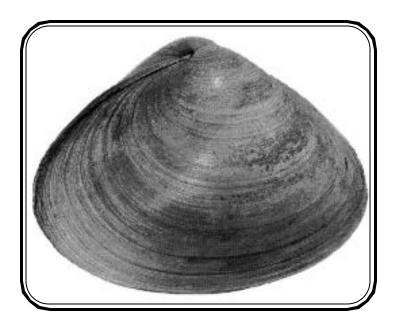
Fishermen's Report Surfclam/Ocean Quahog



Delmarva Peninsula - Georges Bank June 3 - July 12, 2002

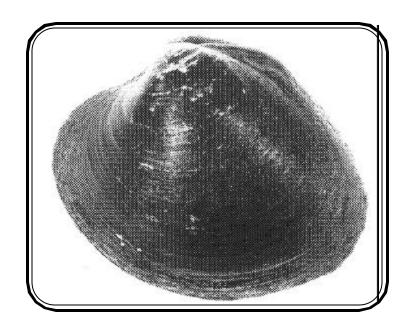
FRV DELAWARE II

National Marine Fisheries Service Northeast Fisheries Science Center Woods Hole, MA 02543



Surfclam (Spisula solidissima)

Ocean Quahog (Arctica islandica)



CLAM FISHERMEN'S REPORT

Preliminary Catch Summary

National Marine Fisheries Service Northeast Fisheries Science Center

Surfclam - Ocean Quahog Survey
FRV DELAWARE II
Delmarva Peninsula - Georges Bank
June 03 - July 12, 2002

The 2002 region-wide survey for Atlantic surfclam, *Spisula solidissima*; and Ocean Quahog, *Arctica islandica*, was conducted in continental shelf waters, from Delmarva Peninsula to Georges Bank aboard the *FRV DELAWARE II*. The survey, conducted by the NMFS, Northeast Fisheries Science Center, provides indices of abundance and recruitment for both species. In addition, tows were made at 25 non-random sites during the survey to support ongoing scientific studies.

The following charts and station data describe 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 provide unbiased abundance measurements. Therefore, these stations were not always on or near known locations of clam concentrations.

In this report, catch quantity is recorded in numbers of clams, and depth in fathoms. 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.

For further information contact Russell Brown (508-495-2380) or Linda Despres (508-495-2346), National Marine Fisheries Service, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543. To view this report on the Ecosystems Surveys Branch website, go to: http://www.nefsc.nmfs.gov/esb/fishermens%20reports.htm.

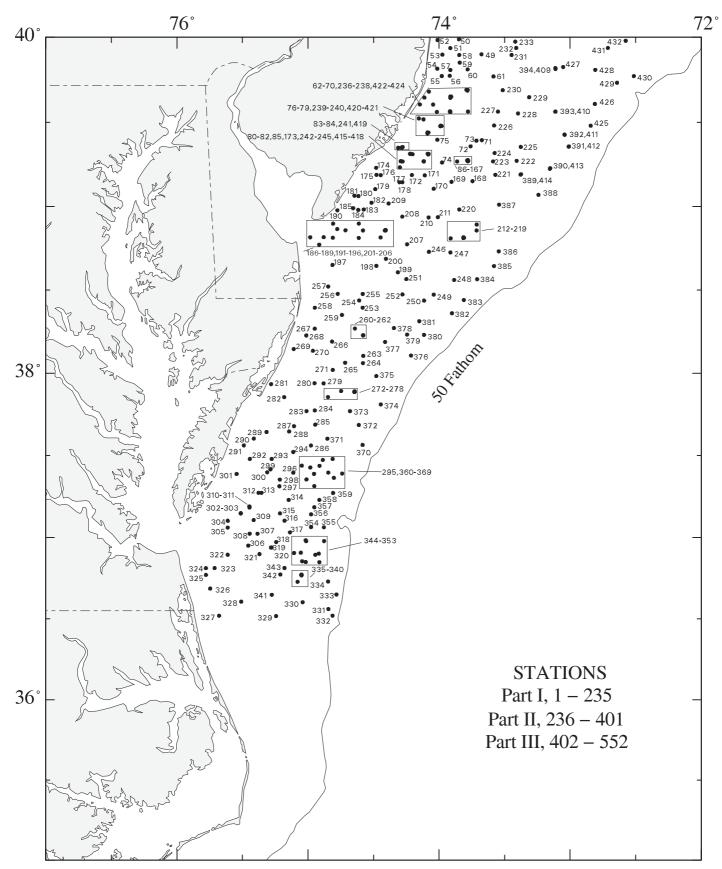


Figure 1. Dredge hauls made from R/V DELAWARE II, during National Marine Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog Survey (02 – 05), June 03 – July 12, 2002.

Map 1 of 3

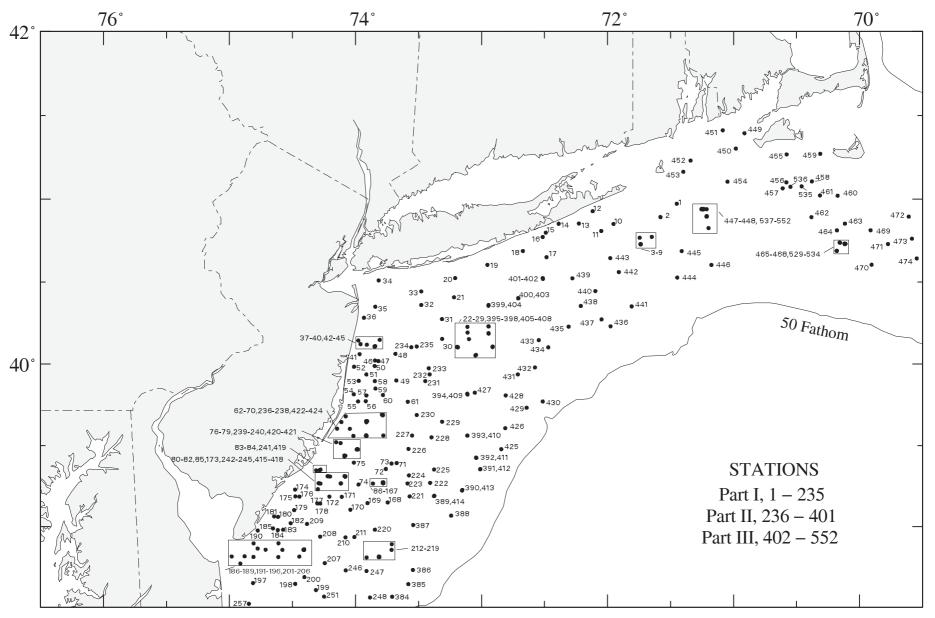


Figure 2. Dredge hauls made from R/V DELAWARE II, during National Marine Fisheries Service, Northeast Fisheries Science Center Surfclam/ Ocean Quahog Survey (02 – 05), June 03 – July 12, 2002.

Map 2 of 3

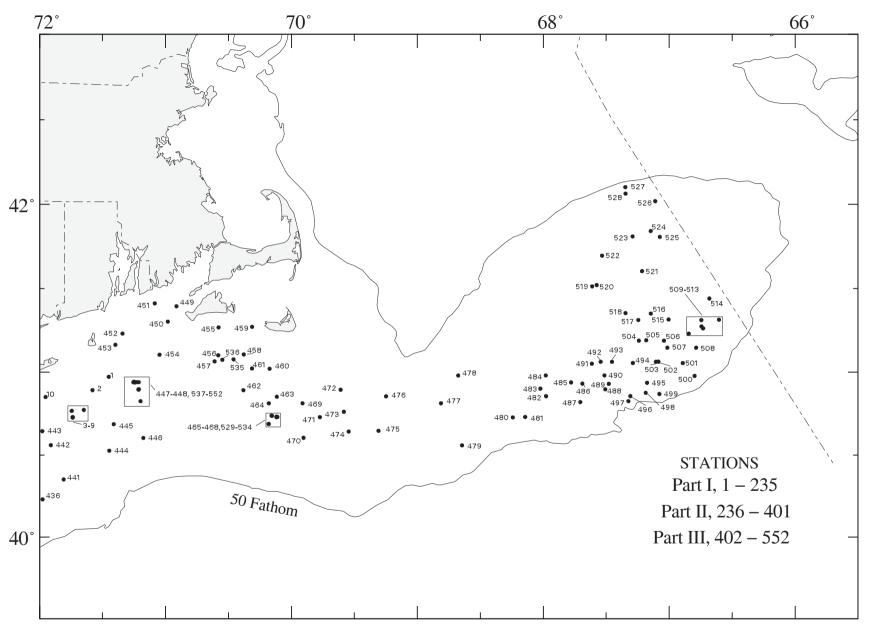


Figure 3. Dredge hauls made from R/V DELAWARE II, during National Marine Fisheries Service, Northeast Fisheries Science Center Surfclam/Ocean Quahog Survey (02 – 05), June 03 – July 12, 2002.

Map 3 of 3

			Station 1	Data						Surf Clams	Survey Catch		Ocean Quahogs
										Percent or .	Survey Catch		
Survey Stratum	Station Number	Positic Latitude	n Longitude	Loran Time De	elays	Heading	Depth (FM)	Catch Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
01	0277	3753.4	7444.8	X26937.2	V42046	8 256	17.5	68	22.1	2.9	11.8	63.2	0
01	0375	3758.9	7428.7	X26863.9	Y42127.		27.3	0	0.0	0.0	0.0	0.0	168
01	0376	3806.3	7412.8	X26791.0	Y42224.		30.1	3	100.0	0.0	0.0	0.0	25
01	0377	3811.2	7412.0	X26861.2			19.7	158	79.7	8.2	3.2	8.9	11
01	0377	3816.3	7424.7	X26846.9			23.5	127	90.6	2.4	5.5	1.6	77
01	0376	3813.8	7420.8	X26768.5			35.5	0	0.0	0.0	0.0	0.0	31
02	0386	3843.9	7332.6	X26608.4			36.1	0	0.0	0.0	0.0	0.0	66
02	0387	3900.6	7332.5	X26626.1			26.8	0	0.0	0.0	0.0	0.0	116
02	0399	4021.5	7256.6	X26478.7			20.8	0	0.0	0.0	0.0	0.0	93
02	0453	4109.8	7123.9	X25760.6			18.6	0	0.0	0.0	0.0	0.0	5
03	0004	4109.8	7144.6	X25700.0			31.2	0	0.0	0.0	0.0	0.0	30
								0	0.0		0.0		
03	0395	4003.1	7302.9	X26500.1			24.6	0		0.0		0.0	156
03	0396	4006.4	7254.7	X26442.1			26.2	0	0.0	0.0	0.0	0.0	123
03	0397	4011.3	7256.6	X26463.3			25.7	0	0.0	0.0	0.0	0.0	174
03	0398	4013.8	7256.6	X26466.9			24.6	0	0.0	0.0	0.0	0.0	142
03	0400	4024.0	7242.5	X26369.5			24.6		0.0	0.0	0.0	0.0	66
03	0454	4106.2	7102.8	X25566.4			18.0	0	0.0	0.0	0.0	0.0	0
05	0322	3653.6	7536.7	X27077.3			12.0	0	0.0	0.0	0.0	0.0	-
05	0328	3636.3	7530.5	X27025.2			10.4	5	100.0	0.0	0.0	0.0	0
05	0329	3631.0	7514.6	X26953.1			15.9	51	78.4	0.0	15.7	5.9	0
05	0330	3636.1	7502.4	X26909.2			13.7	1	0.0	0.0	0.0	100.0	0
05	0331	3633.6	7450.6	X26857.0			24.6	8	100.0	0.0	0.0	0.0	0
05	0340	3643.7	7504.7	X26928.4			14.8	107	72.9	2.8	19.6	4.7	0
05	0341	3638.9	7516.5	X26971.4			17.5	0	0.0	0.0	0.0	0.0	0
05	0342	3646.3	7512.6	X26965.2			16.4	14	0.0	14.3	42.9	42.9	0
06	0332	3631.2	7448.7	X26846.4			29.5	0	0.0	0.0	0.0	0.0	0
06	0333	3639.0	7446.9	X26847.4			32.8	0	0.0	0.0	0.0	0.0	2
06	0502	4103.7	6705.1	W13174.4			36.1	0	0.0	0.0	0.0	0.0	298
09	0014	4051.0	7223.2	X26249.9			7.7	25	32.0	0.0	0.0	68.0	1
09	0283	3746.2	7500.6	X27003.1			15.3	37	5.4	0.0	27.0	67.6	0
09	0284	3746.4	7456.8	X26985.0			15.9	11	0.0	0.0	36.4	63.6	0
09	0285	3741.2	7456.6	X26975.4			18.6	36	36.1	36.1	27.8	0.0	0
09	0286	3733.6	7458.6	X26972.7			15.9	50	4.0	4.0	44.0	48.0	0
09	0287	3740.7	7506.4	X27021.4			15.9	0	0.0	0.0	0.0	0.0	0
09	0288	3738.7	7508.6	X27028.4			14.8	1	100.0	0.0	0.0	0.0	0
09	0289	3738.6	7518.9	X27076.5			9.8	2	100.0	0.0	0.0	0.0	0
09	0293	3728.7	7516.6	X27048.2			14.2	0	0.0	0.0	0.0	0.0	0
09	0294	3731.3	7506.7	X27006.9			17.0	1	100.0	0.0	0.0	0.0	0
09	0295	3726.3	7502.8	X26980.8			17.5	17	29.4	29.4	23.5	17.6	0
09	0296	3723.7	7506.7	X26994.6			17.5	5	80.0	0.0	20.0	0.0	0
* 09	0297	3718.8	7513.0	X27015.4			14.8	0	0.0	0.0	0.0	0.0	0
09	0300	3723.9	7518.6	X27049.1			15.3	0	0.0	0.0	0.0	0.0	0
09	0303	3708.8	7530.7	X27077.0			9.8	1	100.0	0.0	0.0	0.0	0
09	0307	3701.4	7523.1	X27032.1			15.3	0	0.0	0.0	0.0	0.0	0
09	0308	3701.4	7526.6	X27047.2			12.0	0	0.0	0.0	0.0	0.0	0
09	0309	3706.4	7524.8	X27047.4			14.8	0	0.0	0.0	0.0	0.0	0
09	0310	3711.4	7526.8	X27064.4	Y41514.		13.1	0	0.0	0.0	0.0	0.0	0
09	0312	3716.4	7522.6	X27054.3	Y41577.	8 29	12.6	0	0.0	0.0	0.0	0.0	0
09	0314	3713.7	7508.8	X26988.5	Y41572.	7 313	16.4	4	25.0	25.0	25.0	25.0	0
* Sia	nifies a n	on-random	station										

		Stat	cion Da	ata						Surf Clams	Survey Catch		Ocean Quahogs
										Percent of a	Survey Catch		
Survey Stratum	Station Number	Position Latitude Longi	itude	Loran Time De	lays 1	Heading	Depth (FM)	Catch Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
09	0315	3708.8 7512		(26998.8	Y41511.		17.0	0	0.0	0.0	0.0	0.0	0
09	0316	3706.1 7510		(26985.4			19.1	1	0.0	100.0	0.0	0.0	0
09	0319	3656.3 7516		(26996.5			14.2	3	0.0	0.0	33.3	66.7	0
09	0320	3656.3 7516			Y41365.		13.7	2	0.0	50.0	50.0	0.0	0
09	0321	3653.9 7522		(27016.8	Y41328.		15.3	4	100.0	0.0	0.0	0.0	0
09	0335	3646.0 7502		326923.8	Y41284.		16.4	320	50.0	11.9	31.2	6.9	0
09	0343	3648.7 7510			Y41296.		13.1	7	71.4	0.0	0.0	28.6	0
09	0344	3654.3 7506	5.3 X	(26949.3	Y41366.	3 78	20.8	2	0.0	0.0	50.0	50.0	0
09	0346	3651.2 7502	2.6 X	(26929.2	Y41340.	9 191	17.0	31	0.0	3.2	67.7	29.0	0
09	0348	3650.9 7454	4.7 X	(26894.8	Y41354.	9 219	19.1	59	37.3	30.5	30.5	1.7	0
09	0349	3653.6 7456	5.6 X	(26906.4	Y41379.	4 91	19.7	26	26.9	46.2	26.9	0.0	0
09	0352	3658.6 7500	0.8 X	(26931.3	Y41424.	1 293	22.4	37	54.1	40.5	5.4	0.0	0
09	0354	3703.8 7458	3.5 X	(26928.3	Y41484.	7 67	23.0	126	54.0	28.6	15.1	2.4	0
09	0358	3713.7 745	4.7 X	(26924.9	Y41598.	7 40	23.5	5	80.0	20.0	0.0	0.0	0
09	0360	3721.8 7448	3.1 X	(26905.9	Y41698.	1 35	26.8	35	94.3	2.9	2.9	0.0	2
09	0364	3721.3 7500		(26963.4			19.7	9	22.2	22.2	33.3	22.2	0
09	0367	3726.2 7454		(26943.0	Y41734.		21.3	0	0.0	0.0	0.0	0.0	5
09	0369	3728.7 7448		(26918.5			25.7	0	0.0	0.0	0.0	0.0	134
09	0371	3736.1 7453		(26940.4			19.1	352	51.4	16.5	21.9	10.2	0
10	0334	3643.8 7450			Y41289.		25.2	12	91.7	8.3	0.0	0.0	0
10	0351	3658.7 7452			Y41442.		26.8	5	100.0	0.0	0.0	0.0	0
10	0355	3703.7 7452			Y41495.		27.3	0	0.0	0.0	0.0	0.0	1
11	0333	3733.8 7435		(26860.2			33.4	0	0.0	0.0	0.0	0.0	71
11	0370							0	0.0		0.0		74
		3741.1 7436		(26878.5	Y41924.		29.5			0.0		0.0	0
13	0197	3839.0 7448		(27042.5	Y42548.		10.9	96	2.1	1.0	4.2	92.7	
13	0253	3823.6 7434			Y42388.		15.3	59	15.3	1.7	1.7	81.4	0
13	0254	3826.2 7436		(26950.0	Y42416.		16.4	38	18.4	2.6	7.9	71.1	0
13	0255	3828.5 7434		(26945.4			16.4	29	24.1	3.4	6.9	65.5	0
13	0256	3828.6 7446			Y42433.		14.2	9	22.2	11.1	11.1	55.6	0
13	0259	3821.0 744		(26983.1			14.2	76	7.9	1.3	6.6	84.2	0
13	0260	3816.1 7438		326942.7	Y42303.		17.5	79	3.8	2.5	6.3	87.3	0
13	0261	3813.6 7434	4.7 X	(26918.3	Y42279.	7 192	22.4	3	33.3	0.0	0.0	66.7	28
13	0262	3813.7 7434	4.7 X	(26918.4	Y42280.	8 134	22.4	14	7.1	0.0	7.1	85.7	51
13	0263	3806.2 7434	4.6 X	(26905.6	Y42199.	1 209	19.1	7	57.1	0.0	0.0	42.9	1
13	0264	3803.6 7434	4.8 X	(26902.5	Y42170.	6 347	19.1	29	65.5	10.3	10.3	13.8	1
13	0265	3803.7 7442	2.9 X	(26944.5	Y42162.	2 272	13.7	6	33.3	16.7	0.0	50.0	0
13	0266	3811.4 7448	3.9 X	(26989.1	Y42240.	4 295	9.3	41	26.8	7.3	9.8	56.1	0
13	0271	3801.1 7448		(26969.2			16.4	16	25.0	0.0	12.5	62.5	0
13	0272	3753.4 7438		(26906.1			23.5	0	0.0	0.0	0.0	0.0	285
13	0278	3751.2 7450		(26963.5			18.6	60	10.0	11.7	18.3	60.0	0
13	0279	3756.2 7452		(26981.9			12.6	49	2.0	2.0	16.3	79.6	0
13	0280	3756.3 745		(27003.1			13.7	64	0.0	1.6	23.4	75.0	0
14	0373	3746.1 7440		(26905.5			26.8	0	0.0	0.0	0.0	0.0	278
14	0373	3813.9 7414		(26811.0			23.5	144	92.4	2.8	4.9	0.0	21
15	0379	3748.6 7426		326838.7			32.3	0	0.0	0.0	0.0	0.0	60
								0	0.0	0.0			11
15	0381	3818.7 7409		(26787.1			31.7				0.0	0.0	
17	0187	3851.3 7434			Y42693.		14.2	3	0.0	0.0	0.0	100.0	0
17	0188	3848.7 7436		(26994.9	Y42663.		8.2	6	50.0	0.0	33.3	16.7	0
17	0198	3838.7 7428	3.7 X	326929.5	Y42559.	0 60	18.6	0	0.0	0.0	0.0	0.0	1

		Sta	ation I	Data						Surf Clams	Comment Catalo		Ocean Quahogs
										Percent of	Survey Catch		
Survey	Station	Position		Loran			Depth	Catch					Catch Number
Stratum	Number	Latitude Long	gitude	Time De	lays	Heading	(FM)	Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	
17	0199		L8.8	X26868.8	Y42539.	9 57	22.4	4	50.0	0.0	25.0	25.0	23
17	0200	3841.2 742	24.3	X26908.9	Y42589.	2 71	17.5	18	44.4	5.6	0.0	50.0	1
17	0201	3848.8 742	26.7	X26937.0	Y42670.	4 44	10.9	15	20.0	13.3	13.3	53.3	0
17	0202	3851.4 742	24.4	X26928.6	Y42699.	9 64	16.4	96	3.1	0.0	3.1	93.8	0
17	0207	3846.4 741	L4.6	X26861.7	Y42651.	2 37	20.8	16	56.2	0.0	0.0	43.8	16
17	0246	3843.7 740	04.6	X26798.4	Y42628.	1 181	25.2	2	50.0	0.0	0.0	50.0	66
17	0247	3843.5 735	54.7	X26739.6	Y42631.	6 210	22.4	13	92.3	7.7	0.0	0.0	33
17	0251	3833.9 741	L4.9	X26842.6	Y42517.	0 332	25.2	0	0.0	0.0	0.0	0.0	103
17	0252	3828.4 741	L6.7	X26844.1	Y42456.	6 222	22.4	19	89.5	0.0	5.3	5.3	21
18	0248		3.1	X26717.2			30.1	1	100.0	0.0	0.0	0.0	93
18	0249	3828.3 740	2.4	X26763.4	Y42467.	0 206	28.4	0	0.0	0.0	0.0	0.0	60
18	0250		06.8	X26785.3			30.1	0	0.0	0.0	0.0	0.0	1
19	0382		54.0	X26707.6			36.1	0	0.0	0.0	0.0	0.0	28
19	0383		18.6		Y42458.		34.4	0	0.0	0.0	0.0	0.0	237
19	0384		12.5	X26656.1			33.9	0	0.0	0.0	0.0	0.0	21
21	0061		35.0	X26709.3			19.1	38	36.8	5.3	7.9	50.0	69
21	0062		16.9	X26784.5			10.4	232	5.6	2.2	4.3	87.9	1
21	0070		16.7	X26768.6			13.7	24	37.5	12.5	4.2	45.8	0
21	0070		10.7	X26708.7			19.1	69	23.2	7.2	17.4	52.2	0
21	0071		15.5	X26739.2			19.1	62	8.1	1.6	12.9	77.4	5
* 21	0072		12.8	X26739.2			18.6	147	10.2	4.8	15.6	69.4	0
21	0073							47	8.5	2.1		85.1	0
* 21			58.6 51.7	X26814.7			15.3 19.7	107	11.2	2.1	4.3 15.0	71.0	-
21	0086			X26770.8									8
21 * 21	0087		16.7		Y42974.		20.2	242	6.2	5.0	21.1	67.8	29
21	0092		16.8	X26739.4			19.7	148	6.8	0.7	34.5	58.1	5
21	0168		14.6	X26714.0			18.6	35	62.9	5.7	8.6	22.9	12
21	0169		54.3	X26775.3			25.2	23	95.7	0.0	0.0	4.3	484
21	0170		2.4	X26822.3			19.1	29	34.5	3.4	13.8	48.3	19
21	0171		06.5	X26856.7			12.0	8	25.0	12.5	0.0	62.5	0
21	0208	3856.3 741	L6.8	X26892.6	Y42756.	5 41	18.6	0	0.0	0.0	0.0	0.0	84
* 21	0209	3901.0 742	23.1	X26939.8	Y42804.	8 52	13.1	56	10.7	1.8	1.8	85.7	0
21	0210	3856.0 740	04.7	X26818.8	Y42758.	4 65	18.0	12	83.3	0.0	16.7	0.0	3
21	0211	3856.1 740	0.5	X26793.4	Y42761.	1 129	19.7	28	32.1	7.1	3.6	57.1	52
21	0212	3848.5 735	54.7	X26746.7	Y42683.	9 171	23.5	1	100.0	0.0	0.0	0.0	114
21	0213	3848.9 734	18.8	X26711.7	Y42690.	9 7	24.6	5	60.0	0.0	20.0	20.0	275
21	0219	3853.5 734	12.7	X26680.6	Y42741.	0 27	21.9	10	60.0	20.0	0.0	20.0	12
21	0220	3858.8 735	50.7	X26737.3	Y42792.	9 53	20.8	9	33.3	0.0	11.1	55.6	70
21	0221	3911.2 733	34.2	X26650.1	Y42924.	1 97	24.1	0	0.0	0.0	0.0	0.0	13
21	0222	3916.2 732	24.4	X26592.4	Y42975.	1 104	24.1	24	91.7	4.2	0.0	4.2	44
21	0223		35.2	X26663.2			27.3	0	0.0	0.0	0.0	0.0	7
21	0224		34.5	X26662.8			24.1	9	55.6	0.0	22.2	22.2	3
21	0225		22.6	X26586.4			25.7	17	88.2	11.8	0.0	0.0	46
21	0226		34.7	X26678.6			17.5	88	8.0	1.1	9.1	81.8	1
21	0227		33.0	X26674.5			19.7	21	9.5	4.8	4.8	81.0	1
21	0228		23.8	X26610.1			18.0	98	24.5	4.1	11.2	60.2	1
21	0230		30.8	X26671.4			23.0	9	66.7	11.1	22.2	0.0	0
22	0230		12.8	X26678.5			24.6	2	100.0	0.0	0.0	0.0	39
22	0389		22.4	X26573.8			26.8	0	0.0	0.0	0.0	0.0	59
23	0389		34.8	X26573.8 X26616.0			32.8	0	0.0	0.0	0.0	0.0	22
43		3838.6 /33 on-random stat		AZ0010.U	142092.	0 05	34.0	U	0.0	0.0	0.0	0.0	22

	Station Data									Surf Clams Percent of S	Survey Catch		Ocean Quahogs
Survey Stratum	Station Number	Position Latitude Lo		Loran Time De	elays H	eading	Depth (FM)	Catch Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
23	0388	3904.1	7314.4	X26515.1	Y42856.1	83	36.1	0	0.0	0.0	0.0	0.0	616
23	0390	3913.6	7309.1	X26489.2	Y42950.0	240	34.4	0	0.0	0.0	0.0	0.0	190
23	0391	3921.3	7300.6	X26439.1	Y43024.5	50	36.6	0	0.0	0.0	0.0	0.0	371
25	0038	4008.8	7348.4	X26854.4	Y43512.3	47	17.0	14	7.1	21.4	7.1	64.3	10
25	0047	4001.1	7349.1	X26841.7	Y43435.0	14	13.7	48	12.5	2.1	8.3	77.1	0
25	0048		7341.0		Y43456.0	346	17.5	295	13.2	8.8	31.5	46.4	7
25	0049		7340.5		Y43358.4	16	16.4	70	10.0	0.0	10.0	80.0	3
25	0229		7318.7		Y43198.2	265	20.8	120	51.7	5.8	14.2	28.3	8
25	0231		7326.7		Y43348.2	268	23.0	87	100.0	0.0	0.0	0.0	44
25	0232		7324.6		Y43371.6	258	24.6	9	88.9	11.1	0.0	0.0	5
25	0235		7330.8		Y43475.6	354	23.5	0	0.0	0.0	0.0	0.0	186
25	0393		7306.7		Y43145.1	50	23.5	37	89.2	0.0	8.1	2.7	67
26	0233		7325.1		Y43393.4	230	28.4	0	0.0	0.0	0.0	0.0	143
26	0234		7333.4		Y43474.5	288	37.2	0	0.0	0.0	0.0	0.0	2
26	0394		7306.6		Y43290.3	49	29.0	0	0.0	0.0	0.0	0.0	16
27	0392		7302.5		Y43065.1	67	36.1	0	0.0	0.0	0.0	0.0	336
27	0425		7250.5		Y43093.6	112	32.8	0	0.0	0.0	0.0	0.0	33
27	0426		7248.6		Y43165.6	23	35.0	0	0.0	0.0	0.0	0.0	77
27	0427		7303.1		Y43295.3	134	38.3	0	0.0	0.0	0.0	0.0	232
29	0017		7229.0		Y43712.1	319	20.8	3	100.0	0.0	0.0	0.0	175
29	0018		7240.3		Y43745.7	336	17.5	0	0.0	0.0	0.0	0.0	125
29	0021		7313.0		Y43632.3	37	17.0	0	0.0	0.0	0.0	0.0	23
29	0022		7306.7		Y43525.4	183	23.0	0	0.0	0.0	0.0	0.0	107
29	0023		7306.6		Y43505.6	187	22.4	0	0.0	0.0	0.0	0.0	136
* 29	0024		7305.9		Y43482.5	193	24.6	0	0.0	0.0	0.0	0.0	140
29	0030		7318.7		Y43493.6	6	21.9	0	0.0	0.0	0.0	0.0	34
29	0031		7318.8		Y43562.5	353	19.1	1	100.0	0.0	0.0	0.0	51
29	0032		7328.7		Y43621.5	21	15.9	0	0.0	0.0	0.0	0.0	11
29	0401		7230.8		Y43649.1	22	23.5	0	0.0	0.0	0.0	0.0	403
30	0428		7248.4		Y43278.6	143	33.4	0	0.0	0.0	0.0	0.0	191
31	0429		7238.5		Y43231.5	25	39.9	0	0.0	0.0	0.0	0.0	0
31	0430		7230.8		Y43249.1	326	36.1	0	0.0	0.0	0.0	0.0	20
31	0431		7242.7		Y43346.6	343	30.6	0	0.0	0.0	0.0	0.0	92
31	0432		7234.5		Y43364.2	95	33.9	0	0.0	0.0	0.0	0.0	522
31	0433		7232.7		Y43452.6	42	31.7	0	0.0	0.0	0.0	0.0	563
31	0434		7228.2		Y43426.0	63	32.3	0	0.0	0.0	0.0	0.0	433
31	0435		7218.5		Y43484.0	97	32.3	0	0.0	0.0	0.0	0.0	434
31	0438		7212.7		Y43544.1	343	33.4	0	0.0	0.0	0.0	0.0	370
33	0010		7157.1		Y43771.2	252	20.8		0.0	0.0	0.0	0.0	66
33	0011		7202.9		Y43758.0	241	21.3	0	0.0	0.0	0.0	0.0	47
33	0013		7213.6		Y43793.8	275	16.4	0	0.0	0.0	0.0	0.0	95
33 34	0016 0439		7230.8 7216.7		Y43776.1 Y43633.7	228 22	15.3 29.0	1	100.0	0.0	0.0	0.0	4 737
34	0439		7158.7		Y43633.7 Y43673.8	347	29.0	0	0.0	0.0	0.0		167
34 35	0443					347		0	0.0		0.0	0.0	178
35 35	0436		7158.5 7202.8		Y43469.0 Y43493.6	351	35.0 34.4	0	0.0	0.0	0.0	0.0	178 396
35 35	0437					121	34.4	0		0.0			1418
35 35	0440		7204.6 7148.5		Y43599.1 Y43519.9	136	40.5	0	0.0	0.0	0.0	0.0	1418
35 35	0441		7148.5		Y43519.9	136	32.3	0	0.0	0.0	0.0	0.0	189
		4033.5 non-random st		122201.9	14302/.9	0	34.3	U	0.0	0.0	0.0	0.0	103

Stratum N 37 0 37 0 38 0 38 0 38 0 38 0 4 38 0 4 38 0 4 38 0 4 38 0 4 38 0 4 38 0 5 38 0 6 38 0 7 38	Station Number 0450 0452 0001 0447 0448 0543 0544 0545 0546	4113.8 71 4058.3 71 4053.7 71 4056.3 71 4056.3 71 4056.4 71	ngitude 058.9 120.4 127.0 112.7 112.8 114.6	X25552.8 X25737.0 X25771.6 X25643.9	Y43891.2 Y43892.0 Y43787.9	eading 357 60	Depth (FM)		0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
37 0 38 0 38 0 38 0 4 38 0 5 38 0 6 38 0 7 38 0 8 38 0 8 4 38 0 8 4 38 0 8 4 38 0 8 5 38 0 8 6 0 8 7 38 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0 8 0	0452 0001 0447 0448 0543 0544 0545	4113.8 71 4058.3 71 4053.7 71 4056.3 71 4056.3 71 4056.4 71	120.4 127.0 112.7 112.8	X25737.0 X25771.6 X25643.9	Y43892.0 Y43787.9								
38 0 38 0 38 0 4 38 0 4 38 0 4 38 0 4 38 0 4 38 0 4 38 0	0001 0447 0448 0543 0544 0545	4058.3 71 4053.7 71 4056.3 71 4056.3 71 4056.4 71	127.0 112.7 112.8	X25771.6 X25643.9	Y43787.9	60		0	0.0	0.0	0.0	0.0	334
38 0 38 0 * 38 0 * 38 0 * 38 0 * 38 0 * 38 0 * 38 0	0447 0448 0543 0544 0545 0546	4053.7 71 4056.3 71 4056.3 71 4056.4 71	112.7 112.8	X25643.9			18.6	0	0.0	0.0	0.0	0.0	152
38 00 * 38 00	0448 0543 0544 0545 0546	4056.3 71 4056.3 71 4056.4 71	112.8		V/1272E 7	211	27.3	0	0.0	0.0	0.0	0.0	336
* 38 0 * 38 0 * 38 0 * 38 0 * 38 0	0543 0544 0545 0546	4056.3 71 4056.4 71		V2E646 0	143/33./	20	28.4	0	0.0	0.0	0.0	0.0	552
* 38 0 * 38 0 * 38 0 * 38 0	0544 0545 0546	4056.4 71	114.6	A23040.U	Y43755.0	2	27.9	0	0.0	0.0	0.0	0.0	400
* 38 0 * 38 0 * 38 0	0545 0546			X25661.6	Y43757.2	187	28.4	0	0.0	0.0	0.0	0.0	838
* 38 0 * 38 0 * 38	0546		114.7	X25662.5	Y43758.1	188	29.0	0	0.0	0.0	0.0	0.0	473
* 38 0 * 38 0		4056.4 71	114.9	X25664.3	Y43758.3	23	28.4	0	0.0	0.0	0.0	0.0	520
* 38 0		4056.3 71	115.0	X25665.1	Y43757.7	190	29.0	0	0.0	0.0	0.0	0.0	685
	0547	4056.3 71	115.2	X25666.8	Y43758.0	13	29.0	0	0.0	0.0	0.0	0.0	79
	0548	4056.4 71	115.1	X25666.0	Y43758.6	196	28.4	0	0.0	0.0	0.0	0.0	316
	0549	4056.2 71	114.6	X25661.5	Y43756.5	6	27.9	0	0.0	0.0	0.0	0.0	153
	0550	4056.3 71	114.5	X25660.7	Y43757.1	187	28.4	0	0.0	0.0	0.0	0.0	603
	0551		114.2		Y43756.7	10	28.4	0	0.0	0.0	0.0	0.0	275
	0552		114.1		Y43756.6	184	29.0	0	0.0	0.0	0.0	0.0	249
	0002		134.7		Y43761.7	192	29.5	0	0.0	0.0	0.0	0.0	765
	0003				Y43711.6	257	36.1	0	0.0	0.0	0.0	0.0	9
	0444			X25761.5	Y43583.1	20	37.2	0	0.0	0.0	0.0	0.0	1
	0445		124.6		Y43655.0	137	32.3	0	0.0	0.0	0.0	0.0	236
	0446				Y43601.9	123	36.1	0	0.0	0.0	0.0	0.0	9
	0542				Y43703.8	205	33.4	0	0.0	0.0	0.0	0.0	0
	0456				Y43776.4	211	21.9	0	0.0	0.0	0.0	0.0	211
	0457		036.6		Y43763.5	71	23.0	0	0.0	0.0	0.0	0.0	264
	0458		022.7		Y43763.7	27	20.2	0	0.0	0.0	0.0	0.0	301
	0461				Y43725.5	277	20.8	0	0.0	0.0	0.0	0.0	139
	0462		022.9		Y43676.3	208	24.6	0	0.0	0.0	0.0	0.0	2
	0464		010.7		Y43631.4	247	20.2	0	0.0	0.0	0.0	0.0	183
	0465		009.2		Y43599.2	225	21.9	0	0.0	0.0	0.0	0.0	227
	0466				Y43580.1	182	23.5	0	0.0	0.0	0.0	0.0	69
	0467		010.8		Y43580.1	209	24.1	0	0.0	0.0	0.0	0.0	122
	0468				Y43594.0	49	21.9	0	0.0	0.0	0.0	0.0	272
	0534				Y43599.4	155	22.4	0	0.0	0.0	0.0	0.0	234
	0535		027.5		Y43757.3	343	22.4	0	0.0	0.0	0.0	0.0	212
	0536		032.9		Y43763.1	259	22.4	0	0.0	0.0	0.0	0.0	148
	0469		954.7		Y43615.6	153	15.3	11	0.0	0.0	0.0	100.0	2
	0471		946.4		Y43574.6	153	24.6	25	16.0	4.0	24.0	56.0	52
	0472		936.5		Y43630.1	179	20.8	0	0.0	0.0	0.0	0.0	0
	0473		935.0		Y43576.8	42	25.2	1	100.0	0.0	0.0	0.0	6
	0474		932.7		Y43528.4	166	27.3	34	61.8	17.6	17.6	2.9	54
	0475		918.5		Y43518.2	143	28.4	0	0.0	0.0	0.0	0.0	5
	0470		954.2		Y43531.1	107	31.7	0	0.0	0.0	0.0	0.0	115
	0476		914.9		Y43594.8	316	29.0	0	0.0	0.0	0.0	0.0	0
	0477		848.7		Y43556.9	310	37.7	0	0.0	0.0	0.0	0.0	302
	0478		840.5		Y43610.5	4	34.4	0	0.0	0.0	0.0	0.0	0
	0479		838.7		Y43455.6	161	37.2	0	0.0	0.0	0.0	0.0	340
	0480		814.5		Y43500.4	149	36.1	0	0.0	0.0	0.0	0.0	796
	0481		808.6		Y43496.9	106	38.8	0	0.0	0.0	0.0	0.0	1019
	0482		758.6		Y43533.9	44	33.4	1	0.0	0.0	0.0	100.0	1628
	0485	4056.2 67 on-random sta	746.7	W13382.2	Y43553.0	90	30.6	0	0.0	0.0	0.0	0.0	713

		Sta	ation I	Data						Surf Clams	Survey Catch		Ocean Quahogs
										rercent or .	survey caccii		
Survey Stratum	Station Number	Position Latitude Long	gitude	Loran Time De	lays	Heading	Depth (FM)	Catch Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
59	0488	4053.7 67	30.4	W13322.7	Y43527.	5 106	41.0	0	0.0	0.0	0.0		177
59 59	0488		30.4				36.6	27	88.9	3.7	7.4	0.0	455
				W13302.3	Y43555.					4.2	35.4	41.7	1010
59	0492		32.6	W13288.5			33.4	48	18.8	0.0			415
60	0495		10.5	W13229.7			44.3	0	0.0		0.0	0.0	
60	0496		18.5	W13283.2			47.6	0	0.0	0.0	0.0	0.0	416
60	0497		19.4	W13295.0			49.2	0	0.0	0.0	0.0	0.0	171
60	0498		11.1	W13247.7			47.0	0	0.0	0.0	0.0	0.0	107
60	0499		04.7		Y43502.		48.1	0	0.0	0.0	0.0	0.0	230
61	0504		14.5		Y43611.		31.2	0	0.0	0.0	0.0	0.0	668
61	0506		02.5	W13129.8			36.1	0	0.0	0.0	0.0	0.0	1045
61	0509		50.7	W13071.8	Y43606.		38.3	0	0.0	0.0	0.0	0.0	17
61	0511		44.6	W13036.3			41.0	0	0.0	0.0	0.0	0.0	219
61	0515		00.3	W13086.2	Y43640.	4 254	35.0	0	0.0	0.0	0.0	0.0	979
62	0500	4058.6 66	47.9	W13129.0	Y43525.	9 69	40.5	0	0.0	0.0	0.0	0.0	76
62	0512	4118.7 66	44.7	W13026.0	Y43627.	6 162	39.9	0	0.0	0.0	0.0	0.0	16
62	0513	4118.8 66	36.2	W12993.2	Y43621.	9 62	46.5	0	0.0	0.0	0.0	0.0	77
62	0514	4126.4 66	40.8	W12975.2	Y43663.	6 353	44.3	0	0.0	0.0	0.0	0.0	958
65	0527	4206.1 67	20.9	W12936.4	Y43897.	5 76	36.1	25	100.0	0.0	0.0	0.0	0
70	0483	4054.0 68	01.3	W13456.5	Y43551.	3 117	25.7	5	100.0	0.0	0.0	0.0	2
70	0484		58.8	W13424.7			29.5	0	0.0	0.0	0.0	0.0	0
71	0526			W12904.1			27.9	0	0.0	0.0	0.0	0.0	0
71	0528		20.8	W12948.1			26.8	4	75.0	25.0	0.0	0.0	0
73	0518		20.8	W13159.1			24.6	191	4.2	1.6	8.9	85.3	0
73	0519		36.7	W13181.4			19.1	11	90.9	0.0	9.1	0.0	0
73	0520		34.5	W13170.0			17.5	25	28.0	4.0	12.0	56.0	0
73	0521		12.9	W13054.9			24.1	0	0.0	0.0	0.0	0.0	0
73	0521		32.0	W13034.9			24.1	5	0.0	0.0	40.0	60.0	0
73	0522		17.4	W13106.2			26.8	228	18.9	14.9	33.3	32.9	0
74			08.7				30.6	0	0.0	0.0	0.0	0.0	175
	0516			W13110.2									175 5
74	0517		14.7	W13145.4			25.7	0	0.0	0.0	0.0	0.0	
74	0524			W12967.3			30.6	0	0.0	0.0	0.0	0.0	0
74	0525		04.4	W12960.1			32.3	0	0.0	0.0	0.0	0.0	-
81	0323		42.7	X27094.1			8.7	0	0.0	0.0	0.0	0.0	0
81	0324			X27110.4			9.8	0	0.0	0.0	0.0	0.0	0
81	0325			X27106.3			8.7	0	0.0	0.0	0.0	0.0	0
81	0326		44.7	X27090.1			6.6	5	100.0	0.0	0.0	0.0	0
81	0327		40.7	X27058.5			12.6	0	0.0	0.0	0.0	0.0	0
82	0304			X27098.1			9.8	0	0.0	0.0	0.0	0.0	0
82	0305			X27093.8			10.4	0	0.0	0.0	0.0	0.0	0
83	0292	3728.7 75	26.6	X27093.7	Y41709.	7 87	8.7	1	100.0	0.0	0.0	0.0	0
83	0301			X27110.7	Y41638.		7.7	3	100.0	0.0	0.0	0.0	0
84	0281	3755.9 75	16.8	X27099.6	Y42032.	9 263	5.5	0	0.0	0.0	0.0	0.0	2
84	0282			X27061.5	Y41987.	6 243	7.1	33	100.0	0.0	0.0	0.0	0
84	0290	3736.2 75	24.7	X27098.9	Y41797.	8 268	8.7	7	85.7	0.0	14.3	0.0	0
84	0291			X27115.3			7.1	6	100.0	0.0	0.0	0.0	0
85	0258			X27054.2			10.4	0	0.0	0.0	0.0	0.0	0
85	0267				Y42283.		7.7	7	100.0	0.0	0.0	0.0	0
85	0268		00.7	X27054.3			9.3	39	100.0	0.0	0.0	0.0	0
85	0269		06.5	X27074.1			8.2	1	100.0	0.0	0.0	0.0	0
		on-random sta		/ 0 / 1 . 1	112170.	5 150	0.2	_	100.0	0.0	0.0	0.0	9

		Sta	ation I	Data						Surf Clams	Survey Catch		Ocean Quahogs
										Percent of a	Survey Caten		
Survey Stratum	Station Number	Position Latitude Long	ri tude	Loran Time De	lave	Heading	Depth (FM)	Catch Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number
							(111)						
85	0270		57.7	X27028.1	Y42192.	7 158	12.0	9	100.0	0.0	0.0	0.0	0
86	0195	3848.9 745	8.9	X27121.7	Y42652.	4 337	6.0	0	0.0	0.0	0.0	0.0	0
86	0196		54.8	X27092.6			7.7	0	0.0	0.0	0.0	0.0	0
86	0257			X27037.1	Y42459.		10.9	4	25.0	25.0	50.0	0.0	0
87	0177		18.1	X26924.6	Y42888.		12.0	8	12.5	0.0	0.0	87.5	0
87	0178		L6.7	X26915.9			11.5	75	4.0	10.7	13.3	72.0	0
87	0179		29.2		Y42858.		10.4	42	14.3	0.0	2.4	83.3	0
87	0180			X27027.9	Y42828.		9.8	194	1.0	7.7	60.8	30.4	0
87	0181			X27039.7			7.1	2	50.0	0.0	0.0	50.0	0
87	0182		30.9		Y42805.		9.3	23	47.8	13.0	13.0	26.1	0
87	0183			X27002.9	Y42776.		7.7	20	45.0	20.0	25.0	10.0	0
87	0184		36.9		Y42773.		5.5	20	40.0	20.0	30.0	10.0	0
87	0185			X27033.1			6.6	2	100.0	0.0	0.0	0.0	0
87	0186			X27005.7			8.7	9	55.6	0.0	22.2	22.2	0
87	0189				Y42690.		8.7	0	0.0	0.0	0.0	0.0	0
87	0190			X27073.5			7.1	0	0.0	0.0	0.0	0.0	0
87	0191		18.5	X27074.2	Y42713.		4.9	4	25.0	0.0	25.0	50.0	0
87	0192		16.6	X27058.7	Y42692.	4 7	7.7	28	3.6	0.0	0.0	96.4	0
87	0193			X27063.1			8.7	6	100.0	0.0	0.0	0.0	0
87	0194	3848.9 745	52.8	X27087.4	Y42656.	2 346	7.1	25	100.0	0.0	0.0	0.0	0
88	0066	3936.2 740	08.7	X26923.1	Y43184.	3 228	8.2	2	0.0	0.0	0.0	100.0	0
88	0067	3936.2 740	2.7	X26882.6	Y43183.	2 194	10.9	71	18.3	1.4	14.1	66.2	0
88	0068	3933.6 740	01.0	X26865.6	Y43155.	6 225	12.6	18	16.7	22.2	16.7	44.4	0
88	0069	3933.6 735	55.0	X26825.0	Y43154.	7 240	13.7	96	10.4	0.0	5.2	84.4	0
88	0075	3923.7 740	0.7	X26843.6	Y43051.	7 254	12.0	18	0.0	16.7	27.8	55.6	0
88	0076	3928.5 735	59.4	X26844.4	Y43102.	0 251	12.0	133	4.5	3.0	5.3	87.2	0
88	0077	3930.9 740	7.1	X26900.7	Y43128.	0 242	9.3	21	33.3	4.8	4.8	57.1	0
88	0078	3931.3 740	9.2	X26915.6	Y43132.	4 258	8.2	25	12.0	12.0	12.0	64.0	0
88	0079	3926.2 740	04.8	X26875.6	Y43078.	1 153	10.9	46	8.7	0.0	2.2	89.1	0
88	0800	3918.5 740	04.9	X26860.8	Y42996.	7 253	13.7	48	10.4	4.2	6.2	79.2	0
88	0081	3916.0 740	7.0	X26869.5	Y42970.	0 247	14.8	153	5.2	3.9	4.6	86.3	0
88	0082	3918.7 741	L3.0	X26913.3	Y42998.	1 249	11.5	24	0.0	4.2	16.7	79.2	0
88	0083	3920.9 741	L7.0	X26943.7	Y43021.	3 260	8.2	192	3.1	1.6	16.7	78.6	0
88	0084	3920.9 741	L8.7	X26954.6	Y43021.	2 251	8.2	6	0.0	0.0	16.7	83.3	0
88	0085	3916.1 741	L7.3	X26935.3	Y42969.	7 264	9.8	72	4.2	6.9	4.2	84.7	0
88	0172	3911.1 741	L2.4	X26894.1	Y42916.	9 280	11.5	29	27.6	0.0	34.5	37.9	0
88	0173	3913.9 741	L7.9	X26934.4	Y42945.	9 74	8.7	14	42.9	14.3	21.4	21.4	0
88	0174	3913.7 742	28.7	X27001.5	Y42941.	5 272	8.2	50	2.0	2.0	12.0	84.0	0
88	0175	3911.2 742	28.6	X26995.2	Y42914.	2 185	8.7	13	7.7	7.7	0.0	84.6	0
88	0176	3911.1 742	26.6	X26982.6	Y42913.	6 113	9.3	31	12.9	6.5	9.7	71.0	0
89	0037	4008.6 735	8.6	X26929.8	Y43517.	6 56	9.3	43	18.6	4.7	9.3	67.4	0
89	0039	4007.3 735	57.6	X26919.1	Y43503.	6 12	11.5	0	0.0	0.0	0.0	0.0	0
89	0040	4007.0 735	54.6	X26896.1			11.5	105	42.9	1.9	1.9	53.3	0
89	0041				Y43466.		11.5	72	20.8	0.0	1.4	77.8	0
89	0046	4001.3 735	50.7	X26853.9	Y43438.		12.6	32	9.4	0.0	12.5	78.1	0
89	0050			X26850.7			14.2	70	20.0	0.0	2.9	77.1	0
89	0051				Y43388.		12.6	47	38.3	2.1	6.4	53.2	0
89	0052		0.7	X26921.0			10.9	93	48.4	5.4	4.3	41.9	0
89	0053		8.4	X26892.1			10.4	43	14.0	9.3	4.7	72.1	0
		on-random stat					*				'		-

			Station :	Data					Surf Clams Percent of Survey Catch					
Survey Stratum	Station Number	Positio Latitude		Loran Time De	lays He	ading	Depth (FM)	Catch Number	0-4.74"	4.76-5.00"	5.01-5.50"	>5.50"	Catch Number	
89	0054	3948.9	7400.8	X26897.7	Y43315.4	352	9.8	24	12.5	8.3	12.5	66.7	0	
89	0055	3946.3	7358.7	X26877.1	Y43287.6	105	10.4	81	8.6	6.2	9.9	75.3	0	
89	0056	3946.4	7355.1	X26852.1	Y43287.4	24	12.6	11	54.5	0.0	9.1	36.4	0	
89	0057	3948.4	7354.8	X26854.4	Y43307.9	18	11.5	98	30.6	9.2	17.3	42.9	0	
89	0058	3953.7	7350.7	X26836.8	Y43360.5	49	13.1	28	53.6	3.6	7.1	35.7	0	
89	0059	3951.0	7350.5	X26829.5	Y43332.8	133	14.2	91	25.3	1.1	3.3	70.3	0	
89	0060	3948.6	7346.9	X26798.8	Y43306.7	147	15.3	62	16.1	0.0	3.2	80.6	0	
89	0063	3939.0	7354.4	X26831.7	Y43210.6	355	14.2	87	12.6	1.1	8.0	78.2	0	
89	0064	3940.8	7404.6	X26905.7	Y43231.9	215	7.7	53	5.7	0.0	1.9	92.5	0	
89	0065	3938.7	7406.7	X26915.2	Y43210.3	211	8.2	32	9.4	0.0	15.6	75.0	0	
90	0035	4020.9	7350.5	X26900.5	Y43635.4	20	13.1	0	0.0	0.0	0.0	0.0	5	
90	0036	4016.9	7355.9	X26931.1	Y43600.0	39	9.3	20	10.0	10.0	20.0	60.0	0	
91	0020	4031.3	7312.5	X26624.8	Y43695.9	234	12.0	8	50.0	0.0	25.0	25.0	1	
91	0033	4026.5	7328.7	X26744.1	Y43668.5	36	12.6	0	0.0	0.0	0.0	0.0	0	
91	0034	4030.5	7348.9	X26913.7	Y43728.9	9	8.7	0	0.0	0.0	0.0	0.0	1	
92	0015	4047.8	7229.4	X26297.5	Y43787.7	240	13.1	2	0.0	50.0	0.0	50.0	4	
92	0019	4036.2	7257.1	X26508.8	Y43722.5	288	13.1	53	18.9	3.8	15.1	62.3	1	
93	0012	4055.6	7207.0	X26117.6	Y43821.0	247	11.5	9	44.4	0.0	0.0	55.6	159	
94	0449	4123.6	7054.8	X25531.2	Y43922.8	238	12.6	0	0.0	0.0	0.0	0.0	54	
94	0451	4124.7	7105.1	X25627.1	Y43945.5	350	10.9	0	0.0	0.0	0.0	0.0	404	
95	0455	4116.0	7034.7	X25328.9	Y43843.8	181	13.1	14	14.3	0.0	0.0	85.7	60	
95	0459	4116.2	7018.7	X25184.3	Y43824.4	33	7.1	33	0.0	0.0	3.0	97.0	0	
95	0460	4101.2	7010.4	X25125.1	Y43715.3	87	13.1	19	0.0	0.0	0.0	100.0	22	
95	0463	4051.1	7006.9	X25138.1	Y43643.8	193	14.2	19	0.0	0.0	0.0	100.0	63	

