* 09	0424	3716.0	7448.0	X26897.5	Y41635.8	27.9	8	100.0	0.0	0.0	0.0	11	
* 09	0425	3718.0	7457.0	X26941.5	Y41641.2	20.2	18	77.8	11.1	5.6	5.6	0	
* 09	0426	3723.0	7457.0	X26948.9	Y41695.7	21.3	139	74.1	3.6	16.5	5.8	1	
* 09	0427	3725.0	7459.0	X26961.1	Y41714.1	17.5	91	23.1	13.2	11.0	52.7	1	
09	0428	3728.0	7500.0	X26970.4	Y41745.4	15.3	112	44.6	18.8	20.5	16.1	0	
09	0429	3733.0	7454.0	X26950.0	Y41810.0	17.5	86	43.0	15.1	20.9	20.9	0	
* 09	0430	3728.0	7453.0	X26937.7	Y41757.0	14.8	423	37.8	20.6	25.1	16.5	0	
* 09	0431	3723.0	7450.0	X26916.4	Y41707.7	24.6	202	92.1	4.0	3.0	1.0	0	
* 09	0432	3723.0	7444.0	X26888.4	Y41718.1	30.6	31	100.0	0.0	0.0	0.0	0	
09	0433	3726.0	7442.0	X26883.1	Y41753.7	29.0	1	100.0	0.0	0.0	0.0	0	
09	0436	3738.0	7448.0	X26928.9	Y41873.9	21.9	86	86.0	4.7	8.1	1.2	4	
10	0435	3736.0	7445.0	X26911.5	Y41856.8	26.2	5	60.0	40.0	0.0	0.0	0	
11	0437	3736.0	7440.0	X26887.4	Y41864.5	29.5	3	66.7	33.3	0.0	0.0	34	
13	0268	3823.0	7419.0	X26848.4	Y42396.7	23.0	14	28.6	7.1	21.4	42.9	27	
13	0269	3823.0	7422.0	X26865.0	Y42394.0	19.1	14	21.4	14.3	28.6	35.7	19	
13	0271	3806.0	7418.0	X26818.1	Y42215.8	25.7	10	80.0	0.0	20.0	0.0	30	
13	0275	3751.0	7448.0	X26949.3	Y42016.2	17.5	9	33.3	0.0	22.2	44.4	1	
13	0388	3841.0	7446.0	X27031.7	Y42572.2	8.2	0	0.0	0.0	0.0	0.0	0	
13	0392	3833.0	7448.0	X27026.1	Y42481.5	13.7	0	0.0	0.0	0.0	0.0	0	
13	0393	3833.0	7438.0	X26971.0	Y42489.5	12.6	92	1.1	0.0	5.4	93.5	0	
13	0395	3831.0	7430.0	X26922.8	Y42474.0	20.2	0	0.0	0.0	0.0	0.0	0	
13	0396	3821.0	7448.0	X27002.3	Y42347.9	11.5	18	5.6	0.0	16.7	77.8	0	
13	0401	3813.0	7448.0	X26987.3	Y42259.1	12.0	16	18.8	0.0	12.5	68.8	0	
13	0402	3813.0	7446.0	X26976.8	Y42261.2	13.1	26	15.4	0.0	15.4	69.2	0	
13	0403	3758.0	7450.0	X26971.0	Y42090.7	14.2	65	1.5	0.0	20.0	78.5	0	
13	0440	3804.0	7440.0	X26930.1	Y42168.9	19.1	0	0.0	0.0	0.0	0.0	0	
13	0441	3803.0	7436.0	X26907.8	Y42162.7	19.7	7	42.9	14.3	0.0	42.9	0	
13	0442	3806.0	7434.0	X26902.2	Y42197.7	20.8	7	14.3	14.3	42.9	28.6	1	
13	0443	3808.0	7436.0	X26915.9	Y42217.2	21.9	16	43.8	12.5	6.2	37.5	1	
13	0444	3816.0	7434.0	X26918.6	Y42306.6	23.5	5	20.0	0.0	0.0	80.0	17	
13	0445	3818.0	7436.0	X26932.7	Y42326.5	20.8	0	0.0	0.0	0.0	0.0	0	
13	0446	3821.0	7430.0	X26905.4	Y42365.0	18.0	13	15.4	15.4	15.4	53.8	0	
14	0267	3819.0	7414.0	X26815.0	Y42358.5	30.6	1	100.0	0.0	0.0	0.0	55	
14	0270	3818.0	7418.0	X26835.4	Y42344.0	26.2	10	50.0	10.0	20.0	20.0	13	
17	0377	3853.0	7402.0	X26797.5	Y42727.8	15.9	2	0.0	0.0	0.0	100.0	2	
17	0382	3848.0	7432.0	X26966.3	Y42658.6	12.0	7	42.9	0.0	0.0	57.1	0	
17	0383	3843.0	7428.0	X26933.5	Y42606.4	18.6	7	14.3	0.0	28.6	57.1	0	
17	0384	3843.0	7438.0	X26990.7	Y42599.9	14.8	42	2.4	0.0	0.0	97.6	0	
17	0385	3843.0	7440.0	X27002.0	Y42598.6	13.7	0	0.0	0.0	0.0	0.0	0	
17	0394	3836.0	7432.0	X26943.1	Y42527.1	17.5	33	6.1	0.0	21.2	72.7	0	
17	0448	3841.0	7415.0	X26854.8	Y42593.0	21.3	4	50.0	0.0	25.0	25.0	18	
21	0099	3956.0	7346.0	X26807.8	Y43381.5	15.3	37	10.8	5.4	18.9	64.9	0	
* 21	0103	3943.0	7343.0	X26760.3	Y43248.2	15.9	62	3.2	6.5	4.8	85.5	0	

\*\* Signifies a non-random station



1999 NMFS-NEPSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Bottom Temperature		Surf Clams				Ocean Quahogs	
	Station Number	Position Latitude Longitude		Loran Time Delays	Heading	Depth (FM)	(F)	Catch Number	Percent of Survey Catch				Catch Number
									0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	
21	0104	3943.0	7340.0	X26739.2	Y43247.2	15.3		47	0.0	2.1	6.4	91.5	1
* 21	0105	3940.0	7344.0	X26761.6	Y43218.0	13.7		108	0.9	0.9	6.5	91.7	0
* 21	0106	3940.0	7344.0	X26761.6	Y43218.0	13.1		58	6.9	5.2	12.1	75.9	0
* 21	0107	3940.0	7344.0	X26761.6	Y43218.0	12.6		88	2.3	3.4	3.4	90.9	0
* 21	0108	3940.0	7344.0	X26761.6	Y43218.0	13.1		46	4.3	2.2	8.7	84.8	0
21	0109	3936.0	7346.0	X26768.1	Y43177.7	11.5		78	9.0	1.3	12.8	76.9	0
21	0110	3936.0	7340.0	X26726.7	Y43176.2	17.5		29	10.3	10.3	17.2	62.1	0
21	0111	3933.0	7342.0	X26735.2	Y43146.1	16.4		68	8.8	5.9	39.7	45.6	0
* 21	0112	3931.0	7346.0	X26759.0	Y43126.4	14.2		214	6.1	2.3	27.6	64.0	0
* 21	0113	3931.0	7346.0	X26759.0	Y43126.4	14.2		67	14.9	6.0	19.4	59.7	0
* 21	0114	3931.0	7346.0	X26759.0	Y43126.4	14.2		77	13.0	3.9	13.0	70.1	0
* 21	0115	3931.0	7346.0	X26759.0	Y43126.4	14.2		145	6.9	3.4	22.1	67.6	0
* 21	0116	3926.0	7346.0	X26750.3	Y43075.0	17.5		61	11.5	8.2	36.1	44.3	0
21	0117	3923.0	7341.0	X26711.9	Y43043.9	19.1		186	9.1	8.6	39.8	42.5	0
21	0118	3921.0	7350.0	X26768.2	Y43023.5	20.2		119	2.5	3.4	20.2	73.9	0
* 21	0119	3916.0	7350.0	X26759.8	Y42971.7	20.2		65	6.2	4.6	30.8	58.5	2
21	0120	3916.0	7352.0	X26772.8	Y42971.5	19.1		219	4.6	1.8	26.5	67.1	20
21	0121	3913.0	7358.0	X26806.2	Y42939.5	15.3		51	3.9	2.0	13.7	80.4	0
21	0122	3908.0	7358.0	X26797.6	Y42887.0	19.7		13	7.7	7.7	30.8	53.8	28
21	0123	3906.0	7406.0	X26844.3	Y42864.0	17.5		39	10.3	2.6	10.3	76.9	9
21	0125	3901.0	7422.0	X26933.1	Y42805.2	14.8		216	5.1	0.9	4.2	89.8	0
21	0127	3858.0	7404.0	X26817.9	Y42779.8	19.7		4	25.0	0.0	50.0	25.0	5
21	0128	3853.0	7358.0	X26773.3	Y42729.5	24.1		4	75.0	0.0	25.0	0.0	277
21	0131	3851.0	7347.0	X26703.6	Y42713.4	23.5		11	18.2	36.4	27.3	18.2	121
21	0132	3901.0	7351.0	X26742.4	Y42815.7	23.5		6	0.0	33.3	50.0	16.7	19
21	0133	3906.0	7348.0	X26731.1	Y42868.4	20.8		4	0.0	0.0	50.0	50.0	11
21	0135	3913.0	7333.0	X26644.7	Y42942.4	23.5		24	37.5	25.0	25.0	12.5	25
21	0137	3918.0	7333.0	X26651.4	Y42993.0	25.2		16	100.0	0.0	0.0	0.0	0
21	0139	3911.0	7347.0	X26732.4	Y42920.3	23.0		11	18.2	18.2	18.2	45.5	45
21	0140	3913.0	7346.0	X26729.0	Y42941.1	22.4		1	0.0	0.0	0.0	100.0	46
* 21	0141	3916.0	7352.0	X26772.8	Y42971.5	19.7		19	5.3	5.3	10.5	78.9	2
* 21	0142	3916.0	7352.0	X26772.8	Y42971.5	18.0		62	6.5	3.2	9.7	80.6	1
21	0143	3925.0	7333.0	X26661.4	Y43063.7	20.2		37	8.1	5.4	40.5	45.9	4
21	0144	3928.0	7330.0	X26645.4	Y43093.6	19.1		52	7.7	9.6	26.9	55.8	9
21	0145	3931.0	7330.0	X26649.8	Y43123.7	23.5		33	30.3	12.1	36.4	21.2	13
21	0146	3933.0	7323.0	X26604.4	Y43142.2	19.1		168	14.9	2.4	13.1	69.6	5
21	0147	3931.0	7318.0	X26567.3	Y43121.4	19.1		154	26.0	3.9	14.9	55.2	6
21	0148	3928.0	7317.0	X26556.8	Y43091.6	19.1		79	25.3	3.8	10.1	60.8	0
21	0158	3941.0	7330.0	X26665.2	Y43223.7	23.0		154	16.9	16.2	40.3	26.6	6
21	0159	3946.0	7332.0	X26687.7	Y43274.3	19.7		56	10.7	14.3	44.6	30.4	30
* 21	0372	3923.0	7342.0	X26718.6	Y43044.0	18.0		61	4.9	3.3	19.7	72.1	0
* 21	0373	3916.0	7353.0	X26779.2	Y42971.5	18.6		107	2.8	11.2	26.2	59.8	0
* 21	0374	3913.0	7358.0	X26806.2	Y42939.5	15.9		44	2.3	2.3	13.6	81.8	0
23	0449	3843.0	7329.0	X26585.9	Y42640.4	38.3		0	0.0	0.0	0.0	0.0	0
25	0014	4021.0	7348.0	X26881.5	Y43634.0	22.4		0	0.0	0.0	0.0	0.0	0
25	0100	3956.0	7332.0	X26705.7	Y43373.8	20.2	48.4	17	47.1	17.6	29.4	5.9	23
25	0102	4003.0	7342.0	X26793.6	Y43449.6	18.0		143	23.1	15.4	39.2	22.4	16
25	0155	3938.0	7307.0	X26498.8	Y43186.7	23.5		143	59.4	9.1	20.3	11.2	31
25	0156	3936.0	7317.0	X26566.7	Y43170.2	20.2		56	26.8	1.8	17.9	53.6	0

\*\* Signifies a non-random station

1999 NMFS-NBFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratatum	Station Data					Bottom Temperature		Surf Clams				Ocean Quahogs	
	Station Number	Position		Loran Time Delays	Heading	Depth (FM)	Temperature (F)	Catch Number	Percent of Survey Catch				Catch Number
		Latitude	Longitude						0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	
25	0157	3941.0	7314.0	X26552.0	Y43218.1	23.0		25	84.0	12.0	0.0	4.0	31
25	0160	3948.0	7326.0	X26648.1	Y43291.6	19.7		62	67.7	12.9	6.5	12.9	40
26	0161	3948.0	7308.0	X26517.9	Y43283.3	26.8		5	100.0	0.0	0.0	0.0	5
29	0172	4021.0	7322.0	X26679.1	Y43609.2	17.0		1	100.0	0.0	0.0	0.0	20
29	0173	4023.0	7317.0	X26643.7	Y43623.3	17.0		1	100.0	0.0	0.0	0.0	7
29	0175	4018.0	7258.0	X26484.3	Y43558.4	23.5		1	100.0	0.0	0.0	0.0	68
31	0188	4001.0	7222.0	X26188.6	Y43376.5	38.8		0	0.0	0.0	0.0	0.0	0
32	0597	4003.0	7200.0	X26024.1	Y43378.9	42.1		0	0.0	0.0	0.0	0.0	0
32	0598	3953.0	7207.0	X26076.2	Y43297.2	48.1		0	0.0	0.0	0.0	0.0	0
32	0599	3949.0	7215.0	X26133.9	Y43266.5	46.5		0	0.0	0.0	0.0	0.0	0
32	0600	3946.0	7221.0	X26176.5	Y43242.7	47.0		0	0.0	0.0	0.0	0.0	0
32	0601	3946.0	7224.0	X26198.0	Y43244.1	47.6		0	0.0	0.0	0.0	0.0	0
33	0603	4055.0	7158.0	X26038.3	Y43803.9	15.9		5	100.0	0.0	0.0	0.0	113
36	0591	4013.0	7132.0	X25811.2	Y43441.0	47.6		0	0.0	0.0	0.0	0.0	0
36	0592	4004.0	7133.0	X25825.2	Y43368.8	48.7		0	0.0	0.0	0.0	0.0	0
36	0593	4003.0	7142.0	X25891.2	Y43366.6	49.2		0	0.0	0.0	0.0	0.0	0
36	0595	4006.0	7148.0	X25934.0	Y43395.7	43.2		0	0.0	0.0	0.0	0.0	0
37	0466	4103.0	7100.0	X25538.4	Y43787.1	19.1		2	100.0	0.0	0.0	0.0	117
37	0606	4121.0	7112.0	X25678.5	Y43930.4	14.8		2	100.0	0.0	0.0	0.0	59
39	0461	4036.0	7129.0	X25778.4	Y43620.4	36.1		1	100.0	0.0	0.0	0.0	1
40	0586	4022.0	7043.0	X25448.1	Y43471.2	49.2		0	0.0	0.0	0.0	0.0	0
40	0587	4024.0	7059.0	X25526.9	Y43496.1	47.6		0	0.0	0.0	0.0	0.0	0
40	0588	4030.0	7103.0	X25576.8	Y43548.5	42.7		0	0.0	0.0	0.0	0.0	0
40	0589	4026.0	7108.0	X25619.3	Y43522.7	44.8		0	0.0	0.0	0.0	0.0	0
40	0590	4028.0	7115.0	X25670.6	Y43544.5	41.0		0	0.0	0.0	0.0	0.0	0
44	0582	4019.0	7002.0	X25227.0	Y43418.7	47.6		0	0.0	0.0	0.0	0.0	0
44	0583	4018.0	7010.0	X25267.5	Y43417.2	47.6		0	0.0	0.0	0.0	0.0	0
44	0584	4020.0	7023.0	X25329.9	Y43441.0	48.1		0	0.0	0.0	0.0	0.0	0
44	0585	4020.0	7029.0	X25364.7	Y43445.6	50.3		0	0.0	0.0	0.0	0.0	0
45	0482	4056.0	6942.0	W13944.3	Y43651.0	18.0		13	15.4	0.0	7.7	76.9	1
45	0483	4051.0	6938.0	W13931.7	Y43612.8	21.9		5	100.0	0.0	0.0	0.0	0
45	0484	4048.0	6940.0	W13964.1	Y43597.1	20.2		2	100.0	0.0	0.0	0.0	1
45	0485	4045.0	6930.0	W13923.1	Y43568.5	25.2		5	100.0	0.0	0.0	0.0	8
46	0486	4038.0	6932.0	W13959.3	Y43524.5	26.2		26	92.3	7.7	0.0	0.0	54
46	0489	4036.0	6922.0	W13915.5	Y43503.5	27.9		10	100.0	0.0	0.0	0.0	62
46	0490	4043.0	6918.0	W13869.1	Y43545.4	32.3		0	0.0	0.0	0.0	0.0	0
47	0488	4031.0	6920.0	W13923.6	Y43469.5	32.3		11	90.9	9.1	0.0	0.0	83
47	0491	4048.0	6906.0	W13789.2	Y43566.9	38.8		0	0.0	0.0	0.0	0.0	0
48	0578	4008.0	6931.0	W14057.5	Y43323.5	48.7		0	0.0	0.0	0.0	0.0	0
59	0505	4055.0	6748.0	W13393.1	Y43547.2	31.7		61	19.7	11.5	39.3	29.5	1171
* 59	0507	4048.0	6743.0	W13400.9	Y43504.2	37.2		1	100.0	0.0	0.0	0.0	113
* 59	0508	4055.0	6741.0	W13362.5	Y43542.2	36.1		16	75.0	25.0	0.0	0.0	1228
* 59	0511	4102.0	6737.0	W13314.8	Y43578.1	32.8		12	8.3	16.7	58.3	16.7	1684
* 59	0515	4103.0	6726.0	W13263.6	Y43575.4	32.8		108	75.9	1.9	8.3	13.9	2211
* 59	0516	4103.0	6717.0	W13226.0	Y43568.9	35.5		1	100.0	0.0	0.0	0.0	570
61	0517	4108.0	6713.0	W13187.3	Y43592.8	31.7		1	100.0	0.0	0.0	0.0	106
* 61	0518	4111.0	6711.0	W13165.6	Y43607.2	33.4		1	100.0	0.0	0.0	0.0	919
69	0498	4101.0	6820.0	W13512.5	Y43606.5	25.2		11	18.2	0.0	0.0	81.8	0
69	0499	4103.0	6824.0	W13522.7	Y43621.5	26.2		0	0.0	0.0	0.0	0.0	0

\*\* Signifies a non-random station

1999 NMFS-NEFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Surf Clams				Ocean Quahogs			
	Station Number	Position		Loran Time Delays	Heading	Bottom Temperature		Percent of Survey Catch				Catch Number	
		Latitude	Longitude			Depth (FM)	(F)	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"		
69	0500	4106.0	6820.0	W13490.9	Y43635.4	0.0		0	0.0	0.0	0.0	0.0	0
69	0501	4106.0	6813.0	W13458.2	Y43629.4	0.0		0	0.0	0.0	0.0	0.0	0
69	0502	4106.0	6813.0	W13458.2	Y43629.4	24.1		4	100.0	0.0	0.0	0.0	0
69	0503	4110.0	6800.0	W13381.0	Y43640.9	24.6		7	100.0	0.0	0.0	0.0	0
69	0504	4107.0	6751.0	W13354.0	Y43616.7	27.3		1	100.0	0.0	0.0	0.0	11
69	0512	4111.0	6739.0	W13283.4	Y43629.0	27.9		32	68.8	9.4	0.0	21.9	3
69	0513	4118.0	6732.0	W13221.3	Y43661.1	24.1		58	77.6	8.6	1.7	12.1	0
70	0494	4043.0	6827.0	W13620.0	Y43505.8	31.7		2	100.0	0.0	0.0	0.0	279
70	0495	4046.0	6821.0	W13579.9	Y43519.3	30.1		5	100.0	0.0	0.0	0.0	461
70	0496	4051.0	6824.0	W13573.3	Y43551.2	0.0		0	0.0	0.0	0.0	0.0	0
71	0552	4158.0	6722.0	W12983.3	Y43858.7	26.8		215	43.3	24.2	24.7	7.9	0
71	0553	4203.0	6720.0	W12949.0	Y43881.3	27.9		0	0.0	0.0	0.0	0.0	0
72	0542	4141.0	6747.0	W13177.2	Y43797.1	18.6		0	0.0	0.0	0.0	0.0	0
72	0543	4142.0	6756.0	W13212.7	Y43811.5	18.0		80	62.2	14.5	22.1	8.7	0
72	0544	4146.0	6751.0	W13170.3	Y43827.4	0.0		0	0.0	0.0	0.0	0.0	0
72	0545	4148.0	6746.0	W13137.9	Y43832.6	0.0		0	0.0	0.0	0.0	0.0	0
72	0546	4141.0	6741.0	W13150.7	Y43791.1	20.2		552	52.4	14.1	19.2	14.3	0
72	0547	4144.0	6738.0	W13122.7	Y43803.8	0.0		0	0.0	0.0	0.0	0.0	0
72	0548	4153.0	6746.0	W13112.6	Y43858.4	21.3		0	0.0	0.0	0.0	0.0	0
72	0549	4155.0	6738.0	W13067.2	Y43860.2	0.0		0	0.0	0.0	0.0	0.0	0
72	0550	4148.0	6732.0	W13076.8	Y43818.4	19.1		47	66.0	10.6	17.0	6.4	0
72	0551	4159.0	6724.0	W12986.6	Y43865.7	13.1		4	50.0	0.0	0.0	50.0	0
73	0514	4116.0	6722.0	W13188.2	Y43642.3	0.0		0	0.0	0.0	0.0	0.0	0
73	0531	4148.0	6716.0	W13009.4	Y43802.7	0.0		0	0.0	0.0	0.0	0.0	0
73	0532	4143.0	6728.0	W13084.6	Y43788.8	29.0		142	30.3	19.0	34.5	16.2	2
73	0533	4143.0	6720.0	W13050.9	Y43781.2	0.0		0	0.0	0.0	0.0	0.0	0
73	0536	4132.0	6722.0	W13113.0	Y43726.4	29.0		67	47.8	14.9	19.4	17.9	0
73	0538	4126.0	6720.0	W13133.2	Y43693.4	24.6		8	25.0	25.0	12.5	37.5	0
73	0539	4128.0	6728.0	W13157.4	Y43710.8	20.8		65	10.8	4.6	29.2	55.4	0
73	0540	4128.0	6731.0	W13170.2	Y43713.5	17.5		26	69.2	3.8	15.4	11.5	0
73	0541	4129.0	6743.0	W13217.5	Y43729.7	0.0		0	0.0	0.0	0.0	0.0	0
74	0530	4146.0	6702.0	W12962.6	Y43779.5	33.9		3	100.0	0.0	0.0	0.0	1
74	0534	4138.0	6708.0	W13026.2	Y43744.7	0.0		0	0.0	0.0	0.0	0.0	0
74	0535	4132.0	6716.0	W13088.0	Y43721.1	27.9		3	66.7	0.0	0.0	33.3	2
74	0537	4126.0	6714.0	W13108.4	Y43688.3	23.0		21	28.6	9.5	38.1	23.8	0
82	0278	3703.0	7540.0	X27106.8	Y41394.7	9.3		0	0.0	0.0	0.0	0.0	0
82	0279	3704.0	7539.0	X27104.3	Y41408.0	8.2		0	0.0	0.0	0.0	0.0	0
83	0416	3728.0	7532.0	X27116.7	Y41693.0	8.2		0	0.0	0.0	0.0	0.0	0
83	0417	3728.0	7528.0	X27098.8	Y41699.5	8.7		0	0.0	0.0	0.0	0.0	0
84	0406	3756.0	7512.0	X27076.4	Y42040.3	8.2		0	0.0	0.0	0.0	0.0	0
84	0407	3748.0	7518.0	X27089.9	Y41941.6	6.6		0	0.0	0.0	0.0	0.0	0
84	0408	3744.0	7520.0	X27091.8	Y41893.4	9.8		0	0.0	0.0	0.0	0.0	0
84	0409	3738.0	7522.0	X27089.8	Y41822.3	8.7		0	0.0	0.0	0.0	0.0	0
85	0397	3818.0	7458.0	X27049.1	Y42304.5	9.3		0	0.0	0.0	0.0	0.0	0
85	0398	3816.0	7458.0	X27045.2	Y42282.0	12.0		0	0.0	0.0	0.0	0.0	0
85	0399	3810.0	7458.0	X27033.4	Y42214.8	11.5		0	0.0	0.0	0.0	0.0	0
85	0400	3814.0	7454.0	X27020.5	Y42263.8	12.0		8	12.5	0.0	12.5	75.0	0
85	0405	3801.0	7510.0	X27076.4	Y42099.3	6.6		0	0.0	0.0	0.0	0.0	0
86	0389	3843.0	7458.0	X27102.9	Y42586.2	9.8		0	0.0	0.0	0.0	0.0	0

\*\* Signifies a non-random station

1999 NMFS-NEFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Heading	Bottom Temperature		Surf Clams				Ocean Quahogs	
	Station Number	Position Latitude Longitude		Loran Time Delays	Depth (FM)		(F)	Catch Number	Percent of Survey Catch				Catch Number	
									0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"		
86	0390	3836.0	7458.0	X27087.1	Y42507.2		7.7		0	0.0	0.0	0.0	0.0	0
86	0391	3833.0	7458.0	X27080.5	Y42473.4		6.6		8	100.0	0.0	0.0	0.0	0
87	0048	3908.0	7432.0	X27008.9	Y42878.2		8.2	52.7	41	2.4	0.0	0.0	97.6	0
87	0049	3906.0	7422.0	X26943.4	Y42859.4		13.1		2	0.0	0.0	0.0	100.0	0
87	0050	3908.0	7420.0	X26935.2	Y42881.7		12.0		26	0.0	0.0	0.0	100.0	0
87	0378	3858.0	7432.0	X26987.0	Y42768.4		7.7		5	20.0	20.0	20.0	40.0	0
87	0379	3901.0	7444.0	X27064.7	Y42796.3		6.6		0	0.0	0.0	0.0	0.0	0
87	0380	3853.0	7448.0	X27069.4	Y42705.0		7.1		1110	15.7	33.4	44.7	6.2	0
87	0381	3853.0	7436.0	X26999.9	Y42711.4		9.8		6	0.0	0.0	0.0	100.0	0
87	0386	3846.0	7445.0	X27036.7	Y42628.6		9.3		0	0.0	0.0	0.0	0.0	0
87	0387	3846.0	7450.0	X27065.0	Y42625.4		8.7		0	0.0	0.0	0.0	0.0	0
88	0026	3933.0	7408.0	X26911.3	Y43150.3		9.8	52.9	31	9.7	0.0	3.2	87.1	0
* 88	0027	3933.0	7408.0	X26911.3	Y43150.3		9.8		15	20.0	0.0	0.0	80.0	0
* 88	0028	3931.0	7410.0	X26920.2	Y43129.3		9.8		0	0.0	0.0	0.0	0.0	0
88	0029	3931.0	7410.0	X26920.2	Y43129.3		9.8		1	0.0	0.0	0.0	100.0	0
88	0030	3928.0	7406.0	X26887.3	Y43097.2		10.9		18	5.6	11.1	16.7	66.7	0
* 88	0031	3928.0	7406.0	X26887.3	Y43097.2		10.9		9	0.0	0.0	0.0	100.0	0
* 88	0032	3926.0	7412.0	X26922.4	Y43076.2		9.8		3	0.0	0.0	0.0	100.0	0
88	0033	3926.0	7412.0	X26922.4	Y43076.2		9.3	52.9	20	10.0	0.0	0.0	90.0	0
88	0034	3918.0	7416.0	X26931.0	Y42990.3		9.3		190	0.0	0.5	11.1	88.4	0
* 88	0035	3918.0	7416.0	X26931.0	Y42990.3		9.8		238	0.8	0.0	7.1	92.0	0
* 88	0036	3918.0	7416.0	X26943.8	Y42990.0		8.7		106	4.7	0.9	11.3	83.0	0
88	0037	3918.0	7418.0	X26943.8	Y42990.0		8.2		39	25.6	0.0	2.6	71.8	0
88	0038	3916.0	7420.0	X26952.1	Y42968.2		8.7		4	50.0	0.0	25.0	25.0	0
* 88	0039	3916.0	7420.0	X26952.1	Y42968.2		9.3		309	1.3	11.0	64.7	23.0	0
* 88	0040	3913.0	7422.0	X26958.2	Y42935.3		9.8		258	1.6	1.6	19.4	77.5	0
88	0041	3913.0	7422.0	X26958.2	Y42935.3		9.8	54	262	0.8	2.3	19.5	77.5	0
88	0042	3913.0	7424.0	X26970.7	Y42934.9		9.8		167	4.2	7.8	35.9	52.1	0
* 88	0043	3913.0	7424.0	X26970.7	Y42934.9		9.8		194	4.6	6.2	39.7	49.5	0
* 88	0044	3913.0	7428.0	X26995.5	Y42934.0		8.7		48	14.6	4.2	27.1	54.2	0
88	0045	3913.0	7428.0	X26995.5	Y42934.0		8.7		21	0.0	4.8	14.3	81.0	0
88	0046	3913.0	7432.0	X27020.3	Y42933.1		7.7		56	1.8	0.0	10.7	87.5	0
* 88	0047	3913.0	7432.0	X27020.3	Y42933.1		7.7		29	0.0	0.0	3.4	96.6	0
88	0051	3913.0	7416.0	X26920.6	Y42936.5		11.5		49	4.1	0.0	0.0	95.9	0
* 88	0052	3913.0	7416.0	X26920.6	Y42936.5		11.5		44	2.3	0.0	2.3	95.5	0
* 88	0053	3916.0	7412.0	X26901.4	Y42969.3		14.2	52.7	85	4.7	2.4	8.2	84.7	0
88	0054	3916.0	7412.0	X26901.4	Y42969.3		14.2		71	5.6	2.8	7.0	84.5	0
* 88	0055	3915.0	7410.0	X26886.6	Y42958.9		12.0		50	20.0	0.0	2.0	78.0	0
* 88	0056	3915.0	7410.0	X26886.6	Y42958.9		12.0		71	19.7	1.4	7.0	71.8	0
* 88	0057	3920.0	7403.0	X26851.4	Y43012.7		13.7		29	20.7	0.0	6.9	72.4	0
* 88	0058	3921.0	7431.0	X27033.0	Y43021.0		13.1		26	23.1	3.8	11.5	61.5	0
88	0059	3921.0	7356.0	X26807.6	Y43023.4		15.3		116	9.5	3.4	12.9	74.1	0
* 88	0060	3921.0	7356.0	X26807.6	Y43023.4		15.3		112	4.5	5.4	13.4	76.8	0
* 88	0061	3923.0	7354.0	X26798.1	Y43044.3		15.9		44	4.5	4.5	11.4	79.5	0
88	0062	3923.0	7354.0	X26798.1	Y43044.3		15.9		44	15.9	0.0	13.6	70.5	0
88	0063	3928.0	7355.0	X26814.1	Y43096.4		13.7	51.3	0	0.0	0.0	0.0	0.0	0
88	0064	3928.0	7356.0	X26820.8	Y43096.5		13.7		33	3.0	0.0	6.1	90.9	0
* 88	0065	3929.0	7356.0	X26822.7	Y43106.9		13.7		105	8.6	0.0	7.6	83.8	0
* 88	0066	3925.0	7357.0	X26821.7	Y43065.2		14.2		37	0.0	0.0	0.0	0.0	0

\* Signifies a non-random station

1999 NMFS-NEFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Bottom Temperature				Surf Clams				Ocean Quahogs
	Station Number	Position		Loran Time Delays	Heading	Depth (FM)	Temperature (F)	Catch Number	Percent of Survey Catch				Catch Number	
		Latitude	Longitude						0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"		
* 88	0067	3926.0	7357.0	X26823.6	Y43075.7	13.7		20	0.0	0.0	0.0	0.0	0	
* 88	0068	3925.0	7356.0	X26815.1	Y43065.2	14.2		9	0.0	0.0	0.0	0.0	0	
* 88	0069	3928.0	7356.0	X26820.8	Y43096.5	14.2		80	7.5	0.0	2.5	90.0	0	
* 88	0070	3929.0	7356.0	X26822.7	Y43106.9	13.1		0	0.0	0.0	0.0	0.0	0	
* 88	0071	3929.0	7356.0	X26822.7	Y43106.9	13.1		53	5.7	0.0	0.0	94.3	0	
* 88	0072	3929.0	7356.0	X26822.7	Y43106.9	13.7		54	0.0	0.0	0.0	0.0	0	
88	0073	3931.0	7401.0	X26860.2	Y43128.4	13.1		5	0.0	0.0	20.0	80.0	0	
* 88	0074	3931.0	7400.0	X26853.5	Y43128.3	13.7		148	2.0	0.7	2.7	94.6	0	
* 88	0075	3931.0	7400.0	X26853.5	Y43128.3	13.1		0	0.0	0.0	0.0	0.0	0	
88	0076	3931.0	7402.0	X26866.9	Y43128.5	12.0		54	0.0	1.9	5.6	92.6	0	
* 88	0077	3931.0	7402.0	X26866.9	Y43128.5	12.0		45	0.0	0.0	0.0	0.0	0	
* 88	0078	3930.0	7403.0	X26871.5	Y43118.1	12.6		10	0.0	0.0	0.0	100.0	0	
* 88	0079	3931.0	7403.0	X26873.6	Y43128.6	12.6		13	0.0	0.0	7.7	92.3	0	
* 88	0080	3931.0	7402.0	X26866.9	Y43128.5	12.6		11	0.0	0.0	0.0	100.0	0	
88	0081	3933.0	7354.0	X26817.0	Y43148.3	14.8		0	0.0	0.0	0.0	0.0	0	
88	0082	3933.0	7354.0	X26817.0	Y43148.3	13.7		136	6.6	2.2	18.4	72.8	0	
* 88	0083	3933.0	7354.0	X26817.0	Y43148.3	14.2		180	2.8	2.8	13.9	80.6	0	
* 88	0084	3933.0	7354.0	X26817.0	Y43148.3	14.2		42	7.1	4.8	23.8	64.3	0	
* 88	0085	3933.0	7354.0	X26817.0	Y43148.3	14.2		19	0.0	5.3	31.6	63.2	0	
* 88	0086	3936.0	7354.0	X26822.9	Y43179.4	14.8		117	0.0	0.0	0.0	0.0	0	
88	0087	3936.0	7354.0	X26822.9	Y43179.4	14.8		161	1.9	1.2	26.1	70.8	0	
89	0016	4008.0	7350.0	X26864.4	Y43505.4	15.3		18	11.1	0.0	11.1	77.8	10	
89	0017	4006.0	7350.0	X26859.7	Y43485.2	14.8		162	8.0	3.7	25.3	63.0	0	
89	0018	4001.0	7354.0	X26877.3	Y43436.9	13.1		138	8.0	8.7	50.0	33.3	0	
89	0019	4001.0	7356.0	X26891.8	Y43438.1	10.9		82	14.6	1.2	23.2	61.0	0	
89	0020	3956.0	7356.0	X26880.0	Y43386.8	11.5		56	3.6	0.0	17.9	78.6	0	
89	0021	3956.0	7400.0	X26908.7	Y43388.8	10.9		18	0.0	0.0	11.1	88.9	0	
89	0022	3956.0	7402.0	X26923.0	Y43389.8	9.8		34	2.9	8.8	58.8	29.4	0	
89	0023	3946.0	7402.0	X26899.5	Y43285.6	7.7	54.5	28	21.4	14.3	46.4	17.9	0	
89	0024	3941.0	7400.0	X26874.5	Y43232.8	10.9		84	3.6	2.4	14.3	79.8	0	
89	0025	3941.0	7404.0	X26902.0	Y43233.9	8.7		8	0.0	0.0	25.0	75.0	0	
* 89	0088	3945.0	7355.0	X26848.4	Y43272.9	12.6		110	1.8	0.0	26.4	71.8	0	
* 89	0089	3946.0	7355.0	X26850.6	Y43283.2	13.1		37	2.7	0.0	18.9	78.4	0	
* 89	0090	3946.0	7354.0	X26843.6	Y43282.8	13.1		59	5.1	3.4	10.2	81.4	0	
89	0091	3946.0	7350.0	X26815.4	Y43281.4	14.2		74	8.1	1.4	8.1	82.4	0	
89	0092	3946.0	7348.0	X26801.3	Y43280.6	13.7		56	5.4	1.8	25.0	67.9	0	
89	0093	3948.0	7348.0	X26805.4	Y43301.1	13.7		64	3.1	4.7	12.5	79.7	0	
89	0094	3951.0	7348.0	X26811.6	Y43331.7	12.6		110	2.7	0.0	5.5	91.8	0	
89	0095	3948.0	7354.0	X26847.9	Y43303.5	12.6		42	14.3	2.4	7.1	76.2	0	
89	0096	3948.0	7358.0	X26876.0	Y43305.0	11.5		42	7.1	0.0	7.1	85.7	0	
89	0097	3951.0	7356.0	X26868.6	Y43335.2	13.1		46	8.7	0.0	10.9	80.4	0	
89	0098	3953.0	7352.0	X26844.6	Y43354.0	13.7		54	18.5	1.9	18.5	61.1	0	
90	0015	4013.0	7352.0	X26891.7	Y43557.4	13.1		37	0.0	0.0	29.7	70.3	0	
91	0011	4033.0	7321.0	X26697.3	Y43721.4	9.8	50	155	12.9	1.9	31.6	53.5	0	
91	0012	4031.0	7342.0	X26860.6	Y43726.2	10.9		12	16.7	0.0	8.3	75.0	0	
91	0013	4026.0	7347.0	X26886.7	Y43682.6	17.5		0	0.0	0.0	0.0	0.0	0	
92	0009	4036.0	7302.0	X26548.8	Y43726.6	12.0		30	3.3	3.3	13.3	80.0	1	
92	0010	4036.0	7306.0	X26581.7	Y43731.4	9.8		40	0.0	2.5	2.5	95.0	2	
93	0604	4059.0	7200.0	X26062.1	Y43838.0	9.8		16	18.8	0.0	0.0	81.2	86	

\*\* Signifies a non-random station

1999 NMFS-NEFSC Surf Clam -- Ocean Quahog Survey  
R/V DELAWARE II June 03 - July 21

Survey Stratum	Station Data					Bottom Temperature		Surf Clams				Ocean Quahogs	
	Station Number	Position Latitude Longitude		Loran Time Delays		Heading	Depth (FM)	Catch Number	Percent of Survey Catch				Catch Number
						(F)	0-4.74"		4.76-5.00"	5.01-5.50"	>5.50"		
94	0471	4113.0	7054.0	X25497.5	Y43849.3		0.0	0	0.0	0.0	0.0	0.0	0
94	0605	4106.0	7144.0	X25933.0	Y43868.9		0.0	0	0.0	0.0	0.0	0.0	0
95	0472	4113.0	7046.0	X25425.3	Y43838.5		15.3	1	0.0	0.0	0.0	100.0	157
95	0474	4116.0	7032.0	X25304.4	Y43840.2		13.7	59	22.0	1.7	8.5	67.8	12
95	0475	4113.0	7014.0	X25136.4	Y43797.5		11.5	4	25.0	0.0	0.0	75.0	0
95	0476	4106.0	7004.0	X25067.1	Y43739.8		12.6	140	0.7	2.1	2.9	94.3	0