



## **Atlantic Coast of Long Island, Fire Island Inlet to Montauk Point, New York**



## **Storm Damage Reduction Reformulation Study**



**DRAFT**

## **Surf Clam Stock Assessment**



**US Army Corps  
of Engineers®**

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# **Fire Island Inlet to Montauk Point Reformulation Study- Surf Clam (*Spisula solidissima*) Stock Assessment**

## **1.0 Introduction**

The Fire Island Inlet to Montauk Point Reformulation Study provides for an evaluation of beach erosion control and hurricane protection measures. The study area encompasses an 83-mile reach of the Atlantic Coast of New York from Fire Island Inlet to Montauk Point. In support of this proposed study, the ecological resources of the beach, intertidal, and subtidal zones have become subject to extensive analysis. This report presents the results of a surf clam stock assessment (the survey) that was conducted in conjunction with the ecological resources study program. The survey was conducted along the south shore of Long Island, New York. The survey area was in coastal waters between Ocean Beach on Fire Island to just west of Napeague Beach, New York. The survey was conducted during the period of August 18<sup>th</sup> to September 27<sup>th</sup>, 2001. A map of the overall survey area is presented in Figure 1.

The United States Army Corps of Engineers – New York District is conducting the survey. The New York State Department of Environmental Conservation is the project sponsor. The surf clam survey program was conducted under Work Order 24 of the Generalized Shore Zone Ecological Inventory of Selected Areas in the Eastern Zone (Contract DACW61-97-D-0007).

The overall survey area (see Figure 1) was broken down into eight distinct potential borrow areas. Figures 2 through 9 present the borrow areas. Random sampling stations were selected within each borrow area to characterize the density of surf clam populations in each area. The methods employed to conduct the survey are discussed below. Photographs 1 through 12 document the surf clam survey effort.

The objectives of the surf clam survey are to: (1) quantify the number of surf clams occurring within the delineated borrow areas off the south shore of Long Island, New York; and (2) compare the results of this survey to those of surf clam stock assessments conducted by the NYSDEC in 1992, 1993, 1996, and 1999. The US Army Corps of Engineers-NY District will use the data generated by the survey to assist the District in refining their identification of potential borrow areas. In quantifying the clams, data pertaining to size distribution were also collected.

## **2.0 Methodology**

The following methods were also used by the NYSDEC in conducting prior surf clam stocks assessments. Using the same survey methods increases data comparability and compatibility. Appendix A presents photographs taken at sea to document field methods employed to complete the survey.



Sampling of surf clam populations was undertaken in eight (8) delineated borrow areas. Twenty-eight sampling stations were randomly selected in 6 of the borrow areas. The remaining two borrow areas were sampled at 56 and 16 stations, respectively. The table below lists the name of each borrow area and the number of sampling stations in each. The borrow areas are listed west to east as they occur along the south shore of Long Island.

| <b>Borrow Area</b> | <b>Number of Sampling Stations</b> |
|--------------------|------------------------------------|
| 2C                 | 28                                 |
| 2B                 | 28                                 |
| 2AD                | 56                                 |
| 3A                 | 28                                 |
| 4A                 | 16                                 |
| 5AB                | 28                                 |
| WOSI               | 28                                 |
| 7A (Alternate)     | *                                  |
| 8A                 | 28                                 |

\* Twenty-eight stations were reserved as alternate stations in the case of any other stations being inaccessible due to rocks or other debris.

Figures 2 through 9 present the locations of the borrow areas and the stations sampled in this survey. Note that Borrow Area 7A was not sampled; there was no need to use it as an alternate borrow area.

The locations of the sampling stations in each borrow area were randomly selected from a grid system using a random number generator. The grid was placed over each borrow area on a nautical chart. The interval of the grid was approximately 8 seconds of latitude by 4 seconds of longitude. Each corner of the boxes formed by the grid was numbered. The numbers were entered into a random number generator program. The specified number of stations per borrow area was taken from the random number generator. The final number of stations per borrow area was determined through close consultation with the project biologist from the New York District.

A local commercial clamming vessel (*F/V Ocean Girl*) was subcontracted to conduct the survey. The *F/V Ocean Girl* is an 80-foot stern-rigged commercial surf clam and ocean quohog fishing vessel owned and operated by Winter Harbor Brands, Inc. The clamming vessel's dredge was outfitted with modified gear to retain sub-legal clams. The modified gear consisted of lining the vessel's 90-inch clam dredge with 1-inch by 3-inch wire mesh (Photograph 1). The small mesh size enabled the dredge to retain sub-legal clams. Culling rollers were also kept close together to facilitate the sorting of the sub-legal clams. A surf clam must be at least four (4) inches in length to be retained for sale, or 102 mm. A sub-legal clam is any clam shorter than 4 inches, or 102 mm. The blade of the dredge was set at a depth of 4.5 inches. Hose length and tow warp was 140 feet and 130 feet, respectively. Water pressure was set at 80 psi. Documentation of each tow position was recorded using the vessel's on-board navigation system (LORAN C).



The vessel located each sampling station within the borrow areas using its on-board navigation system. Once the vessel was on station, the captain dropped the dredge for a three minute tow at a speed of 1.5 knots. At the end of the three minutes, the dredge was hauled back. The contents of the dredge were tripped into a hopper (Photographs 2 and 3).

Two on board biologists, assisted by the two-man deck crew, sorted the contents of the dredge (Photographs 4-7). Hydraulically driven belts conveyed the contents of the dredge. Trash and non-target animals were removed from the catch. Catches that were less than 10 bushels, as estimated by eye, were measured in US bushels. Those catches that were greater than 10 bushels were conveyed to a calibrated hopper with a maximum capacity of 25 US bushels (Photographs 8 and 9). A one-half bushel of clams was retained and measured for overall length. Measurements were recorded to the nearest millimeter (Photographs 10 – 12). Note that when the catch was less than one half bushel (the required amount to represent a sub-sample), the entire catch was measured.

### **3.0     Results**

The survey data have been analyzed for surf clam population densities in each of the sampling stations of the eight borrow areas. These data indicate that the borrow areas delineated by the New York District have very small, to no localized surf clam populations with the exception of borrow areas off Fire Island Pines east of Ocean Beach (Borrow Area 2AD) and portions of the borrow area west of Shinnecock Inlet (Borrow Area WOSI). Figures 4 and 8 detail the number of bushels taken at each sampling station in Borrow Areas 2AD and WOSI, respectively.

Dense populations of surf clams were noted in the near shore sampling stations of Borrow Area 2AD. Up to sixty-seven (67) US Bushels were taken per tow in the near shore stations. Dense localized clam populations were also encountered in sampling stations just outside and east of the WOSI Borrow Area. Up to seventy (70) US Bushels were taken per tow from these sampling stations. Tables 1 through 8 present the number of bushels taken from the sample stations in each of the borrow areas. Corresponding size ranges and means are also presented.

Figures 10 through 16 present the representative size distributions of those clams retained and measured from sub-samples. Since there were no clams landed in Borrow Area 8A, there is no representative size distribution figure. Additionally, Borrow Area 7A was retained as an alternate borrow area in case problems were encountered in other areas. No problems were encountered, therefore no data are presented for Borrow Area 7A.

As per the scope of work for this particular project, comparisons among surf clam stock assessments conducted by the NYSDEC Bureau of Marine Resources-Shellfisheries in 1992, 1993, 1996, and 1999 to the results of this survey are required. Note that a request for this data has been made in writing to the NYSDEC Bureau of Marine Resources. Conclusions based on the comparison will be incorporated into this report upon receipt.



## **4.0 Discussion**

### **4.1 Size Distribution Analysis**

The clamming gear employed for the survey enabled the dredge to retain sub-legal clams. The minimum length requirement for surf clams taken for commercial sale is 102 mm, or 4 inches. Of the stations sampled in each of the eight borrow areas, all of them with exception to Borrow Areas 2C, 4A, and 8A contained sub-legal clams. According to clams measured from representative sub-samples, the amount of sub-legal clams taken from stations in each of the borrow areas with exception to Borrow Areas 2C, 4A, and 8A, ranged between two and fourteen percent. The exception to this, however, is in Borrow Area 2AD where counts of sub-legal clams taken from sub-samples accounted for as high as 72 percent of all clams measured. Note that Figures 1 through 8 present the percent of sub-legal clams measured from sub-samples collected at each station in the proposed borrow areas.

The data in Borrow Area 2AD suggest that the volume of surf clams in that particular population will be larger in the future. The data also suggest that recruitment of younger clams into the stock in Borrow Area 2AD is high. Proportionally speaking, however, the overall populations in each of the borrow areas contained very few sub-legal surf clams; almost all of the clams in representative sub-samples were of legal size. This being the case, however, these populations should not be considered to comprise a sustainable fishery (i.e., not likely large enough to support commercial industry) due to the extremely limited to almost non-existent numbers of surf clams in the delineated borrow areas. The lack of data for Borrow Area WOSI and 8A demonstrate this fact particularly clearly. There were no clams landed in Borrow Area 8A and, excluding the first station, only 16.5 bushels taken in Borrow Area WOSI. That figure results in approximately 0.6 US Bushels per 3-minute tow in the remaining stations.

Of those legal-sized clams measured from representative sub-samples, most were quite large. In Borrow Areas 2C, 2B, and 2AD, 50 to 60% of those clams measured ranged from 120 to 160 mm. Clams measured from sub-samples collected in Borrow Area 3A revealed a bimodal distribution. Approximately 50% of the clams ranged between 105 and 120 mm while approximately 30% ranged between 125 and 155 mm. All the clams in Borrow Area 4A were of legal size; approximately 80% of the clams measured ranged between 125 and 140 mm. Clams measured from Borrow Area 5AB were also almost all legal; approximately 85% ranged between 130 and 150 mm. Lastly, the few clams collected from Borrow Area WOSI revealed a bimodal size distribution similar to that of Borrow Area 3A. Of those clams measured, approximately 55% ranged between 105 and 135 mm while approximately 30% ranged between 145 and 160 mm. Figures 10 through 16 show the length frequency distribution of clams measured from sub-samples in each of the Borrow Areas with exception to Borrow Area 8A.

Stations that contained limited numbers of clams were those furthest from shore. This trend was observed in each of the borrow areas in the survey. It should therefore be noted that the stations containing the most clams were those closest to shore in the



shallowest water. This is particularly evident in the case of Borrow Area 2AD (Figure 4) where almost half of the stations contained over 20 US Bushels per three-minute tow. Those stations in Borrow Area 2AD further from shore contained significantly fewer clams. This trend was also observed in each of the borrow areas in the survey.

#### **4.2 Comparison to NYSDEC Surf Clam Surveys**

The New York State Department of Environmental Conservation (the Department) conducted annual surf clam surveys in 1992, 1993, 1994, and 1996. The Department contracted the F/V Ocean Girl to conduct the surveys. The methodologies employed in this survey are the same as those employed by the Department.

The Department established sampling locations in the certified shellfishing waters of New York from approximately two miles east of Rockaway Inlet east to Montauk Point. Distance from shore was from the beach out to three miles offshore (Fox, 1992). Note that the surf zone was excluded from the survey due to vessel draft restrictions. The stratification of the survey location was based on historical landings of commercial surf clamming operations. Those waters west of Fire Island Inlet were sampled more extensively because they were thought to contain the greatest concentrations of clams as well as the highest variability in populations due to ‘patchy’ distributions (Fox, 1992). Accordingly, this stratum was allocated the highest number of stations. Conversely, those waters east of Fire Island Inlet out the three miles from shore were allocated the fewest number of stations because this stratum historically contained lower concentrations of clams and the least amount of population variability. Three regions were established in both the west and east strata (i.e., W1, W2, W3, etc.) The three regions represented their respective distance from shore. That is to say, for example, that W1 contained sampling locations to the west of Fire Island Inlet out to one mile from shore, and so on. Figure 17 presents the sampling locations surveyed by the Department in 1992, 1993, and 1994.

Note that although the Department did not extensively survey the proposed borrow areas described above, the apparent trends in catch data from each study are complimentary. Figure 17 shows similar trends to results presented in Figure 3 –Borrow Area 2AD in that greater concentrations of surf clams are located in sampling locations in close proximity to shore. Additionally, the Department’s results of sampling conducted in waters east of Fire Island Inlet are similar to data collected for this survey. Stations furthest east contained the least fewest number of clams with zero, to a fraction of a bushel per tow being the typical take.

Note that during the survey periods, the Department sampled areas within and near to Borrow Area 2AD. The Department reported high clam densities in those stations. The Department’s results from that effort are consistent with the findings of this survey. Additionally, results presented in the Macrobenthic Invertebrate Survey-May 2001 are also consistent with these findings. Samples taken during the Macrobenthic Invertebrate Survey in both the spring and fall of 1999 contained the greatest concentrations of surf clams in Borrow Areas 2A and 2B. These borrow areas overlap Borrow Area 2AD.



## **5.0     Commercial Implications**

Note that commercial industry depends on a healthy and viable stock of surf clams to thrive. As a result of the most recent data collected by the NYSDEC (not including the data presented in this report), individual licensed commercial clamming vessels are allowed to take up to 672 Industry Bushels per week. An Industry Bushel is 1.5 times larger than a standard US Bushel. Annually, the NYSDEC permits commercial clambers to harvest no more than five percent of the total stock size. The NYSDEC maintains this ‘buffer’ to protect both resource and industry.

Because a vessel’s harvest of clams is limited by permit, decisions on where to clam are based on obtaining the maximum allowable harvest at the lowest cost per bushel. This decision considers the density and proximity of clam beds. Because the permit limits maintain a healthy stock of clams available for harvest, clambers generally meet the permit quotas. Decisions on how much to harvest are therefore controlled by the permit levels, not by the cost of harvesting.

The only potential borrow site with a high number of clams in a widespread area is Borrow Area 2 AD.



## **6.0    References**

1. Fox, Richard, E. New York State Department of Environmental Conservation: Atlantic Ocean Surf Clam Population Assessment. July 1992.
2. Fox, Richard, E. New York State Department of Environmental Conservation: Atlantic Ocean Surf Clam Population Assessment-Summary Data. Summer 1993.
3. Fox, Richard, E. New York State Department of Environmental Conservation: Atlantic Ocean Surf Clam Population Assessment-Summary Data. Summer 1994.



Figure 1 - Clam Sampling Location Map



Figure 2 - Borrow Area 2C

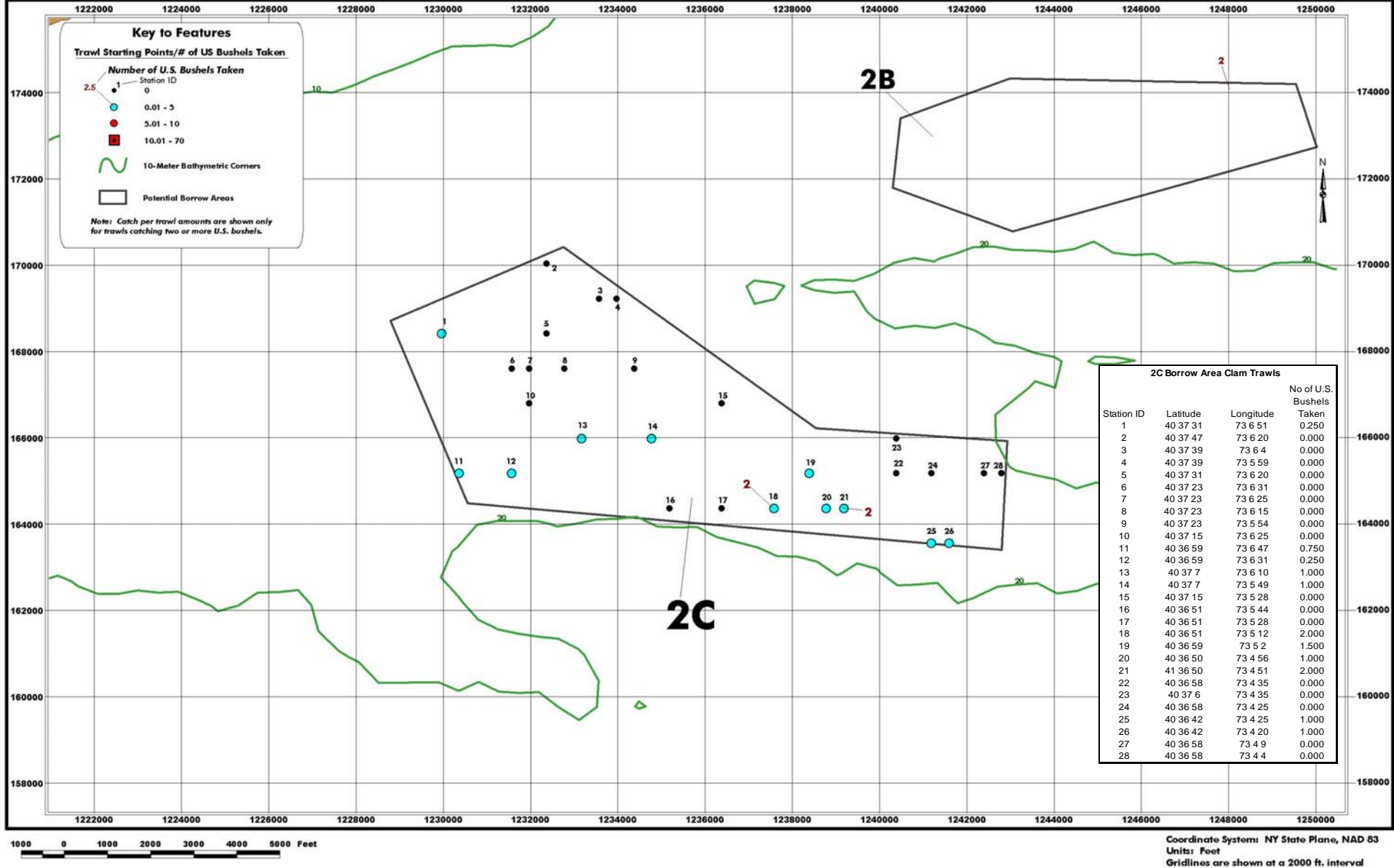


Figure 3 - Borrow Area 2B

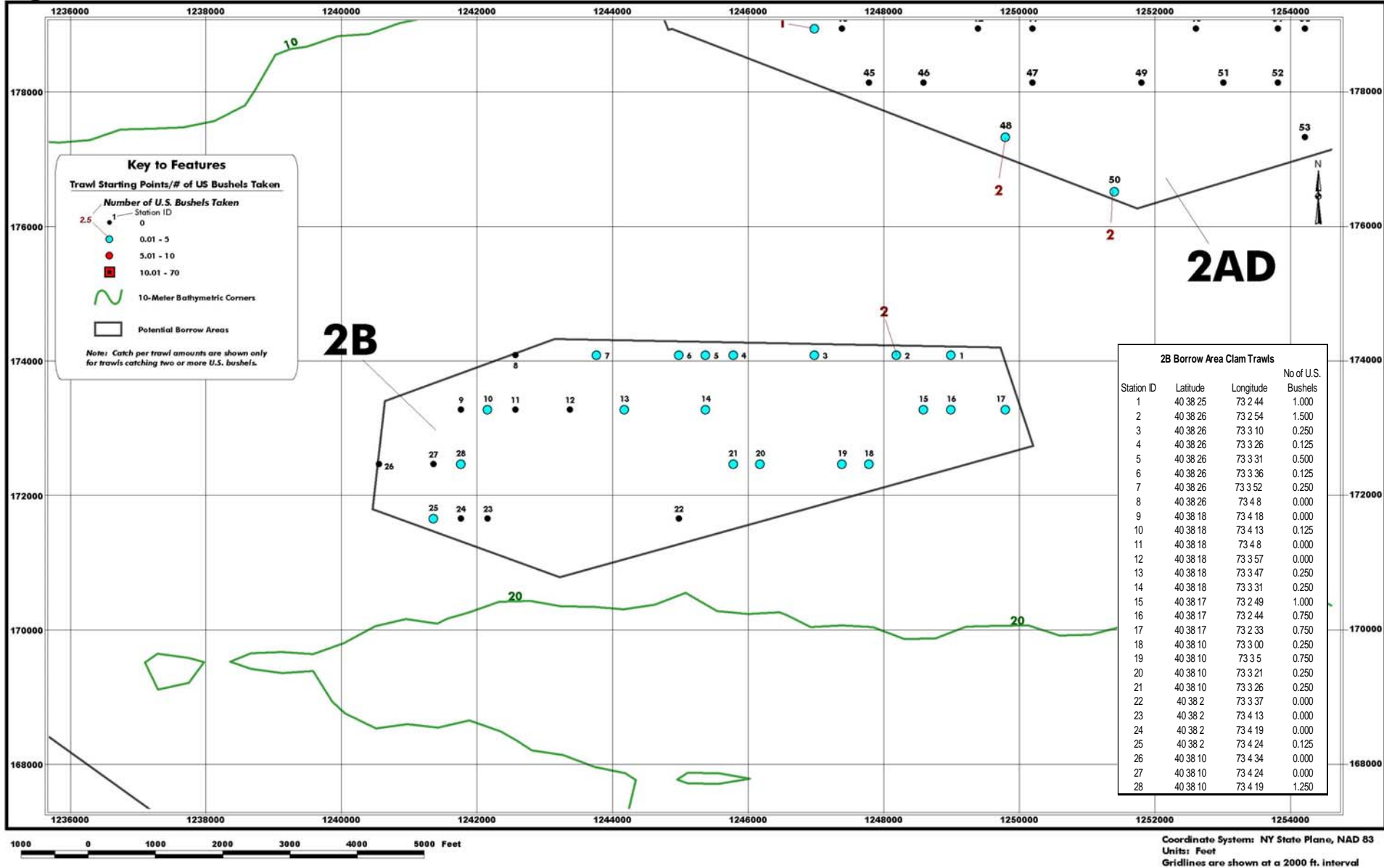


Figure 4 - Borrow Area 2AD

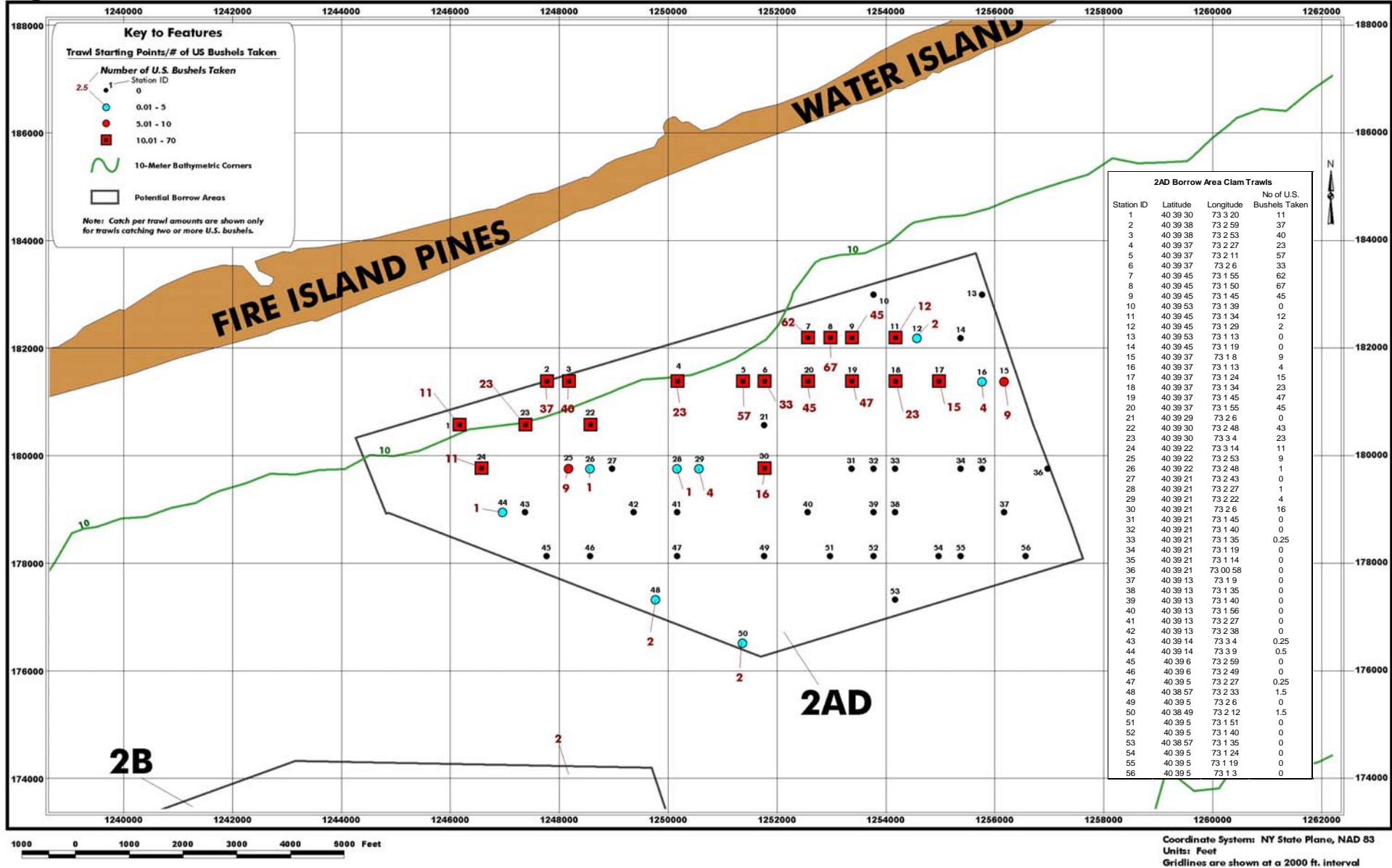


Figure 5 - Borrow Area 3A

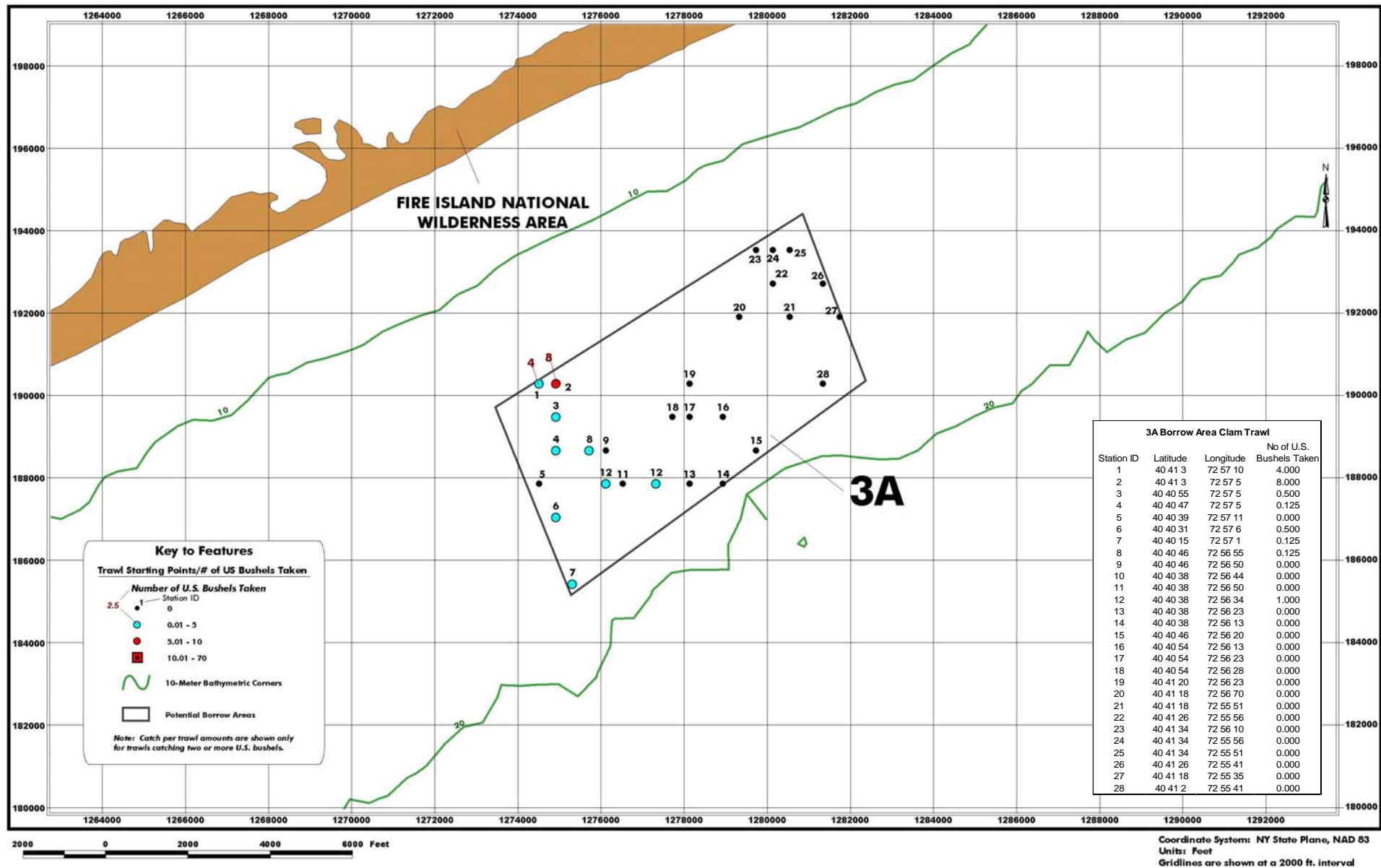


Figure 6 - Borrow Area 4A

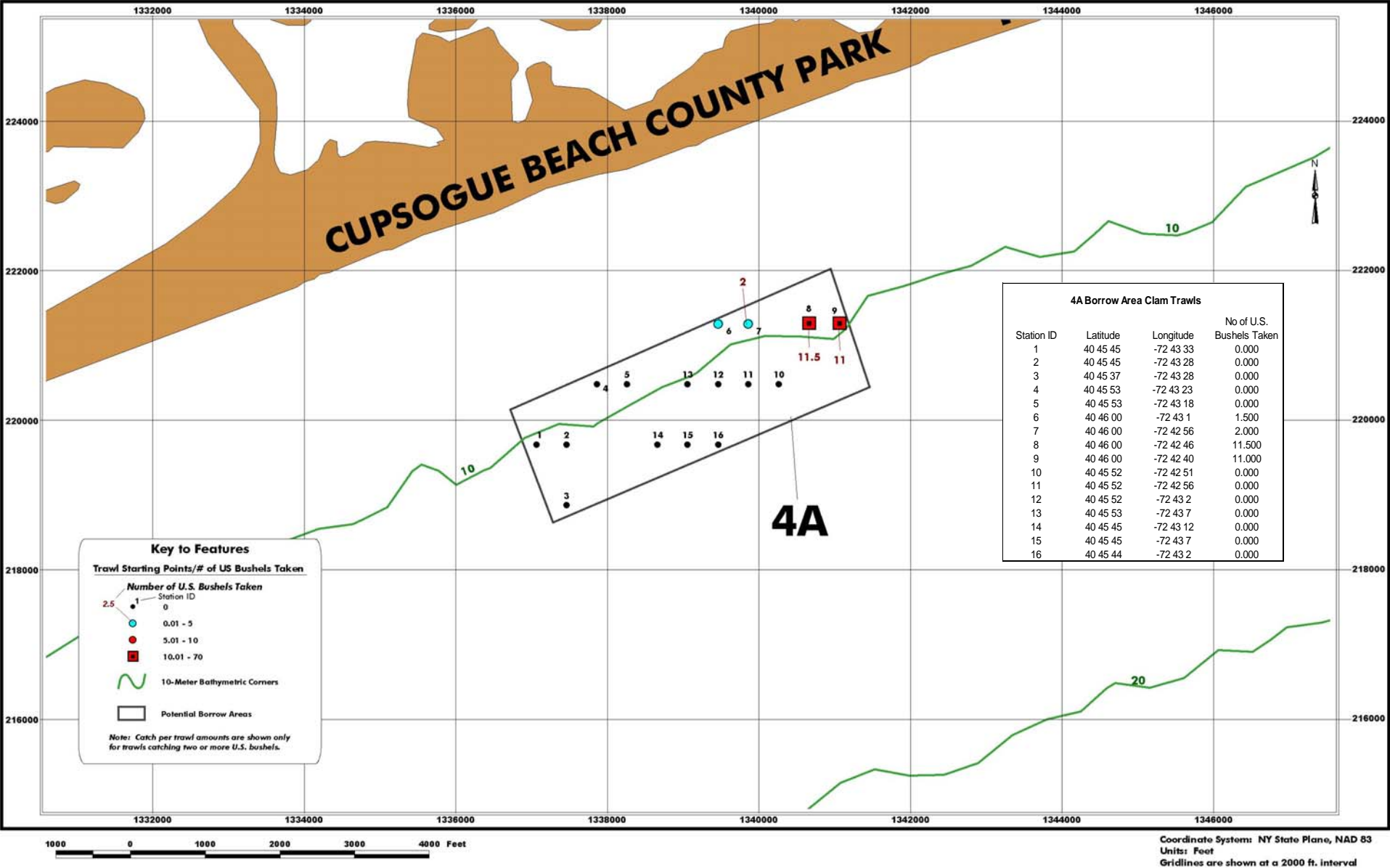
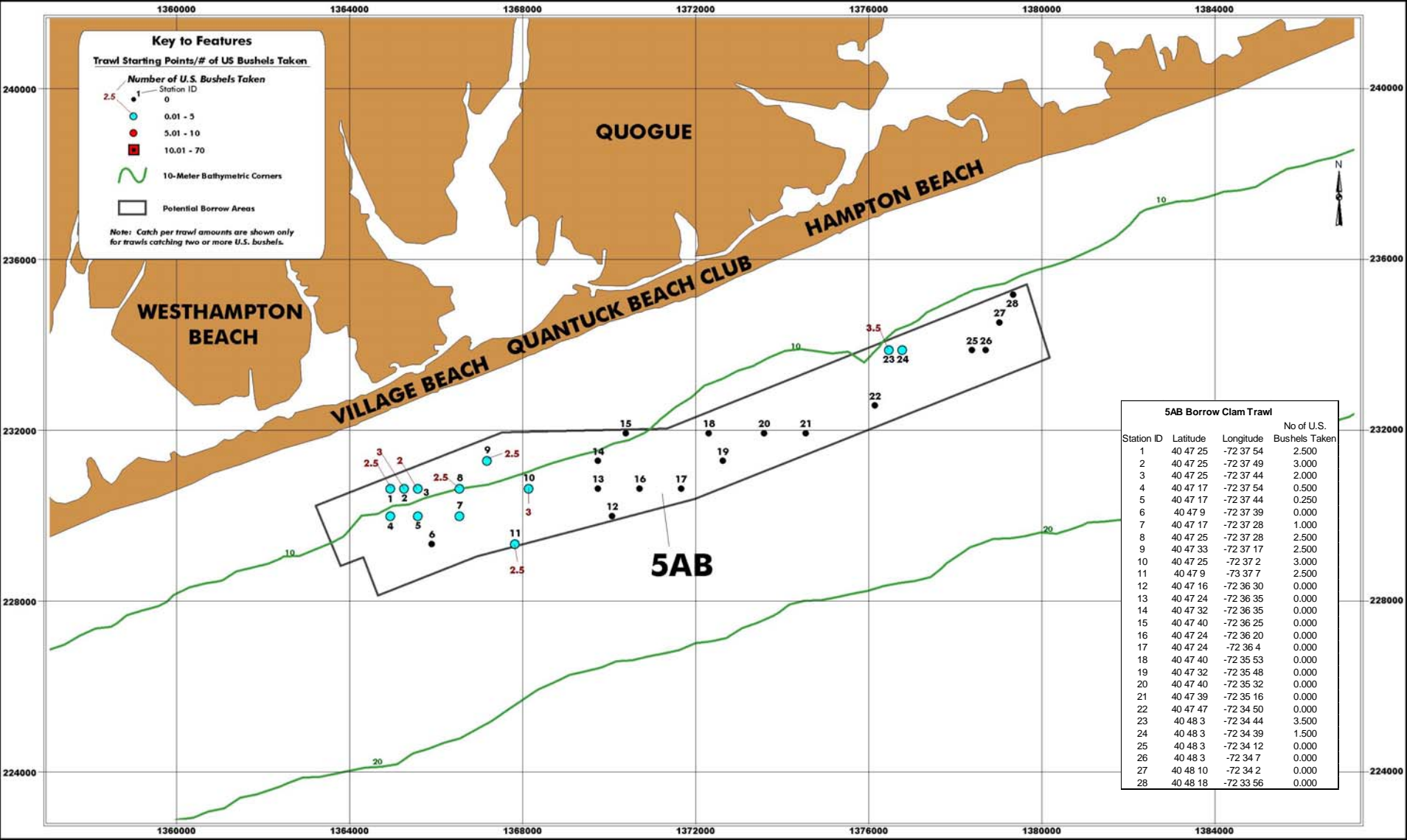


Figure 7 - Borrow Area 5AB



2000 0 2000 4000 6000 Feet

Coordinate System: NY State Plane, NAD 83  
Units: Feet  
Gridlines are shown at a 4000 ft. interval

Figure 8 - Borrow Area WOSI

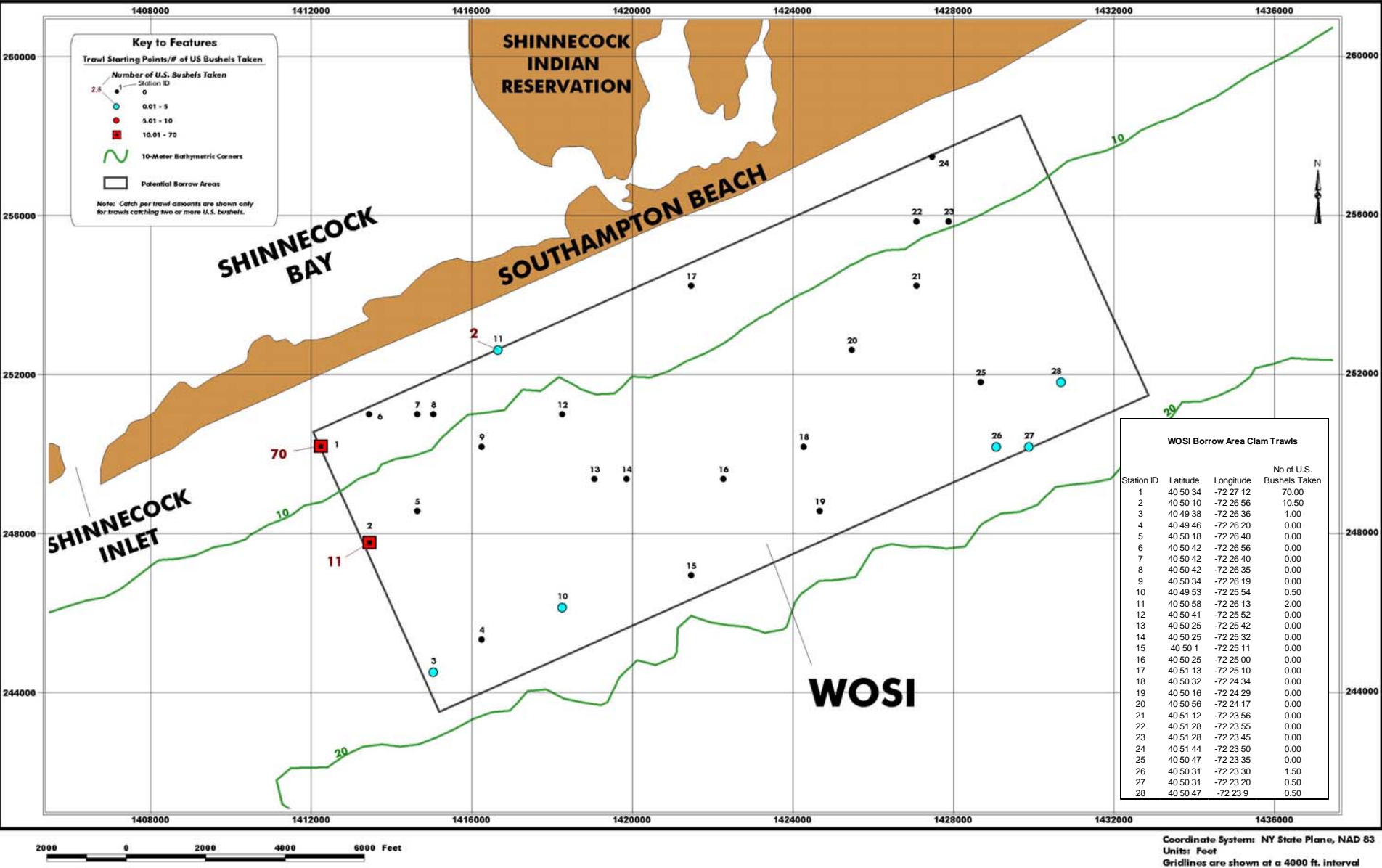
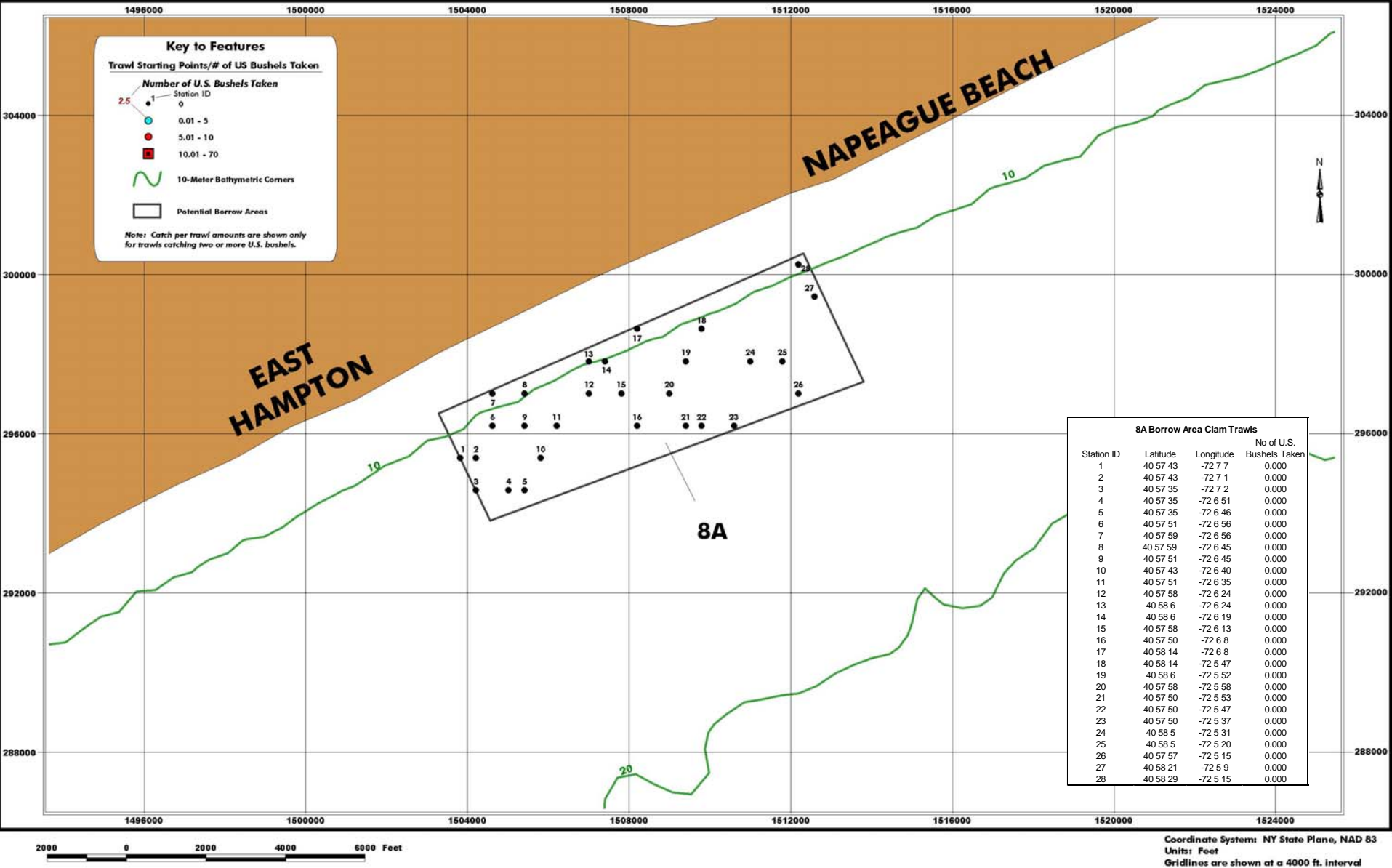


Figure 9 - Borrow Area 8A



**Table 1 - Borrow Area 2C Survey Results - Stations 1 - 28**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|-------|
|            |                |                 |                   |             | Max             | Min | mean  |
| 2C-1       | 40 37 31       | 73 6 51         | 0.25              | 54          | 184             | 101 | 142.5 |
| 2C-2       | 40 37 47       | 73 6 20         | 0                 | 57          | 0               | 0   | 0     |
| 2C-3       | 40 37 39       | 73 6 4          | 0                 | 55          | 0               | 0   | 0     |
| 2C-4       | 40 37 39       | 73 5 59         | 0                 | 56          | 0               | 0   | 0     |
| 2C-5       | 40 37 31       | 73 6 20         | 0                 | 50          | 0               | 0   | 0     |
| 2C-6       | 40 37 23       | 73 6 31         | 0                 | 50          | 0               | 0   | 0     |
| 2C-7       | 40 37 23       | 73 6 25         | 0                 | 49          | 0               | 0   | 0     |
| 2C-8       | 40 37 23       | 73 6 15         | 0                 | 49          | 0               | 0   | 0     |
| 2C-9       | 40 37 23       | 73 5 54         | 0                 | 47          | 0               | 0   | 0     |
| 2C-10      | 40 37 15       | 73 6 25         | 0                 | 50          | 0               | 0   | 0     |
| 2C-11      | 40 36 59       | 73 6 47         | 0.75              | 66          | 179             | 128 | 153.5 |
| 2C-12      | 40 36 59       | 73 6 31         | 0.25              | 67          | 165             | 115 | 140   |
| 2C-13      | 40 37 7        | 73 6 10         | 1                 | 47          | 177             | 116 | 146.5 |
| 2C-14      | 40 37 7        | 73 5 49         | 1                 | 50          | 185             | 126 | 155.5 |
| 2C-15      | 40 37 15       | 73 5 28         | 0                 | 49          | 0               | 0   | 0     |
| 2C-16      | 40 36 51       | 73 5 44         | 0                 | 51          | 0               | 0   | 0     |
| 2C-17      | 40 36 51       | 73 5 28         | 0                 | 70          | 0               | 0   | 0     |
| 2C-18      | 40 36 51       | 73 5 12         | 2                 | 65          | 163             | 120 | 141.5 |
| 2C-19      | 40 36 59       | 73 5 2          | 1.5               | 55          | 183             | 140 | 161.5 |
| 2C-20      | 40 36 50       | 73 4 56         | 1                 | 59          | 184             | 117 | 150.5 |
| 2C-21      | 41 36 50       | 73 4 51         | 2                 | 62          | 190             | 107 | 148.5 |
| 2C-22      | 40 36 58       | 73 4 35         | 0                 | 53          | 0               | 0   | 0     |
| 2C-23      | 40 37 6        | 73 4 35         | 0                 | --          | 0               | 0   | 0     |
| 2C-24      | 40 36 58       | 73 4 25         | 0                 | 52          | 0               | 0   | 0     |
| 2C-25      | 40 36 42       | 73 4 25         | 1                 | 64          | 174             | 139 | 156.5 |
| 2C-26      | 40 36 42       | 73 4 20         | 1                 | 63          | 175             | 127 | 151   |
| 2C-27      | 40 36 58       | 73 4 9          | 0                 | 54          | 0               | 0   | 0     |
| 2C-28      | 40 36 58       | 73 4 4          | 0                 | 55          | 0               | 0   | 0     |

Note:

-- Water depths taken at random locations.

**Table 3 - Borrow Area 2AD Survey Results - Staions 1- 28**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|-------|
|            |                |                 |                   |             | Max             | Min | Mean  |
| 2AD-1      | 40 39 30       | 73 3 20         | 11                | 35          | 120             | 88  | 105.7 |
| 2AD-2      | 40 39 38       | 73 2 59         | 37                | 32          | 110             | 83  | 97.5  |
| 2AD-3      | 40 39 38       | 73 2 53         | 40                | 32          | 113             | 77  | 98.1  |
| 2AD-4      | 40 39 37       | 73 2 27         | 23                | 38          | 117             | 90  | 101.4 |
| 2AD-5      | 40 39 37       | 73 2 11         | 57                | 38          | 123             | 93  | 105.7 |
| 2AD-6      | 40 39 37       | 73 2 6          | 33                | 38          | 134             | 88  | 104.7 |
| 2AD-7      | 40 39 45       | 73 1 55         | 62                | 37          | 137             | 104 | 123.8 |
| 2AD-8      | 40 39 45       | 73 1 50         | 67                | 36          | 134             | 106 | 120.3 |
| 2AD-9      | 40 39 45       | 73 1 45         | 45                | 36          | 136             | 105 | 124   |
| 2AD-10     | 40 39 53       | 73 1 39         | 0                 | 35          | 0               | 0   | 0     |
| 2AD-11     | 40 39 45       | 73 1 34         | 12                | 38          | 146             | 111 | 131.4 |
| 2AD-12     | 40 39 45       | 73 1 29         | 2                 | 38          | 155             | 112 | 136.5 |
| 2AD-13     | 40 39 53       | 73 1 13         | 0                 | 42          | 0               | 0   | 0     |
| 2AD-14     | 40 39 45       | 73 1 19         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-15     | 40 39 37       | 73 1 8          | 9                 | 45          | 147             | 88  | 132.1 |
| 2AD-16     | 40 39 37       | 73 1 13         | 4                 | 45          | 159             | 109 | 136.9 |
| 2AD-17     | 40 39 37       | 73 1 24         | 15                | 45          | 147             | 113 | 131   |
| 2AD-18     | 40 39 37       | 73 1 34         | 23                | 45          | 139             | 111 | 125.6 |
| 2AD-19     | 40 39 37       | 73 1 45         | 47                | 45          | 134             | 111 | 121.7 |
| 2AD-20     | 40 39 37       | 73 1 55         | 45                | 41          | 145             | 110 | 122.5 |
| 2AD-21     | 40 39 29       | 73 2 6          | 0                 | 38          | 0               | 0   | 0     |
| 2AD-22     | 40 39 30       | 73 2 48         | 43                | 33          | 125             | 91  | 108.1 |
| 2AD-23     | 40 39 30       | 73 3 4          | 23                | 30          | 120             | 84  | 101.6 |
| 2AD-24     | 40 39 22       | 73 3 14         | 11                | 35          | 126             | 103 | 114.1 |
| 2AD-25     | 40 39 22       | 73 2 53         | 9                 | 37          | 134             | 105 | 118.1 |
| 2AD-26     | 40 39 22       | 73 2 48         | 1                 | 39          | 142             | 103 | 120.9 |
| 2AD-27     | 40 39 21       | 73 2 43         | 0                 | 40          | 0               | 0   | 0     |
| 2AD-28     | 40 39 21       | 73 2 27         | 1                 | 40          | 122             | 88  | 104.3 |
| 2AD-29     | 40 39 21       | 73 2 22         | 4                 | 37          | 135             | 96  | 121.4 |
| 2AD-30     | 40 39 21       | 73 2 6          | 16                | 40          | 132             | 101 | 116.9 |
| 2AD-31     | 40 39 21       | 73 1 45         | 0                 | 40          | 0               | 0   | 0     |
| 2AD-32     | 40 39 21       | 73 1 40         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-33     | 40 39 21       | 73 1 35         | 0.25              | 45          | 145             | 100 | 121.4 |
| 2AD-34     | 40 39 21       | 73 1 19         | 0                 | 50          | 0               | 0   | 0     |
| 2AD-35     | 40 39 21       | 73 1 14         | 0                 | 50          | 0               | 0   | 0     |
| 2AD-36     | 40 39 21       | 73 00 58        | 0                 | 54          | 0               | 0   | 0     |
| 2AD-37     | 40 39 13       | 73 1 9          | 0                 | 48          | 0               | 0   | 0     |
| 2AD-38     | 40 39 13       | 73 1 35         | 0                 | 48          | 0               | 0   | 0     |
| 2AD-39     | 40 39 13       | 73 1 40         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-40     | 40 39 13       | 73 1 56         | 0                 | 46          | 0               | 0   | 0     |
| 2AD-41     | 40 39 13       | 73 2 27         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-42     | 40 39 13       | 73 2 38         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-43     | 40 39 14       | 73 3 4          | 0.25              | 40          | 129             | 104 | 114.6 |
| 2AD-44     | 40 39 14       | 73 3 9          | 0.5               | 40          | 159             | 92  | 116.9 |
| 2AD-45     | 40 39 6        | 73 2 59         | 0                 | 40          | 0               | 0   | 0     |
| 2AD-46     | 40 39 6        | 73 2 49         | 0                 | 41          | 0               | 0   | 0     |
| 2AD-47     | 40 39 5        | 73 2 27         | 0.25              | 42          | 146             | 106 | 121.2 |
| 2AD-48     | 40 38 57       | 73 2 33         | 1.5               | 40          | 167             | 99  | 146.8 |
| 2AD-49     | 40 39 5        | 73 2 6          | 0                 | 40          | 0               | 0   | 0     |

**Table 3 - Borrow Area 2AD Survey Results - Stations 1- 28**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|-------|
|            |                |                 |                   |             | Max             | Min | Mean  |
| 2AD-50     | 40 38 49       | 73 2 12         | 1.5               | 41          | 170             | 105 | 151.1 |
| 2AD-51     | 40 39 5        | 73 1 51         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-52     | 40 39 5        | 73 1 40         | 0                 | 45          | 0               | 0   | 0     |
| 2AD-53     | 40 38 57       | 73 1 35         | 0                 | 47          | 0               | 0   | 0     |
| 2AD-54     | 40 39 5        | 73 1 24         | 0                 | 47          | 0               | 0   | 0     |
| 2AD-55     | 40 39 5        | 73 1 19         | 0                 | 50          | 0               | 0   | 0     |
| 2AD-56     | 40 39 5        | 73 1 3          | 0                 | 55          | 0               | 0   | 0     |

Note:

-- Water depths taken at random locations.

**Table 5 - Borrow Area 4A Survey Results - Stations 1- 16**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|-------|
|            |                |                 |                   |             | Max             | Min | Mean  |
| 4A-1       | 40 45 45       | 72 43 33        | 0                 | 46          | 0               | 0   | 0     |
| 4A-2       | 40 45 45       | 72 43 28        | 0                 | --          | 0               | 0   | 0     |
| 4A-3       | 40 45 37       | 72 43 28        | 0                 | 62          | 0               | 0   | 0     |
| 4A-4       | 40 45 53       | 72 43 23        | 0                 | 65          | 0               | 0   | 0     |
| 4A-5       | 40 45 53       | 72 43 18        | 0                 | 48          | 0               | 0   | 0     |
| 4A-6       | 40 46 00       | 72 43 1         | 1.5               | 55          | 149             | 122 | 135.5 |
| 4A-7       | 40 46 00       | 72 42 56        | 2                 | 23          | 149             | 122 | 135.5 |
| 4A-8       | 40 46 00       | 72 42 46        | 11.5              | --          | 152             | 119 | 135.5 |
| 4A-9       | 40 46 00       | 72 42 40        | 11                | 29          | 136             | 115 | 125.5 |
| 4A-10      | 40 45 52       | 72 42 51        | 0                 | --          | 0               | 0   | 0     |
| 4A-11      | 40 45 52       | 72 42 56        | 0                 | 62          | 0               | 0   | 0     |
| 4A-12      | 40 45 52       | 72 43 2         | 0                 | --          | 0               | 0   | 0     |
| 4A-13      | 40 45 53       | 72 43 7         | 0                 | --          | 0               | 0   | 0     |
| 4A-14      | 40 45 45       | 72 43 12        | 0                 | 58          | 0               | 0   | 0     |
| 4A-15      | 40 45 45       | 72 43 7         | 0                 | --          | 0               | 0   | 0     |
| 4A-16      | 40 45 44       | 72 43 2         | 0                 | --          | 0               | 0   | 0     |

Note:

-- Water depths taken at random locations.

**Table 6 - Borrow Area 5AB Survey Results - Stations 1-28**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|-------|
|            |                |                 |                   |             | Max             | Min | Mean  |
| 5AB-1      | 40 47 25       | 72 37 54        | 2.5               | 27          | 152             | 125 | 138.5 |
| 5AB-2      | 40 47 25       | 72 37 49        | 3                 | 30          | 162             | 120 | 141   |
| 5AB-3      | 40 47 25       | 72 37 44        | 2                 | --          | 157             | 130 | 143.5 |
| 5AB-4      | 40 47 17       | 72 37 54        | 0.5               | 35          | 152             | 97  | 124.5 |
| 5AB-5      | 40 47 17       | 72 37 44        | 0.25              | 29          | 160             | 109 | 134.5 |
| 5AB-6      | 40 47 9        | 72 37 39        | 0                 | 39          | 0               | 0   | 0     |
| 5AB-7      | 40 47 17       | 72 37 28        | 1                 | 33          | 152             | 77  | 114.5 |
| 5AB-8      | 40 47 25       | 72 37 28        | 2.5               | 32          | 157             | 132 | 144.5 |
| 5AB-9      | 40 47 33       | 72 37 17        | 2.5               | 28          | 156             | 121 | 138.5 |
| 5AB-10     | 40 47 25       | 72 37 2         | 3                 | 32          | 151             | 121 | 136   |
| 5AB-11     | 40 47 9        | 73 37 7         | 2.5               | 38          | 161             | 131 | 146   |
| 5AB-12     | 40 47 16       | 72 36 30        | 0                 | 36          | 0               | 0   | 0     |
| 5AB-13     | 40 47 24       | 72 36 35        | 0                 | 41          | 0               | 0   | 0     |
| 5AB-14     | 40 47 32       | 72 36 35        | 0                 | 39          | 0               | 0   | 0     |
| 5AB-15     | 40 47 40       | 72 36 25        | 0                 | 33          | 0               | 0   | 0     |
| 5AB-16     | 40 47 24       | 72 36 20        | 0                 | 42          | 0               | 0   | 0     |
| 5AB-17     | 40 47 24       | 72 36 4         | 0                 | 42          | 0               | 0   | 0     |
| 5AB-18     | 40 47 40       | 72 35 53        | 0                 | 45          | 0               | 0   | 0     |
| 5AB-19     | 40 47 32       | 72 35 48        | 0                 | 43          | 0               | 0   | 0     |
| 5AB-20     | 40 47 40       | 72 35 32        | 0                 | 43          | 0               | 0   | 0     |
| 5AB-21     | 40 47 39       | 72 35 16        | 0                 | 46          | 0               | 0   | 0     |
| 5AB-22     | 40 47 47       | 72 34 50        | 0                 | 47          | 0               | 0   | 0     |
| 5AB-23     | 40 48 3        | 72 34 44        | 3.5               | 29          | 157             | 134 | 145.5 |
| 5AB-24     | 40 48 3        | 72 34 39        | 1.5               | 30          | 172             | 135 | 153.5 |
| 5AB-25     | 40 48 3        | 72 34 12        | 0                 | --          | 0               | 0   | 0     |
| 5AB-26     | 40 48 3        | 72 34 7         | 0                 | --          | 0               | 0   | 0     |
| 5AB-27     | 40 48 10       | 72 34 2         | 0                 | --          | 0               | 0   | 0     |
| 5AB-28     | 40 48 18       | 72 33 56        | 0                 | 35          | 0               | 0   | 0     |

Note:

-- Water depths taken at random locations.

**Table 8 - Borrow Area 8A Survey Results - Stations 1-28**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |      |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|------|
|            |                |                 |                   |             | Max             | Min | Mean |
| 8A-1       | 40 57 43       | 72 7 7          | 0                 | --          | 0               | 0   | 0    |
| 8A-2       | 40 57 43       | 72 7 1          | 0                 | --          | 0               | 0   | 0    |
| 8A-3       | 40 57 35       | 72 7 2          | 0                 | 45          | 0               | 0   | 0    |
| 8A-4       | 40 57 35       | 72 6 51         | 0                 | 52          | 0               | 0   | 0    |
| 8A-5       | 40 57 35       | 72 6 46         | 0                 | --          | 0               | 0   | 0    |
| 8A-6       | 40 57 51       | 72 6 56         | 0                 | 47          | 0               | 0   | 0    |
| 8A-7       | 40 57 59       | 72 6 56         | 0                 | 46          | 0               | 0   | 0    |
| 8A-8       | 40 57 59       | 72 6 45         | 0                 | --          | 0               | 0   | 0    |
| 8A-9       | 40 57 51       | 72 6 45         | 0                 | --          | 0               | 0   | 0    |
| 8A-10      | 40 57 43       | 72 6 40         | 0                 | --          | 0               | 0   | 0    |
| 8A-11      | 40 57 51       | 72 6 35         | 0                 | --          | 0               | 0   | 0    |
| 8A-12      | 40 57 58       | 72 6 24         | 0                 | --          | 0               | 0   | 0    |
| 8A-13      | 40 58 6        | 72 6 24         | 0                 | 41          | 0               | 0   | 0    |
| 8A-14      | 40 58 6        | 72 6 19         | 0                 | --          | 0               | 0   | 0    |
| 8A-15      | 40 57 58       | 72 6 13         | 0                 | --          | 0               | 0   | 0    |
| 8A-16      | 40 57 50       | 72 6 8          | 0                 | --          | 0               | 0   | 0    |
| 8A-17      | 40 58 14       | 72 6 8          | 0                 | 32          | 0               | 0   | 0    |
| 8A-18      | 40 58 14       | 72 5 47         | 0                 | 41          | 0               | 0   | 0    |
| 8A-19      | 40 58 6        | 72 5 52         | 0                 | 42          | 0               | 0   | 0    |
| 8A-20      | 40 57 58       | 72 5 58         | 0                 | 48          | 0               | 0   | 0    |
| 8A-21      | 40 57 50       | 72 5 53         | 0                 | --          | 0               | 0   | 0    |
| 8A-22      | 40 57 50       | 72 5 47         | 0                 | 52          | 0               | 0   | 0    |
| 8A-23      | 40 57 50       | 72 5 37         | 0                 | 54          | 0               | 0   | 0    |
| 8A-24      | 40 58 5        | 72 5 31         | 0                 | 45          | 0               | 0   | 0    |
| 8A-25      | 40 58 5        | 72 5 20         | 0                 | 45          | 0               | 0   | 0    |
| 8A-26      | 40 57 57       | 72 5 15         | 0                 | 54          | 0               | 0   | 0    |
| 8A-27      | 40 58 21       | 72 5 9          | 0                 | 42          | 0               | 0   | 0    |
| 8A-28      | 40 58 29       | 72 5 15         | 0                 | 36          | 0               | 0   | 0    |

Note:

-- Water depths taken at random locations.

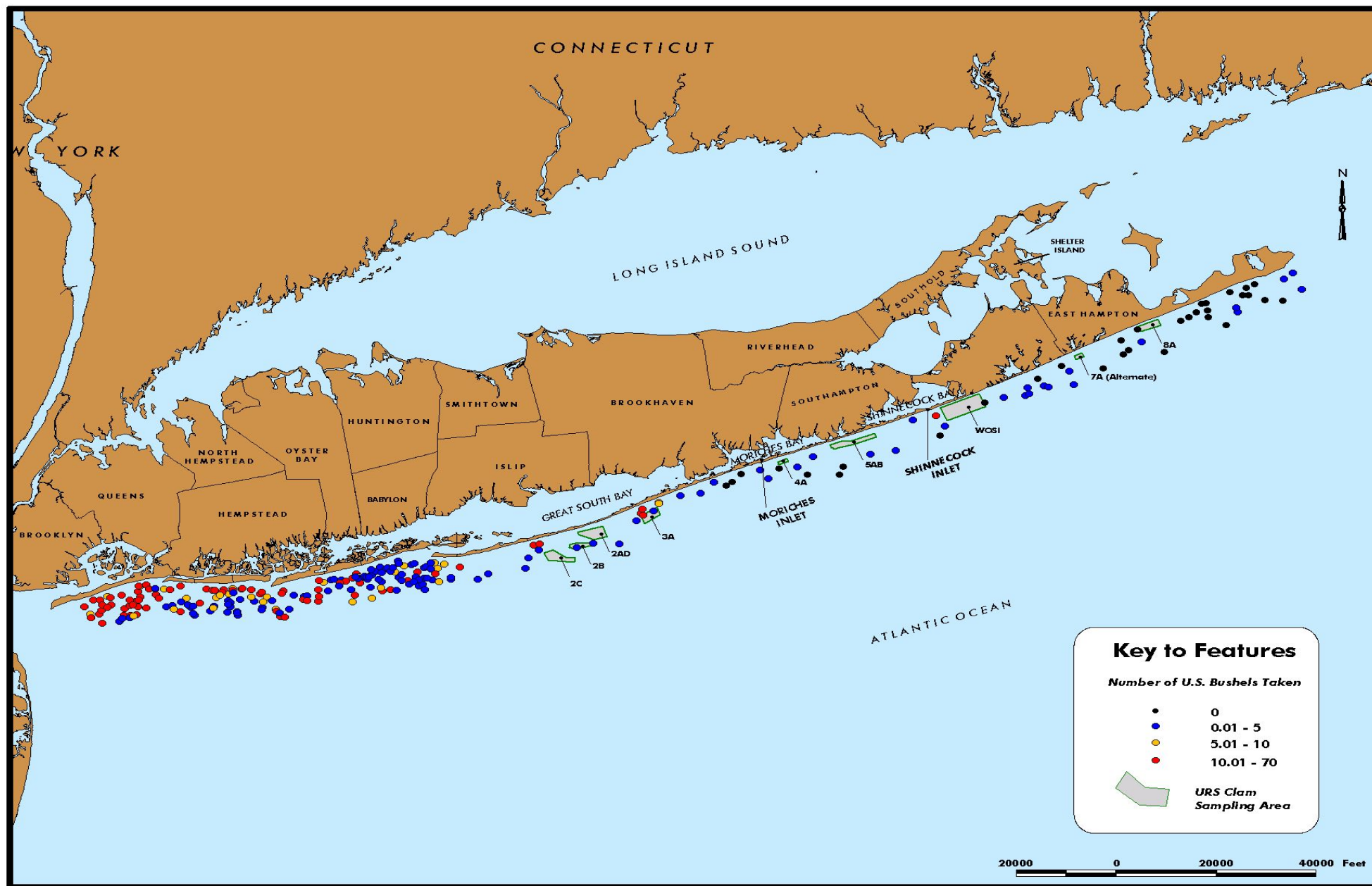
**Table 7 - Borrow Area WOSI Survey Results- Stations 1 - 28**

| Station ID | Start Latitude | Start Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       |
|------------|----------------|-----------------|-------------------|-------------|-----------------|-----|-------|
|            |                |                 |                   |             | Max             | Min | Mean  |
| WOSI-1     | 40 50 34       | 72 27 12        | 70                | 25          | 135             | 99  | 117   |
| WOSI-2     | 40 50 10       | 72 26 56        | 10.5              | 34          | 141             | 108 | 124.5 |
| WOSI-3     | 40 49 38       | 72 26 36        | 1                 | 60          | 168             | 101 | 134.5 |
| WOSI-4     | 40 49 46       | 72 26 20        | 0                 | 56          | 0               | 0   | 0     |
| WOSI-5     | 40 50 18       | 72 26 40        | 0                 | 44          | 0               | 0   | 0     |
| WOSI-6     | 40 50 42       | 72 26 56        | 0                 | 33          | 0               | 0   | 0     |
| WOSI-7     | 40 50 42       | 72 26 40        | 0                 | 29          | 0               | 0   | 0     |
| WOSI-8     | 40 50 42       | 72 26 35        | 0                 | --          | 0               | 0   | 0     |
| WOSI-9     | 40 50 34       | 72 26 19        | 0                 | 60          | 0               | 0   | 0     |
| WOSI-10    | 40 49 53       | 72 25 54        | 0.5               | 60          | 164             | 65  | 114.5 |
| WOSI-11    | 40 50 58       | 72 26 13        | 2                 | 34          | 145             | 108 | 126.5 |
| WOSI-12    | 40 50 41       | 72 25 52        | 0                 | --          | 0               | 0   | 0     |
| WOSI-13    | 40 50 25       | 72 25 42        | 0                 | 48          | 0               | 0   | 0     |
| WOSI-14    | 40 50 25       | 72 25 32        | 0                 | 50          | 0               | 0   | 0     |
| WOSI-15    | 40 50 1        | 72 25 11        | 0                 | 55          | 0               | 0   | 0     |
| WOSI-16    | 40 50 25       | 72 25 00        | 0                 | --          | 0               | 0   | 0     |
| WOSI-17    | 40 51 13       | 72 25 10        | 0                 | --          | 0               | 0   | 0     |
| WOSI-18    | 40 50 32       | 72 24 34        | 0                 | --          | 0               | 0   | 0     |
| WOSI-19    | 40 50 16       | 72 24 29        | 0                 | --          | 0               | 0   | 0     |
| WOSI-20    | 40 50 56       | 72 24 17        | 0                 | 48          | 0               | 0   | 0     |
| WOSI-21    | 40 51 12       | 72 23 56        | 0                 | --          | 0               | 0   | 0     |
| WOSI-22    | 40 51 28       | 72 23 55        | 0                 | --          | 0               | 0   | 0     |
| WOSI-23    | 40 51 28       | 72 23 45        | 0                 | --          | 0               | 0   | 0     |
| WOSI-24    | 40 51 44       | 72 23 50        | 0                 | --          | 0               | 0   | 0     |
| WOSI-25    | 40 50 47       | 72 23 35        | 0                 | 49          | 0               | 0   | 0     |
| WOSI-26    | 40 50 31       | 72 23 30        | 1.5               | 60          | 175             | 114 | 144.5 |
| WOSI-27    | 40 50 31       | 72 23 20        | 0.5               | 63          | 175             | 142 | 158.5 |
| WOSI-28    | 40 50 47       | 72 23 9         | 0.5               | 57          | 174             | 115 | 144.5 |

Note:

-- Water depths taken at random stations.

Figure 17 – New York State Department of Environmental Conservation Clam Sample Locations (1992, 1993, 1994)



**Table 1 - Borrow Area 2C Survey Results - Stations 1-28**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | mean  |             |
| 2C-1       | 40 37 31 | 73 6 51   | <0.5              | 54          | 184             | 101 | 142.5 | 9/26/01     |
| 2C-2       | 40 37 47 | 73 6 20   | 0                 | 57          | 0               | 0   | 0     | 9/26/01     |
| 2C-3       | 40 37 39 | 73 6 4    | 0                 | 55          | 0               | 0   | 0     | 9/26/01     |
| 2C-4       | 40 37 39 | 73 5 59   | 0                 | 56          | 0               | 0   | 0     | 9/26/01     |
| 2C-5       | 40 37 31 | 73 6 20   | 0                 | 50          | 0               | 0   | 0     | 9/26/01     |
| 2C-6       | 40 37 23 | 73 6 31   | 0                 | 50          | 0               | 0   | 0     | 9/26/01     |
| 2C-7       | 40 37 23 | 73 6 25   | 0                 | 49          | 0               | 0   | 0     | 9/26/01     |
| 2C-8       | 40 37 23 | 73 6 15   | 0                 | 49          | 0               | 0   | 0     | 9/26/01     |
| 2C-9       | 40 37 23 | 73 5 54   | 0                 | 47          | 0               | 0   | 0     | 9/26/01     |
| 2C-10      | 40 37 15 | 73 6 25   | 0                 | 50          | 0               | 0   | 0     | 9/26/01     |
| 2C-11      | 40 36 59 | 73 6 47   | 0.75              | 66          | 179             | 128 | 153.5 | 9/26/01     |
| 2C-12      | 40 36 59 | 73 6 31   | <0.5              | 67          | 165             | 115 | 140   | 9/26/01     |
| 2C-13      | 40 37 7  | 73 6 10   | 1                 | 47          | 177             | 116 | 146.5 | 9/26/01     |
| 2C-14      | 40 37 7  | 73 5 49   | 1                 | 50          | 185             | 126 | 155.5 | 9/26/01     |
| 2C-15      | 40 37 15 | 73 5 28   | 0                 | 49          | 0               | 0   | 0     | 9/26/01     |
| 2C-16      | 40 36 51 | 73 5 44   | 0                 | 51          | 0               | 0   | 0     | 9/26/01     |
| 2C-17      | 40 36 51 | 73 5 28   | 0                 | 70          | 0               | 0   | 0     | 9/26/01     |
| 2C-18      | 40 36 51 | 73 5 12   | 2                 | 65          | 163             | 120 | 141.5 | 9/26/01     |
| 2C-19      | 40 36 59 | 73 5 2    | 1.5               | 55          | 183             | 140 | 161.5 | 9/26/01     |
| 2C-20      | 40 36 50 | 73 4 56   | 1                 | 59          | 184             | 117 | 150.5 | 9/26/01     |
| 2C-21      | 41 36 50 | 73 4 51   | 2                 | 62          | 190             | 107 | 148.5 | 9/26/01     |
| 2C-22      | 40 36 58 | 73 4 35   | 0                 | 53          | 0               | 0   | 0     | 9/26/01     |
| 2C-23      | 40 37 6  | 73 4 35   | 0                 | --          | 0               | 0   | 0     | 9/26/01     |
| 2C-24      | 40 36 58 | 73 4 25   | 0                 | 52          | 0               | 0   | 0     | 9/26/01     |
| 2C-25      | 40 36 42 | 73 4 25   | 1                 | 64          | 174             | 139 | 156.5 | 9/26/01     |
| 2C-26      | 40 36 42 | 73 4 20   | 1                 | 63          | 175             | 127 | 151   | 9/26/01     |
| 2C-27      | 40 36 58 | 73 4 9    | 0                 | 54          | 0               | 0   | 0     | 9/26/01     |
| 2C-28      | 40 36 58 | 73 4 4    | 0                 | 55          | 0               | 0   | 0     | 9/26/01     |

Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 2 - Borrow Area 2B Survey Results - Stations 1-28**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | Mean  |             |
| 2B-1       | 40 38 25 | 73 2 44   | 1                 | 53          | 165             | 125 | 151.8 | 8/16/01     |
| 2B-2       | 40 38 26 | 73 2 54   | 1.5               | 51          | 167             | 124 | 144.3 | 8/16/01     |
| 2B-3       | 40 38 26 | 73 3 10   | 0.25              | 50          | 164             | 113 | 146.3 | 8/16/01     |
| 2B-4       | 40 38 26 | 73 3 26   | 0*                | 53          | 159             | 125 | 146.9 | 8/16/01     |
| 2B-5       | 40 38 26 | 73 3 31   | 0.5               | 51          | 166             | 87  | 141.5 | 8/16/01     |
| 2B-6       | 40 38 26 | 73 3 36   | 0.125             | 50          | 156             | 105 | 139.5 | 8/16/01     |
| 2B-7       | 40 38 26 | 73 3 52   | 0.25              | 50          | 160             | 115 | 134.8 | 8/16/01     |
| 2B-8       | 40 38 26 | 73 4 8    | 0                 | 53          | 0               | 0   | 0     | 8/16/01     |
| 2B-9       | 40 38 18 | 73 4 18   | 0                 | 45          | 0               | 0   | 0     | 8/16/01     |
| 2B-10      | 40 38 18 | 73 4 13   | 0*                | 45          | 165             | 100 | 135.3 | 8/16/01     |
| 2B-11      | 40 38 18 | 73 4 8    | 0                 | 45          | 0               | 0   | 0     | 8/16/01     |
| 2B-12      | 40 38 18 | 73 3 57   | 0                 | 42          | 0               | 0   | 0     | 8/16/01     |
| 2B-13      | 40 38 18 | 73 3 47   | 0.25              | 43          | 153             | 110 | 132.1 | 8/16/01     |
| 2B-14      | 40 38 18 | 73 3 31   | 0.25              | 45          | 172             | 102 | 141.8 | 8/16/01     |
| 2B-15      | 40 38 17 | 73 2 49   | 1                 | 50          | 168             | 105 | 150.5 | 8/16/01     |
| 2B-16      | 40 38 17 | 73 2 44   | 0.75              | 55          | 164             | 105 | 148.8 | 8/16/01     |
| 2B-17      | 40 38 17 | 73 2 33   | 0.75              | 53          | 172             | 125 | 156.1 | 8/16/01     |
| 2B-18      | 40 38 10 | 73 3 00   | 0.25              | 48          | 168             | 110 | 152.2 | 8/16/01     |
| 2B-19      | 40 38 10 | 73 3 5    | 0.75              | 51          | 172             | 96  | 149.8 | 8/16/01     |
| 2B-20      | 40 38 10 | 73 3 21   | 0.25              | 45          | 166             | 111 | 137   | 8/16/01     |
| 2B-21      | 40 38 10 | 73 3 26   | 0.25              | 45          | 166             | 128 | 152   | 8/16/01     |
| 2B-22      | 40 38 2  | 73 3 37   | 0                 | 43          | 0               | 0   | 0     | 8/16/01     |
| 2B-23      | 40 38 2  | 73 4 13   | 0                 | 45          | 0               | 0   | 0     | 8/16/01     |
| 2B-24      | 40 38 2  | 73 4 19   | 0                 | 50          | 0               | 0   | 0     | 8/16/01     |
| 2B-25      | 40 38 2  | 73 4 24   | 0*                | 45          | 163             | 118 | 144.3 | 8/16/01     |
| 2B-26      | 40 38 10 | 73 4 34   | 0                 | 45          | 0               | 0   | 0     | 8/16/01     |
| 2B-27      | 40 38 10 | 73 4 24   | 0                 | 43          | 0               | 0   | 0     | 8/16/01     |
| 2B-28      | 40 38 10 | 73 4 19   | 1.25              | 44          | 168             | 114 | 147.5 | 8/16/01     |

Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 3 - Borrow Area 2AD Survey Results - Stations 1-56**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | Mean  |             |
| 2AD-1      | 40 39 30 | 73 3 20   | 11                | 35          | 120             | 88  | 105.7 | 8/17/01     |
| 2AD-2      | 40 39 38 | 73 2 59   | 37                | 32          | 110             | 83  | 97.5  | 8/17/01     |
| 2AD-3      | 40 39 38 | 73 2 53   | 40                | 32          | 113             | 77  | 98.1  | 8/17/01     |
| 2AD-4      | 40 39 37 | 73 2 27   | 23                | 38          | 117             | 90  | 101.4 | 8/17/01     |
| 2AD-5      | 40 39 37 | 73 2 11   | 57                | 38          | 123             | 93  | 105.7 | 8/17/01     |
| 2AD-6      | 40 39 37 | 73 2 6    | 33                | 38          | 134             | 88  | 104.7 | 8/17/01     |
| 2AD-7      | 40 39 45 | 73 1 55   | 62                | 37          | 137             | 104 | 123.8 | 8/17/01     |
| 2AD-8      | 40 39 45 | 73 1 50   | 67                | 36          | 134             | 106 | 120.3 | 8/17/01     |
| 2AD-9      | 40 39 45 | 73 1 45   | 45                | 36          | 136             | 105 | 124   | 8/17/01     |
| 2AD-10     | 40 39 53 | 73 1 39   | 0                 | 35          | 0               | 0   | 0     | 8/17/01     |
| 2AD-11     | 40 39 45 | 73 1 34   | 12                | 38          | 146             | 111 | 131.4 | 8/17/01     |
| 2AD-12     | 40 39 45 | 73 1 29   | 2                 | 38          | 155             | 112 | 136.5 | 8/17/01     |
| 2AD-13     | 40 39 53 | 73 1 13   | 0                 | 42          | 0               | 0   | 0     | 8/17/01     |
| 2AD-14     | 40 39 45 | 73 1 19   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-15     | 40 39 37 | 73 1 8    | 9                 | 45          | 147             | 88  | 132.1 | 8/17/01     |
| 2AD-16     | 40 39 37 | 73 1 13   | 4                 | 45          | 159             | 109 | 136.9 | 8/17/01     |
| 2AD-17     | 40 39 37 | 73 1 24   | 15                | 45          | 147             | 113 | 131   | 8/17/01     |
| 2AD-18     | 40 39 37 | 73 1 34   | 23                | 45          | 139             | 111 | 125.6 | 8/17/01     |
| 2AD-19     | 40 39 37 | 73 1 45   | 47                | 45          | 134             | 111 | 121.7 | 8/17/01     |
| 2AD-20     | 40 39 37 | 73 1 55   | 45                | 41          | 145             | 110 | 122.5 | 8/17/01     |
| 2AD-21     | 40 39 29 | 73 2 6    | 0                 | 38          | 0               | 0   | 0     | 8/17/01     |
| 2AD-22     | 40 39 30 | 73 2 48   | 43                | 33          | 125             | 91  | 108.1 | 8/17/01     |
| 2AD-23     | 40 39 30 | 73 3 4    | 23                | 30          | 120             | 84  | 101.6 | 8/17/01     |
| 2AD-24     | 40 39 22 | 73 3 14   | 11                | 35          | 126             | 103 | 114.1 | 8/17/01     |
| 2AD-25     | 40 39 22 | 73 2 53   | 9                 | 37          | 134             | 105 | 118.1 | 8/17/01     |
| 2AD-26     | 40 39 22 | 73 2 48   | 1                 | 39          | 142             | 103 | 120.9 | 8/17/01     |
| 2AD-27     | 40 39 21 | 73 2 43   | 0                 | 40          | 0               | 0   | 0     | 8/17/01     |
| 2AD-28     | 40 39 21 | 73 2 27   | 1                 | 40          | 122             | 88  | 104.3 | 8/17/01     |
| 2AD-29     | 40 39 21 | 73 2 22   | 4                 | 37          | 135             | 96  | 121.4 | 8/17/01     |
| 2AD-30     | 40 39 21 | 73 2 6    | 16                | 40          | 132             | 101 | 116.9 | 8/17/01     |
| 2AD-31     | 40 39 21 | 73 1 45   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-32     | 40 39 21 | 73 1 40   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-33     | 40 39 21 | 73 1 35   | 0.25              | 45          | 145             | 100 | 121.4 | 8/17/01     |
| 2AD-34     | 40 39 21 | 73 1 19   | 0                 | 50          | 0               | 0   | 0     | 8/17/01     |
| 2AD-35     | 40 39 21 | 73 1 14   | 0                 | 50          | 0               | 0   | 0     | 8/17/01     |
| 2AD-36     | 40 39 21 | 73 00 58  | 0                 | 54          | 0               | 0   | 0     | 8/17/01     |
| 2AD-37     | 40 39 13 | 73 1 9    | 0                 | 48          | 0               | 0   | 0     | 8/17/01     |
| 2AD-38     | 40 39 13 | 73 1 35   | 0                 | 48          | 0               | 0   | 0     | 8/17/01     |
| 2AD-39     | 40 39 13 | 73 1 40   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-40     | 40 39 13 | 73 1 56   | 0                 | 46          | 0               | 0   | 0     | 8/17/01     |
| 2AD-41     | 40 39 13 | 73 2 27   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-42     | 40 39 13 | 73 2 38   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-43     | 40 39 14 | 73 3 4    | 0.25              | 40          | 129             | 104 | 114.6 | 8/17/01     |
| 2AD-44     | 40 39 14 | 73 3 9    | 0.5               | 40          | 159             | 92  | 116.9 | 8/17/01     |
| 2AD-45     | 40 39 6  | 73 2 59   | 0                 | 40          | 0               | 0   | 0     | 8/17/01     |
| 2AD-46     | 40 39 6  | 73 2 49   | 0                 | 41          | 0               | 0   | 0     | 8/17/01     |
| 2AD-47     | 40 39 5  | 73 2 27   | 0.25              | 42          | 146             | 106 | 121.2 | 8/17/01     |
| 2AD-48     | 40 38 57 | 73 2 33   | 1.5               | 40          | 167             | 99  | 146.8 | 8/17/01     |
| 2AD-49     | 40 39 5  | 73 2 6    | 0                 | 40          | 0               | 0   | 0     | 8/17/01     |
| 2AD-50     | 40 38 49 | 73 2 12   | 1.5               | 41          | 170             | 105 | 151.1 | 8/17/01     |
| 2AD-51     | 40 39 5  | 73 1 51   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-52     | 40 39 5  | 73 1 40   | 0                 | 45          | 0               | 0   | 0     | 8/17/01     |
| 2AD-53     | 40 38 57 | 73 1 35   | 0                 | 47          | 0               | 0   | 0     | 8/17/01     |
| 2AD-54     | 40 39 5  | 73 1 24   | 0                 | 47          | 0               | 0   | 0     | 8/17/01     |
| 2AD-55     | 40 39 5  | 73 1 19   | 0                 | 50          | 0               | 0   | 0     | 8/17/01     |
| 2AD-56     | 40 39 5  | 73 1 3    | 0                 | 55          | 0               | 0   | 0     | 8/17/01     |

Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 4 - Borrow Area 3A Survey Results - Stations 1-28**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | mean  |             |
| 3A-1       | 40 41 3  | 72 57 10  | 4                 | 34          | 152             | 120 | 137.5 | 8/16/01     |
| 3A-2       | 40 41 3  | 72 57 5   | 8                 | 30          | 138             | 103 | 115.5 | 8/16/01     |
| 3A-3       | 40 40 55 | 72 57 5   | 0.5               | 42          | 136             | 101 | 114   | 8/16/01     |
| 3A-4       | 40 40 47 | 72 57 5   | 0*                | 49          | 133             | 101 | 116.7 | 8/16/01     |
| 3A-5       | 40 40 39 | 72 57 11  | 0*                | 57          | 0               | 0   | 0     | 8/16/01     |
| 3A-6       | 40 40 31 | 72 57 6   | 0.5               | 53          | 0               | 0   | 0     | 8/16/01     |
| 3A-7       | 40 40 15 | 72 57 1   | 0*                | 55          | 165             | 89  | 134.6 | 8/16/01     |
| 3A-8       | 40 40 46 | 72 56 55  | 0*                | 59          | 165             | 91  | 141.9 | 8/16/01     |
| 3A-9       | 40 40 46 | 72 56 50  | 0*                | 60          | 0               | 0   | 0     | 8/16/01     |
| 3A-10      | 40 40 38 | 72 56 44  | 0*                | 60          | 162             | 122 | 147.8 | 8/16/01     |
| 3A-11      | 40 40 38 | 72 56 50  | 0*                | 59          | 159             | 107 | 140.2 | 8/16/01     |
| 3A-12      | 40 40 38 | 72 56 34  | 1                 | 59          | 166             | 140 | 151   | 8/16/01     |
| 3A-13      | 40 40 38 | 72 56 23  | 0*                | 60          | 0               | 0   | 0     | 8/16/01     |
| 3A-14      | 40 40 38 | 72 56 13  | 0*                | 58          | 0               | 0   | 0     | 8/16/01     |
| 3A-15      | 40 40 46 | 72 56 20  | 0*                | 60          | 0               | 0   | 0     | 8/16/01     |
| 3A-16      | 40 40 54 | 72 56 13  | 0                 | 62          | 0               | 0   | 0     | 8/16/01     |
| 3A-17      | 40 40 54 | 72 56 23  | 0                 | 62          | 0               | 0   | 0     | 8/16/01     |
| 3A-18      | 40 40 54 | 72 56 28  | 0                 | 60          | 0               | 0   | 0     | 8/16/01     |
| 3A-19      | 40 41 20 | 72 56 23  | 0                 | 50          | 0               | 0   | 0     | 8/16/01     |
| 3A-20      | 40 41 18 | 72 56 70  | 0                 | 43          | 0               | 0   | 0     | 8/16/01     |
| 3A-21      | 40 41 18 | 72 55 51  | 0                 | 53          | 0               | 0   | 0     | 8/16/01     |
| 3A-22      | 40 41 26 | 72 55 56  | 0                 | 50          | 0               | 0   | 0     | 8/16/01     |
| 3A-23      | 40 41 34 | 72 56 10  | 0                 | 50          | 0               | 0   | 0     | 8/16/01     |
| 3A-24      | 40 41 34 | 72 55 56  | 0                 | 50          | 0               | 0   | 0     | 8/16/01     |
| 3A-25      | 40 41 34 | 72 55 51  | 0                 | 53          | 0               | 0   | 0     | 8/16/01     |
| 3A-26      | 40 41 26 | 72 55 41  | 0                 | 50          | 0               | 0   | 0     | 8/16/01     |
| 3A-27      | 40 41 18 | 72 55 35  | 0                 | 51          | 0               | 0   | 0     | 8/16/01     |
| 3A-28      | 40 41 2  | 72 55 41  | 0                 | 53          | 0               | 0   | 0     | 8/16/01     |

Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 5 - Borrow Area 4A Survey Results - Stations 1-16**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | Mean  |             |
| 4A-1       | 40 45 45 | -72 43 33 | 0                 | 46          | 0               | 0   | 0     | 9/19/01     |
| 4A-2       | 40 45 45 | -72 43 28 | 0                 | --          | 0               | 0   | 0     | 9/19/01     |
| 4A-3       | 40 45 37 | -72 43 28 | 0                 | 62          | 0               | 0   | 0     | 9/19/01     |
| 4A-4       | 40 45 53 | -72 43 23 | 0                 | 65          | 0               | 0   | 0     | 9/19/01     |
| 4A-5       | 40 45 53 | -72 43 18 | 0                 | 48          | 0               | 0   | 0     | 9/19/01     |
| 4A-6       | 40 46 00 | -72 43 1  | 1.5               | 55          | 149             | 122 | 135.5 | 9/19/01     |
| 4A-7       | 40 46 00 | -72 42 56 | 2                 | 23          | 149             | 122 | 135.5 | 9/19/01     |
| 4A-8       | 40 46 00 | -72 42 46 | 11.5              | --          | 152             | 119 | 135.5 | 9/19/01     |
| 4A-9       | 40 46 00 | -72 42 40 | 11                | 29          | 136             | 115 | 125.5 | 9/19/01     |
| 4A-10      | 40 45 52 | -72 42 51 | 0                 | --          | 0               | 0   | 0     | 9/19/01     |
| 4A-11      | 40 45 52 | -72 42 56 | 0                 | 62          | 0               | 0   | 0     | 9/19/01     |
| 4A-12      | 40 45 52 | -72 43 2  | 0                 | --          | 0               | 0   | 0     | 9/19/01     |
| 4A-13      | 40 45 53 | -72 43 7  | 0                 | --          | 0               | 0   | 0     | 9/19/01     |
| 4A-14      | 40 45 45 | -72 43 12 | 0                 | 58          | 0               | 0   | 0     | 9/19/01     |
| 4A-15      | 40 45 45 | -72 43 7  | 0                 | --          | 0               | 0   | 0     | 9/19/01     |
| 4A-16      | 40 45 44 | -72 43 2  | 0                 | --          | 0               | 0   | 0     | 9/19/01     |

Note:

\* = Less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 6 - Borrow Area 5AB Survey Results - Stations 1-28**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | Mean  |             |
| 5AB-1      | 40 47 25 | -72 37 54 | 2.5               | 27          | 152             | 125 | 138.5 | 9/19/2001   |
| 5AB-2      | 40 47 25 | -72 37 49 | 3                 | 30          | 162             | 120 | 141   | 9/19/2001   |
| 5AB-3      | 40 47 25 | -72 37 44 | 2                 | --          | 157             | 130 | 143.5 | 9/19/2001   |
| 5AB-4      | 40 47 17 | -72 37 54 | 0.5               | 35          | 152             | 97  | 124.5 | 9/19/2001   |
| 5AB-5      | 40 47 17 | -72 37 44 | 0.25              | 29          | 160             | 109 | 134.5 | 9/19/2001   |
| 5AB-6      | 40 47 9  | -72 37 39 | 0                 | 39          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-7      | 40 47 17 | -72 37 28 | 1                 | 33          | 152             | 77  | 114.5 | 9/19/2001   |
| 5AB-8      | 40 47 25 | -72 37 28 | 2.5               | 32          | 157             | 132 | 144.5 | 9/19/2001   |
| 5AB-9      | 40 47 33 | -72 37 17 | 2.5               | 28          | 156             | 121 | 138.5 | 9/19/2001   |
| 5AB-10     | 40 47 25 | -72 37 2  | 3                 | 32          | 151             | 121 | 136   | 9/19/2001   |
| 5AB-11     | 40 47 9  | -73 37 7  | 2.5               | 38          | 161             | 131 | 146   | 9/19/2001   |
| 5AB-12     | 40 47 16 | -72 36 30 | 0                 | 36          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-13     | 40 47 24 | -72 36 35 | 0                 | 41          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-14     | 40 47 32 | -72 36 35 | 0                 | 39          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-15     | 40 47 40 | -72 36 25 | 0                 | 33          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-16     | 40 47 24 | -72 36 20 | 0                 | 42          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-17     | 40 47 24 | -72 36 4  | 0                 | 42          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-18     | 40 47 40 | -72 35 53 | 0                 | 45          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-19     | 40 47 32 | -72 35 48 | 0                 | 43          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-20     | 40 47 40 | -72 35 32 | 0                 | 43          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-21     | 40 47 39 | -72 35 16 | 0                 | 46          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-22     | 40 47 47 | -72 34 50 | 0                 | 47          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-23     | 40 48 3  | -72 34 44 | 3.5               | 29          | 157             | 134 | 145.5 | 9/19/2001   |
| 5AB-24     | 40 48 3  | -72 34 39 | 1.5               | 30          | 172             | 135 | 153.5 | 9/19/2001   |
| 5AB-25     | 40 48 3  | -72 34 12 | 0                 | --          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-26     | 40 48 3  | -72 34 7  | 0                 | --          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-27     | 40 48 10 | -72 34 2  | 0                 | --          | 0               | 0   | 0     | 9/19/2001   |
| 5AB-28     | 40 48 18 | -72 33 56 | 0                 | 35          | 0               | 0   | 0     | 9/19/2001   |

Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 7 - Borrow Area WOSI Survey Results - Stations 1-28**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |       | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|-------|-------------|
|            |          |           |                   |             | Max             | Min | Mean  |             |
| WOSI-1     | 40 50 34 | -72 27 12 | 70                | 25          | 135             | 99  | 117   | 9/20/2001   |
| WOSI-2     | 40 50 10 | -72 26 56 | 10.5              | 34          | 141             | 108 | 124.5 | 9/20/2001   |
| WOSI-3     | 40 49 38 | -72 26 36 | 1                 | 60          | 168             | 101 | 134.5 | 9/20/2001   |
| WOSI-4     | 40 49 46 | -72 26 20 | 0                 | 56          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-5     | 40 50 18 | -72 26 40 | 0                 | 44          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-6     | 40 50 42 | -72 26 56 | 0                 | 33          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-7     | 40 50 42 | -72 26 40 | 0                 | 29          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-8     | 40 50 42 | -72 26 35 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-9     | 40 50 34 | -72 26 19 | 0                 | 60          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-10    | 40 49 53 | -72 25 54 | 0.5               | 60          | 164             | 65  | 114.5 | 9/20/2001   |
| WOSI-11    | 40 50 58 | -72 26 13 | 2                 | 34          | 145             | 108 | 126.5 | 9/20/2001   |
| WOSI-12    | 40 50 41 | -72 25 52 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-13    | 40 50 25 | -72 25 42 | 0                 | 48          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-14    | 40 50 25 | -72 25 32 | 0                 | 50          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-15    | 40 50 1  | -72 25 11 | 0                 | 55          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-16    | 40 50 25 | -72 25 00 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-17    | 40 51 13 | -72 25 10 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-18    | 40 50 32 | -72 24 34 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-19    | 40 50 16 | -72 24 29 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-20    | 40 50 56 | -72 24 17 | 0                 | 48          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-21    | 40 51 12 | -72 23 56 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-22    | 40 51 28 | -72 23 55 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-23    | 40 51 28 | -72 23 45 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-24    | 40 51 44 | -72 23 50 | 0                 | --          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-25    | 40 50 47 | -72 23 35 | 0                 | 49          | 0               | 0   | 0     | 9/20/2001   |
| WOSI-26    | 40 50 31 | -72 23 30 | 1.5               | 60          | 175             | 114 | 144.5 | 9/20/2001   |
| WOSI-27    | 40 50 31 | -72 23 20 | 0.5               | 63          | 175             | 142 | 158.5 | 9/20/2001   |
| WOSI-28    | 40 50 47 | -72 23 9  | 0.5               | 57          | 174             | 115 | 144.5 | 9/20/2001   |

Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.

**Table 8 - Borrow Area 8A Survey Results - Stations 1-28**

| Station ID | Latitude | Longitude | No. of US Bushels | Water depth | Clam Width (mm) |     |      | Sample Date |
|------------|----------|-----------|-------------------|-------------|-----------------|-----|------|-------------|
|            |          |           |                   |             | Max             | Min | Mean |             |
| 8A-1       | 40 57 43 | -72 7 7   | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-2       | 40 57 43 | -72 7 1   | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-3       | 40 57 35 | -72 7 2   | 0                 | 45          | 0               | 0   | 0    | 9/20/2001   |
| 8A-4       | 40 57 35 | -72 6 51  | 0                 | 52          | 0               | 0   | 0    | 9/20/2001   |
| 8A-5       | 40 57 35 | -72 6 46  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-6       | 40 57 51 | -72 6 56  | 0                 | 47          | 0               | 0   | 0    | 9/20/2001   |
| 8A-7       | 40 57 59 | -72 6 56  | 0                 | 46          | 0               | 0   | 0    | 9/20/2001   |
| 8A-8       | 40 57 59 | -72 6 45  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-9       | 40 57 51 | -72 6 45  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-10      | 40 57 43 | -72 6 40  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-11      | 40 57 51 | -72 6 35  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-12      | 40 57 58 | -72 6 24  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-13      | 40 58 6  | -72 6 24  | 0                 | 41          | 0               | 0   | 0    | 9/20/2001   |
| 8A-14      | 40 58 6  | -72 6 19  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-15      | 40 57 58 | -72 6 13  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-16      | 40 57 50 | -72 6 8   | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-17      | 40 58 14 | -72 6 8   | 0                 | 32          | 0               | 0   | 0    | 9/20/2001   |
| 8A-18      | 40 58 14 | -72 5 47  | 0                 | 41          | 0               | 0   | 0    | 9/20/2001   |
| 8A-19      | 40 58 6  | -72 5 52  | 0                 | 42          | 0               | 0   | 0    | 9/20/2001   |
| 8A-20      | 40 57 58 | -72 5 58  | 0                 | 48          | 0               | 0   | 0    | 9/20/2001   |
| 8A-21      | 40 57 50 | -72 5 53  | 0                 | --          | 0               | 0   | 0    | 9/20/2001   |
| 8A-22      | 40 57 50 | -72 5 47  | 0                 | 52          | 0               | 0   | 0    | 9/20/2001   |
| 8A-23      | 40 57 50 | -72 5 37  | 0                 | 54          | 0               | 0   | 0    | 9/20/2001   |
| 8A-24      | 40 58 5  | -72 5 31  | 0                 | 45          | 0               | 0   | 0    | 9/20/2001   |
| 8A-25      | 40 58 5  | -72 5 20  | 0                 | 45          | 0               | 0   | 0    | 9/20/2001   |
| 8A-26      | 40 57 57 | -72 5 15  | 0                 | 54          | 0               | 0   | 0    | 9/20/2001   |
| 8A-27      | 40 58 21 | -72 5 9   | 0                 | 42          | 0               | 0   | 0    | 9/20/2001   |
| 8A-28      | 40 58 29 | -72 5 15  | 0                 | 36          | 0               | 0   | 0    | 9/20/2001   |

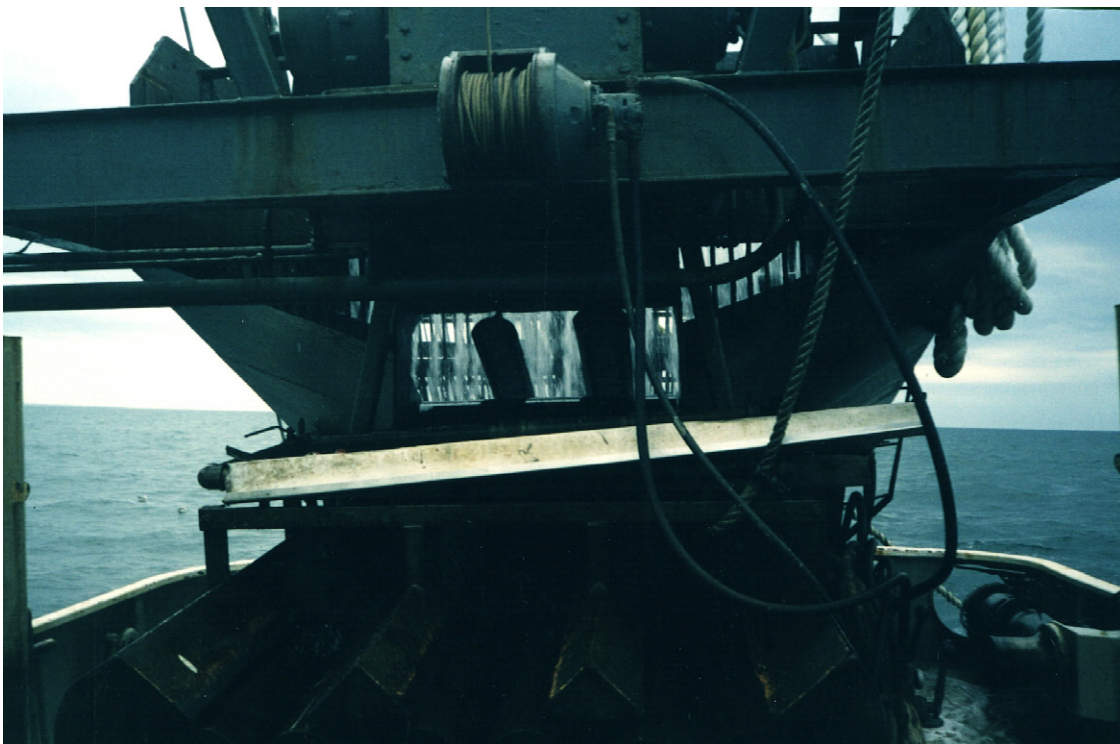
Note:

\* = less than 1 bushel of clams

-- Water depths taken at random locations.



Photograph 1 – View of Clam Dredge Used for Survey



Photograph 2 – View of Hopper and Culling Rollers



Photograph 3 – Expanded View of Hoppers, Rollers, and Conveyor Belt



Photograph 4 – Sorting Catch



Photograph 5 – Sorting Catch



Photograph 6 – Sorting Catch



Photograph 7 – Sorting Catch



Photograph 8 – Calibrated Hopper Used for Catches Exceeding 25 Bushels



Photograph 9 – Conveying Catch to Calibrated Hopper.



Photograph 10 – One Half Bushel Retained as Sub-Sample.



Photograph 11 – Measuring Clams Retained in Sub-Sample to nearest millimeter.



Photograph 12 – Measuring Clams Retained in Sub-Sample to nearest millimeter.